

# Buried in the Borderlands

An artefact typology and chronology  
for The Netherlands in the early medieval period  
on the basis of funerary archaeology.

by

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# SUMMARY

Years of archaeological research in the Netherlands, in which Prehistory and the Roman period played a leading role, has shown a certain disinterest in and undervaluation of the early medieval period. Several cemeteries from the dynamic period between AD 400 and 750 have been excavated since the early 1900s, but sadly the results were rarely studied thoroughly, let alone published. In the decades since the turn of the last century, the archaeology of the early medieval period has begun to gain momentum. In recent years, researchers affiliated with various universities, museums, government institutions and commercial parties have been committed to publishing a relatively large number of cemeteries and other traces from this interesting period. For the dating of artefacts and compilation of catalogues, these researchers depended without exception on a multitude of region- or artefact-specific typologies and chronological schemes that are based on find complexes from outside the Netherlands, and therefore inherently less reliable.

During the early medieval period, the present-day Netherlands occupied a unique position as a border zone between the Frisians in the north, the Saxons in the east and the Merovingian Franks in the south. The rich material culture reflects this and deserves a holistic typology which is based on the archaeological reality in the Netherlands itself.

For this large-scale research, grave goods from approximately 2500 inhumations from 21 cemeteries distributed across the country are analysed. The database of grave goods is studied using a statistical research method called Correspondence Analysis. By doing so, a date is generated for each individual artefact type and grave contexts in the research on the basis of data from the Netherlands.

The compilation of the finds database confirmed that the Dutch material culture of the early medieval period cannot be analysed by only using a German or French typology. In order to simplify and locally embed future research into finds from the period, a holistic new typology has been developed, which includes pottery, glass, weapons, beads, belt fittings and brooches. Besides a combination of artefact types with roots in Germany, France and surrounding countries, locally produced objects are also added. All artefact types are provided with a revised date based on Dutch rather than foreign context.

# SAMENVATTING

Uit jaren van archeologisch onderzoek in Nederland, waarin met name een hoofdrol was weggelegd voor de prehistorie en de Romeinse tijd is een zekere desinteresse in- en onderwaardering van de vroege middeleeuwen gebleken. Grafvelden uit de dynamische periode tussen ongeveer AD 400 en 750 werden sinds het begin van de twintigste eeuw zo nu en dan opgegraven, maar de onderzoeksresultaten werden zelden grondig bestudeerd, laat staan gepubliceerd. In de decennia sinds de laatste eeuwwisseling is de archeologie van de vroege middeleeuwen in een stroomversnelling geraakt. Onderzoekers verbonden aan verschillende universiteiten, musea, overheidsinstellingen en commerciële partijen hebben zich de afgelopen jaren bezig gehouden met het publiceren van een relatief groot aantal grafvelden en andere sporen uit dit bijzondere tijdvak. Voor het dateren van voorwerpen en het samenstellen van catalogi waren zij zonder uitzondering afhankelijk van een veelheid aan regio- of artefact specifieke typologieën en chronologieën welke gebaseerd zijn op vondstcomplexen buiten Nederland.

Gedurende de vroege middeleeuwen bekleedde het huidige Nederland een unieke positie als grensgebied tussen de Friesen in het noorden, de Saksen in het oosten en de Merovingische Franken in het zuiden. De rijke materiele cultuur is hiervan een weerspiegeling en verdient een holistische typologie welke gebaseerd is op de archeologische realiteit in Nederland zelf.

In dit groots opgezette onderzoek worden grafgiften bestudeerd van ongeveer 2500 inhumatiegraven uit 21 grafvelden verspreid over het land. De database met grafgiften wordt geanalyseerd met gebruikmaking van een statistische onderzoeksmethode genaamd Correspondence Analysis ten einde een op Nederlandse data gebaseerde datering te genereren voor ieder individueel artefact type en voor de grafcontexten in het onderzoek.

Het samenstellen van de vondstdatabase bevestigde dat de Nederlandse materiele cultuur uit de vroege middeleeuwen niet kan worden beschreven aan de hand van enkel een Duitse of Franse typologie. Om toekomstig onderzoek naar vondsten uit deze tijd te vereenvoudigen en lokaal in te bedden is een holistische nieuwe typologie ontwikkeld welke onder andere aardewerk, glas, wapens, kralen, gespen en mantelspelden combineert. Naast een

samenvoeging van artefact typen met wortels in Duitsland, Frankrijk en omliggende landen zijn ook lokaal vervaardigde voorwerpen toegevoegd en zijn alle artefact typen voorzien van een geactualiseerde datering aan de hand van Nederlandse contexten.

# 1.0 INTRODUCTION

The title of this thesis, 'Buried in the Borderlands', gives an indication of the backdrop against which the early medieval period in the Netherlands played out. Already during the Roman period, the present-day Netherlands was divided between a Roman south and a Germanic north. The border of these two realms was formed by the river Rhine which flows from east to west through the central Netherlands. After the collapse of the Roman empire in the west, the northern parts of the country were deserted, probably with the exception of the northeast which saw Saxon influences from north-western Germany. During the early medieval period, the north coast became home to the Frisians who settled in the *terpen* region. The southern half of the Netherlands became the northern periphery of the Frankish empire. With the border still situated roughly along the river Rhine, the central Netherlands became a border zone which was in the hands of both parties alternately. In the course of the early medieval period, the regions around the rivers Rhine and Meuse attracted increasing wealth and a growing population which had an irrevocable impact on the social, political and economic dynamics in the rest of the country.

The various peoples and cultural influences of the early medieval Netherlands left their traces in the material culture. Traditionally, archaeology in the country was mainly focussed on Prehistory and the Roman period, leaving the early medieval period undervalued and underexplored. Recent decades have seen a renewed interest in the period between AD 400 and 750, resulting in the belated study and publication of a relatively large number of cemetery excavations undertaken during the twentieth century.

The historical lack of interest in the early medieval period led to a gap in our knowledge regarding, amongst other things, the material culture from the period specifically for the Netherlands. When comparing the state of research in the Netherlands with advances in surrounding countries such as Germany, the United Kingdom and France, it can be concluded that an advancement of our understanding of the early medieval period in the Low Countries is long overdue.

To study or date any Dutch artefacts from the early medieval period, the archaeologist relies on typologies from Germany, France or further afield. The mixed nature of the Dutch material culture means, however, that a typology focussing on only France or only Germany is not sufficient, and there is the requirement to use a large number of region- or artefact specific

schemes simultaneously. Not only is this time-consuming, the use of typologies and chronological schemes based on data from areas that are often hundreds of kilometres away from the archaeological site in the Netherlands also undermines the accuracy of the dating.

The previously mentioned renewed interest in the early medieval period and the publications of several cemeteries in various regions of the Netherlands has created the opportunity to initiate this comparative research into a large body of data from one of the richest sources of artefacts, namely funerary archaeology.

This large-scale research includes artefact data from approximately 2500 individual inhumations from twenty-one cemeteries distributed across the Netherlands and seeks to serve an academic as well as a practical purpose, which is reflective of the archaeological field.

In an academic sense, the research aims to answer questions regarding the accuracy of the current chronological frameworks attributed to the twenty-one cemeteries in the sample. In order to answer these questions, it is necessary to set a new chronological baseline which is derived from the study of local Dutch, rather than foreign, contexts. An excellent method to achieve this is the application of Correspondence Analysis. This method has been successfully applied in relation to chronological artefact study in both Germany and the United Kingdom but is sometimes approached with caution, if not suspicion, by Dutch archaeologists. The caution is often related to the mixed nature of Dutch artefact assemblages and the assumption that the method only returns accurate results when applied to a homogenous set of artefacts, for instance consisting of only Frankish or only Frisian objects.

For the purpose of this research, however, the hypothesis is adopted that it is possible to apply Correspondence Analysis to the full Dutch artefact assemblage from the cemeteries in the sample, subject to a number of conditions. These conditions, further specified in the methodology chapter, mean that not every single grave can feature in the Correspondence Analysis. This leads to relevant questions regarding the possibility to extrapolate the results of Correspondence Analysis to cemeteries and artefact types which were not initially included. Through testing the validity of the hypothesis, the initial questions regarding the accuracy of the current chronological frameworks attributed to the twenty-one cemeteries in the sample can hopefully be answered. This is only the case, however, if the attempt to apply Correspondence Analysis to a large proportion of the dataset is successful as well as the process of extrapolating the implications of its outcomes to graves not initially included. Creating a holistic chronology this way would not only open up the opportunity to optimise dating of early medieval contexts nationally, but also to compare archaeology from the Netherlands with that from neighbouring

countries with much more accuracy and on the basis of a dataset derived from the archaeological reality in the country itself rather than abroad.

In addition to exploring and testing the possibility to create a chronology specifically for the Netherlands through the application of Correspondence Analysis, this research aims at solving the practical problems related to the requirement to use several foreign typologies to research Dutch artefacts. The study of the contents of 2500 inhumations and the compilation of various datasets will answer questions regarding the nature of the Dutch artefact assemblage from the early medieval period. The focus is on the suspected origin of each individual artefact type and the degree to which the material culture from the Netherlands relates to assemblages from the German Rhineland and northern France. For practical use, the end product of this research will include a holistic artefact typology for the Netherlands which includes artefacts found in the north and the south and which brings together for the first time artefact types which originate in the Netherlands itself, Germany, France and beyond. This will be a user-friendly and illustrated typology including find categories associated with male-gender and female-gender inhumations as well as non-gender specific contexts.

In the typology, artefacts and chronology come together. If the hypothesis put forward is correct, it should be possible to assign most of the artefacts an optimised date. By doing so, it will be possible to answer questions regarding which object types are leading artefacts in relation to chronological phasing of future contexts. Also, it will be possible to analyse how the artefact assemblage in graves develops between AD 400 and 750. Which artefacts are often found together, what is the replacement rate of artefact types and how does furnished burial relate to a shift to Christianity? When answering these questions, it is interesting to investigate any possible differences between various regions of the Netherlands, especially between the Frisian north and the Frankish south.

# 2.0 HISTORIOGRAPHY

The introductory chapter of this thesis sets out which problems gave rise to the undertaking of the research and provides a brief insight into the role played in this by previous studies. The Netherlands is blessed with a rich history of research into the country's varied archaeological record. During the Roman period, the frontier of the empire (*Limes*) ran from the North Sea coast at Katwijk near Leiden through the central river basin into current Germany (*figure 1*). The dynamic infrastructure related to the frontier as well as road connections between Dutch settlements and the hinterland were a few of the reasons for the abundant presence of provincial Roman evidence in the country, especially in comparison to the archaeological remains from the early medieval period. Archaeologists interested in post prehistoric archaeology were drawn to this rich Roman heritage, leaving the (early) Middle Ages underexplored. In this, a clear difference can be seen with surrounding countries such as Germany, France and the United Kingdom where the period between roughly AD 400 and 1000 has been more in focus for a longer period.

## 2. 1 CEMETERY RESEARCH AND PUBLICATIONS

In recent decades, the Netherlands and also Belgium are catching up with their neighbours when it comes to the research and publication of sites from the early medieval period. As this research focusses on funerary evidence, a similar direction is given to the data in this historiography.

The largest early medieval cemetery found in the Netherlands to date, Rhenen cemetery, was already excavated in the 1950s. The outcomes of this large undertaking, however, were never published in detail until recently. This example is typical for a large number of cemetery excavations from the period. The data is available but hidden in drawers, museum depots and stacks of grey literature.



### Roman presence in The Netherlands

#### Key

- Roman territory
- Roman settlement
- Rivers
- The Netherlands
- Germany
- Belgium



Figure 1: Location of the Roman frontier (Limes) in The Netherlands.

With the aim of reviving the study of early medieval cemeteries in the Netherlands, the Anastasis project was set up by now Emeritus Professor Frans Theuws and colleagues<sup>1</sup>. This project, focussing on the publication of previously excavated burial grounds in the provinces of Noord-Brabant and Limburg (*figure 2*) was funded by the universities of Amsterdam and Leiden, the Dutch Organisation for Scientific Research (NWO) and Maastricht city council. The project was part of a larger, nationwide programme named Odyssee. This programme aimed at promoting the elimination of the large publication backlog in Dutch archaeology. This backlog was mainly caused by the introduction of commercial archaeology and the related insufficient allocation of funding for post-excavation processes and public outreach<sup>2</sup>.

The Anastasis project and the related 'Rural Riches' project have led to the publication of the cemeteries of Bergeijk (Noord-Brabant), Posterholt (Limburg), Sittard, Obbicht, Stein (Limburg) and Maastricht Vrijthof (Limburg)<sup>3</sup>. The PhD thesis by Mirjam Kars, regarding the creation of a cultural perspective on Merovingian burial chronology and the grave goods from the Vrijthof and Pandhof cemeteries in Maastricht, provides more insight into the Netherlands' southernmost early medieval cemeteries currently known. The publication of the Broechem cemetery in the Belgian province of Antwerp is also related to the Rural Riches project and provides an interesting and modern outlook on the situation just south of the Netherlands, near the delta of the river Scheldt<sup>4</sup>.

The cemeteries of Veldhoven and Meerveldhoven (Noord-Brabant) were both published by Verwers in the 1970s and are not related to the Anastasis project<sup>5</sup>. A publication of the Hoogeloon cemetery (Noord-Brabant) became available in 1955<sup>6</sup>. The Dutch National Institute for Cultural Heritage (RCE) has been involved in the recent excavation and publication of two cemeteries which form part of this research. These are the Borgharen cemetery near Maastricht (Limburg) and the cemetery of Elst (Utrecht), near Rhenen in the central river basin<sup>7</sup>. From the Rhenen cemetery itself, a full find catalogue was recently published<sup>8</sup>. This catalogue was welcomed as a supplement to a previous concise publication of the cemetery by Ypey<sup>9</sup>. Another

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<sup>1</sup> [www.merovingianarchaeology.org](http://www.merovingianarchaeology.org).

<sup>2</sup> Theuws *et al.* 2012, 6.

<sup>3</sup> Theuws *et al.* 2012 (Bergeijk), de Haas *et al.* 2013 (Posterholt), Kars *et al.* 2016 (Sittard, Obbicht, Stein), Theuws *et al.* 2017 (Maastricht).

<sup>4</sup> Annaert 2018.

<sup>5</sup> Verwers 1973 (Veldhoven), Verwers 1978 (Meerveldhoven).

<sup>6</sup> Glasbergen 1955.

<sup>7</sup> Lauwerier *et al.* 2011 (Borgharen). Verwers *et al.* 2015 (Elst).

<sup>8</sup> Wagner *et al.* 2011.

<sup>9</sup> Ypey 1973.

large cemetery in the central river basin was excavated in Wijchen in 1991 and published in 2010 by contractor Hazenberg Archeologie<sup>10</sup>.



Figure 2: Provinces of The Netherlands

<sup>10</sup> Heeren *et al.* 2010.

In the west of the Netherlands, in and around the delta of the old river Rhine, the relatively small cemeteries of Rijnsburg and Katwijk (Zuid-Holland) were excavated in the first quarter of the twentieth century. Holwerda published on the Rijnsburg cemetery at the time, but a more comprehensive catalogue was not compiled until 1986<sup>11</sup>. The Katwijk cemetery was excavated on a small scale and never fully published to date. Papers with details of the excavation and findings, however, featured in the journal of the RCE (then still known as the ROB)<sup>12</sup>. Three graves containing weapons were more comprehensively studied as part of a research project into noblemen's graves from the late Merovingian period in the 1960s<sup>13</sup>.

Between 1941 and 1953, as a result of severe war damage to the village centre of Valkenburg (Zuid Holland), an archaeological excavation became possible of the old parish church and adjacent graveyard. This excavation revealed a number of graves from the Merovingian period.<sup>14</sup>

A small part of the Den Haag – Solleveld cemetery (Zuid-Holland) was excavated in 1954 and further prospective research took place in 1984 and 1987<sup>15</sup>. A larger excavation and subsequent publication were undertaken in 2004 and the years thereafter<sup>16</sup>. The PhD thesis by Menno Dijkstra deepens the knowledge regarding the early medieval cemeteries in and around the Rhine delta and provides a clear overview of the findings from each excavation<sup>17</sup>.

Emeritus Professor Van Es and colleagues published the two major early medieval cemeteries in the province of Drenthe, Wijster and Zweeloo<sup>18</sup>. He was also responsible for the publication of a part of the Wageningen cemetery (Gelderland), whilst a second part was not published to date<sup>19</sup>. The cemetery publication of Lent – Azaleastraat (Gelderland) is another work from his hand<sup>20</sup>.

The Terp Research Centre, the University of Groningen, the Groninger Museum and the Friese Museum have all played their part in the study of the main cemeteries in the north. The Oosterbeintum cemetery (Friesland) was incorporated in this research whilst the publication of

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<sup>11</sup> Holwerda 1914. Wimmers 1986.

<sup>12</sup> Holwerda *et al.* 1907b. Evelein 1911. Sasse 1911. Holwerda 1912a. Martin 1912.

<sup>13</sup> Stein 1967, 383-384 and plates 67-68.

<sup>14</sup> Van Giffen 1948/53, 42-57

<sup>15</sup> Peeters 1954., Braat 1956., Van der Valk 1986., Waasdorp 1988, 328.

<sup>16</sup> Waasdorp *et al.* 2008.

<sup>17</sup> Dijkstra 2011.

<sup>18</sup> Van Es *et al.* 1967 (Wijster)., Van Es *et al.* 2007 (Zweeloo).

<sup>19</sup> Van Es *et al.* 1964.

<sup>20</sup> Van Es *et al.* 1991.

the Hogebeintum cemetery (Friesland) became available after the stage of data gathering<sup>21</sup>. Further information on early medieval (funerary) archaeology from the northern region can be found in the published works by, amongst others, Johan Nicolay and Egge Knol<sup>22</sup>.

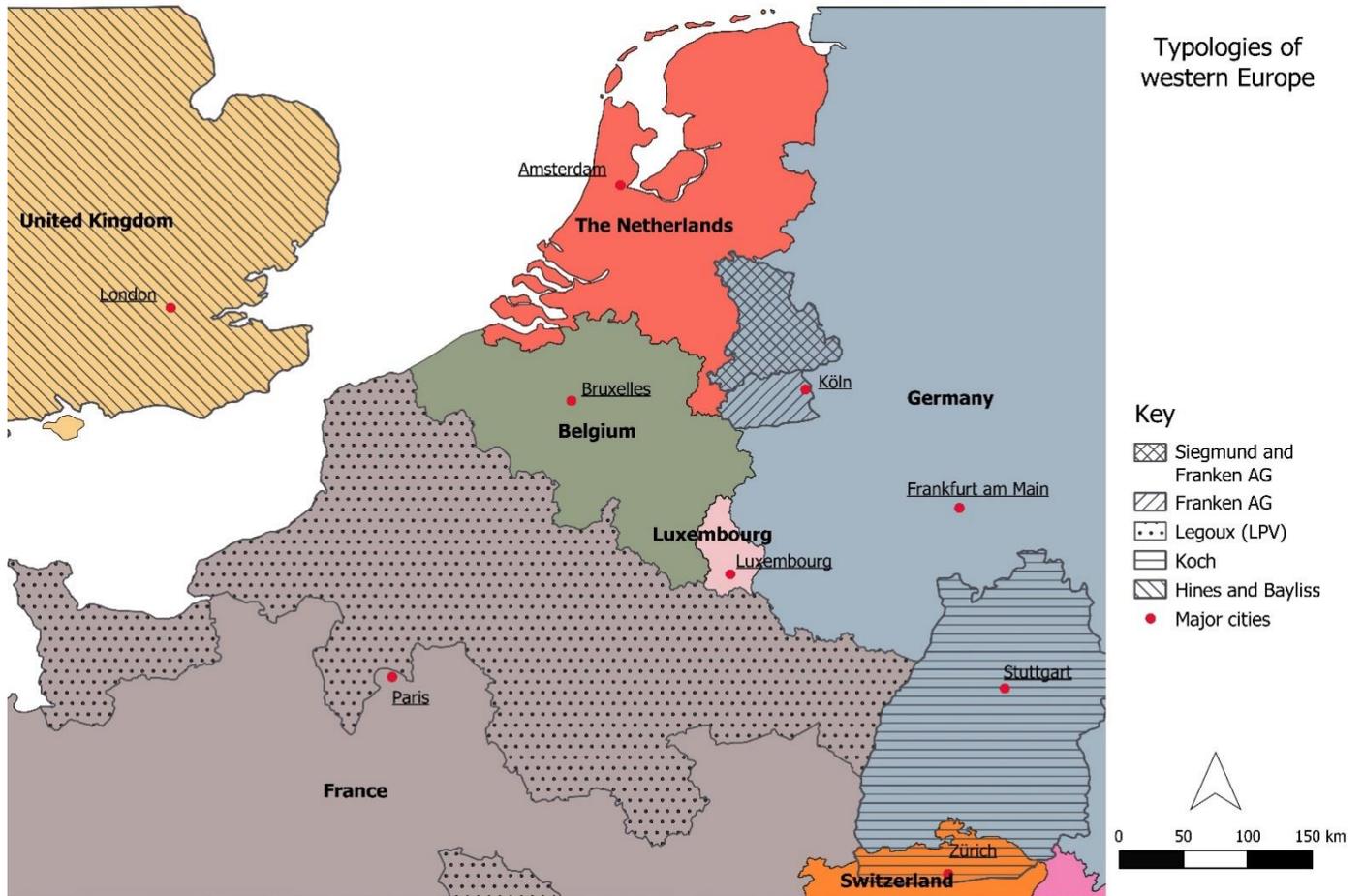


Figure 3: Research areas of various typological schemes for western Europe

## 2.2 TYPOLOGICAL STUDY

Due to various factors, including the only recent acceleration of the study and publication of early medieval cemeteries in the Netherlands, a comprehensive typological scheme specifically focussing on this country did not exist to date. For any artefact classification, Dutch researchers usually turn to well established typologies from Germany and France. In

<sup>21</sup> Knol *et al.* 1995 (Oosterbeintum). Nieuwhof *et al.* 2019 (Hogebeintum).

<sup>22</sup> E.g. Nicolay 2014 and Knol 1993.

addition, some typologies are available which focus on the Netherlands, but only on one single artefact type. The advantage of such typologies is that they are often very detailed. The disadvantage is the lack of connection between the specific artefact type and the broader artefact assemblages they are found in. It is the specific combination of artefacts in an assemblage, however, which determines an artefact's chronological position within the wider context.

The most commonly used typology in the Netherlands is created by Frank Siegmund and published in 1998<sup>23</sup>. The title of the publication states that Siegmund's research focusses on the German Rhineland, and more specifically on the Lower Rhine area, consisting of the Düsseldorf region and the Heinsberg district. The research area roughly spans the land between the Dutch-German border in the west, Essen and Wuppertal in the east, Solingen and Geilenkirchen in the south and Emmerich and Dorsten in the north (*figure 3*).

Siegmund considers typologies and chronologies of predecessors such as Böhner, Ament and Wiczorek but uses them critically and only as one of the methods to arrive at an entirely new typological scheme<sup>24</sup>. The work is a comprehensive and very detailed typological scheme which includes all find categories. The detail is of such a high level that it can sometimes complicate classification. For the classification of find categories such as pottery and weapons, calculation methods are used which can be complex and time consuming when processing large numbers of artefacts.

The artefacts in the typology are connected to eleven chronological phases which are unequal in length and together span the period between AD 400 and 740.

A more recent typology from Germany was published in 2003 by a collective of four researchers known as the Franken Arbeitsgruppe<sup>25</sup>. The title of this publication states that the geographical research area runs between the left bank of the river Rhine in the Lower Rhine area and the northern part of the Eifel region. A map is not included, and it is not clear which administrative areas are actually covered by this broad description. From the introductory text, however, it can be inferred that the data used by Siegmund is also incorporated in this research. Siegmund's data is complemented by fifty percent more male gender graves and fifty-two percent more female gender graves, bringing the totals to 535 and 396 graves respectively. The

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<sup>23</sup> Siegmund 1998.

<sup>24</sup> Böhner 1958., Neuffer-Müller *et al.* 1973., Ament 1976., Wiczorek 1987.

<sup>25</sup> Müssemeier *et al.* 2003.

newly added graves were, inter alia, found in the cemeteries of Rödingen, Jülich, Weilerswist-Lommersum, Inden-Lamersdorf and Köln-St. Severin (*figure 3*)<sup>26</sup>.

The typology by the Franken Arbeitsgruppe largely uses the same division of artefact categories into various types as Siegmund does. In some cases, especially for buckles and pottery, there is deviation from Siegmund and new type classes are developed. The comprehensive typology is linked to a relative chronology which is, like Siegmund's sequence, based on a combination of plot chronology, stratigraphy and Correspondence Analysis. Absolute dates are attached to the phases through the use of coin finds inside the geographical research area and beyond<sup>27</sup>. The Franken Arbeitsgruppe works with ten chronological phases which are unequal in length and span the period between AD 400 and 750. Throughout this thesis, the publication is sometimes indicated as Franken AG.

Further typological and chronological studies are created by Ursula Koch<sup>28</sup>. These works focus on the southwestern German state of Baden-Württemberg and some cemeteries around Basel and Zürich in northern Switzerland (*figure 3*). The fact that these research areas are relatively far away from the Netherlands means that artefact types match less often, and chronology is less reliable for application in the Low Countries. The works by Koch, however, are very useful for their comprehensive typology of beads. Especially the large body of polychrome beads incorporated is of great value to research and comparison in the Netherlands.

Whilst the typologies by Siegmund and the Franken Arbeitsgruppe can be considered standard works for every Dutch archaeologist with an interest in the early medieval period, typological schemes from France are also of interest. Especially the typology and chronology designed by Legoux, Périn and Vallet, with a focus on northern France, is useful for the archaeology of the Low Countries<sup>29</sup>. This comprehensive typology includes funerary content from the regions Grand Est, Hauts de France, Île de France and Normandie, effectively spanning the area between the Channel coast in the west and the Franco-German border in the east. To the north, the geographical area is limited by the Franco-Belgian border and to the south roughly by the line Rennes – Paris – Strasbourg, with some minor exceptions (*figure 3*). Although the find record of northern France and the German Rhineland shows similarities in the early medieval period, significant differences can be noted too. One of the conclusions of this research is that

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<sup>26</sup> Müssemeier *et al.* 2003, 12-14.

<sup>27</sup> Siegmund 1998, 196-203., Müssemeier *et al.* 2003, 12-13.

<sup>28</sup> Koch 1977., Koch 2001.

<sup>29</sup> Legoux *et al.* 2016.

material culture in the Netherlands has been influenced from both the east and the south because both German and French forms are present independently of each other. The typology for northern France divides the period between AD 440/50 and 700/10 in seven phases of unequal length. Throughout this thesis, the typology is indicated with the abbreviation LPV for ease of reading.

Another neighbour of the Netherlands, the United Kingdom, is less aligned to the Low Countries when it comes to material culture during the early medieval period than France or Germany. Besides a few exceptions, the largest similarities with especially Anglo-Saxon England can be seen in pottery found along the north coast of the Netherlands and in the province of Drenthe, which borders the Saxon heartland in current Germany.

For many years, those specialised in the archaeology of the Anglo-Saxon period have used a chronological framework developed by Vera Evison on the basis of plot chronology in the Buckland cemetery in Dover (Kent) for dating and typological classification of artefacts<sup>30</sup>. In addition to this work, artefact type specific- or regional typologies were used, such as Birte Brugmann's work on Anglo-Saxon beads<sup>31</sup>.

In 2013, England saw the arrival of a more comprehensive typological and chronological framework which is interregional (*figure 3*)<sup>32</sup>. The typology focusses on belt fittings as well as artefacts which are considered gender specific for male or female funerary contexts. Glassware and pottery are not included in the scheme. This work was created through modelling of funerary data using Correspondence Analysis and Bayesian Modelling techniques. In addition, radiocarbon dates were used when available in order to provide the relative chronology with an absolute framework. It is the methodology from this research which was the main source of inspiration for the creation of a typology and chronology for the Netherlands. The study of English funerary data has resulted in the creation of two chronological sequences for graves containing furnishings which are associated with a male gender. The first sequence consists of five phases which span the period between AD 525-50 and 660/80. The second sequence provides a slightly different division into five phases of roughly the same period. A sixth phase is added to this sequence which covers the period pre-AD 525/50. A third chronological sequence is derived from contexts containing artefacts which are associated with a female gender. This

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<sup>30</sup> Evison 1987.

<sup>31</sup> Brugmann 2004.

<sup>32</sup> Hines *et al.* 2013.

sequence is made up of four phases spanning the period between AD 510/45 and 660/85. Also in this case an extra phase is added to cover the period pre-AD510/45<sup>33</sup>.

Besides the use of the above mentioned large typological schemes for the classification of artefacts from the Netherlands, archaeologists sometimes rely on artefact specific typologies and chronologies from France, Germany or other countries. Examples include the previously mentioned typology of polychrome beads for southern Germany by Koch and a typology of glassware from north western France by Feyeux<sup>34</sup>.

Whilst archaeologists from the Netherlands can thus rely on various comprehensive typological schemes and chronological frameworks from surrounding countries, little work is done on such a scheme for the Low Countries itself. During the past decades, however, various artefact specific schemes have been developed. These include but are not limited to work by Van Spelde on ovoid pottery vessels, Krol's overview of Saxon style pottery in the Netherlands and a large and comprehensive volume on brooches by Heeren and Van der Feijst<sup>35</sup>.

Artefact type specific research like the above mentioned are very beneficial for work on a regional or nationwide level. The fact that many such studies are published in the Dutch language, however, makes them unsuitable for cross-border data exchange and international comparison. Given the international nature of archaeology as an academic subject, this is unhelpful and a missed opportunity.

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<sup>33</sup> Hines *et al.* 2013, 485.

<sup>34</sup> Feyeux 2003.

<sup>35</sup> Van Spelde 2014., Krol 2006 and 2018., Heeren *et al.* 2017.

# 3.0 THE NETHERLANDS IN THE EARLY MEDIEVAL PERIOD

This chapter shines a light on the situation in the Low Countries after the Romans withdrew during the early fifth century. The withdrawal of the Romans caused cultural, economic and socio-political upheaval which dominated the earliest phases of the period studied in this research. During the Roman period, the land currently known as the Netherlands was split in a Roman south and a Germanic north (*figure 4*). Both areas were divided by the Roman frontier (*Limes*) which ran roughly parallel to the river Rhine. During the early medieval period the political and cultural split remained, roughly dividing the land into a Frankish (Merovingian) south and a Frisian north.

One of the most important cultural changes which took place during the early medieval period was the conversion to Christianity. This conversion took place in different ways, under varying influences and circumstances and at a different speed in the north and the south of the country. Christianity and the conversion period are traditionally seen as profound influencers of the burial practice and are therefore the focus of this chapter. Whilst traditional consensus relates cremation, furnished inhumation, and a non-west-east orientation of graves to a pre-Christian or 'pagan' funerary practice, this view has started to shift in recent years under the influence of new discoveries.

A combination of archaeology and literature study, as done for this chapter, is necessary in order to fully understand the underlying processes that fuelled the ongoing changes taking place in Dutch funerary practice between AD 450 and 750. Although archaeology is the subject of this thesis, in this case the combination with historic literature is essential to build a more complete and robust picture of the situation. Unfortunately there is not enough archaeological evidence available from the Netherlands at this time to make the use of historical sources unnecessary or of secondary relevance.

The process of Christianisation and cultural differences between the north and the south are major themes in Dutch archaeology focussed on the early Medieval period and form therefore an essential part of this thesis.

The start of Christianisation is initially approached separately for both the south and the north of the Netherlands. This begins with a brief overview of the Christianisation further south,

in Gaul and the Frankish empire and its effect and influence on the situation in the southern Netherlands. Later, both regions are considered, including their influence on each other during the period up to approximately AD 750.



Figure 4: Division of the Netherlands in a Roman south and a Germanic north during the Roman period.

### 3.1 CONVERSION IN GAUL

In order to understand the conversion period in the Netherlands, it is important to view the process that led to the conversion in the wider area of the Frankish empire. As mentioned previously, during the Roman period, the Netherlands was divided in a Roman south and a Germanic north. The Roman frontier was formed by the river Rhine which flows from the Swiss Alps, through Germany and into the North Sea in the Netherlands. Although the south of the Netherlands was thus part of the Roman empire, it formed the peripheral and northernmost borderland. Within the western Roman empire, it was almost impossible to be further away from Rome, unless when one crossed the Channel to Britain. This section provides an overview of the transition from Roman to Merovingian rule in Gaul as well as the spread of Christianity to the north. This is followed by a summary of key evidence for the spread of Christianity in the part of the Netherlands south of the river Rhine.

During the Roman period, the province of Gaul largely covered the area of land that is nowadays France and included some territory around Trier (*Trèves*), currently part of Germany. The province largely consisted of low-lying, open and agriculturally useful land. Exceptions to this were the foothills of the Alps, the Massif Central and the band of hills in the northeast, formed by the Ardennes and the Vosges. The natural barriers within the province were not such that contact was impossible. It was therefore relatively easy to control the large territory between the river Rhine and the Pyrenees. The rivers Seine, Loire and Garonne formed important connections between the Atlantic and the hinterland whilst the valleys of the rivers Rhine, Rhône and Saône formed a corridor between the Mediterranean and the northern border of the Roman empire (*figure 5*).

In an ecological sense, Gaul was less homogeneous. The Mediterranean zone only makes up a small part of the province with Mediterranean crops not extending further north than Lyon. Vineyards made-up a large part of Gaul roughly south of the line Paris – Reims and in the valleys of the rivers Rhine and Moselle. In the open country between the rivers Rhine and Seine, the agriculture was mainly dominated by grain and a varied landscape of vegetation and meadows for grazing. The various ways of land use were reflected in different ways of engagement between settlement, population and the landscape. This division between northern and southern Gaul was also reflected in economics and politics and resulted in northern Gaul seeking more connection to the north and east than to the south. Northern Gaul has more similarities

with England, the Low Countries, northern Germany and Denmark in respect of ecology and climate whilst the Rhône valley and the south is more related to Italy and Spain (*figure 5*)<sup>36</sup>.

A decisive moment in the conversion from paganism to Christianity in the Roman empire was the conversion of Constantine I. The rapid spread of the new religion thereafter was especially fuelled by the importance of imperial patronage<sup>37</sup>. Imperial service was vital to a successful career in local politics. During the period of Constantine's growing success, it was only possible to receive his patronage if Christian. Additionally, it must be noted that Constantine granted great favours to those who converted. Largely because of these push factors, Christianity spread rapidly through lines of patronage amongst the aristocracy. The rural and often poor population from the north and west of the Empire, however, remained largely unaffected by Christianity around AD 375. The church was mainly structured around the administrative tradition of the empire. Most *civitas* became bishoprics and capital cities of provinces became the seats of archbishops. During the period that followed, bishops became more influential, played important roles in local politics and had the monopoly on baptism<sup>38</sup>. Already by AD 380, Christianity became the official religion of the Roman empire. As a result, pagan practice was officially no longer allowed by AD 391/92<sup>39</sup>.

During Constantine's reign, controversy occurred between two doctrines within the Christian faith. Arianism originated in the east of the empire and held contrasting views regarding the Holy Trinity in comparison to Catholic Christianity in western parts of the Empire. During the first council of Nicaea, the matter was discussed, and a decision was made on a uniform doctrine which followed the classic Catholic attitude towards the Holy Trinity. With this decision, however, Arianism did not disappear. The alternative doctrine spread to the Goths and through them to other groups in the Germanic provinces of the empire. It is known that Sueves, Burgundians and Vandals adhered to Arianism, possibly after becoming (Nicaean) Catholic first. From the Burgundians is known, however, that a part of the population followed the Catholic path whilst another part followed the Arian tradition<sup>40</sup>.

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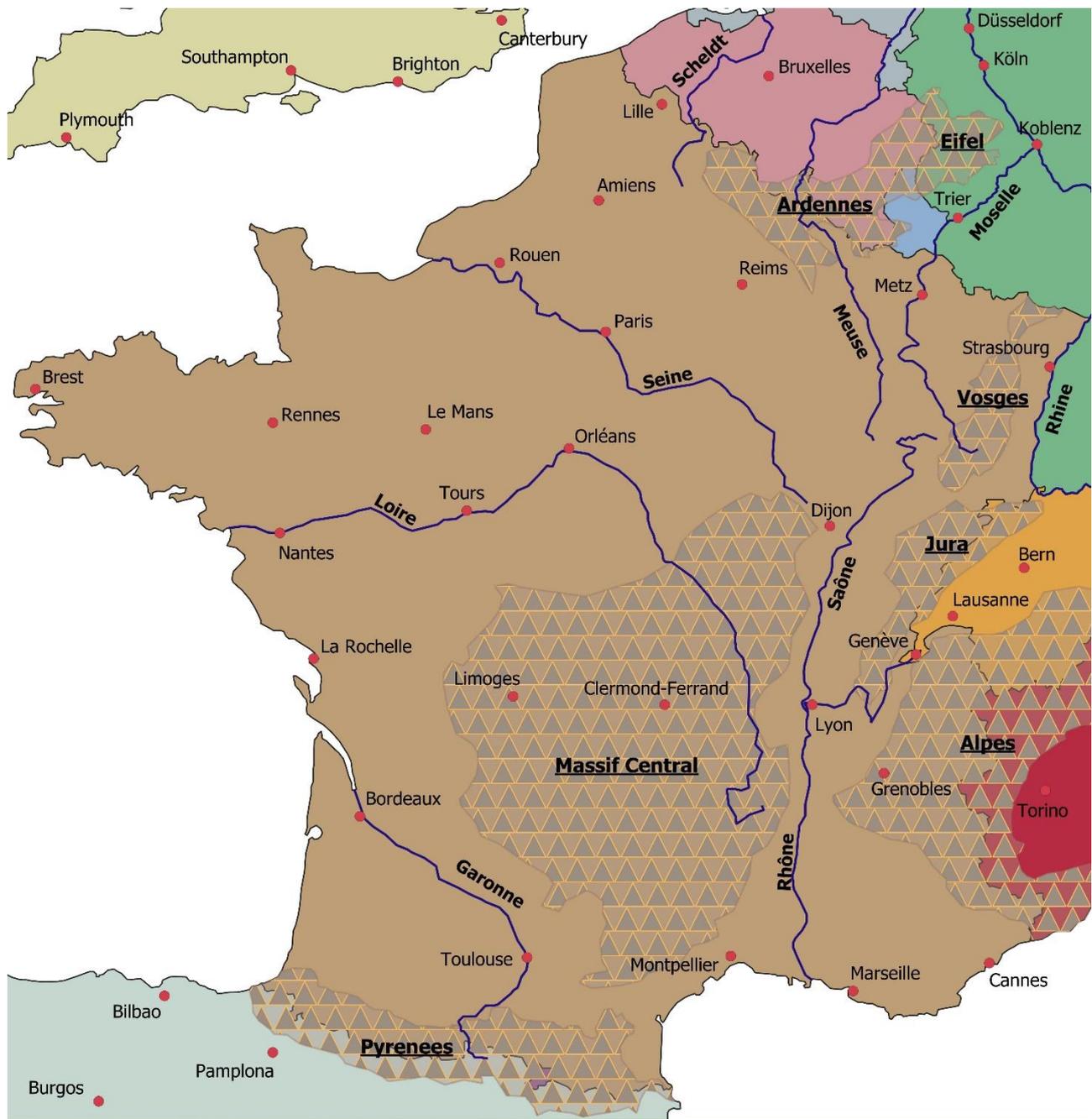
<sup>36</sup> Wickham 2006, 43-44.

<sup>37</sup> Halsall 2007, 100., MacMullen 1984, Salzman 2002, 178-99.

<sup>38</sup> Halsall 2007, 100-101

<sup>39</sup> Fleming 2011, 121.

<sup>40</sup> Halsall 2007, 469-70.



# Mountains and rivers of France

**Key**

- Major cities
- Rivers
- ▨ Hill- and mountain ranges

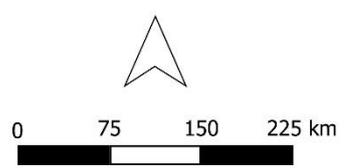


Figure 5: Relief and rivers in Gaul (France).

At the beginning of the fifth century when Germanic tribes started to form their kingdoms within the boundaries of the Roman empire, there were three religious pathways in existence. The Roman elite can be described as Catholic Christian, the many newcomers where

largely Arian Christian and the Franks formed the exception, as they still held their polytheistic pagan beliefs. Pagan beliefs could also still be found further north, outside of the empire amongst the Saxons, Frisians and Angles.

### 3.2 CONVERSION IN THE FRANKISH EMPIRE

By AD 400, northern and southern Gaul were already experiencing different forms of development. This was in part the result of the difference in land use, politics and economics, as explained above, but was also caused by the difference in location in respect of the northern border of the empire. The north saw more instability as a result of influences from across the border. While the provincial Roman aristocracy was still thriving in the south, for instance in Aquitaine, the north already experienced the abandonment of villas and the weakening of urban centres, with the exception of Paris, Trier and Köln (*Cologne*).

From AD 406 onwards, border wars intensified, skirmishes led to invasion and the situation escalated rapidly. The fifth century saw the replacement of Roman rule in Gaul by three main Germanic groups. By AD 418, the Visigoths had settled in the area between Toulouse and Bordeaux. Around AD 425, the Franks settled in the area west of the river Rhine and south of Trier and by AD 443, the Burgundians had taken power in the area around Geneva (*Genève/Genf*) (*figure 5*)<sup>41</sup>. Of these groups, it was mainly the Franks who had retained a strong character and culture of their own without being under too much Roman influence. It is thought that this group was made up of various independent tribal communities. Until approximately AD 460, the three groups were largely contained in their own areas of occupation. Between AD 460 and 480, however, expansion from all groups took place which resulted in a decline of territory still occupied by the Romans. During the AD 480's, under the Frankish King Clovis, independent Roman rule ended fully in the area of Gaul north of the river Loire. Northern Gaul, excluding Brittany in the west of France but including current Belgium were now under Frankish influence. Also during this period, King Clovis succeeded in unifying the various Frankish groups under one aristocratic family, the Merovingians<sup>42</sup>. The timeline of further southward expansion of the Frankish realm, beyond the river Loire, during the reign of King Clovis is complex and only partly understood<sup>43</sup>. This is largely caused by the lack of detailed documentary sources about the reign of King Clovis. The best record available is contained in the writings of Bishop Gregory of Tours.

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<sup>41</sup> Wickham 2006, 44.

<sup>42</sup> Wickham 2006, 44., James 1988, 51-108., Wolfram 1988, 173-93.

<sup>43</sup> Halsall 2007, 304.

The few additions to this stylised document are a few letters from Clovis and his inner circle<sup>44</sup>. It is clear, however, that in the years between AD 507 and 511, the Frankish realm expanded and reached as far southwest as Aquitaine<sup>45</sup>. Between AD 523 and 534, the Burgundians were conquered, and their lands were made part of the Merovingian territory. To the southeast, the Franks expanded their territory further into current Germany, incorporating a group called the Alemans in southwestern Germany and the Upper Rhine Valley. Further expansion of the realm to the Upper Danube Valley came when the Franks provided the Bavarians with their ruling dynasty. Various attempts, not all equally successful, were made to incorporate the Thuringians who lived in central and eastern Germany<sup>46</sup>.

In the period between AD 496 and 507, King Clovis adopted Catholic Christianity when he was baptised in Reims by Remigius<sup>47</sup>. Although it seems from the writings of Gregory of Tours that Clovis turned from a pagan straight into a Catholic Christian, it is debatable whether other influences were at play in this process. From a letter to the king, written by Bishop Avitus of Vienne, it becomes clear that to some extent, Clovis previously sympathised with Arianism. The motives for Clovis' conversion are unclear. Personal piety should, of course, not be ruled out. However, politically it was very advantageous for the king to adopt the Catholic faith. It allowed Clovis to ally with the empire in Constantinople and it provided advantage over rival Arian kings such as the leaders of the Burgundians and Visigoths<sup>48</sup>. In AD 511, Clovis initiated a council of bishops at Orléans during which the first Frankish rule code was established. The code included legislation regarding the protection of the church in the newly formed Merovingian kingdom.

During the years that followed, Catholic Christianity spread to the newly incorporated areas of the Merovingian kingdom. The Aleman and Bavarian elite took on Christianity, however, the Christian faith was already known to these areas from previous Roman influence. The Thuringians, still pagan, also made a start with conversion after the Frankish influence in the area grew. Neighbouring Hessen (currently the area north of Frankfurt am Main), however, remained very much pagan at this time<sup>49</sup>.

In the period prior to AD 550, it is unclear how well-developed Christianity was in the Netherlands. The northern half of the country, north of the river Rhine, could still be considered

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<sup>44</sup> Halsall 2007, 304., Halsall 2001, Carozzi 1992, Wood 1985.

<sup>45</sup> Wickham 2006, 45., Halsall 2007, 307

<sup>46</sup> Wickham 2006, 45

<sup>47</sup> Halsall 2007, 306., Shanzer 1998b., Spencer 1994., Wood 1985.

<sup>48</sup> Halsall 2007, 306.

<sup>49</sup> Trouillez 2016, 36-40.

pagan. This north was inhabited by Frisians, who lived in a broad strip along the coast in what are now the provinces of North-Holland, Friesland and Groningen (*figure 6*)<sup>50</sup>. Kingdoms (countries) and their borders were not as static as they currently are in western Europe. It is therefore unclear where exactly the Frisian influence ended. It is suggested that the hinterland of the northern Netherlands, the current provinces of Drenthe, Overijssel and parts of Gelderland, saw influence from the pagan Saxons in neighbouring parts of Germany (*figure 6*). This is especially evident for Drenthe, as Saxon style pottery is continuously available in this area into the fifth century. Absence of Saxon style pottery in Friesland and Groningen in the fourth century, however, is one of the indicators of a habitation hiatus during this period in the two northernmost provinces<sup>51</sup>.

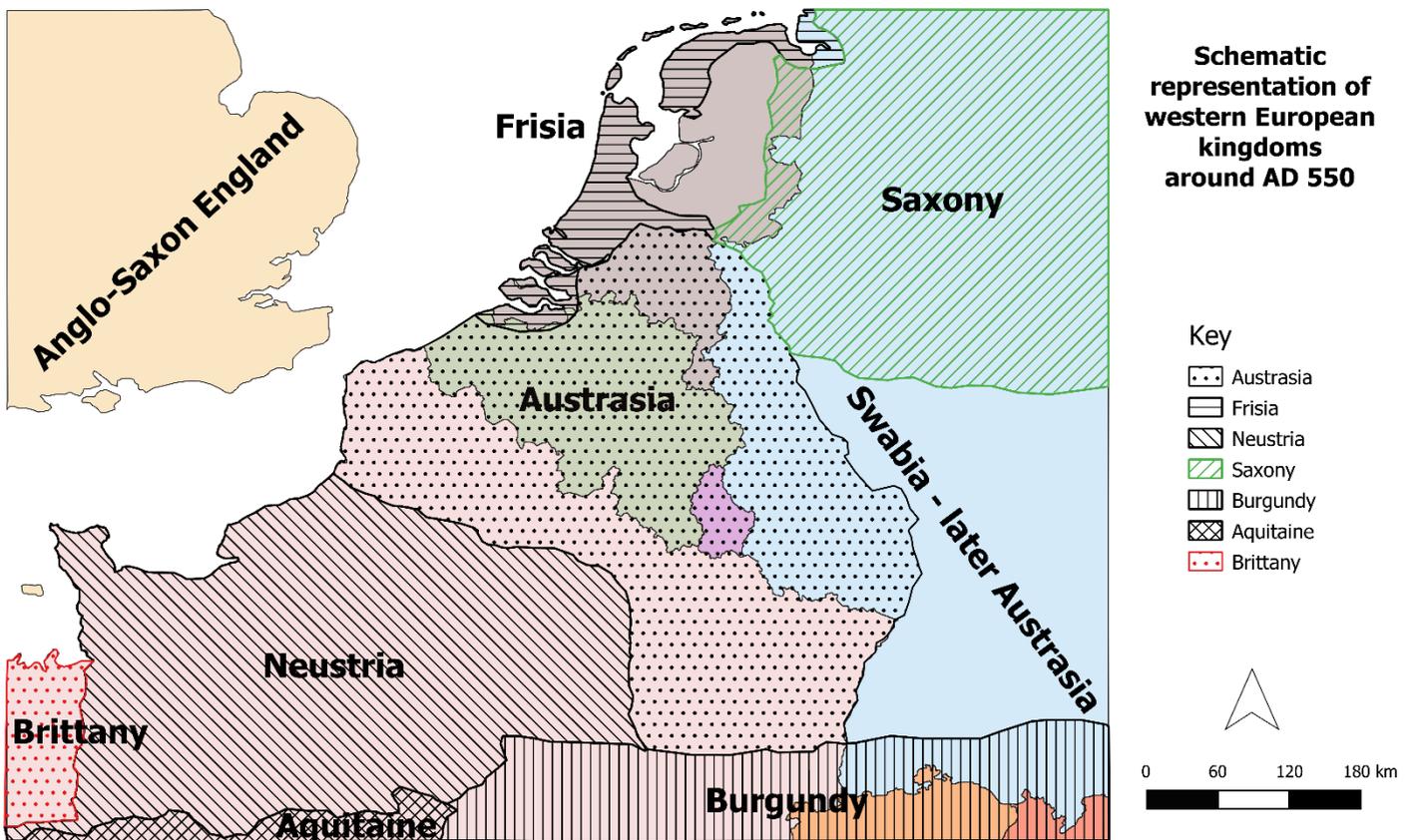


Figure 6: Schematic illustration of the Kingdoms of western Europe around AD 550

<sup>50</sup> Nicolay 2014, 20-23.

<sup>51</sup> Krol 2006, 9-10; Bos *et al.* 2005; Nicolay 2005.

The Netherlands south of the river Rhine, the current provinces of Limburg, Noord-Brabant, Zeeland, Zuid-Holland and parts of Utrecht had seen Roman occupation (*figure 4*). It can be suggested that Christianity was introduced in this area by the Romans. However, it must be noted that the tumultuous period of migration that followed Roman rule mainly wiped-out Christianity in the southern Netherlands. The arrival of the initially pagan Franks especially likely caused a reversion to old pagan ways.

The Frankish spread of Christianity was a process that possibly developed at a relatively slow pace. Although the elite seem to have adopted Catholic Christianity relatively early, the trickle-down effect to the wider population took much longer<sup>52</sup>. One of the main sources of evidence for the expansion of Christianity from the region Paris – Reims – Metz to the north is the attendance of bishops at the various councils in Orléans. During the first council in AD 511, there were no bishops present from the northern and eastern border regions of the Merovingian Kingdom. The fifth council in AD 549, however, saw the presence of bishops from Trier, Tongeren (*Tongres*) and Tournai (*Doornik*) (*figure 7*)<sup>53</sup>. Whilst Trier and Tournai are both approximately 200 kilometres away from the current Belgo-Dutch and Germano-Dutch borders, the distance between Tongeren in Flanders and the southern Dutch city of Maastricht is only 20 kilometres. The presence of these bishops suggests that a well-established Christian influence was present at least very close to the southern Netherlands. Underlining this idea but shrouded in uncertainty is the suggestion that the Bishop of Tongeren moved his seat from Tongeren to Maastricht prior to the council of Orléans in AD 549<sup>54</sup>. All the more problematic is the fact that the only known name of a bishop of Tongeren is Servatius, who was in office as early as AD 343 – 359 and thus during the Roman period. The first known Bishop of Maastricht, Falco, is first mentioned in connection to Bishop Remigius of Reims just after AD 511<sup>55</sup>. From the period between AD 359 and 511, there is thus no historical information regarding a bishop in the Tongeren-Maastricht region.

It is unlikely that two places, so close to each other were different yet contemporary bishop's seats. This leaves the question who the bishop of Tongeren was, who is mentioned in regard to the fifth council of Orléans. It is much more likely that the actual bishop's seat may have been in Maastricht, as documentation suggests<sup>56</sup>, but that the diocese included Maastricht, Tongeren and possibly even Liège (*Luik*). This is also currently still the case.

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<sup>52</sup> Fletcher 1998, 236.

<sup>53</sup> Trouillez 2016, 59.

<sup>54</sup> Loveluck 2013, 18.

<sup>55</sup> Blok 1974, 23., Dijkman 1994, 37.

<sup>56</sup> Loveluck 2013, 18.

Excavations in the Saint Servatius basilica in Maastricht, the oldest still existing church in the Netherlands, took place between 1981 and 1989 and, to date, only a preliminary excavation report has been published<sup>57</sup>. The conclusions from this report have since been debated by various scholars, in relation to a number of historical sources<sup>58</sup>. An overview of this debate, which is provided by Theuws addresses, amongst other things, the discussion regarding the historical figure Saint Servatius. The debate touches upon his position as a bishop of the Tungri, the place of his death and, most importantly for Maastricht, his place of burial<sup>59</sup>.

The excavations at the Saint Servatius basilica led to the discovery of the foundations of a small rectangular building dating to the fourth century. This building was identified as the sepulchre of Saint Servatius<sup>60</sup>. The discussion that followed the publication subsequently led to serious doubt regarding this interpretation. In addition, based on historical sources, it was doubtful whether Saint Servatius was already buried in Maastricht in the fourth century<sup>61</sup>. The historical sources evidence the building of a *magnum templum* (large church) in Maastricht, replacing an earlier and smaller wooden building. The sources add that the remains of Saint Servatius were moved to the new church<sup>62</sup>. When the remains of a larger church building were discovered inside the current basilica, they were assigned to this *magnum templum*<sup>63</sup>. Also known from historical sources is that Charles Martel imprisoned Abbot Wando in the Saint Servatius basilica around AD 717/18<sup>64</sup>. Generally it is assumed that this basilica represents a third construction phase, following the Merovingian *magnum templum*<sup>65</sup>.

When considering the questionable reliability of the dates named in the historical sources, it is preferred to date the remains of the construction phases archaeologically. In the case of the Saint Servatius site, this has been problematic, and excavator Panhuysen is therefore careful when dating the various stages. Although it may never be possible to provide an exact date for the phases, it can be suggested that the first three stages of the church followed each other in rapid succession under the influence of a developing cult around Saint Servatius. Assuming that the first small rectangular structure was built around AD 385, it can be suggested

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<sup>57</sup> Panhuysen 1990b and 1991.

<sup>58</sup> Theuws 2001a.

<sup>59</sup> Theuws *et al.* 2017, 36-42.

<sup>60</sup> Panhuysen 1990, 544., Panhuysen 1991, 19.

<sup>61</sup> Theuws 2001a, 165-172., Panhuysen *et al.* 2002, 107., Theuws 2003, 12-13., Theuws 2004, 130-131.

<sup>62</sup> Theuws *et al.* 2017, 36-40.

<sup>63</sup> Panhuysen 1990, 544., Panhuysen 1991, 19.

<sup>64</sup> Leupen 1996.

<sup>65</sup> Theuws *et al.* 2017, 40

that the second phase, the suspected *magnum templum*, replaced the small chapel around AD 560. The third phase, representing the first basilica, then likely followed around AD 650/75<sup>66</sup>.

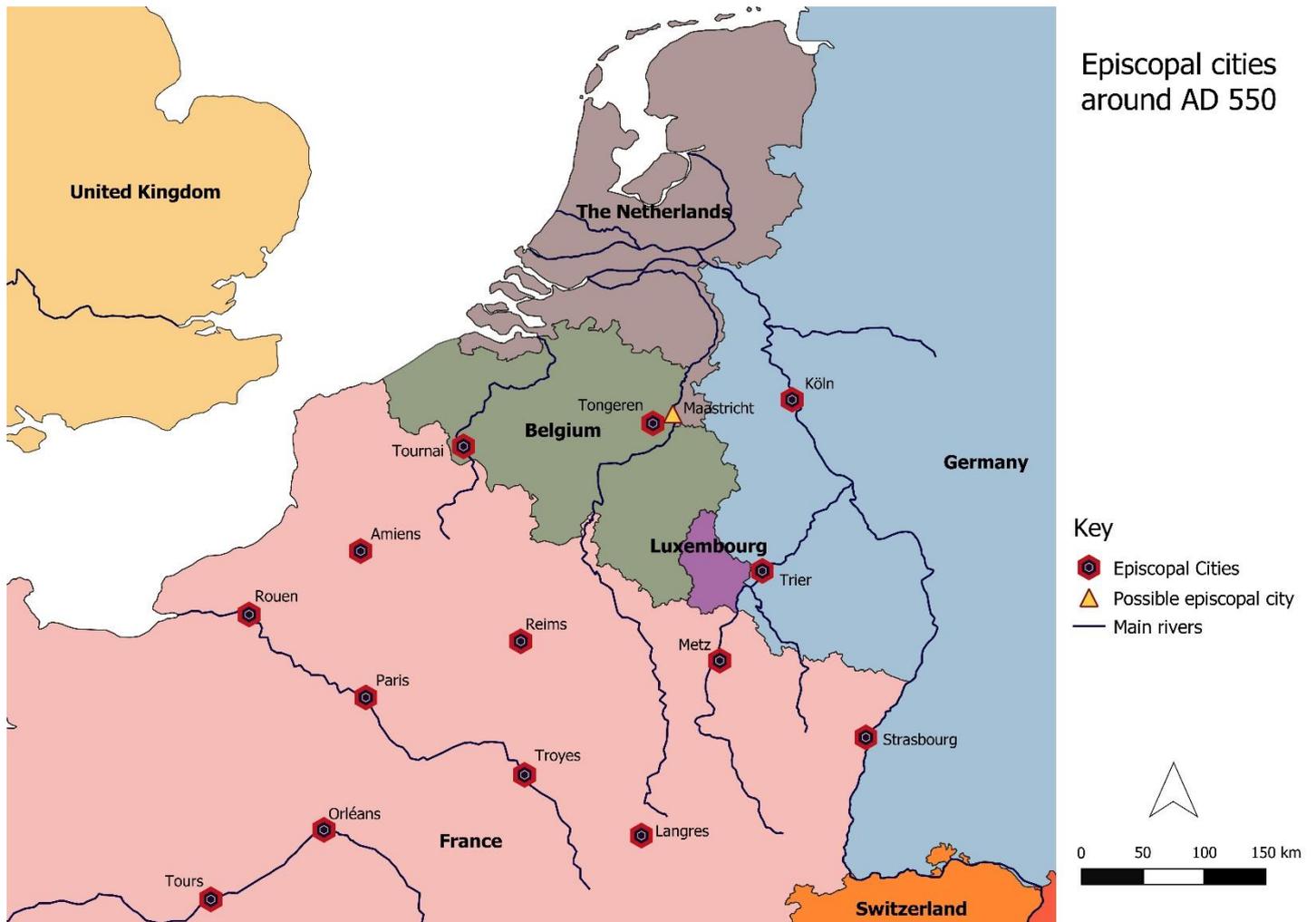


Figure 7: Episcopal cities in northern France and the border regions of Germany, Belgium and The Netherlands

With the death of Clovis the structure of the Merovingian kingdom changed significantly. The territory was divided between his four sons. Initially, the sons worked well together and hegemony within the kingdom was preserved. In fact, the division on an administrative level helped to keep the large empire manageable. Later, however, disagreement between the brothers arose, initiating a more separate way of ruling the created four regions. The region which included the southern Netherlands was given the name Austrasia and included current Belgium, parts of Germany and parts of France. The southern border of Austrasia was a line which ran globally from the Channel coast in France to present-day Amiens and Laon. The border then continued in easterly direction, passing Reims to the north, and ran southwards between

<sup>66</sup> Theuvs *et al.* 2017, 41., Panhuysen 1990, 550-551., Panhuysen 1991, 21-22., Mekking 1986, 21-25.

Reims and Metz following the river Meuse towards Strasbourg on the current Franco-German border (*figure 6*). Whilst the more southern parts of the Merovingian empire largely kept their Gallo-Roman identity, the region of Austrasia had always been more susceptible to influences from beyond the river Rhine. It is suggested that this Germanic-Frankish identity grew again during the second half of the sixth century<sup>67</sup>.

In AD 536, the Franks gained control over the southern French 'Provence' region. This offered beneficial trading opportunities as the region included the important Mediterranean port cities of Arles and Marseille. Having control over these Mediterranean ports opened-up a lively trading route via the rivers Rhône and Saône towards Verdun along the river Meuse. Towns and cities further north along the river Meuse, including Dinant, Namur (*Namen*), Huy (*Hoei*), Liège and Maastricht, started to benefit from this trade and experienced growth around AD 550 and thereafter<sup>68</sup>. Under the influence of renewed prosperity from trade via the river Meuse, many new monasteries were founded around AD 600 such as Andenne, Stavelot-Malmedy, Nivelles (*Nijvel*) and Fosse. Some of the new monasteries and abbeys in and around the Ardennes would later develop into important regional centres. Examples can be found in Echternach (Luxembourg), Lobbes, Sint Truiden (*Saint Trond*) and Sint Omaars (*Saint Audomar*)<sup>69</sup>.

With regard to the process of Christianisation, evidence from the Netherlands is scarce for the period between AD 550 and c. 620. Although the faith was established in the far south, it is suggested that conversion during this period was less of a priority, because of the tendency towards a more Germanic identity in Austrasia. Around AD 600, the church in Francia went through a difficult period of increasing displeasure with the ways in which the elite influenced the appointment of bishops and how the church had become a political instrument rather than a separate influential entity. In AD 614, Clotharius II called a church council in Paris. During this council, it was decided that in the future bishops should be voted into their role rather than chosen by the king. The king would still be allowed to suggest a candidate, but only if his qualities and merits endorsed the candidacy<sup>70</sup>.

During the reign of Dagobert (AD 623-632), there was a revival of the desire to convert the northern regions of Austrasia. This mainly concerned French Flanders (the present-day

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<sup>67</sup> Van der Tuuk 2016, 61.

<sup>68</sup> Van der Tuuk 2016, 61.

<sup>69</sup> Van der Tuuk 2016, 93

<sup>70</sup> Trouillez 2016, 60

French *départements* Nord and Pas-de-Calais), Belgian Flanders and the far southwest of the current Netherlands. In Belgium, from the diocese of Tournai-Noyon, a new north-western diocese was founded around Théroouanne (*Terwaan*) (*figure 8*). From there, Christianity rapidly spread northwards to the area around Gent (*Gand*) and Antwerpen (*Anvers*). In Gent, Amandus founded the Saint Baafs abbey and near the city, along the river Scheldt, a parish church on the site of a former pagan temple. This parish church was later incorporated in Saint Peter's abbey. In his biography, Amandus suggests that he was also responsible for the conversion of 'Frisians'. There is, however, no evidence that suggests he ever was in the core area inhabited by the Frisians, namely the northern Netherlands. During the same period, the Frisians had expanded their territory to the southwest along the coast in the current provinces of Zuid-Holland and Zeeland<sup>71</sup>. It is therefore possible that Amandus, in his biography, refers to small scale conversion of Frisian colonists in Zeeland, the southwestern most part of the Netherlands (*figure 8*)<sup>72</sup>. Despite efforts to push Christian expansion further into the Dutch coastal zone, beyond Zeeland paganism proved intractable. The coastal zone did not give in to conversion, despite increasing Frankish interest in the region, especially in the Rhine estuary around Leiden<sup>73</sup>.

During the period when elite interest in the southern half of the Netherlands grew, the Franks took hold of various former Roman fortresses along the river Rhine. Due to a war with the Longobards, trade routes via the Alps and the Rhine were blocked until approximately AD 620. The re-opening of these trading routes was one of the reasons why the Rhine delta and central Dutch river zone prospered and saw renewed interest. Archaeological excavations at the Roomburg Roman fortress (*Matilo*) in Leiden show that repair work was performed, presumably by the Franks, in the first half of the seventh century. The region around Leiden sees many settlement- and small cemetery sites which date roughly to the seventh century, namely in Oegstgeest, Katwijk, Rijnsburg, Valkenburg, Den Haag and Naaldwijk<sup>74</sup>.

Apart from in the Rhine delta, Frankish presence in the central Dutch river zone grew. This is exemplified by the Roman fortress of Duristate, near current Wijk bij Duurstede, which fell into Frankish hands after AD 620. It is around this fortress that the Dorestad *emporium* slowly started to develop during the seventh century (*figure 9*). However, the period of great prosperity, which is known from Dorestad would take place later, between c. AD 750 and 825<sup>75</sup>. The word *Dore* probably derives from the Celtic word *dhuro* or *dur*, meaning fortified place or

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<sup>71</sup> Nicolay 2014, 21.

<sup>72</sup> Van der Tuuk 2016, 93.

<sup>73</sup> Van der Tuuk 2016, 94.

<sup>74</sup> Van der Tuuk 2016, 95.

<sup>75</sup> Theuws, 2003, 14.

entrance gate<sup>76</sup>. Stad is likely derived from *stade* (riverbank), leading to a meaning such as ‘fortified place on the riverbank’<sup>77</sup>. A variation of this etymological explanation combines a Celtic and Germanic origin. In this case the name is thought to be a combination of the Celtic word *dworest* (door, entrance or port) together with the Gallic word *duron* (enclosed marketplace). This first part is combined with the Germanic word *statha*, (port, landing place), leading to an overall meaning of ‘marketplace with a port’<sup>78</sup>. A third and probably less likely possibility takes the Celtic *dworest* in the meaning of door or passage. Over time, it is thought that *dworest* transitioned into ‘dorus’ and was given the Celtic suffix ‘-atis’. This suffix is an indication for occupation, leading to an overall meaning of ‘occupants of the passage’<sup>79</sup>.

The name, regardless of which of the above explanations is correct, probably developed during the Roman period as part of a Romano-Celtic dialect in the region. The likely minimal influence from the Germanic or Frisian language on the name Dorestad suggests that Frisian influence around the *emporium* site was not strong yet when the Franks arrived. This is despite ongoing land grabbing between Franks and Frisians in the central river zone<sup>80</sup>.

Although Christianity in the Dutch coastal zone did not develop as quickly as the Franks possibly would have liked, further inland Christian symbols start to appear on coinage from the second quarter of the seventh century. From c. AD 600, this was already the case in the southern part of the country with mint masters based in Maastricht<sup>81</sup>. In the course of the seventh century, mint masters moved northwards from the Meuse valley around Maastricht to the Rhine basin around Dorestad (*figure 9*). This development is exemplified by the occurrence of the Dorestad tremisses which were mostly minted by Rimoaldus and Madelinus who previously worked in Maastricht. The tremisses, however, contain the inscription ‘*Dorestati Fit*’, meaning ‘minted in Dorestad’<sup>82</sup>. These golden coins differ from their Roman predecessors as the Roman ‘Victoria’ was replaced by a Christian cross during the early medieval period. Around the cross, the name of the mint master is indicated as well as the word *monetarius*. On the reverse of the coin a bust is often present, after the Roman example, with an indication of the place where the coin was minted<sup>83</sup>. The Christian symbolism on the tremissis is a first, yet important, indication

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<sup>76</sup> Gysseling 1959, 7; Toorians 2005, 43-46.

<sup>77</sup> Toorians 2005, 43.

<sup>78</sup> Toorians 2005, 43-46.

<sup>79</sup> Schrijver 2014, 152-157.

<sup>80</sup> Van der Tuuk 2016, 96-7.

<sup>81</sup> Grierson *et al.* 1991, 81-154., Pol 2001a.

<sup>82</sup> Van der Tuuk 2016, 96.

<sup>83</sup> Grierson *et al.* 1991, 118-122., Theuws 2003, 9.

for the arrival of Christianity in the periphery along the northern frontier of the Merovingian kingdom.

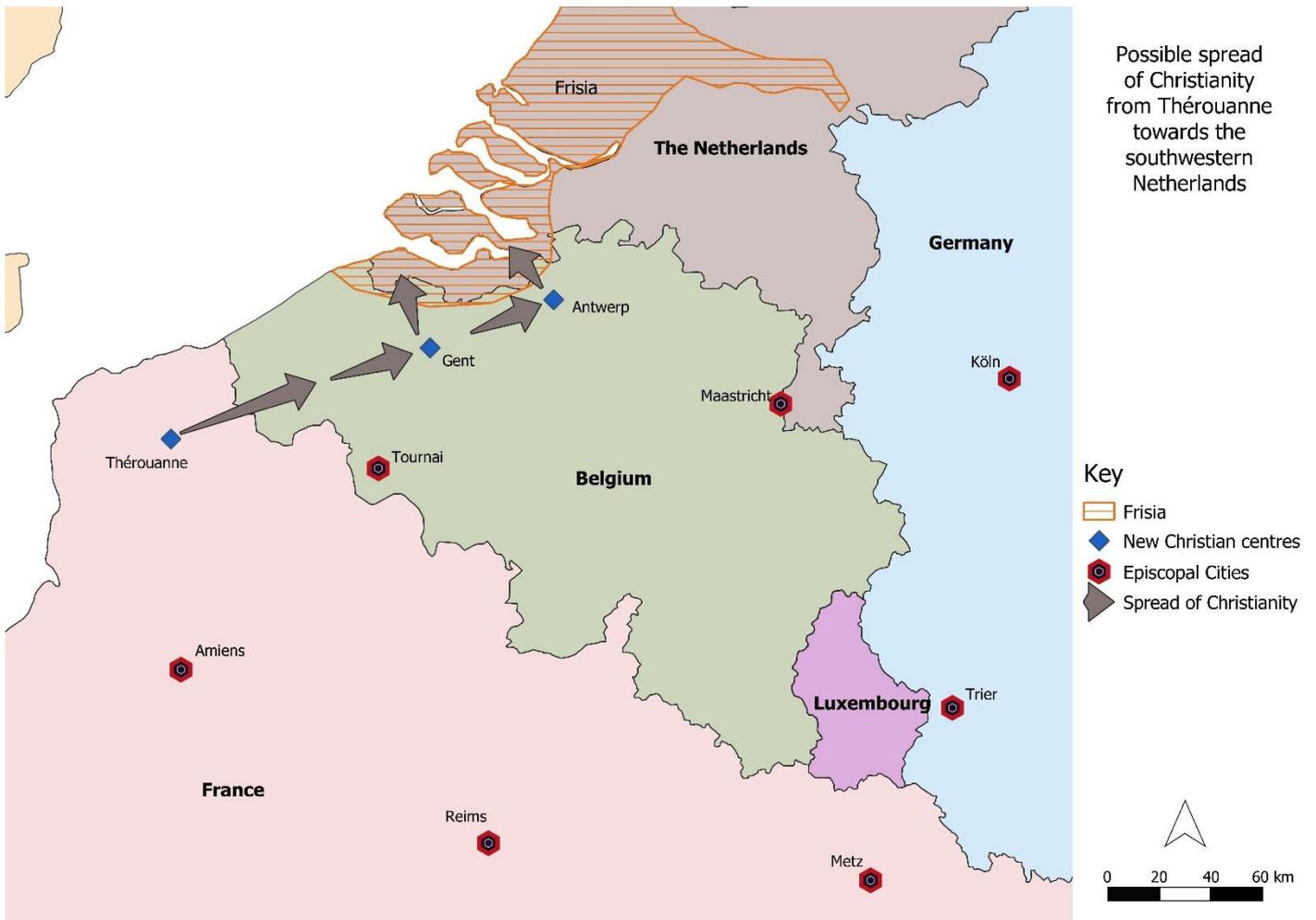


Figure 8 Possible spread of Christianity from Théroutanne in France towards Flanders and the southwestern Netherlands.

During the period between the arrival of Christianity in Maastricht, probably around AD 550, and the first Dorestad tremisses with Christian symbolism between AD 625 and 650, it is suggested that Christianity spread slowly from the south towards the middle of the country. Although this may be the case to some extent, it is important to note another force which played a role in the process. Around the time of the arrival of Christianity in Maastricht, the new faith had also spread further eastwards and northwards into current Germany (*figure 9*). The city of Cologne (*Köln*), along the river Rhine, approximately 110 kilometres east of Maastricht, saw its first post-Roman bishop appointed in c. AD 565. In the period between AD 623 and 663 it was bishop of Cologne Kunibert who actively tried to enlarge the diocese downstream along the Rhine. To achieve this aim, he is said to have befriended the Austrasian elite who enabled him

to found missionary posts along the river Rhine, possible even into the delta area. The missionary posts were initially meant to support Frankish migrants from further south who were new to the area, but they probably also played a role in the conversion of the local population. Kunibert grew to be one of the most influential figures of his time in the north of Austrasia. It is suggested that his influence in the periphery was larger than that of Dagobert, who resided far away in Paris. During his episcopate, the centre of power of the Catholic church in Austrasia moved from Metz in current France to Cologne<sup>84</sup>.

The Christian influence of Kunibert is witnessed by some sources in the Netherlands. It is thought, for example, that it was Kunibert who founded Saint Steven's church in the Valkhof area of Nijmegen, near the German border (*figure 9*)<sup>85</sup>. A further reference to Kunibert and his influence is made in a letter from Boniface dating from approximately AD 740. In this letter, Boniface disputed the ownership, claimed by the diocese of Cologne, over a missionary post near Utrecht which was founded in the second half of the seventh century. In the letter, Boniface also talks about a small church, founded in Utrecht by King Dagobert around AD 630, which was assigned by the king to the diocese of Cologne<sup>86</sup>.

From this evidence, it can be suggested that the conversion of the southern half of the Netherlands took place between c. AD 550 and 650. The evidence, however, is scarce and is mainly focussed on the clergy and the elite. It is unclear how quickly the new faith trickled down from the elite and nobility to the average member of the public. As the southern Netherlands formed the border zone and thus the periphery of the Roman empire as well as the Merovingian kingdom, it is suggested that influences from pagan peoples across the border were strong and always present. It was especially the remote and inhospitable coastal zone between the deltas of Rhine and Scheldt which long remained free from Frankish and Christian influence. It is evident that the process of conversion was far from completed by AD 650. The mission from the south was successful around AD 550 in the Meuse Valley in the province of Limburg. The southwestern approach, via Gent and Antwerp towards the province of Zeeland was more difficult. The evidence suggests an eventual combination of advancing Christianity from Limburg to the north and northwest and a mission which came from the Cologne region to the east of the Netherlands. It was probably this combination which was most effective in spreading Christianity over large parts of the southern Netherlands (*figure 9*).

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<sup>84</sup> Van der Tuuk 2016, 98.

<sup>85</sup> Leupen 1979, 138.

<sup>86</sup> Broer *et al.* 1997. 45.

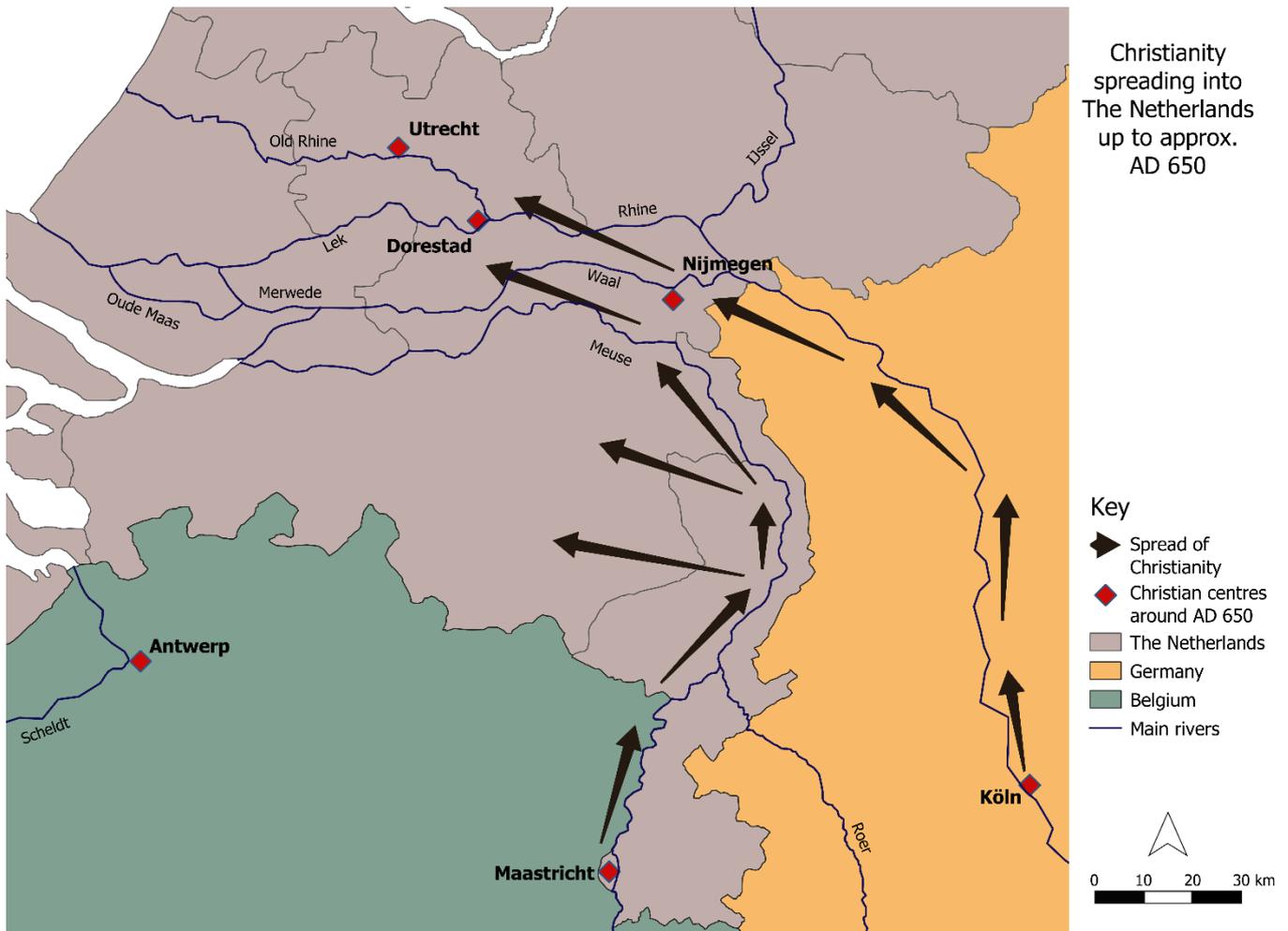


Figure 9: Spread of Christianity from northern France to the Rhine and Meuse valleys and into The Netherlands.

### 3.3 THE CONVERSION OF THE NORTHERN NETHERLANDS

The brief history of conversion in the southern Netherlands shows that the north of the country remains largely outside of the Frankish realm during the Merovingian period. Instead, the north was dominated by Germanic tribes who kept their own identity and pagan beliefs for a much longer period than the Merovingian population south of the river Rhine.

It is suggested that, during the early Roman period, the areas north and east of the river Rhine, in the Netherlands as well as in Germany, were occupied by various small Germanic tribes. These tribes functioned under a system of kinship in which leadership was obtained

through inheritance. Also other roles within the kin group were determined by birth and passed down through a system of inherited succession. During the expansion of the Roman Empire, the elite formed warrior groups which operated largely independent from the tribe and the king. Membership of a warrior group was not determined by birth or inheritance but was strictly voluntary. A consequence of this development was that the king, but also other members of the elite, were now in a position to establish a group of warriors. The king therefore was no longer a distinctive figure that could be seen as standing above other members of the elite. The result was that hereditary kingship could no longer be guaranteed. The king's position could now be challenged and taken over by other members of the elite<sup>87</sup>.

During the fourth and fifth centuries, when Roman rule in the southern Netherlands declined and later disappeared, many small tribal groups were migrating. The established warrior groups, during this period, were open to membership of people from multiple small tribes. As a result, cultural alliances developed which grew out to become well known peoples of the early medieval period such as the Frisians, Angles and Saxons<sup>88</sup>. This change from naturally formed tribes based on family structures to larger tribes based on political and cultural alliance is the subject of debate. It is argued that the change is seen as modelled too much on the contrast between primitive Germanic tribes and the significant level of civilisation displayed by the Romans during the same time<sup>89</sup>. As a result, the linear and evolutionary model, as presented here, possibly relies on an abundance of stereotyping causing the detail and complexity to be simplified<sup>90</sup>.

Before the peoples that inhabited the North Sea region were studied in detail, they were often collectively referred to as 'the North Sea culture'. This term in itself should be questioned as it gives the impression of a homogenous culture group. The various groups around the southern North Sea, however, form a close network of ideological, cultural, economic and socio-political relationships<sup>91</sup>. These close relationships originate in the late fourth and fifth centuries when peoples from northern Germany and southern Scandinavia move southwards and settle, amongst other places, in the northern Netherlands<sup>92</sup>. The group currently identified as the Frisians concentrates its settlement along the north coast in the current Dutch province of

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<sup>87</sup> Nicolay 2014, 3.

<sup>88</sup> Nicolay 2014, 3-4

<sup>89</sup> Bazelmans 1991.

<sup>90</sup> Hiddink 1999, Ch. 4 and 9 and p. 232-33., Bazelmans 1994, 171.

<sup>91</sup> Van Rechteren Altena *et al.* 1977., Gerrets 2010, 47-48.

<sup>92</sup> Bazelmans *et al.* 2004, 18., Nicolay 2005., Knol 2009.

Friesland and on the island of Texel (*figure 10*)<sup>93</sup>. The core settlement area is concentrated around the so called *terpen* and *wierden*, which are man-made mounds on natural ridges allowing for elevated dwelling. The salt-marsh area which covered much of the current provinces of Friesland and Groningen differed from the west coast of the Netherlands, where the land was protected from the sea by a row of dunes. In absence of dunes in the north, the *terpen* and *wierden* provided protection from the sea, especially during storm floods. The water-rich environment which included many tidal estuaries provided sufficient waterways which connected the various settlements<sup>94</sup>.

Since the late third century, the northern coastal zone of the Netherlands had been largely abandoned for over a century with only evidence for a very small population in Groningen and the eastern part of Friesland<sup>95</sup>. These small groups of people can possibly be regarded as examples of the aforementioned small tribal groups. From these groups, as well as from the Roman period and Iron Age, no cemeteries are known in the northern coastal zone. The appearance of cemeteries, together with the arrival of a new material culture and the re-settlement of mounds for dwelling signals the arrival of new people during the late fourth and fifth centuries. Although the exact origin of the new arrivals is unknown, it can be suggested that an initial large group was coming from the northern German regions of Saxony and Angeln<sup>96</sup>. This is supported by various finds of Saxon-style pottery and brooches in Frisian cemeteries such as Beetgum-Besseburen and Oosterbeintum<sup>97</sup>. It is thought that these people were of similar origin as those who migrated to England and should probably also be called Anglo-Saxons. Witnessed by the find of various gold bracteates, it is suggested that the initial migration from northern Germany was followed by a small elite group and their followers from Jutland during the late fifth and first half of the sixth century<sup>98</sup>. During the fifth and sixth century, settlement concentrations could be found on approximately 2000 *terpen* of which circa 1500 were located in current Friesland and circa 500 in current Groningen. When clustering the various settlement sites, it is possible to identify four core concentrations or 'nuclear regions'. These were Oostergo and Westergo in Friesland and Fivelgo, and Hunzego in Groningen (*figure 10*). These clusters

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<sup>93</sup> Nicolay 2014, 17.

<sup>94</sup> Nicolay 2014, 37.

<sup>95</sup> Bazelmans 2000b., Taayke 2000., Gerrets 2010, 150-164., Nieuwhof 2011, 2013., Nicolay 2011, 252-57.

<sup>96</sup> Nicolay 2014, 22.

<sup>97</sup> Knol in Huisman *et al.* 2008, 148-157., Knol *et al.* 1996.

<sup>98</sup> Gerrets 1999a, 121-123., Bos *et al.* 2005, Nicolay 2005, 2011., Knol 2009., Nicolay 2014, 22.

were part of a larger Frisian realm, later called *Frisia Magna*, which included the current region of West-Friesland in the province of Noord-Holland<sup>99</sup>.

The elite groups from Jutland brought renewed knowledge about power formation which they had experienced in their Danish homeland. This resulted in a takeover of the leading position from larger tribal groups by the Jutish aristocracy in the course of the sixth century. The newly established aristocratic power possibly formed the foundation for the rise of a Frisian kingdom in the northern Dutch coastal zone during the late sixth or early seventh century. Based on the status of Frisian-style jewellery as well as the distribution of gold finds, the Frisian kingdom can roughly be divided in three socio-political zones. A core or 'royal' zone was situated in northern Westergo, a surrounding elite zone can be found in central Westergo and Oostergo and a third, more peripheral zone consists of the current province of Groningen. Traditionally, it was thought that the Frisian kingdom expanded from this core region<sup>100</sup>, however, the current consensus suggests that the wider Frisian realm, or *Frisia Magna*, should be regarded a collection of various small kingdoms, comparable to the situation in early Anglo-Saxon England<sup>101</sup>.

During the seventh century, the Frisian kingdom saw expansion in eastern and southern direction. To the east, the Frisian influence expanded into the coastal zone of northern Germany, currently known as the region of Ostfriesland. In the course of the expansion process, the main area which was within the Frisian realm stretched as far east as the estuary of the river Weser. However, it is suggested that a more peripheral zone stretched even further east and north along the coast, as far north as the Danish town of Ribe in Jutland<sup>102</sup>.

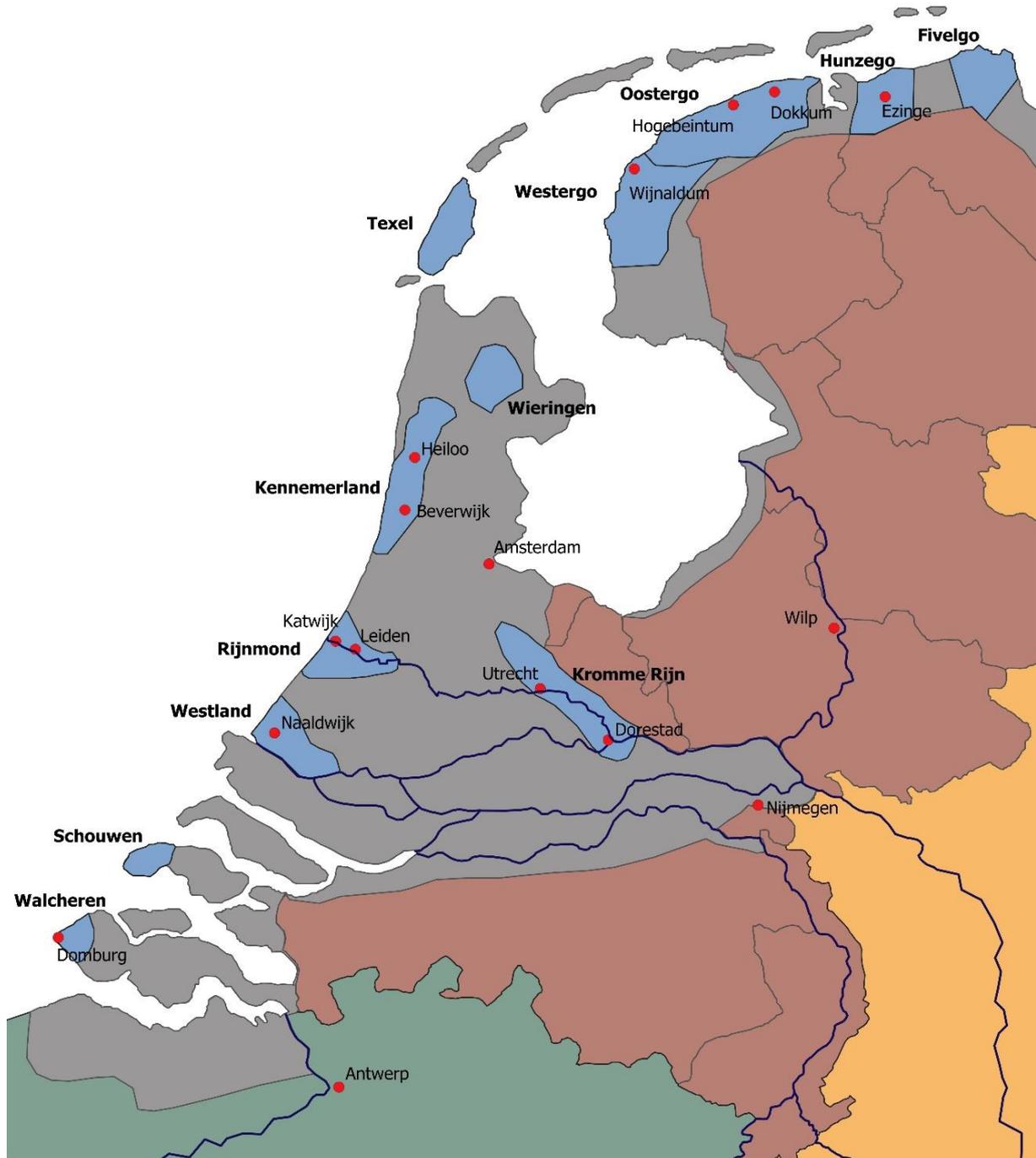
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<sup>99</sup> Nicolay 2014, 37-39.

<sup>100</sup> Boeles 1951, 269-285.

<sup>101</sup> Nicolay 2014, 22., Bazelmans 2002.

<sup>102</sup> Nicolay 2014, 21.



**The Frisian realm  
in The Netherlands**

**Key**

- Frisian territory (max. expansion)
- Frisian nuclear regions
- Place related to Frisia or Christianisation
- The Netherlands
- Germany
- Belgium

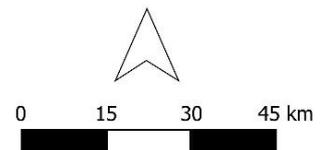


Figure 10: The Frisian expansion in the Netherlands.

To the south, the Frisian realm expanded along the coast of Noord-Holland and Zuid-Holland and eventually reached the estuary of the river Scheldt in the province of Zeeland (*figure 10*). The core area of the Frisian realm, *Frisia Magna*, can be suggested to have stretched the coastal zone between the estuary of the river Scheldt in the south and the Weser in the north. Beyond the Scheldt estuary, small scale expansion took place which concentrated around the later trading centre of Domburg (then probably known as *Walichrum* or Walcheren) (*figure 10*). It is suggested that further expansion possibly included the current southernmost part of Zeeland, known as Zeeuws Vlaanderen<sup>103</sup>. It is possible that Amandus, the Frankish missionary, converted some Frisians in this area, as is mentioned in his biography<sup>104</sup>. The Frisians, increasingly aware of the importance of the various rivers and estuaries in the western coastal zone expanded their realm increasingly further inland along the rivers Rhine, Meuse and Waal (*figure 10*). Expansion into this central part of the country would later lead to friction with the Franks, who also developed an increasing interest in the central Dutch river zone.

Archaeological evidence for Frisian expansion into the central Dutch river zone is scarce. Whilst high status valuables of Frisian origin are known from the northern Netherlands, especially the region around Wijnaldum, in the central and western Netherlands similar evidence of expansion of kingship is virtually absent. Frisian expansion into the central Netherlands, however, is relatively well described in historical sources. It is noted that Frisian king Aldgisl was visited by Wilfrid, archbishop of York, in AD 678. Wilfrid is said to have been Aldgisl's guest for the duration of the winter and stayed at his *palatium* in Frisia. It is thought that this palatium was located in the former Roman *castellum* in Utrecht. In AD 688 the Anglo-Saxon missionary Wigbert met Aldgisl's probable successor Radbod. It is unclear, however, which places in Frisia Wigbert visited and also what the relationship was between Aldgisl and Radbod. Two years after Wigbert's visit, it was Willibrord who visited Radbod in his *palatium* in Utrecht. A third Frisian leader, or possibly king, was Bupo (sometimes called Poppo). Again, it is unclear how he relates to Aldgisl and Radbod and it is also unknown where he resided. It is clear, however, that he died in AD 734 during a fight against the Frankish army in Friesland<sup>105</sup>.

During the first half of the seventh century, the central Dutch river zone was Frankish territory. As discussed in the section on the conversion of the southern Netherlands, it is thought that King Dagobert (AD 629-639) founded a church within the walls of the *castellum* in Utrecht.

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<sup>103</sup> Nicolay 2014, 21.

<sup>104</sup> Van der Tuuk 2016, 93.

<sup>105</sup> Halbertsma 1965/66., Halbertsma 2000., Nicolay 2014, 23-24.

The church and the castellum were subsequently given by Dagobert to Bishop Kunibert of Cologne. It was in AD 650 that tensions in the central river zone between Franks and Frisians escalated. As previously discussed, Dagobert resided in Paris and during his reign, royal attention was therefore more focussed on the western parts of the Merovingian kingdom. During the reign of his successor Ebroin, the focus was even more on the west, which led to decreasing attention for the lower Rhine area. This resulted in increasing influence from the Saxons in the current Dutch-German border region and, more importantly, a chance for the Frisians to take over control of the central river zone in AD 650<sup>106</sup>. In the period that followed, an Italian source describes Dorestad as a Frisian settlement<sup>107</sup>.

When King Ebroin died in AD 681, the rule of the Frankish province of Austrasia was taken over by Pippin of Herstal. It was this leader who turned his attention again to the central Dutch river zone where he battled the Frisians, led by King Radbod, in AD 689. The battle was lost by the Frisians, resulting in a takeover of the central river zone by the Franks (*figure 11*). The border between the Frisian and the Frankish realm after this conquest was formed by the river Rhine and runs from west to east roughly between Katwijk, Leiden, Utrecht and Nijmegen.<sup>108</sup>

When Pippin van Herstal died in AD 714, it is suggested that Radbod once more expanded his territory to the south and east, taking back control over the central river zone. This, however, was only for a short period of time. After the death of Radbod in AD 719, Pippin of Herstal's successor, Charles Martel, rapidly invaded Frisia. His army not only re-conquered the central river zone, including the Frisian royal stronghold of Utrecht, but also the west coast of the Netherlands including the island of Texel. Radbod's successor Bupo was killed in a battle between the Frisians and the Franks in the current province of Friesland in AD 734. This resulted in a takeover of the northern coastal zone by the Franks, except for parts of eastern Groningen. During the period after AD 785 and into the ninth century, the Frankish influence was further expanded across the northern Dutch border into Germany (*figure 11*)<sup>109</sup>.

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<sup>106</sup> Van der Tuuk 2016, 109.

<sup>107</sup> Byvanck 1931, 578 and 580.

<sup>108</sup> Nicolay 2014, 25.

<sup>109</sup> Nicolay 2014, 24-25.

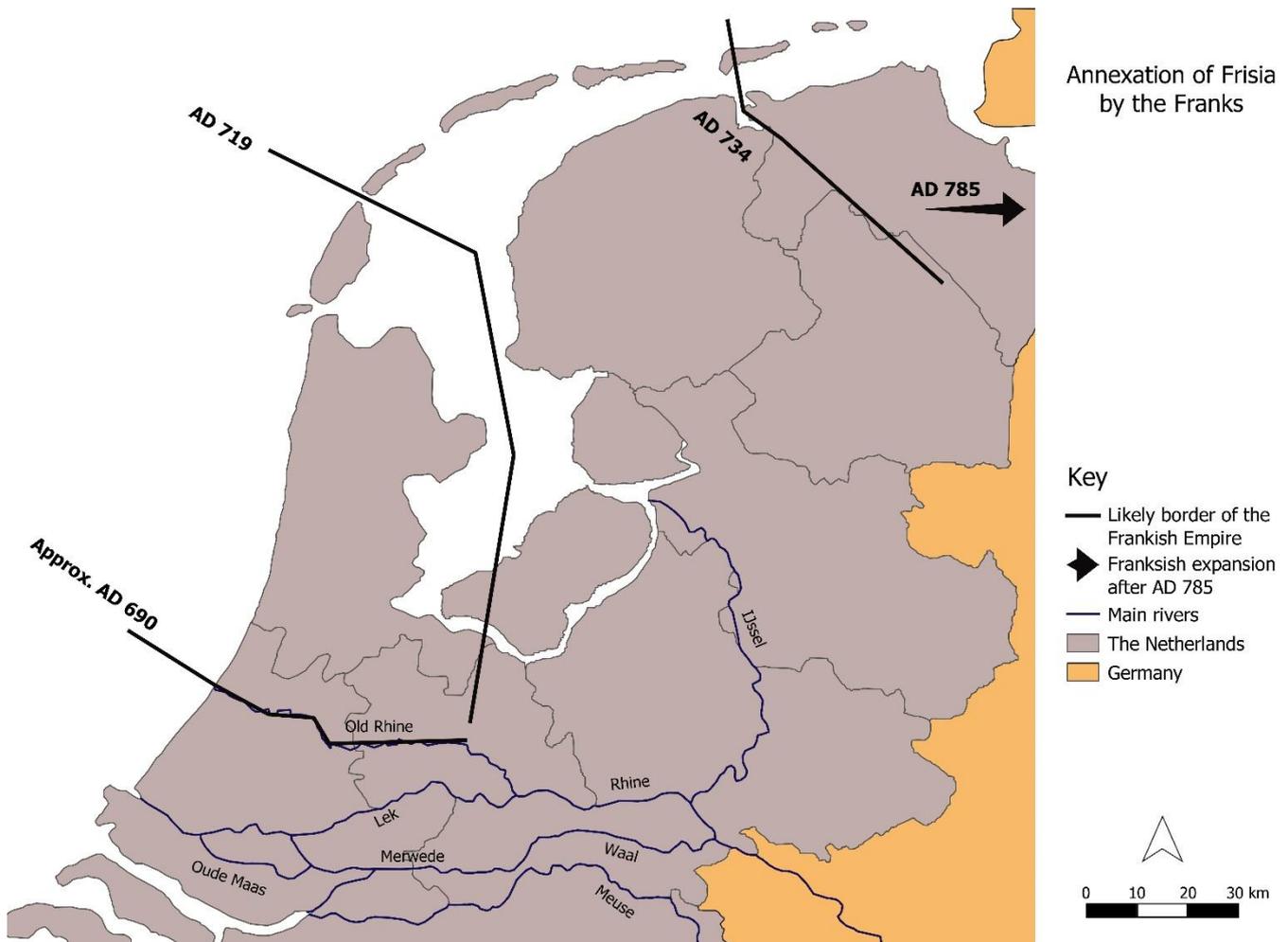


Figure 11: Annexation of Frisia by the Franks.

Within this summary of the history of the Frisians in the Netherlands, it seems as if Christianity and the conversion process played little or no role. For a long period of time, until AD 678, this was indeed the case. In AD 678, as previously mentioned, it was Wilfrid, archbishop of York, who spent a winter in the Netherlands, at the court of king Aldgisl of Frisia. It is suggested that Anglo-Saxon pilgrims on their way to Rome normally took a route from England to the port of Quentovic (east of modern day Étapes) on the French coast and further through the Merovingian kingdom. Due to a conflict between Wilfrid and the Frankish king Ebroin, however, it is suggested that Wilfrid instead chose a route through Frisia<sup>110</sup>. Wilfrid is held responsible for the conversion of ‘thousands of people’ in Frisia. This number is probably very much an exaggeration. The land of the Frisians was sparsely populated, and Wilfrid did not manage to convert King Aldgisl himself. As seen in England and in the southern Netherlands,

<sup>110</sup> Levison 1913, 220.

conversion of the elite is often a condition for a new religion to spread amongst the people<sup>111</sup>. In AD 688, it was the Anglo-Saxon missionary Wigbert's turn to come to the pagan lands of the Frisians and to try to convert its inhabitants to Christianity. Even if Wilfrid had some success ten years earlier, rule in Frisia was now taken over by Radbod who firmly believed in the prosperity that was given to him by pagan gods. Tensions between the Franks and the Frisians increased hostility towards Christianity amongst the Frisians, as it was the religion of the Franks. After around two years, Wigbert gave up his mission and returned to England without having made progress<sup>112</sup>.

A third attempt to convert the Frisians was made in AD 690, just after the battle between Radbod and Pippin of Herstal. This time, it was Willibrord together with twelve missionaries who visited the Netherlands. Based on historical evidence from, amongst others, Bede, it is thought that Willibrord was received by Pippin rather than directly moving into Frisian territory. It is said that Pippin sent Willibrord to the area just south of the Rhine, the region he had just conquered<sup>113</sup>. To improve Willibrord's chances of success, Pippin made promises of rewards to those who were willing to convert. Missionary work was performed in this region until AD 695 when Willibrord was made archbishop of Utrecht. As an Anglo-Saxon missionary, it is suggested that Willibrord profited from a similar cultural background to the Frisians. However, the Anglo-Saxon missions on the continent were very closely related to the rule of the Franks and therefore not welcomed by the Frisians.

Although Utrecht was officially Willibrord's seat, most evidence of his early missionary work can be found in the southern Netherlands, especially in the current provinces of Noord-Brabant and Zeeland. This suggests that previous missions in these southern areas were less successful than initially thought. Before Willibrord could focus his attention to the Frisians in the north, there was more work to do on the mission in the south, conveniently in a less hostile environment. Within the province of Noord-Brabant, Willibrord founded several churches on estates that were owned by the Frankish elite, especially in the Dommel river basin. Even further south, in current Flanders, Willibrord founded a church in Antwerp which formed the base for the conversion of the region around the Scheldt estuary. Although Amandus had previously performed missionary work in this area, the founding of this church suggests that the conversion was by no means completed<sup>114</sup>. During the mission in the Scheldt estuary, it was Willibrord who

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<sup>111</sup> Van der Tuuk 2016, 111-12.

<sup>112</sup> Trouillez 2016, 104.

<sup>113</sup> McClure *et al.* 1994, 10.

<sup>114</sup> Van der Tuuk 2016, 124-25.

is said to have demolished a pagan idol in Domburg, in the Dutch province of Zeeland, and to have replaced it with a church <sup>115</sup>.

In AD 698, Willibrord was given a monastery on Pippin's family estate in Echternach (Luxembourg) which he expanded rapidly<sup>116</sup>. This monastery became his refuge from where he regularly controlled the Diocese of Utrecht. A possible combination of the 400km distance between Echternach and Utrecht and increasing tensions between Frisians and Franks in the region around Utrecht caused the mission in the Dutch diocese to be suspended. It was not continued after Willibrord's death in AD 739<sup>117</sup>. In the years which saw regular travel back and forth between Echternach and Utrecht, the mission of Willibrord was more focused on the northern Netherlands. Willibrord founded a church and monastery in Utrecht which functioned as a missionary post and he is said to have been active as a missionary in the current province of Noord-Holland, in the region north of Amsterdam<sup>118</sup>.

Moving back in time twenty-five years, Pippin of Herstal succumbed to illness in Liège in AD 714. Between AD 714 and 717 a power struggle took place over his succession which was eventually won by Charles Martel. It was during this period of upheaval that the Anglo-Saxon monk Winfrid arrived in Dorestad. In AD 718, the monk was granted a new name, Boniface, by which he is more commonly known. Boniface was granted permission by the Frisian king Radbod to travel through the northern part of the Netherlands in order to see if a mission could be successful. This description of events is written by Boniface's biographer Willibald. From historical sources around Willibrord, however, it is known that Radbod was deeply pagan and actively resisting conversion from the Franks. It is thus possible that Willibald's history paints an overly positive picture of the situation. It is also possible that Radbod took a milder stance towards Boniface, as he was not sent by the Franks but acted on his own initiative instead. After testing the water in the northern Netherlands, Boniface realised that his mission would not be positively received by the Frisians. Around the end of AD 716, he is said to have left the Netherlands for missionary work in Thuringia and Bavaria<sup>119</sup>.

Sometime after the death of Radbod in AD 719, Boniface returned to the Netherlands and joined Willibrord in his mission to continue the conversion of the Frisians. Around this same period, Charles Martel conquered a large part of the Frisian kingdom including the current

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<sup>115</sup> Levison 1919, 127.

<sup>116</sup> Metzler *et al.* 1981, 295-296., Wagenaar 2006, 323.

<sup>117</sup> Van der Tuuk 2016, 125.

<sup>118</sup> Trouillez 2016, 112-13

<sup>119</sup> Levison 1905, 16-18.

province of Noord-Holland. It is thought that the missionary work was especially focussed on the conquered areas. The success of the mission north of Amsterdam is supported by place name evidence. Heiloo (Holy Forest), for instance, is a village approximately 30 kilometres north of Amsterdam (*figure 10*). It is suggested that this place name dates back to the eighth or ninth century and marked the location of an early church. Other examples are Hargen in Noord-Holland and Harg in Zuid-Holland, a name derived from *harug* which can be translated as temple or sanctuary<sup>120</sup>. During excavations near Beverwijk (20 kilometres northwest of Amsterdam) a Christian open-air sanctuary was discovered which probably resembles one of multiple examples of this type of site in the region (*figure 10*)<sup>121</sup>.

The cooperation between Willibrord and Boniface in Frisia is said to have ended in disagreement regarding the style of the mission. Boniface had plans for reform of the mission, but these ideas were not welcomed by Willibrord. The latter did not actively attempt to create a structured church province after Frankish example. It was probably the case that the Roman-style Catholic ideas of Boniface did not match the ideas of Willibrord, who had a more Insular Christian style. When Boniface eventually refused to work as a lower-placed missionary under Willibrord, he left Frisia for a second time to pursue a clerical career elsewhere<sup>122</sup>.

After Willibrord's death in AD 739 and after another change of power in the Frankish empire, Boniface eventually returned to Frisia and initiated a renewed diocesan structure which would be led from Utrecht. The diocese had fallen into disrepair and the missionary post was left abandoned for some years before Boniface's arrival. His attempts, however, were blocked by the bishop of Cologne, who stated that Utrecht and surrounding areas were now part of his diocese. In reaction to this, Boniface moved northwards into the current province of Friesland and is said to have brought with him various monks, priests and soldiers. This first conversion of the Frisians in their core region of Friesland was accompanied by great coercion. According to Willibald, the biographer of Boniface, many pagan sanctuaries and idols were destroyed much to the anger of the local population. In the spring of AD 754, the Frisians committed a counterattack on the Frankish missionary camp near the town of Dokkum in the north of the province of Friesland (*figure 10*). It was during this attack that Boniface was killed. It is thought that during the subsequent Frankish punitive expeditions many Frisians were converted under

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<sup>120</sup> Blok 1974, 39., Nicolay 2014, 48.

<sup>121</sup> Therkorn *et al.* 2009, 84-123., Kok 2008, 150-53.

<sup>122</sup> Van der Tuuk 2016, 135-36.

armed or psychological coercion<sup>123</sup>. With the death of Boniface, the initiative to re-found a strong and independent diocese of Utrecht had failed. Instead, the monastery of Utrecht was assigned to Abbot Gregory of Utrecht who was tasked with the daily governing of the Christian population and expansion of the mission in a northerly direction. The further course of conversion in the province of Friesland is largely unknown. It is clear, however, that there were several elite families who had taken on Christianity as a result of the missions by Willibrord and Boniface. It is suggested that these families continued the spread of Christianity on a local level in the province. The Anglo-Saxon missionary Willehad is said to have travelled to Dokkum in the province of Friesland around AD 770 to continue the conversion in the former Oostergo region. From him is also known that he worked in the westernmost part of Groningen and in the province of Drenthe. It is largely unclear, however, if his mission was successful. His work was most likely cut short by upheaval between Franks and Saxons in the German border region. From Willehad is known that he diverted his work to Germany where he later became the first bishop of Bremen<sup>124</sup>.

At this point, the Merovingian dynasty gave way to the Carolingians. Charles the Great (Charlemagne) undertook various expeditions in order to incorporate the Saxons into the Frankish empire from AD 772 onwards. A few years earlier, in AD 754, the Anglo-Saxon missionary Liafwin (Lebuïnus) visited Gregory of Utrecht and was provided with a mission to convert the Saxons in the Germano-Dutch border region. The Saxons were mainly located in current Germany but had expanded their influence across the border into the Netherlands, especially in the region east of the river IJssel. This area included parts of the current province of Gelderland and most of Overijssel. From Liafwin is known that he was partially successful in his mission as he managed to found a church in Wilp (near Voorst), located along the river IJssel close to Zutphen (*figure 10*). A further church was founded by Liafwin in Deventer. This church, however, was destroyed several times by pagan Saxons, illustrating the difficulties of firmly grounding Christianity in these areas<sup>125</sup>.

The period that followed saw a struggle of power between the Franks and the Saxons with changing levels of success for both parties. In AD 784, a major uprising followed which not only involved the Saxons but also the Frisians in the province of Groningen. Charles the Great and his army managed to counter this rebellion in AD 785 and its leader, Widukind, was

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<sup>123</sup> Trouillez 2016, 118-19.

<sup>124</sup> Trouillez 2016, 121.

<sup>125</sup> Van der Tuuk 2016, 162.

subsequently Christianised. During this process, the Frankish realm was further expanded, into northern Germany, and the whole of the current Netherlands was now under Frankish rule. Missionaries Liudger and his son Thiatgrim worked in subsequent years in the provinces of Friesland, Groningen and Drenthe to convert the last remaining pagans to Christianity. This could have been a process of patience and perseverance. In the Frisian Law Code *Lex Frisionum*, which was written around AD 800, it was stated that churches were still scarce in the north of Friesland and in Groningen. It can thus be thought that the conversion process in the Netherlands continued well into the ninth century and beyond<sup>126</sup>.

### 3.4 THE EFFECT OF THE CONVERSION ON FUNERARY ARCHAEOLOGY

As becomes clear from this chapter, archaeological evidence which endorses or negates the course of Christianisation as set out above is largely absent to date. The overview of the process, mainly based on historical sources, however, is underwritten and strengthened in key areas by archaeological evidence such as excavations at the Saint Servatius Basilica in Maastricht, study of the archaeological remains of Roman fortresses along the *Limes* and coin finds which can be linked to Dorestad and Maastricht.

In the introduction of this chapter, there was touched upon the traditional consensus which relates pre-Christian funerary practice with cremation, furnished burial and orientation of graves in a direction other than west-east (or east west). A growing body of knowledge, from mainland Europe as well as from Great Britain and Ireland indicates, however, that this relationship is much more complex.

Starting with furnished burial in general, it can be suggested that this tradition is a way of expressing various aspects of an individual or a group. It becomes clear from this research, as from many other studies, that there is a clear distinction between grave furnishings which are typically male gender and typically female gender. Age at time of death and the life phase of a deceased individual also influence the grave good assemblage<sup>127</sup>. In addition, some graves are more richly furnished than others, possibly signalling a certain social or economic status. The expression of gender is directly related to the buried individual, but it can be suggested that

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<sup>126</sup> Trouillez 2016, 121., van der Tuuk 2016, 165

<sup>127</sup> Blackmore *et al.* 2019, 305.

artefacts seen as typically male or typically female are prescribed by tradition. A similar suggestion can be made for furnishings related to someone's age or phase in life.

Signalling of socioeconomic status may be related to the deceased themselves as well as to mourners who are in charge of organising the funeral. Families with a lesser social status and therefore likely less wealth may have other potential grave goods and materials at their disposal than wealthy or highly placed individuals. The number and indeed the type variation of grave goods found archaeologically depends on this significantly. In the Netherlands, where preservation of organic material is generally very poor, wooden objects for example are much more difficult to recognise than objects made of clay. The same applies to a significant difference between preservation of metal objects made of iron and those made of copper-alloy, silver or gold. In addition to the life circumstances of the deceased and their mourners, the choice of grave goods is further related to the ideals and aspirations of the relatives as well as their memories of the deceased and the way in which they perceive the way of life and beliefs of their relative<sup>128</sup>.

In addition to a relationship between furnished burial and the deceased and their direct relatives, a more broad group identity or tradition becomes evident when comparing grave goods assemblages from different regions. In the Netherlands, a clear difference can be seen between grave assemblages from the south (Merovingian) and those from the north (Frisian). When zooming in on the Zweenloo cemetery in Drenthe, the so-called princess grave (grave 87) stands out due to its unusual set of grave goods. Part of this set is a girdle with a collection of large beads with a distinctly northern German provenance. Also for other artefacts in the grave as well as for their placement in relation to the body, parallels can be seen in the northern states of Germany rather than elsewhere in the Netherlands<sup>129</sup>. Whilst stable isotope analysis would be welcome to confirm origin, it seems a valid suggestion that this individual comes from northern Germany or has a heritage which is related to this area. Instead of adapting the local burial customs surrounding grave furnishings in Drenthe, it was decided to display the distinct cultural- or group identity of the individual through the choice of grave goods.

From this example as well as from the division between grave assemblages in the north and south of the country, it becomes clear that group identity and tradition were important factors. Various scholars have indicated that the composition of grave goods assemblages and the permitted element of personalisation likely depend on what is allowed within the traditions surrounding group identity<sup>130</sup>. It is likely that inheritance of objects plays a role in this context.

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<sup>128</sup> Blackmore *et al.* 2019, 305.

<sup>129</sup> Van Bommel *et al.* 2007, 919-33.

<sup>130</sup> Pader 1982; Härke 1992; Stoodley 1999.

In the Dutch early medieval graves, inheritance is most obvious in female gender graves as beads and brooches are relatively often passed down as heirlooms. Inheritance of weapons, however, occurs too, albeit on a much smaller scale.

Given the above thoughts regarding furnished burial, it is unlikely that traditions surrounding the display of group identity, socioeconomic status and personal characteristics of the deceased through grave goods changes abruptly due to the introduction of Christianity. Whilst faith may have been an essential element of daily life and of someone's personality, the above stated concepts remain important and must have kept their role for at least some time after the introduction of Christianity. The fact that pre-Christian habits and practices continued for a period of time after the introduction of Christianity is reflected in various condemnations of the behaviour made by church leaders in the years that followed<sup>131</sup>.

Traditionally, the conversion to Christianity is linked to a decline in the number of grave goods found in inhumations. The assumption of Christian burial being ultimately free from grave goods is based on a contemporary view of the sobriety of Christian burial rather than on the views of people during the early medieval period. Archaeological excavations in the cathedral of Köln (Nordrhein-Westfalen) in Germany show furnished burial in the centre of an important and early diocese<sup>132</sup>. The princely burial of Prittlewell (Essex) in England contained a combination of gold-foil crosses, a clear Christian symbol, and many other grave goods which would traditionally be linked to pre-Christian burial<sup>133</sup>.

In chapter 8, the development of furnished burial in the Netherlands is discussed. The general picture shows a minimal decline in the average number of grave goods per inhumation from approximately 550/80 and an acceleration of this trend in the central and southern Netherlands from approximately 640/50. This decline happens simultaneously with the spread of Christianity in these regions, but the two processes cannot be linked directly in any way. Northern France and the German Rhineland, where organised Christianity was present earlier than in the Netherlands and on a larger scale shows a similar pattern of slow decline from the mid sixth century with an acceleration after 640/50<sup>134</sup>. This strongly suggests that the processes are not necessarily linked. Christian symbolism on grave goods from the Netherlands prior to the Carolingian period is very rare. A garnet disc brooch from grave 17 of the Maastricht cemetery features a cross motif in its inlay. Vielitz dates such brooches 530/40 and 560/70 whilst

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<sup>131</sup> Blackmore *et al.* 2019, 335.

<sup>132</sup> Doppelfeld 1980.

<sup>133</sup> Blackmore *et al.* 2019.

<sup>134</sup> Müssemeier *et al.* 2003, 74-81; Siegmund 1998, 203-208; Legoux *et al.* 2016, 60-63.

LPV places them between 560/70 and 600/10. For the Netherlands, this grave is placed in phases 4-5<sup>135</sup>. The grave further contains a small number of beads but no other elaborate furnishings. An equal armed brooch with round plates (BR-1i) was discovered as a stray find in Maastricht. The plates are decorated with incised crosses. Whilst the brooch cannot be dated accurately on the basis of this find, similar examples date to the seventh or eighth centuries<sup>136</sup>. In Lent grave 7224, cross motifs feature on elements of a belt fitting<sup>137</sup>. This grave dates to phase 6 and is the most richly furnished in the cemetery.

In the north east of the Netherlands, furnished burial develops in a different way. After a burial hiatus or period of burial without grave goods between approximately 525 and 640/50, the use of grave goods increases significantly. This is especially the case in female gender graves. Approaching the transition to the Carolingian period, graves in the cemeteries of Wijster and Zweeloo contain small ornamental discs with a cut-out cross decoration. In addition, early Carolingian keys are found with an integrated cross motif in the loop. The discs and keys often occur together in a grave and the typical set is supplemented by a metal needle case. In Wijster grave 2, which dates to phase 9 or later, a brooch is found in the Frankish style of garnet disc brooches. Instead of garnet, two coloured glass was used and forms an inlaid cross motif. The grave further contains a knife, key, needle case and a for the north relatively large number of beads.

In all these cases, it is clear that Christian symbolism is not synonymous with unfurnished burial in the Netherlands, despite a more or less simultaneous development of Christianity spreading and a decline of furnished burial.

Traditionally, it is often thought that cremation is related to pre-Christian funerary ritual and (unfurnished) inhumation to Christian practice. If this assumption is correct, a decline in the number of cremations would be expected over the period during the early medieval period and especially after 650 when Christianity is thought to become more widespread. Rhenen cemetery, for example, shows that the opposite is the case. In this cemetery many cremation burials belong to the younger phases. Whilst some cremations can be dated to the period around 400-460/80 on the basis of their urn and furnishings, most cremation burials overlay the inhumations and many cremated remains are kept in large ovoid vessels of group PO-4e, which date to phases 7 to 9<sup>138</sup>. In addition to the starting decline of furnished burial from approximately

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<sup>135</sup> Theuws *et al.* 2017, 244-45, 422-23.

<sup>136</sup> Theuws *et al.* 2017, 247.

<sup>137</sup> Van Es *et al.* 1991, 270-75.

<sup>138</sup> Ypey 1973, 292/93.

580, it thus shows that cremation is regaining popularity. A similar upsurge of cremation burials is evident in Ireland where several cremations could be placed in the seventh or eighth century on the basis of radiocarbon dating of cremated remains or related contexts. These cremations could be found distributed across the country in Casteltown Tara (Meath), Annaghilla (Tyrone), Mullaghbane (Tyrone), Ask (Wexford) and Dún Aonghasa (Aran Islands, Galway)<sup>139</sup>. In Ask, a cross-shaped mount was found in relation to a cremation, indicating that individuals who used Christian symbolism were actively participating in the practice of cremation<sup>140</sup>.

A third aspect often connected to the rise of Christianity is the change in grave orientation to west-east or east-west. A north-south or south-north axis is predominantly assigned to pre-Christian burial ritual. In the archaeological practice, it often shows that the orientation of grave pits is not strictly north-south, east-west etcetera. A southeast-northwest or northwest-southeast orientation, for example, is often seen in the Netherlands. Especially in the case of a large grave pit, its orientation does not necessarily indicate the orientation of the body. Due to the poor conservation of bone in most Dutch cemeteries, it is often unknown to which side the head was placed. In some cases, a body silhouette is helpful whilst in other cases the discolouration caused by the decaying coffin shows a tapered shape. In case of a rectangular coffin or the absence of a coffin or body silhouette, the exact positioning of the body remains unknown. In *table 1*, the initially studied graves from the Netherlands are divided depending on their orientation. Due to the previously mentioned problems regarding placement of the head, graves with opposite orientations such as north-south and south-north are merged into single categories.

From the table it becomes clear that a north-south orientation prevails during the first two phases. From phase 6 onwards, other orientations including north-south still occur but east-west prevails. In phases 3 to 5, southeast-northwest is the prevailing orientation followed by east-west. North-south and southwest=northeast are also seen regularly during this period. Similar to the slow decline in average number of grave furnishings, the transition of grave orientation seems to take place simultaneously with the conversion to Christianity. It is not at all clear, however, that the two processes are related. For England, it is suggested that west-east was the normal orientation for Christian burial in the eighth century while no specific Christian significance can be attributed to the same orientation during the seventh century<sup>141</sup>. East-west

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<sup>139</sup> Gleeson *et al.* 2021, 385-87, supplementary material 2-3.

<sup>140</sup> Gleeson *et al.* 2021, 394-95.

<sup>141</sup> Scull 2015, 77-78.

orientation starts to become more prominent in the Netherlands as early as phases 3 and 4. This is very early in regard to the expected spread of Christianity.

Table 1: Overview of the grave orientations per phase on the basis of the original sample from the Netherlands. Red fields represent the highest value per row, green fields the lowest value per row.

Expected phase	N-S / S-N	SW-NE / NE-SW	SE-NW / NW-SE	E-W / W-E	UNK.
1	1	2		1	1
1/2	1			1	
2	7	6	1	1	1
2/3	2		2		
3	8	4	20	10	
2/3/4			2		
3/4	1	1	9	9	
4	9	4	33	24	
3/4/5				1	
4/5	1	1	14	9	1
5	8	9	42	24	1
5/6	7	5	12	9	2
4/5/6/7		4		1	
6	10	10	21	31	
5/6/7	1	2	2	5	
6/7	4	8	3	14	
5/6/7/8			1	1	
7	9	12	10	45	
6/7/8	1		1	2	
7/8		3	1	8	1
6/7/8/9				1	
8	2	12	4	13	1
7/8/9				2	
8/9			1	4	
7/8/9/10		3	5	4	
9	1	2	5	3	
8/9/10		1			
9/10	1			1	
10				1	
UKN.	4	7	3	1	

From the evidence it becomes clear that the process of Christianisation cannot be followed easily through funerary archaeology. The conversion was a complex process and a dichotomous opposition between Christian and pre-Christian funerary practice cannot be made. Whilst some individual artefacts indicate affiliation with the Christian faith, they are often found in combination with non-Christian symbolism such as zoomorphic or geometric motifs. Grave goods with Christian symbolism do not necessarily indicate that the deceased was part of the Christian faith system. As is pointed out for the Prittlewell cemetery in England, items were imported from places where Christianity was already more integrated. Items made in these areas can be expected to have Christian symbolism<sup>142</sup>. If it is assumed that the transition from pre-Christian to Christian was a gradual one which saw the integration of pre-Christian traditions and lore into the new faith, it can be expected that there was a transition period during which Christian and pre-Christian symbolism could be used interchangeably and without being seen as each other's opponents. An approach such as this is likely to have created the greatest possible support among the non-Christian population to adopt the new faith.

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<sup>142</sup> Blackmore *et al.* 2019, 335-36.

# 4.0 METHODOLOGY

This chapter offers an overview of the methodology used for this research. It provides an insight into the strategies used for data gathering and addresses the processing of the data using Correspondence Analysis. Furthermore, it is discussed which choices were important for the creation of the final typology and chronology.

## 4.1 DATA SELECTION

The data selection for this study started with analysing all available and accessible publications and notes of excavations from early medieval cemeteries in the Netherlands. After this inventory study, it was decided which cemeteries were suitable to be included in the research.

The most important criterion for selection was the availability of an inventory of grave furnishings per individual inhumation and not only for the cemetery as a whole. This is essential for subsequent recording of data per grave in an Excel file suitable for study with Correspondence Analysis. From the inventory research it became clear that twenty-three cemeteries met this criterium and were suitable for inclusion. The desire for a geographical distribution of the cemeteries over the Netherlands which is as equal as possible (see below) as well as considerations regarding research capacity led to the decision to include twenty-one of the twenty-three cemeteries in the research. The twenty-one cemeteries together are home to a total of 3521 interments, which was considered a representative number of contexts to serve as a foundation for a typological and chronological scheme.

Secondly, it was chosen to only include human inhumations and to leave out any other forms of burial such as cremations or animal inhumations. This decision was made with the idea in mind that the data gathering stage was going to be followed by a comparison with material from England, as previously gathered by Hines and colleagues<sup>143</sup>. In the publication for England, cremations do not feature. In order to create a comparison which is as equal and transparent as possible, it was necessary to build a comparable dataset on the basis of similar values. A second reason for focusing on inhumations is the often-larger grave assemblage associated with them.

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<sup>143</sup> Hines *et al* 2013.

Larger assemblages statistically provide a higher chance of generating a more exact date based on artefact typology which would lead to the most accurate chronology possible.

None of the twenty-one cemeteries consisted solely of cremation burials so they could all be included in the research. Including the twenty-one cemeteries guaranteed the best possible geographical distribution across the country. It is a given that more cemeteries from the early medieval period are found in the middle and south of the Netherlands while in the north solitary burials or small clusters are more common, in addition to a few larger burial grounds. The choice to include the twenty-one cemeteries presented in chapter five means that the research includes three cemeteries in the northern Netherlands, four in the central parts of the country, four on the west coast and ten in the regions south of the central river basins. Seven of the twelve provinces which make-up the Netherlands are represented in the research. Four provinces do not feature due to a lack of evidence and one province is made up of land which was not yet created during the early medieval period.

The two cemeteries which are omitted are Maastricht-Pandhof and Wijchen. The former is a large cemetery which is located very close to the also large Maastricht-Vrijthof cemetery in the very south of the province of Limburg. Inclusion of the Vrijthof- as well as the Pandhof cemetery would have led to an even more pronounced imbalance in representation between the northern and southern Netherlands than is already present due to the location of suitable cemeteries. The Wijchen cemetery is also large and is located not far from Rhenen, Elst, Wageningen and Lent in the central river basin. Inclusion of another large cemetery in this region would have caused an unwanted focus of the research on the central Netherlands. Like many other studies, this research is also subject to a limited capacity and choices must therefore be made regarding the amount of data to be included. An in-depth comparative study benefits from detailed analysis. For this reason, quality is preferred over quantity throughout. The cemeteries included from Limburg and the central river basin provide a weighed overview of the available material culture in their respective regions which would not substantially change through the inclusion of Maastricht-Pandhof and/or Wijchen. Moreover, omitting the two cemeteries provides a future opportunity to independently substantiate the newly created typology and chronology based on well-studied find complexes.

## 4.2 DATA COLLECTION

Data collection for this research focussed on artefact data per inhumation which was gathered in various Microsoft Excel spreadsheets. This data was later to be used for the application of Correspondence Analysis (CA).

For the implementation of CA it is necessary that two essential conditions for data gathering are met. Firstly, every grave that features in the CA needs to contain at least two objects which can be classified and dated through an existing typological scheme<sup>144</sup>. Data from graves which do not match this condition has not been collected. The typology for the German Rhineland region, created by the Franken Arbeitsgruppe was used as the go-to scheme for creation of the first spreadsheet.<sup>145</sup> If an artefact could not be placed in this typology, it was examined whether placement in Siegmund's scheme for the German Rhineland was possible<sup>146</sup>. One of the aims of this research is to investigate whether the general artefact assemblage from the Netherlands and its chronology is best represented in typological schemes from Germany or France. In order to do so, a second separate spreadsheet was created using the typological scheme for northern France by LPV<sup>147</sup>.

Secondly, for accurate dating, it is essential to create separate sequences for graves containing a person of suspected male gender and those graves containing a person of suspected female gender. Placing all genders together in a single spreadsheet would prompt too many grave goods to give a clear and well interpretable outcome of CA. Following the generally accepted theory which states that it is possible to assign the individual to a gender group on the basis of specific grave goods, graves were divided into male, female and unknown gender<sup>148</sup>. Weaponry is the main indicator for a male gender whilst brooches, beads and other jewellery types signal a female gender<sup>149</sup>. Artefact types such as buckles, glassware and pottery appear in both male and female graves and are therefore considered non-gender specific<sup>150</sup>. Separate Excel spreadsheets were created for male and female gender graves. The unknown gender graves were added to both spreadsheets in order to analyse the likelihood of them belonging to either gender.

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<sup>144</sup> Hines *et al.* 2013, 251.

<sup>145</sup> Müssemeier *et al.* 2003.

<sup>146</sup> Siegmund 1998.

<sup>147</sup> Legoux *et al.* 2016.

<sup>148</sup> Härke 1989; Stoodley 1999.

<sup>149</sup> Hines *et al.* 2013, 241-242, 356

<sup>150</sup> Stoodley 1999.

It is important to stress that a distinction is made here between gender and biological sex. The division of graves across the spreadsheets takes place on the basis of gender as derived from grave furnishings and not on the basis of any data regarding the biological sex of the individual derived from osteoarchaeological material. From the data it can be seen that gender, indicated by specific grave goods, does not always match the biological sex of the inhumated individual. In one case in this research, the remains of a female skeleton were found in a grave with male gender characteristics. In six cases, male skeletal remains were found in graves with female gender characteristics. This phenomenon is known but only partly understood. The apparent gender fluidity or 'multiple genders' in Early Medieval graves, but also in inhumations from other historic periods can be explained based on three possible causes.

The first cause may be that a form of gender fluidity existed and was accepted socially to such extent that it was displayed in the burial ritual. Although biological sex can be determined as male or female through morphology and DNA research (the latter did not take place in any case in the sample used for this research), the outcome may not reflect how an individual's gender was perceived by themselves or their contemporaries<sup>151</sup>.

A second cause may be sought in erroneous determination of biological sex. Fluctuations in male hormones due to chromosomal or environmental factors, for instance, may affect the degree of sexual dimorphism in the male skull and pelvis resulting in a male skeleton being classified as female. The same phenomenon can also cause older females to develop cranial features more typical of males<sup>152</sup>.

The third possible cause relates to the fluidity of dominant gender characteristics, as gender is socially constructed and historically specific. It should be considered that definitions of gender and attributes or other characteristics that are related to certain genders are closely connected to variables such as time, location, culture and ethnicity. In other words, what we find a typical male gender characteristic in Europe is not necessarily seen as such in Africa or Asia and an attribute that we consider part of the female attire in 2021 was possibly used by men in the Roman period. So called atypical graves from cemeteries ranging from the Neolithic to the Medieval period are increasingly interpreted as 'alternative gender categories'<sup>153</sup>. In the case of Early Medieval burials in Britain as well as on the European continent, as explained previously, weapons are almost always associated with male gender, and jewellery almost always with female gender. Sam Lucy is known to have drawn attention to the rare exceptions

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<sup>151</sup> Gilchrist 2009, 1035

<sup>152</sup> Mays 1998, 38.

<sup>153</sup> Weglian 2001.

where women are buried with weapons and men with jewellery<sup>154</sup>. Although such occurrences are rare, it is possible that they played significant social and/or ritual roles within the dominant masculine-feminine categorisation. The rarity of these contexts is worth a more detailed examination in this regard but should not be used to rule out a third gender category per se<sup>155</sup>. In indigenous traditions and beliefs, a third gender which either stands alone or is attributed a combination of characteristics which are traditionally seen as separated for males and females are known from various regions and cultures and include *kwola atumwol* from New Guinea<sup>156</sup>, the Byzantine eunuch, *Hijra* from India and the North America two-spirit<sup>157</sup>. Although not currently known from Germanic or Frankish cultures, a similar phenomenon should not be excluded.

In addition to the artefact data gathered for the purpose of CA, more general data was gathered per inhumation including details such as container use, dimensions of grave pit and container, biological sex, stature, positioning of the body and grave orientation. Collection of this data, in a spreadsheet separate from the artefact data, was aimed at providing a holistic comparison between burial practices in England and the Low Countries as well as socio-economic analysis of populations. At the point of data gathering, it was yet unclear whether this international comparison would become part of the research or whether the focus would mainly be on the typology and chronology for the Netherlands. Regardless of the ultimate direction of the research, it was a logical choice to collect this data. After all, it is only a small extra effort when one goes through the reports in detail and the dataset can be of great value for future research.

In general, it is useful to know if any osteoarchaeological material was recovered from a grave. Theoretically, this material could be useful for exact dating as well as demographic studies and research into diseases and/or cause of death. Additionally, in some cases, the material can be used for ancient DNA analysis in order to analyse the cemetery layout and the possible existence of family groups. Information on the biological sex of an interred individual is useful for demographic studies and can shed light on some of the issues regarding relationships between gender and biological sex mentioned previously. Possible future research into the burial practice and ritual and the socio-economic situation of the cemetery population can be aided by the recording of data regarding container use, grave pit size, orientation, stature and

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<sup>154</sup> Lucy 1997; Hadley 2004, 302.

<sup>155</sup> Gilchrist 2009, 1040

<sup>156</sup> Herdt 1994, 16.

<sup>157</sup> Gilchrist 1999, 58-64., Herdt 1994, 16., Gilchrist 2009, 1039.

positioning of the body. This comprehensive dataset can be made available through the publication of this research or as an individual online resource suitable for open access.

#### 4.3 CREATING THE SPREADSHEET FOR CORRESPONDENCE ANALYSIS

To summarise the above information, six different spreadsheets were created: a spreadsheet each for both genders containing artefact data based on the German typologies, two spreadsheets based on the French typology and a spreadsheet per gender containing general information.

A spreadsheet suitable for CA is divided into columns, which contain the variables, and rows which contain the objects. The objects, in this case, are the graves from The Netherlands and the variables are the artefact types from the typology by the Franken Arbeitsgruppe, supplemented by some artefact types from the Siegmund scheme. For the spreadsheets based on data from France the variables are the artefact types from the typology by LPV.

Every column is dedicated to an individual artefact type. For the spreadsheets concerning male-gender graves, these artefacts include buckles, pottery, glassware, spear heads, axes, seaxes, shield bosses, tweezers, buckets and metal vessels. Knives and arrow heads also often occur in male graves but are typologically indifferent in German typologies and thus not suitable as a chronological marker. Swords are a rare find in Dutch graves from the early medieval period and are often unearthed in a heavily corroded and/or fragmentary state. For this reason, it is mostly impossible to accurately classify the Dutch swords in both German and French typologies. It was decided not to include the few remains of swords found in the CA as it is not possible to create a full seriation of this artefact type on the basis of the available evidence.

For the female-gender graves, the artefacts included in the spreadsheet are buckles, pottery, glassware, brooches, beads, pendants, finger rings, earrings, combs, pins, tweezers, buckets and metal vessels. Shears often occur in female-gender graves but are typologically and chronologically indifferent. Spindle whorls can be used in some cases and are included where possible.

The four spreadsheets were filled by placing a '1' in the correct field if an artefact was present in a certain grave. Fields of items which were not present in the grave were left blank. In cases where several identical items were present in a grave, for example brooches that occur

in pairs, the corresponding field was still marked with a '1' to indicate a positive value rather than a number of artefacts.

The spreadsheets containing general data per grave were designed in a similar manner. The rows contain the individual graves and the columns contain the following variables: gender, biological sex, dimensions of the grave pit, dimensions of the coffin (if present), orientation, stature, age at time of death and a field for any other particulars. The latter field could contain, for example, available radiocarbon dates, the presence of coins, particulars regarding the grave structure such as the presence of a chamber or beams underneath the coffin, stratigraphical information and the possibility of a child burial on the basis of grave pit size if no age at time of death could be determined.

When the artefact spreadsheets were completed, the next step was to check for single variables. As described previously, it is essential for a grave to contain two or more artefacts in order to feature in the CA. The same principle applies to the artefacts. Every artefact type needs to have at least two occurrences in the total sample in order to be valuable for CA. In line with this, single variables were removed. Doing so prompts the need for another check to see if every grave still contains two artefacts in the spreadsheet. This process of checking and double checking was repeated until all conditions were met.

In case of the spreadsheet for female-gender inhumations, the abundance of beads needed to be structured before it was possible to use the dataset for CA. The 295 newly recorded bead types were removed, as they have no anchoring in either the German or French typologies. The beads specified in the typologies by the Franken Arbeitsgruppe and LPV are presented in so called combination groups. Each of these groups consist of a number of different bead types which often occur together in one single context and during a specific chronological period. The dating of the beads in the German and French typologies is done according to these combination groups, with a date range assigned to each group which is applicable to all individual types within that group. A similar method of classification and dating is applied to Anglo-Saxon bead types by Brugmann<sup>158</sup>.

The typology by the Franken Arbeitsgruppe allowed for 103 different bead types, of which the majority is monochrome, to be grouped into eighteen combination groups. The

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<sup>158</sup> Brugmann 2004, 42-70

combination groups featured as individual 'finds' in the CA, as the beads in them can be dated to the same period according to the Franken Arbeitsgruppe scheme.

For polychrome beads, an exception was made to the use of the typology by the Franken Arbeitsgruppe. Instead, these beads were classified in the spreadsheet according to the extensive and detailed typology by Koch<sup>159</sup>. Koch groups beads per main type, usually based on their most iconic characteristic (e.g. beads with wavy bands, beads with monochrome dots). Within these main groups, they are further divided per colour and/or shape. Most main type groups have a general date attached. Most of the subgroups are assigned a similar date, however, some only span a part of the general chronological bracket. For the purpose of this research, it was decided to keep the typological and chronological division as suggested by Koch and to classify beads accordingly. This led to the creation of fourteen polychrome bead categories in the spreadsheet, rather than the initial 185 individual types noted.

Subsequently for all artefact spreadsheets, all variables and their corresponding columns were placed in chronological order, starting with the oldest artefact on the left and according to the dates as provided per artefact type in the typologies by the Franken Arbeitsgruppe and LPV. In a next step, based on their content, graves were placed in chronological order too, with the suspected oldest grave at the top of the spreadsheet (*these finalised spreadsheets can be found in appendix 1*). The youngest artefact in each grave was leading in this process. This initial ordering provided a rough insight into the placement of each grave within the larger body of data and in the chronology of the early medieval period, based on German or French dates. It became clear that many graves contained a coherent artefact assemblage according to the typology by the Franken Arbeitsgruppe. In most cases, these assemblages could be assigned to a chronological span of one, two or three Franken Arbeitsgruppe phases. For the French chronology, however, the situation turned out to be quite different. Substantially fewer artefacts from Dutch graves could be placed in the French typology and the related chronology is less detailed than its German counterpart. This resulted in the assignment of large chronological brackets to each grave and the vanishing of essential nuance and detail. On the basis of this, it was decided not to continue with the application of CA on the spreadsheet containing artefact data according to the French typology and to solely focus on the German scheme.

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<sup>159</sup> Koch 1977 and 2001.

It should be noted, however, that for some graves the typology by LPV is best suited. The scheme will therefore still play a role in the post-CA study of the data and serve the detailing of the chronology and typology for the Netherlands in some cases.

#### 4.4 CORRESPONDENCE ANALYSIS

CA is a statistics-based method that works with calculations of diversity within a dataset. It is a technique that can help establish seriations within large volumes of data. The technique is very versatile and therefore used in many academic disciplines including archaeology. Over the years scholars in various fields have written about the principals and uses of CA, including Baxter, Shennan, Greenacre and Clausen. Especially the studies by Baxter and Shennan are conducted from an archaeological point of view<sup>160</sup>. Within archaeology, CA is mainly used for the seriation of artefact data and helps with the creation of a relative chronology of contexts in which these artefacts occur. Hines and his colleagues applied CA on a large scale when creating their 2013 seriation of artefacts from Anglo-Saxon cemeteries<sup>161</sup>. Their publication should be regarded a modern standard work on best practice regarding the application of CA in archaeology and contains an extensive explanation of the mathematical workings of the technique. Siegmund already mentioned the technique in his 1998 publication of the Lower Rhine chronology and recently published a study especially dedicated to the application of CA in archaeology<sup>162</sup>.

CA, as used in archaeology, is based on the principle of different artefact types having their significance at or around the same time. Those different artefact types can therefore often be found together, as one grave assemblage, specific for a certain time period within the larger early medieval period. The content of such an assemblage changes over time, artefacts no longer in use will disappear in younger graves and will be replaced in the assemblage by artefacts that became significant in this later phase. This course of the changing content of the grave assemblage is known as serial replacement and has been part of the archaeological consensus for many years<sup>163</sup>.

CA makes it possible to create or refine seriations in a relatively rapid and consistent manner. This is one of the reasons why the method has become very useful in archaeology, but

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<sup>160</sup> Baxter 1994, 100-39; Shennan 1997, 308-52; Greenacre 1984 and 1994; Clausen 1998.

<sup>161</sup> Hines *et al.* 2013, 63-73.

<sup>162</sup> Siegmund 1998, 178; Siegmund 2015.

<sup>163</sup> Petrie 1899, 295-301.

also in many other academic disciplines. To establish a typological seriation of artefacts within archaeology, the development of a certain artefact is viewed over time. For example, in an early phase, a buckle starts simple, as an oval loop with straight tongue and made of iron or bronze. Over time, it develops and a shield- or club-shaped tongue comes into fashion. This development is followed by the arrival of a back-plate, initially square, later triangular and with a growing amount of decoration. All artefact types such as spearheads, shield bosses, beads and brooches, follow unique paths of typological development. The simplest brooch, for instance, is contemporary with the simple oval buckle. A hundred years later, different brooch types are in fashion which are contemporary with, for instance, buckles with a triangular plate and silver-inlaid decoration. It should be noted, however, that typological development does not always follow a path from simple to complex. With the help of CA it becomes possible to determine the presence frequency of each individual object type within a cemetery content and to view in which combinations, with other artefact types, they often occur in individual graves. These combinations of artefact types are known as grave assemblages. Artefacts within one grave assemblage can be considered more or less contemporary, following the above principal of serial replacement. However, exceptions exist. In some cases, for example, very early artefacts can be found in later graves, possibly passed on as heirlooms. These exceptions should of course be recognised by the archaeologist as outliers to the overall picture and dealt with accordingly.

When determining the presence frequency of artefacts or assemblages in multiple cemeteries, it becomes possible to establish a relative timeline for a larger area on which every artefact has its unique place. This timeline represents a sequence or seriation like the one created by Hines and his colleagues for artefacts from Anglo-Saxon England<sup>164</sup>.

CA itself is executed using a Microsoft Excel plug-in called CAPCA, developed by Emeritus Professor Torsten Madsen (Århus University, Denmark)<sup>165</sup>. The exact mathematical calculations that underlay CA are complex and beyond the scope of this thesis. For a detailed description of the exact working of CA and its underlying calculations, it is advisable to consult the following publication: Hines and Bayliss (2013, 63-73).

The application of CA on a large dataset as used for this research is initially a process of trial and error. It started with only two artefact types. For the male-gender graves, it was decided to start with spear heads and axes, both artefacts that have a clear chronological spread, covering most of the period of research. For female-gender graves, brooches and buckles were

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<sup>164</sup> Hines *et al.* 2013.

<sup>165</sup> The plug-in is available free of charge via [www.archaeoinfo.dk](http://www.archaeoinfo.dk).

chosen for the same reason. With the addition of more graves, the number of artefact types automatically expands. Shield bosses were added as well as buckles and glassware to the male-gender CA. Beads, personal care items, pins and glassware to the female-gender CA.

Pottery types were added at a later stage as the dating of this category of finds is more problematic than for other artefact types. The same applies to seaxes in male-gender graves. Although the pottery typology for Germany is sufficiently developed and detailed, there are a relatively large number of frequently occurring types whose date covers several phases. Seaxes can only be divided in a low number of subtypes, each spanning a relatively long date range. In both cases, the artefact types do not represent the desired detailing in the chronology.

Even after the previously described careful selection, not every grave is eventually suitable to feature in the CA and from some graves only a part of its inventory can be used. Some graves contain clear clusters of artefacts from a younger and from an older period. In such a case, there can be chosen to add the context to the CA according to one of these two clusters, whilst leaving out the other. Where such a choice needs to be made, it can be suggested that the youngest group of artefacts should be leading. The older artefacts can often be regarded heirlooms which give a distorted picture of the dating of the context.

It is important to note that the application of CA is thus partly based on choices made by the researcher. These choices, which occur at every step of the process have an influence on the overall results and on conclusions drawn on the basis of such results. Efforts have been made at all times to keep the process as natural as possible, only intervening when absolutely necessary. Whole assemblages have been used where possible and other options have been carefully considered only when no other solution could be found.

The output of the CA is a graph which, if the method is correctly applied, approaches a parabola-shaped curve. This curve displays objects as well as variables on a relative timeline, whereby the oldest grave or artefact can be found on the right. Whilst no exact date can be gained from using CA, the curve provides a clear overview of the chronological relationship between different graves and their relative position on the timeline of the early medieval period.

#### 4.5 REVISED DATES BASED ON DATA FROM THE NETHERLANDS

After concluding CA, every grave was placed in one phase or multiple successive phases and was given the corresponding date on the basis of its artefact content. As further explained

below, it was chosen to maintain the division of the period between AD 400 and 750 in ten phases, as suggested by the Franken Arbeitsgruppe. Subsequently, the CA output curve was used to detail and nuance the placement of each grave within the phasing. For example: Two graves that could be dated in phase 5 on the basis of the Franken Arbeitsgruppe typology could now be divided into a grave belonging to the second half of phase 5 and another that could be placed in early phase 5 or even late phase 4. In the same way, the dating of every grave which featured in the CA was updated and revised in a time-consuming process of comparison and revisiting of previous interpretations and decisions. After conclusion of this process, the German dates for graves from the Netherlands had been revised to become dates based on the coherence of artefacts within the Dutch sample. Although the German dates were used as a baseline, the applied alterations, adaptations and nuances were fully based on the first holistic analysis of a large artefact assemblage from the early medieval Netherlands which includes data from multiple cemeteries.

After a new date was given to every grave that featured in the CA, it was now possible to re-analyse the occurrence and dating of each individual artefact type. Based on its presence in two or more graves and the new dates attached to those graves, every artefact type was assigned a revised phasing for its occurrence in the Netherlands. Again, it was sometimes possible to further refine the dating using the CA results.

With revised dates assigned to every artefact type, it was possible to make a best estimate of chronological placement for those graves that could not feature in the CA. Based on their artefact assemblage in comparison to that of graves included in the CA as well as on the basis of the new dates given to every artefact type, the remaining contexts were assigned Dutch dates too.

In some cases, the reason for graves not to feature in the CA was the alignment with the French typology rather than the Franken Arbeitsgruppe scheme. This has of course been considered in the assignment of the new dating and the French typology has been consulted and used where necessary.

It has been considered to create a separate system of phases, with corresponding dates, for the period between AD 400 and 750 in the Netherlands. However, the need for this could not be found on the basis of the available artefact assemblage, which is predominantly similar to that from the German Rhineland. Moreover, exact dates which are gained from dendrochronology, radiocarbon dating, or coin finds are very rare within the Dutch assemblage. Developing a new phasing system would therefore largely depend on exact dates from

comparable contexts in other countries. The most suitable country for this would have been Germany, which takes away the opportunity to differentiate between both countries and therefore the added value of creating new phases.

In order to keep the phasing of the Dutch chronology as close to home as possible, it was decided to use the phases and corresponding dates as developed by the Franken Arbeitsgruppe. The choice for the German phasing also ensures that comparative research between archaeological material from the Netherlands and nearby parts of Germany is made as accessible as possible to promote future cross-border collaboration.

Thought was given to using the phasing as created by Siegmund for the Lower Rhine region. The Franken Arbeitsgruppe phases, however, are a best fit with the natural stages of artefact replacement within the Dutch assemblage. In addition, the phasing from the Franken Arbeitsgruppe is created with the advantages and disadvantages of the Siegmund chronology in mind. The chronological phasing for the Netherlands is established as follows<sup>166</sup>:

Phase 1: 400 – 435/40

Phase 2: 435/40 – 460/80

Phase 3: 460/80 – 510/25

Phase 4: 510/25 – 565

Phase 5: 565 – 580/90

Phase 6: 580/90 – 610/20

Phase 7: 610/20 – 640/50

Phase 8: 640/50 – 670/80

Phase 9: 670/80 – 710

Phase 10: 710 - 750

## 4.6 CREATING THE TYPOLOGY

As mentioned previously, the Dutch artefact record from the early medieval period consists largely of similar objects as found in the neighbouring German Rhineland region. As a result, German typologies are to a large extent useful for artefact classification in the Netherlands. Due to the geographically central location of the Low Countries between current Germany, France and the United Kingdom, the region has historically seen a varied influx of

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<sup>166</sup> Based on: Müssemeier *et al.* 2003, 102-110.

people, ideas and goods. During the early medieval period, goods were not only coming in from the German Rhineland but also from the heartlands of the Frankish empire in current France, the lands of the Saxons in north western Germany and, to a lesser extent, from places further afield such the Mediterranean region or the Byzantine Empire.

The Dutch artefact assemblage from the early medieval period goes beyond the scope of the German typologies alone. The aim of this research is to create a typology, with corresponding chronological framework, which is tailored to the Netherlands and includes as many finds as possible from the period between AD 400 and 750. The artefacts listed in the new typology include objects that are local to the Netherlands and therefore do not feature in typologies focussing on neighbouring countries. In addition, the typology includes some late Roman artefacts which are often still found in the earliest post-Roman inhumation contexts (e.g. animal head buckles) and some artefacts which start to occur in the Merovingian period but continue to be interred into the Carolingian period. Besides these elements, the typology combines artefact types which feature in non-Dutch typologies. These finds are often listed in a typological framework from Germany, France or the United Kingdom but sometimes in schemes from further afield.

An additional challenge in creating a holistic typology for the Netherlands is the large difference between the material culture from the northern and the southern provinces. This difference is historically caused by the fact that the southern half of the country once belonged to the Roman empire whilst the northern half did not. After withdrawal of Roman administrations, the south became part of the Frankish realm whilst the north was Frisian territory with some Saxon influences in the northeast. The presence of two so different cultural zones in a small country like the Netherlands contributes to the conclusion that the artefact assemblage from the early medieval period could be best described as a melting pot of styles and influences.

The basis for the creation of the typology was formed by the Excel spreadsheets which were first compiled for the application of CA. It was decided to start with buckles and belt fittings as the first category of finds, followed by pottery, glassware and more gender-specific items such as brooches and weaponry. Within each of these categories, a division was made into main sections of which each was provided with a code. For the category of buckles, for instance, the main sections include BU-1 – Late antique buckles, BU-3 – Buckles without a plate, BU-5 – Iron belt fittings etcetera. After creation of the main sections, the spreadsheets were used to create a group for every buckle type that occurred in the sample. Each group was provided with a title

and a letter code which could be placed behind the main group code (e.g. BU-5a Iron belt fitting with semi-circular back-plate). A brief description of the type was added to each group as well as a list of cemeteries and grave numbers in which the item occurs within the sample. Furthermore, it was noted how the type relates to other typologies. If a type also occurred in, for example, the typology by Siegmund, the type number was noted together with the Siegmund phasing and corresponding date. For every item in the typology it was standard procedure to check whether it occurred in the typologies by the Franken Arbeitsgruppe (Germany), Siegmund (Germany), LPV (France) and Hines and colleagues (England). Additionally, the item's existence was verified in artefact type specific typologies from various countries such as the Feyeux typology for French glassware.

In cases where no relationship could be established between an artefact in the sample and any parallels from the Low Countries or further afield, extra literature research was carried out into similar or related objects and their possible origin. After all artefact types from a specific category in the spreadsheets were included in the typology, the cemetery publications were once more reviewed in order to locate any finds that did not make it into the spreadsheets, for instance because the grave only contained a single artefact. Through this process, any remaining artefacts were incorporated in the typology to provide an overview of distribution which is as complete as possible.

For some main groups, such as PO-4 – Ovoid pottery vessels, it was necessary to create a system of classification which was completely different than previously used in German typologies. For other objects, the German or French system could be followed to a certain extent but with adaptations to create a perfect fit for the Dutch artefact assemblage and find circumstances.

Beads as a find category was approached in a somewhat different way. The cataloguing of 295 new types, not previously recorded in any other typology, asked for a revision of the combination groups as presented in German and French typologies. In the typology for the Netherlands there is chosen not to use combination groups and to opt for an approach that is more like the classification of polychrome beads from southern Germany by Ursula Koch. Every different bead type is classed individually and provided with a date where possible. Beads occur in Dutch graves in many different combinations. The creation of set combination groups was considered a too rigid classification which does not allow for local variation to be recognised. It would not be possible, for instance, to place beads with a low number of occurrences in a combination group. Those beads would then either have been left out completely or added separately. The former is obviously undesirable whilst the latter causes an unclear mix of individual beads and specimens belonging to a combination group. From the sample used for

this research, it becomes clear that beads are often in use for a long period of time. The objects seem to be often chosen as heirloom pieces and their occurrence stretches multiple generations and phases. The strict recording of beads in combination groups and the accurate dating of these groups is therefore virtually impossible. It would provoke misinterpretation of grave contexts on the basis of beads and is therefore also undesirable.

Every group in the typology is provided, where possible, with a phase and date based on the developed chronology for the Netherlands. After completion of the typology, it was possible to create an oversight of leading artefact types per phase. When these leading artefacts are grouped together across multiple categories, an overview is provided of furnished burial in ten phases between AD 400 and 750. An analysis and interpretation of the changing artefact assemblage through time was provided in support of the typology.

# 5.0 INTRODUCTION TO THE CEMETERIES

In this chapter, an introduction is provided for each of the twenty-one cemeteries featuring in this research. Besides the core data, including the name, location and total number of graves, a concise description of the cemetery's location and its relationship with the landscape is given as appropriate. Where known, some information is included on the process of excavation. The cemeteries are numbered 1 to 21 according to their location, from north to south (*figure 12*). An abbreviation is given for each of the cemeteries. This abbreviation is used throughout the research in datasets and tables to indicate a grave number belonging to the corresponding cemetery.

## 1 – Oosterbeintum

*Province:* **Friesland**

*Place:* **Ferwerderadeel**

*Locality:* **Oosterbeintum**

*Abbreviation in the research:* **OB**

*Total number of human cremations:* **Minimum 33, maximum 48**

*Total number of human inhumations:* **46**

*Period of excavation:* **1988, 1989**

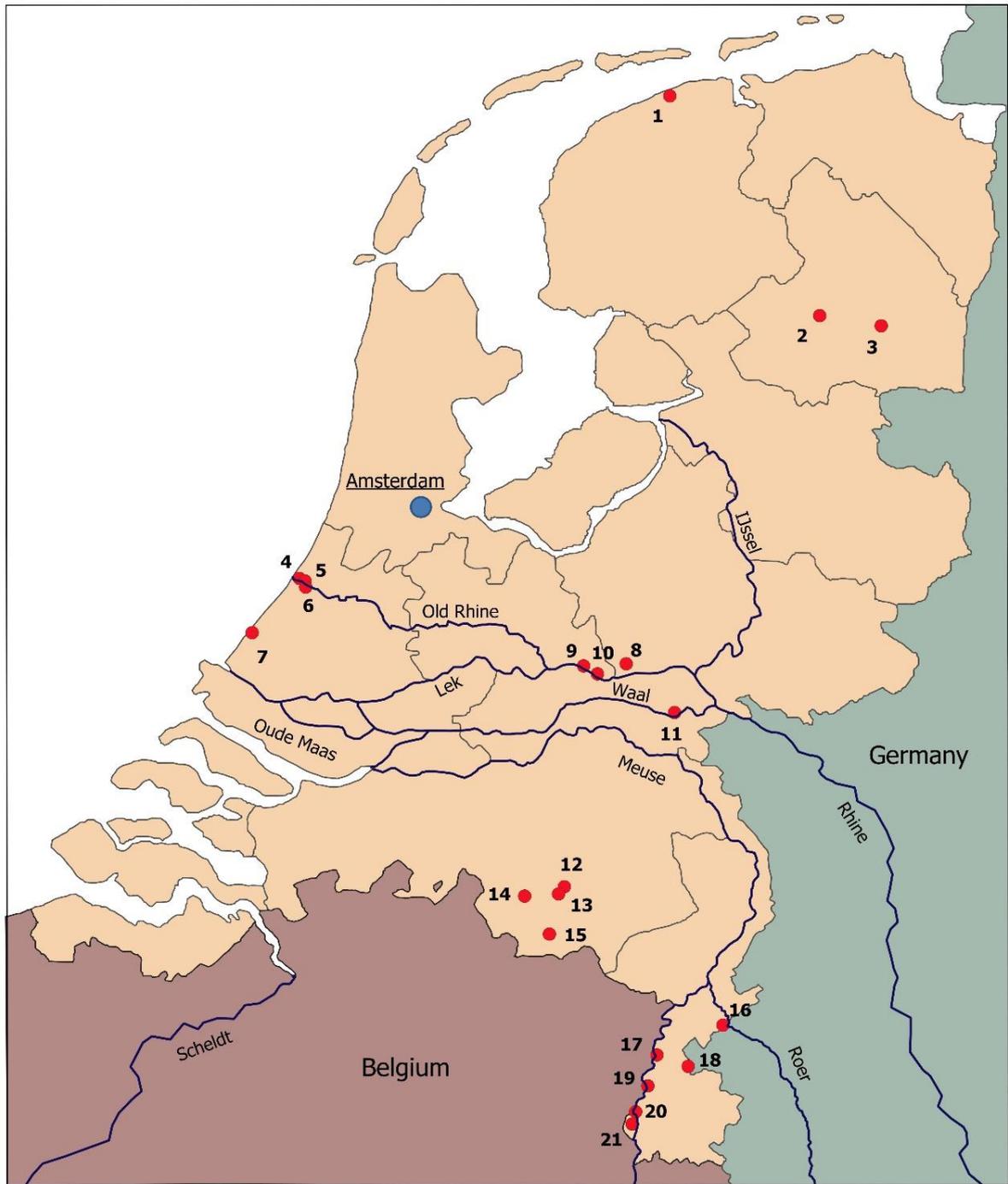
*Literature:* **Knol et al. 1995/1996; Prummel 2012.**

*Current location of the finds:* **Noordelijk Archeologisch Depot (Northern Archaeological Depot).**

Oosterbeintum is located along the north coast of the Netherlands in the province of Friesland. The location is not far to the east of the Hogebeintum cemetery, which was published after data collection for this research was completed<sup>167</sup>.

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<sup>167</sup> Nieuwhof et al. 2019.



## Cemeteries in the sample

### Key

- Cemeteries in the research
- Rivers
- Capital

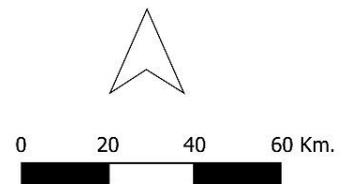


Figure 12: Location of the cemeteries in the sample. The number on the map corresponds with the cemetery numbers in the text of this chapter.

Along the north coast of the Netherlands, man-made hills were created and maintained from the Iron Age onwards. These hills are indicated with the term '*terpen*' in the province of Friesland and '*wierden*' in the province of Groningen. *Terpen* and *wierden* were used as dwelling mounds in an attempt to create protection from the sea. Unlike the Dutch west coast, the north coast is not defended by a row of natural dunes, prompting the need for other solutions. Early medieval cemeteries in the northernmost provinces of the Netherlands and the neighbouring German region of Ostfriesland are scarce but almost always found in relation to a dwelling mound. The Oosterbeintum *terp* was once extensive but its fertile soil was quarried for commercial reasons in the early twentieth century. This digging revealed a fifth century grave in the south-eastern part of the *terp*, in a plot known locally as the *Ald Tsjerkhof* (Frisian for 'Old Churchyard'). The site of the cemetery excavation is located near to former soil quarries and it can be suggested that the fifth century grave also belonged to the Oosterbeintum cemetery<sup>168</sup>.

Historically, Oosterbeintum was located in the large marshland zone of the Oostergo region. This region stretched between two sea arms known as the Middle Sea and the Lauwers. The hinterland of Oostergo was formed by a low-lying basin which merged into extensive peat bogs further inland. Oosterbeintum was one of many *terpen* which were dotted across the salty marshland zone<sup>169</sup>.

It is believed that from the fifth century onwards habitation was centred on up to 2000 *terpen* along the coast, of which roughly 1500 are in Friesland and 500 in Groningen. Partial excavations of the *terpen* in Hallum, Wijnaldum, Foudgum, Leeuwarden, Ezinge and Leens have resulted in the discovery of small hamlet settlements of up to approximately five contemporary farmsteads<sup>170</sup>. The graves from the early Medieval period found on *terpen* across the provinces of Friesland and Groningen are often clustered in small groups. This is consistent with the idea of small hamlets which are home to a limited number of people who bury their dead nearby, on their own *terp*. The relatively large size of the Oosterbeintum cemetery is a rarity in the northern Netherlands. It is known however, that this particular *terp* was rather large in comparison to others, which may imply more farmsteads, larger population numbers and the need for a larger cemetery. The same may apply to the nearby *terp* of Hogebeintum.

From research into the archaeology of the *terpen* it becomes clear that communities were largely self-sufficient. Evidence is found for mixed farming as well as craft activities like

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<sup>168</sup> Knol *et al.* 1995/1996, 245-49.

<sup>169</sup> Knol *et al.* 1995/1996, 247-49.

<sup>170</sup> Nicolay 2014, 37-39; van Giffen 1936; Waterbolk 1991 (Ezinge); van Giffen 1940 (Leens); de Langen 1992, 173-186 (Foudgum); Gerrets *et al.* 1999 (Wijnaldum); Nicolay 2008b (Leeuwarden); Tuinstra *et al.* 2011 (Hallum); Knol 1996; Knol 2005; de Langen 1995.

spinning, weaving, blacksmithing, and bone and antler working. In Wijnaldum, evidence was found of amber working, glass bead making and gold and silver working. However, imported pottery, coins and glassware makes it clear that long distance relationships existed with the Franks in southern half of the Netherlands and in the German Rhineland. Most *terpen* were located a short distance away from the coast and along tidal gullies which came inland. Evidence shows that most *terpen* had their own mooring facilities<sup>171</sup>.

## 2 – Wijster

*Province:* **Drenthe**

*Place:* **Beilen**

*Locality:* **Wijster**

*Abbreviation in the research:* **WS**

*Total number of human cremations:* **approximately 25**

*Total number of human inhumations:* **approximately 214**

*Period of excavation:* **1926, 1931**

*Literature:* **van Es 1967.**

*Current location of the finds:* **Noordelijk Archeologisch Depot (Northern Archaeological Depot).**

The Wijster cemetery and related settlement were located on a ridge in the landscape between the village of Wijster and the small town of Beilen in central Drenthe. The ridge divides a small fen and fertile soils from a swampy heath landscape. Some 300 metres from the site, a depression or valley in the landscape holds a stream. The fertile soil visible today around the location of the cemetery is a so called 'es'. An *es* is a man-made arable field, often located on top of sandy ground. *Essen* are found in various parts of the Netherlands and neighbouring regions of Germany but are seen as a characteristic feature of the landscape in Drenthe. *Essen* were collectively used by various farmers belonging to a community. Only limited research has been done to date into the history of the *es* in the Dutch landscape, but it is assumed that most of the still existing *essen* originate from around AD 1000<sup>172</sup>. Given this presumed date, it is questionable whether the fertile soils were already present when the settlement and cemetery were created. The fact that a similar situation can be seen in Zweeloo may suggest that the *es* was present, be it probably on a small scale. The ridge was with certainty a noticeable high point

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<sup>171</sup> Nicolay 2014, 39.

<sup>172</sup> Spek *et al.* 1995.

in the landscape as its flanks were quite steep on all sites<sup>173</sup>. It is unclear whether the site was connected via roads or paths with other settlements in the surrounding area. It is likely, however, that some form of infrastructure must have been present. The larger Beiler stream, a little further from the site may have formed a connection over water with nearby settlements.

The first excavations at Wijster took place in 1926 and were followed by a second season in 1931. These excavations focussed on the cemetery, which was located in the area south of the fen. In a section of the cemetery the graves were positioned in neat, structured rows. This layout is typical for early medieval cemeteries in the Frankish realm and is indicated with the Dutch term '*rijengrafveld*' or the German term '*Reihengräberfeld*'. Another part of the cemetery consisted of various cremation barrows and a cluster of cremations centred around a rectangular ditch positioned centrally in the cemetery. The excavations further included some trial trenches which were dug to the north-east of the fen. These trial trenches revealed evidence of a settlement, but due to a lack of financial support, this part of the site could not be excavated. A few decades later, however, an excavation of the settlement site took place in 1958/59 and 1961. From this excavation it became clear that the settlement site is contemporary with the *rijengrafveld* whilst the cremation burials and cluster predate the settlement site<sup>174</sup>.

### **3 – Zweeloo**

*Province:* **Drenthe**

*Place:* **Coevorden**

*Locality:* **Zweeloo**

*Abbreviation in the research:* **ZL**

*Total number of human cremations:* **14**

*Total number of human inhumations:* **approximately 107**

*Period of excavation:* **1952**

*Literature:* **van Es et al. 2007**

*Current location of the finds:* **Noordelijk Archeologisch Depot (Northern Archaeological Depot).**

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<sup>173</sup> Van Es 1967, 29-32.

<sup>174</sup> Van Es 1967, 29-31.

Zweeloo is situated, as the crow flies, approximately 17 kilometres east of Wijster, in the municipality of Coevorden. The village is located near a large sand ridge which is a characteristic feature for the landscape in Drenthe. The sand ridges were formed during the penultimate ice age, when vegetation was scarce, and winds caused sand to drift. When vegetation grew back after the cold period, it held the sand in place and the ridges created relief in the landscape. The sand ridges often form the foundation on which *essen* are created. (For more information, please see under 'Wijster'). The ridge near Zweeloo has three *essen* of which one borders the cemetery.

The sand ridge thus provides the Zweeloo cemetery with a prominent high location in the landscape. Along the foot of the ridge flows a tributary of the Westerstroom. It is thought that the cemetery once stretched to the very edge of the ridge. During historic sand extraction, however, the eastern part of the cemetery was prematurely destroyed. Along the northern edge of the cemetery runs a road of which it can be suspected that a predecessor must have been present during the early medieval period. The road connects the villages of Zweeloo and Sleen with the nearby town of Emmen<sup>175</sup>.

The excavated site in Zweeloo is home to a settlement which is contemporary with the middle- or late Roman period. It is suggested that the cremations found can also be dated to this early phase of occupation. Around the start of the early medieval period, a transition was made from cremation to inhumation. The Zweeloo cemetery, in contrast to the Wijster cemetery, is not a typical *rijengrafveld*. Cremations and inhumations are grouped in small clusters which are interpreted by Van Es and his colleagues as possible representations of households or family groups. The early medieval part of the cemetery consists of an early and a late phase. The early phase runs between approximately AD 400 and 475 and includes the rich burial of the so-called 'Princess of Zweeloo'. The grave of her husband was likely destroyed during the period of commercial sand extraction on site. It is thought that the presence of six horse burials near the cluster to which the princesses' grave belongs indicates, however, that a rich male burial was likely to have been present. Van Es postulates that no graves can be found in the cemetery which date between roughly AD 475 and 675. After the latter date, a new phase starts which continues to approximately AD 850, when the cemetery is finally abandoned. It is unlikely that the postulated lack of graves between AD 475 and 675 signals a habitation hiatus. It is known for this period, for instance from the nearby settlement site of Odoorn, that habitation in the area continues, be it on a smaller scale. Van Es postulates that a different treatment of the dead

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<sup>175</sup> Van Es *et al.* 2007, 797-801.

probably resulted in reduced archaeological visibility (e.g. scattering of ashes on the topsoil)<sup>176</sup>. This is in conflict, however, with the previously seen transition from cremation to inhumation. It may be that graves from the period between 475 and 675 are just less visible or recognisable due to a lack of datable grave goods and stratigraphic information, rather than them not existing all together.

## 4 – Katwijk

*Province:* **Zuid-Holland**

*Place:* **Katwijk**

*Locality:* **Klein Duin (Katwijk aan den Rijn)**

*Abbreviation in the research:* **KK**

*Total number of human cremations:* **approximately 15**

*Total number of human inhumations:* **54 or 55**

*Period of excavation:* **1906, 1910/1911**

*Literature:* **No full report available. Dijkstra 2011, 235-45; Holwerda *et al.* 1907b; Evelein 1911; Sasse 1911; Holwerda 1912a; Martin 1912 and Stein 1967, 383-384 and plate 67-68.**

*Current location of the finds:* **Rijksmuseum van Oudheden Leiden (National Museum of Antiquities Leiden).**

The first traces of a cemetery at Klein Duin in Katwijk came to light during sand extraction in 1906. The National Museum of Antiquities in nearby Leiden was informed but the terrain was already substantially disturbed. For this reason, the first campaign consisted of collection of human remains and grave goods without the possibility to record any context. In 1910, another human skeleton was found in a part of the plot which was not affected by sand extraction. A small excavation campaign took place which was continued in 1911. Due to the process of sand extraction, the ground water level was lower than previously, and more graves revealed themselves during the period 1910/1911. It became clear that the cemetery dated to the early medieval period and contained a mix of cremations and inhumations. The orderly distribution of graves placed the cemetery in the category of *rijengrafvelden*<sup>177</sup>.

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<sup>176</sup> Van Es *et al.* 2007, 795.

<sup>177</sup> Dijkstra 2011, 235.

The lower water table revealed that the cemetery was situated on a man-made clay *terp* with a diameter of approximately 45 metres and a height of circa 1.4 meter. In and underneath this *terp*, various finds dated to the periods between AD 40 and 75 and AD 150 and 200<sup>178</sup>. It became clear that the *terp* originated from the Roman period and it is suggested that it had a military function, for instance a sentry post<sup>179</sup>.

The cemetery is located on the south bank of the old river Rhine, on the border of a tidal marshland zone and the dunes. The location is halfway between the Roman *castella* of Valkenburg and Lugdunum and it is thought that the military road which ran along the border passed the *terp*<sup>180</sup>. As can be seen for various other cemeteries in this research, the location on a high point in the landscape may be significant, as well as the connection with previous use of the location.

## 5 – Rijnsburg

*Province:* **Zuid-Holland**

*Place:* **Rijnsburg**

*Locality:* **De Horn**

*Abbreviation in the research:* **RH**

*Total number of human cremations:* **approximately 38**

*Total number of human inhumations:* **13**

*Period of excavation:* **1913, 1924, (further trial trenches: 1998, 2002, 2005/2006).**

*Literature:* **No full report available. Dijkstra 2011, 226-35; Dijkstra *et al.* 2002; Wimmers 1986.**

*Current location of the finds:* **Rijksmuseum van Oudheden Leiden (National Museum of Antiquities Leiden).**

The Rijnsburg cemetery was discovered during deep digging of a plot of horticultural land. After encountering finds, a part of the site was examined, and artefacts were collected. Subsequently, these artefacts were sold by the landowner to the nearby National Museum of Antiquities in Leiden, of which staff received permission to do a small excavation. A second excavation of a part of the site took place in 1924 but neither campaigns were published<sup>181</sup>. In

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<sup>178</sup> Martin 1912.

<sup>179</sup> Dijkstra 2011, 235.

<sup>180</sup> Dijkstra 2011, 235-36.

<sup>181</sup> Dijkstra 2011, 226

1986, Wimmers was the first person to publish a grave inventory of the site<sup>182</sup>. Planned building works in 1998, 2002, 2005 and 2006, prompted the digging of trial trenches in order to establish the quality of the remaining archaeology and the limits of the cemetery. This research resulted in the plot being protected by the Scheduled Monument Act (2007), but the cemetery was never fully excavated<sup>183</sup>.

Like in Katwijk, the Rijnsburg cemetery is located close to the former Roman frontier. The cemetery terrain is situated in a meander of the river Vliet. During the Roman and early medieval period, the Vliet was a tidal channel which flowed into the old river Rhine. The meander in which the cemetery is located is slightly higher due to the presence of a historic sand ridge in the ground below. During the Roman period, the area was used for agricultural purposes until a rising sea level and the silting up of the tidal channel caused drainage problems for the soil. The problems worsened, resulting in annual floods and the creation of a salt marsh which was no longer suitable for agricultural use. At the start of the early Medieval period, the land was a bare salt marsh landscape that flooded regularly. To avoid flooding of the cemetery, the highest location available was chosen<sup>184</sup>.

## 6 – Valkenburg

*Province:* **Zuid-Holland**

*Place:* **Valkenburg**

*Locality:* **Castellum**

*Abbreviation in the research:* **VC**

*Total number of human cremations:* **Unclear, none are indicated.**

*Total number of human inhumations:* **Unclear, approximately 56**

*Period of excavation:* **Various seasons between 1941 and 1953**

*Literature:* **No full report available. Dijkstra 2011, 256-65; van Giffen 1948-1953.**

*Current location of the finds:* **Rijksmuseum van Oudheden Leiden (National Museum of Antiquities Leiden).**

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<sup>182</sup> Wimmers 1986.

<sup>183</sup> Dijkstra *et al.* 2002.

<sup>184</sup> Dijkstra 2011, 226.

In May 1940, a large part of the village centre of Valkenburg was destroyed by shellfire. This provided an opportunity for excavation of a large part of the hill that the village was built on. The hill contained traces of various consecutive Roman *castella*<sup>185</sup>. Although the excavation mainly focussed on the Roman period, some attention was given to the early middle ages, mainly in relation to the fully destroyed church of Saint Mary. Excavation leader Van Giffen attempted to date the different building phases of the church and the related graves. Various graves were fully excavated and analysed whilst in other parts of the cemetery the work mainly consisted of the collection of human remains without considering their context<sup>186</sup>.

The former Roman castellum of Valkenburg was located on the south bank of the old river Rhine and close to the Roman road which ran along the frontier. The early medieval cemetery and later the church were situated in the southwestern quadrant of the former castellum. The church was placed on the highest point of the hill which Valkenburg is built on and the graves were present directly underneath the church and surrounding it<sup>187</sup>.

## 7 – Den Haag

*Province:* **Zuid-Holland**

*Place:* **Den Haag**

*Locality:* **Solleveld**

*Abbreviation in the research:* **DS**

*Total number of human cremations:* **34**

*Total number of human inhumations:* **4**

*Period of excavation:* **1955, 1984 (borehole drilling), 1987 (watching brief), 2004.**

*Literature:* **Peeters 1954; Braat 1956; van der Valk 1986; Waasdorp 1988; Waasdorp et al. 2008; Dijkstra 2011, 245-52.**

*Current location of the finds:* **Gemeente Den Haag (The Hague City Council)**

The former Solleveld country estate is located to the west of Den Haag, between the city's outskirts and the town of Monster. In older publications, the site is therefore often

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<sup>185</sup> Dijkstra 2011, 256.

<sup>186</sup> Van Giffen 1948-1953, 42-57

<sup>187</sup> Dijkstra 2011, 258.

referred to as the Monster cemetery. Solleveld is located on the so-called old dunes. This is a sandy layer consisting of the remains of former rows of dunes. The layer was then often covered in later decades by fresh sand, forming younger dunes. In the area around Solleveld, however, the layer of old dunes was not covered, leaving the site's preservation at risk. The fact that the estate's boundaries were marked by an earthen wall was fortunate and contributed to the preservation of the cemetery<sup>188</sup>.

The Solleveld cemetery was discovered in 1954 when the local drinking water company started to create facilities for water filtration in the dunes. The finds were reported to the National Museum of Antiquities and a small excavation of the cemetery took place in 1955<sup>189</sup>. Plans to expand the facilities for water processing prompted the need for further archaeological reconnaissance of the site in 1984. This resulted in the collection of some cremated remains and pottery sherds and was followed by a watch brief in 1987<sup>190</sup>. During these excavations, it became clear that there was a Merovingian settlement located some 200 metres to the northeast of the cemetery<sup>191</sup>.

New expansion plans of the drinking water company again gave rise to an excavation in 2004. This research revealed various cremations and four inhumations. The inhumations included a grave which contained a rich assemblage of weapons and a boat-shaped grave containing in-situ nails of a vessel that was once there.

## 8 – Wageningen

*Province:* **Gelderland**

*Place:* **Wageningen**

*Locality:* **Geertjesweg**

*Abbreviation in the research:* **WA**

*Total number of human cremations:* **60**

*Total number of human inhumations:* **167**

*Period of excavation:* **1927, 1949**

*Report references:* **Holwerda 1928; van Es 1964.**

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<sup>188</sup> Dijkstra 2011, 247; Waasdorp *et al.* 2008.

<sup>189</sup> Dijkstra 2011, 245; Peeters 1954; Braat 1956.

<sup>190</sup> Van der Valk 1986.

<sup>191</sup> Dijkstra 2011, 245-47.

*Current location of the finds: Rijksmuseum van Oudheden Leiden (National Museum of Antiquities Leiden).*

This cemetery is located some 1.5 kilometres northeast from the town of Wageningen, to the north of the river Rhine. The river is a little over 2 kilometres from the site. The cemetery is situated at the foot of the Wageningen Hill, which is a moraine created during the penultimate Ice Age. The location is in the southwest corner of a long valley which runs in an east-west direction and is known as the Gelderse Vallei (Gelderland Valley)<sup>192</sup>.

This relatively large cemetery is bordered to the south and west by roads which may have had early medieval predecessors. Especially the road to the west of the site is likely to have existed, as it provides a direct connection with a crossing point in the river Rhine<sup>193</sup>.

The layout of the site places the cemetery in the category of the so-called *rijengravingen*. The oldest group of graves, however, is centred around a Neolithic barrow from the bell-beaker period. The barrow was flattened at the time of excavation but must have been intact during the early medieval period. It is thought that the cemetery was in use during the entire Merovingian period. After the abandonment, the site became overgrown with forest. In a later period, the forest was cleared, and the site was used for agricultural purposes as is evidenced by the fertile peat layer which covers large parts of the site<sup>194</sup>.

The Wageningen cemetery was discovered during commercial sand extraction in 1927 and a subsequent partial excavation by the National Museum of Antiquities took place in the same year. This excavation of two large parallel trenches focussed especially on the northern part of the site, to the north of the area destroyed by the sand extraction<sup>195</sup>.

In 1949, the governmental body responsible for the protection of archaeological sites was informed about the discovery of skeletons during agricultural work in the field just south of the 1927 excavation. This discovery led to a further investigation of the terrain, including the northern part which was previously excavated. In addition to many cremations and inhumations, this excavation revealed the presence of a settlement. Graves from the latest phase were cut through the settlement traces, which suggests the settlement was related to the earlier period in which the cemetery was used. The extent of the settlement is unclear, but it is thought that

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<sup>192</sup> Van Es 1964, 187.

<sup>193</sup> Van Es 1964, 187.

<sup>194</sup> Van Es 1964, 187.

<sup>195</sup> Holwerda 1928, 83.

habitation stretched beyond the currently excavated area in a south eastern direction. During the second excavation, most of the terrain was systematically dug. It is possible, however, that the cemetery stretches a little further north than currently known<sup>196</sup>.

## 9 – Elst

*Province:* **Utrecht**

*Place:* **Elst**

*Locality:* **'t Woud**

*Abbreviation in the research:* **EW**

*Total number of human cremations:* **Approximately 165**

*Total number of human inhumations:* **90**

*Period of excavation:* **1981**

*Literature:* **Verwers et al. 2015**

*Current location of the finds:* **Archeologisch Depot Provincie Utrecht (Province of Utrecht Archaeological Depot)**

The village of Elst is part of the municipality of Rhenen and is located on the northern bank of the river Rhine. The Elst - 't Woud cemetery is one of four places within the municipality containing evidence of early medieval burial (see 'Rhenen' for more information)<sup>197</sup>.

Elst is situated between the river Rhine and the southern flank of the Utrecht Hill Ridge. This ridge is a moraine which was formed during the penultimate Ice Age. The cemetery is located close to the river and relatively low on the flank of the ridge<sup>198</sup>.

The Merovingian cemeteries of Elst and Rhenen are just two examples of evidence of early medieval presence in the region. The provincial road N225 runs from Rhenen along the river Rhine to the west, in the direction of Utrecht. The road passes through several villages where evidence of early medieval presence was discovered. Coming from Rhenen, the first hamlet reached after 3.5 kilometres is Remmerden. In this place an important hoard was found (see 'Rhenen cemetery' below) as well as evidence of burial, starting near the end of the fourth century.<sup>199</sup> The next stop, some 4 kilometres further, is Elst where the 't Woud cemetery is

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<sup>196</sup> Van Es 1964, 189-90.

<sup>197</sup> Gemeente Rhenen 2010, 47-48.

<sup>198</sup> Verwers et al. 2015, 13.

<sup>199</sup> Van Tent 1996b; van Tent 1996c.

located alongside a probable second Merovingian cemetery<sup>200</sup>. Another 4 kilometres westwards, in the village of Amerongen, many early medieval finds were discovered including Carolingian pottery and an early medieval sword<sup>201</sup>. It is thought that a ninth century church once stood where the local parish church is currently located<sup>202</sup>. The next village, some 3 kilometres along the road is Leersum. The Merovingian cemetery of Leersum was discovered in 1931 and published in 1965, unfortunately without a catalogue describing the finds per grave. It is known however, that burial began in the late fourth century<sup>203</sup>.

From Leersum onwards, the river Rhine flows westwards whilst the N225 continues in a northwestern direction through the villages of Doorn, Driebergen and Zeist respectively. This area between the river and the hill ridge has shown less evidence of Merovingian and/or Carolingian presence<sup>204</sup>. It is thought, however, that these villages also have an early medieval origin, be it later than the villages to the east. The name Zeist occurs in sources from the ninth century and the churches of Doorn as well as Zeist are likely to originate in the ninth century<sup>205</sup>.

Following the river from Leersum to the west, it is a distance of circa 9 kilometres to Wijk bij Duurstede (formerly Dorestad). In the area between Leersum and Wijk bij Duurstede, however, very limited evidence is found for early medieval presence. A possible explanation for this hiatus is the destructive activity of the river in the centuries since the early medieval period<sup>206</sup>.

Village expansion and building works prompted the discovery of Elst cemetery in 1981. In the same year, the plot was excavated but a report was not published until 2015<sup>207</sup>. The graves are dug into sandy soil and the plot is located roughly 500 metres from the Rhine<sup>208</sup>. In comparison to other early medieval cemeteries in the Netherlands, the Elst cemetery has a very high percentage of cremation burials. For unknown reasons, it seems that cremation continued here for longer than in other places, including nearby Rhenen. The location of the cemetery on the frontier between the Merovingian south and the Frisian north means that the area would have been in the hands of both groups alternately. The cemeteries of Rhenen, Elst and Wageningen are the southernmost in the country to return regular finds of Saxon-style pottery.

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<sup>200</sup> Verwers *et al.* 2015.

<sup>201</sup> Van Tent 1996a, 4-5.

<sup>202</sup> Van Es *et al.* 1994, 89.

<sup>203</sup> Ypey 1965, 145.

<sup>204</sup> Van Es *et al.* 1994, Fig 77.

<sup>205</sup> Künzel *et al.* 1989, 415; Van Es *et al.* 1994, 111.

<sup>206</sup> Van Es *et al.* 1994, Fig 77.

<sup>207</sup> Verwers *et al.* 2015, 11-12

<sup>208</sup> Verwers *et al.* 2015, 10, 13.

## 10 – Rhenen

*Province:* **Utrecht**

*Place:* **Rhenen**

*Locality:* **Donderberg**

*Abbreviation in the research:* **RD**

*Total number of human cremations:* **Approximately 336**

*Total number of human inhumations:* **Approximately 724**

*Period of excavation:* **1951**

*Literature:* **Ypey 1973; Wagner et al. 2011; Huiskes et al. 2011**

*Current location of the finds:* **Rijksmuseum van Oudheden Leiden (National Museum of Antiquities Leiden).**

The Rhenen cemetery is the largest early medieval cemetery discovered in the Netherlands to date and is located on the south flank of the Utrecht Hill Ridge, overlooking the river Rhine. The ridge is a moraine which was formed in the penultimate Ice Age and is particularly steep to the north of Rhenen<sup>209</sup>.

The number of graves in the Rhenen cemetery would suggest a relationship with a sizable settlement nearby. Archaeological evidence, however, was only identified for a settlement dating to the Carolingian period<sup>210</sup>. Limited evidence, including some Merovingian field systems suggests that the Carolingian settlement was probably predated by Merovingian habitation<sup>211</sup>.

From the evidence in and around Rhenen it becomes clear that the wider area was a much-favoured place for habitation and burial during the early medieval period. In the section of this chapter on the Elst cemetery, it is explained how Rhenen is linked to various nearby villages along the river Rhine where archaeological evidence from the period was found.

Within the municipality of Rhenen itself, four locations contain evidence of early medieval burial. The first of these locations is the 't Woud cemetery in the nearby village of Elst (see above).

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<sup>209</sup> Wagner et al. 2011, 6.

<sup>210</sup> Halverstad 2015, 119.

<sup>211</sup> Gemeente Rhenen 2010, 47-48.

The second location is the area around the 'Cunerabergje' (Hill of Cunera), which is said to be the last resting place of Saint Cunera. No firm evidence is known for the existence of Saint Cunera and it is suspected that the legend about her murder on the banks of the river Rhine near Rhenen originates in pre-Christian times. True or not, the figure of Cunera and her story were given a Christian framework during the conversion period and set into motion a tradition of pilgrimage to Rhenen from the eighth century onwards<sup>212</sup>. The Cunera church expanded in reaction to the influx of pilgrims, resulting in a large floor plan and a tower of 82 metres high. The church can be considered exceptionally large for the small town it currently serves.

A similar relationship between large Merovingian cemeteries and a developing saint cult can be seen in Maastricht (cemetery 21 in this chapter). In the case of Maastricht the cemeteries are linked to settlement and the cult is believed to have developed earlier than in Rhenen. In light of the similarities between both cases, it is interesting to explore the possibility of the Cunera cult or a possible predecessor starting well before the eighth century and a possible link between the influx of pilgrims and the large number of burials.

In Remmerden, a hamlet between Rhenen and Elst, a significant hoard was discovered in 1988. The hoard consisted of ninety-eight golden tremisses, one silver denarius and 141 silver sceattas and could be dated to the period from the sixth to the eighth century AD. Hoards dating to this period are rare in the Low Countries, especially when consisting of a mix of gold and silver coins. The Frankish tremisses were minted between AD 587 and 670. Sixty-two of these tremisses contained the inscription DORESTATI FIT or DORESTAT FIT and MADELINVS. It is known that Madelinus was mint master of Dorestad from circa AD 625. Research revealed however, that the sixty-two coins were a mixture of actual Dorestad coins and later copies, probably minted in the northern Netherlands. The word 'sceatta' is an old English word which relates to the Dutch word '*schat*' (treasure). The sceattas found in Remmerden, however, were not English. It is believed that they were Frisian imitations which were in circulation around AD 750. The Remmerden hoard was already rare because of its date and combination of golden and silver coins. The fact that the hoard consists of a mixture of Frankish and Frisian coins makes its provenance even more complicated to pinpoint<sup>213</sup>. An earliest deposition date of the hoard in the eighth century, dictated by the date of the sceattas, signals a Frankish and/or Frisian presence in the area which continues at least until the start of the Carolingian period.

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<sup>212</sup> Staal 2008, 132-141.

<sup>213</sup> Huiskes *et al.* 2011, 12; Gemeente Rhenen 2010, 48.

Besides the hoard, Remmerden is home to a Merovingian cemetery which is unexcavated to date. Its existence was first suspected due to the stray find of a *stortbeker* (bell beaker). This type of glassware is usually associated with funerary archaeology.

The Rhenen cemetery included in this study is the fourth place containing evidence of early medieval burial in the municipality. As mentioned, the cemetery is located on the southern flank of the Utrecht Hill ridge, in an area named the 'Donderberg' (Thunder mount, possibly named after the God Donar)<sup>214</sup>. The excavation of the Rhenen cemetery took place in 1951 after its location came to light during broadening of the provincial road N225. Six years after the end of German occupation, the Netherlands had only just started the large-scale reconstruction of the country's housing and infrastructure and budgets were tight. As a result archaeological research was not prioritised and evidence from the site was not studied until the early 1970s. In 1973, Jaap Ypey published the first overview article regarding the findings from Rhenen, including excavation plans and a theory regarding the cemetery layout in relation to chronology. Only as recent as 2011, a finds catalogue was published together with a non-academic publication on the backgrounds of the site.

The relatively neat layout of the Rhenen cemetery places it in the category of the '*rijgrafvelden*'. When studying the cemetery plan, however, it becomes clear that a plot structure is visible as well. The most clearly visible division can be seen between a group of late Roman or very early medieval graves, the oldest in this research, and the rest of the cemetery<sup>215</sup>.

The town of Rhenen is situated in a unique location on the northern bank of the river Rhine. As the river Rhine formed the Roman frontier in the Netherlands, this means that Rhenen was located just outside, but more or less overlooking the Roman Empire. Right opposite Rhenen, on the southern bank of the river Rhine, the village of Kesteren is located. This village takes its name from a Roman *castra* which was located there as part of the frontier defence. Although the Romans were thus very close, no archaeological find complexes in Rhenen can be dated to the Roman period and no Roman defence structures were discovered. Rhenen did not come under Roman administration but it can be expected that both sides of the border did not live isolated from each other. It is thought that there must have been a level of socio-political contact. Especially in the light of a declining Roman empire after AD 300, it is thought that the Romans worked to keep neighbourly relationships friendly<sup>216</sup>.

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<sup>214</sup> Gemeente Rhenen 2010, 47-48.

<sup>215</sup> Ypey 1973, 307.

<sup>216</sup> Huiskes *et al.* 2011, 14-16; Gemeente Rhenen 2010, 46.

As a possible result of this contact, stray finds dating to the Roman period have been found in abundance in and around Rhenen. One prominent example are the two golden necklaces and remains of a third golden necklace with imitation gemstone inlay found in Achterberg, a hamlet just north of Rhenen<sup>217</sup>.

The early Medieval fortress found on the Grebbeberg near Rhenen, circa 2.5 kilometres from the Donderberg cemetery may be evidence for growing tensions between Frisians and Franks in the area during the late seventh and early eighth centuries. The fortress, consisting of various banks, ditches and earthen walls, was located on a strategic high point in the landscape. From the fortress, it was possible to control shipping over the river Rhine as well as transport over the Utrecht hill ridge, towards the north of the Netherlands. At the same time, the fortress could have been used as a place of refuge for locals in times of unrest or as a fortified place of residence for a local king or leader. The fortress offered the opportunity to keep a close eye on developments on the opposite southern riverbank. Archaeological material recovered from the oldest ditch of the castle is dated between AD 650 and 710<sup>218</sup>.

## **11 – Lent**

*Province:* **Gelderland**

*Place:* **Lent**

*Locality:* **Azaleastraat**

*Abbreviation in the research:* **LA**

*Total number of human cremations:* **0**

*Total number of human inhumations:* **120**

*Period of excavation:* **1972, 1975**

*Literature:* **van Es *et al.* 1991.**

*Current location of the finds:* **Archeologisch Depot Provincie Gelderland – Museum Valkhof Nijmegen (Province of Gelderland Archaeological Depot).**

Lent is a village located on the northern bank of the river Waal. After the Rhine enters the Netherlands from Germany, it splits into two branches of which the northernmost keeps the name 'Rhine' or 'Lower Rhine' and flows by Rhenen and Dorestad. The southern branch was

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<sup>217</sup> Huiskes *et al.* 2011, 15.

<sup>218</sup> Huiskes *et al.* 2011, 12-13; van Doesburg 2008, 41-44; Gemeente Rhenen 2010, 47.

given the name 'Waal' and separates Lent from the city of Nijmegen. Nijmegen (Noviomagus) was an important city in the Roman period and various excavations and stray finds from this period were recently published<sup>219</sup>. In the direct surroundings of Nijmegen, early medieval cemeteries were found in Wijchen and Lent<sup>220</sup>. The Lent cemetery included in this research, located along the Azaleastraat, is the larger of two in the town of Lent. A smaller cemetery, Lentseveld, to the north of the village was published in 2013 but not included in this research<sup>221</sup>.

Planned building works to the east of the village centre of Lent prompted excavation of a plot located to the north of the Azaleastraat in 1972. Excavation was initiated after the discovery and unfortunate destruction of various graves. During this excavation, remains were found of a settlement dating to the Iron Age and of a rectangular building from the Roman period. Additionally, various other traces of Roman period settlement were found including a well with a wooden casing<sup>222</sup>.

Some artefacts which originated from the destroyed graves were used to identify the burials as Merovingian. It was suspected that the cemetery continued beyond the plot which was then planned for excavation. The area to the east of the excavated plot was going to be built upon in following years and the council decided to extend the excavation to include this suspected part of the cemetery. This resulted in the discovery of several graves, mainly placed in neat rows.

In 1975, the council started preparations for more building works on a plot to the south of the Azaleastraat. Soon after the start of the works, more graves were discovered, and a second excavation was organised. Also in this part of the cemetery traces from the Iron Age and Roman period were found together with a large number of Merovingian graves<sup>223</sup>.

The Lent cemetery is located in a landscape that frequently flooded before the creation of modern water defences. It is thought that the traces from the Iron Age and Roman period were already covered in the lower parts of the cemetery terrain by fluvial depositions of clay and sand during the early medieval period. The cemetery site includes remains of semi-circular ditches which were probably created by meandering streams during the Iron Age and the Roman period. This relief must have still been visible around AD 400, but subsequent floods caused the

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<sup>219</sup> Steures 2013.

<sup>220</sup> Heeren *et al.* 2010 (Wijchen); Van Es *et al.* 1991 (Lent).

<sup>221</sup> Hendriks 2013; Hendriks *et al.* 2012.

<sup>222</sup> Van Es *et al.* 1991, 13.

<sup>223</sup> Van Es *et al.* 1991, 13-14.

relief to flatten further over time. The youngest infill of the depressions can be placed in the Carolingian period<sup>224</sup>.

## 12 – Meerveldhoven

*Province:* **Noord-Brabant**

*Place:* **Meerveldhoven**

*Locality:* **Cobbeek**

*Abbreviation in the research:* **CM**

*Total number of human cremations:* **9**

*Total number of human inhumations:* **54**

*Period of excavation:* **1955 and 1975**

*Literature:* **Verwers 1978.**

*Current location of the finds:* **Het Noordbrabants Museum (Museum of North Brabant)**

The Meerveldhoven cemetery is located some 400 metres south of a hamlet called Cobbeek, in the former municipality of Meerveldhoven. At present, this municipality is incorporated by neighbouring Veldhoven. The cemetery is situated in the eastern part of a large plateau which consists of arable fields and woodlands. The plateau is bounded in the west by the river Beerze and in the north by an area of marshland. The southern and eastern boundary of the plateau is formed by the river Gender, which flows some 1.4 kilometres away from the cemetery<sup>225</sup>.

During commercial sand extraction in 1955, the find of a ‘historic teapot’ was reported by the mayor of Meerveldhoven to the National Institute for Archaeology. A subsequent visit by an archaeologist brought to light that the ‘teapot’ was in fact a biconical pot from the Merovingian period. The archaeologist also noticed the presence of at least three grave pits in the quarried area. The archaeological excavation that followed covered the area which was in immediate danger of disturbance by the sand extraction. This area yielded two cremations and

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<sup>224</sup> Van Es *et al.* 1991, 16-17.

<sup>225</sup> Verwers 1978, 251-52.

twenty-five inhumations. Due to a lack of funds, the excavation was stopped, and the remainder of the site was left undisturbed<sup>226</sup>.

In 1975, the planned construction of a swimming pool threatened the remaining part of the cemetery and an excavation followed. This time, it is thought that the whole cemetery was excavated. Trial trenches to the north, west and south of the cemetery did not reveal any more graves, which led to the conclusion that the boundaries were reached. To the east, the historic sand extraction possibly destroyed some graves, but it is unlikely that the cemetery continued beyond the area of sand extraction<sup>227</sup>.

### **13 – Veldhoven**

*Province:* **Noord-Brabant**

*Place:* **Veldhoven**

*Locality:* **Oeienboschdijk**

*Abbreviation in the research:* **VO**

*Total number of human cremations:* **1**

*Total number of human inhumations:* **26**

*Period of excavation:* **1970, 1971**

*Literature:* **Verwers 1973.**

*Current location of the finds:* **Het Noordbrabants Museum (Museum of North Brabant)**

The Oeienboschdijk, a dyke along which the cemetery is situated is located approximately 1 kilometre to the southeast of Veldhoven, between the hamlets of Heers and Knegsel. The cemetery site is located on a sandy ridge which slopes down towards a small river called the Gender, some 125 metres away from the cemetery<sup>228</sup>.

The presence of a 'Frankish' cemetery in the municipality of Veldhoven was first suspected after the find of Merovingian pottery sherds and iron objects along the Oeienboschdijk. The headmaster of the local primary school who made these finds marked their

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<sup>226</sup> Verwers 1978, 251.

<sup>227</sup> Verwers 1978, 252.

<sup>228</sup> Verwers 1973, 313.

location on a map. The map and finds made their way into the collection of the Council Museum in the provincial capital Den Bosch<sup>229</sup>.

When work started on a new stretch of motorway between the city of Eindhoven and the Belgian border in 1970, the location marked by the headmaster was to be disturbed. The creation of trial trenches to the north and south of the Oeienboschdijk and to the east of a country lane called Den Bogerd resulted in the discovery of various grave pits. A full excavation of the plot to the south of the Oeienboschdijk followed in the winter of 1970/1971 and the southern limits of the cemetery were reached. To the east, the terrain was already disturbed by the construction of pipelines and it is unsure how much of the cemetery was lost during this process. The construction of the motorway advanced rapidly, making it impossible to do a full excavation in the area north of the Oeienboschdijk. Although a few graves were found there during the creation of trial trenches, it is unclear how far north the cemetery stretched. The western part of the cemetery plot was not at risk of disturbance and is therefore unexcavated to date. From the excavations of the southern section it became clear that the road named Oeienboschdijk cut through several graves. There is no report, however, of this ever being mentioned to authorities during the creation of the road<sup>230</sup>.

## 14 – Hoogeloon

*Province:* **Noord-Brabant**

*Place:* **Hoogeloon**

*Locality:* **Broekeneind**

*Abbreviation in the research:* **BH**

*Total number of human cremations:* **15**

*Total number of human inhumations:* **26**

*Period of excavation:* **1949**

*Literature:* **Glasbergen 1955**

*Current location of the finds:* **Het Noordbrabants Museum (Museum of North Brabant)**

Hoogeloon is a village which is located, as the crow flies, some 9 kilometres southwest of Veldhoven. The cemetery is therefore relatively close to those in Meerveldhoven and

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<sup>229</sup> Beex 1968, 120

<sup>230</sup> Verwers 1973, 313-15.

Veldhoven (cemeteries 12 and 13). The cemetery is located near a hamlet called Broekeneind on the Knegelsche Heide. This is a heathland area which stretches between the villages of Knegsel and Hoogeloon<sup>231</sup>.

A large project to reclaim the heathland was planned to start at the beginning of the 1940s but was postponed due to the outbreak of the Second World War. In 1949, during the continuation of the project, the secretary of the local archaeological society was informed about the discovery of an 'urn field' on the heath. Closer inspection of the site led to the discovery of biconical pots and iron spear heads, signalling inhumation as well as cremation and a date for the site in the Merovingian period. The site is located on a plateau in the landscape of approximately 55 metres long, in the most southwestern part of the Knegelsche Heide. During the excavation that followed onto the first discovery, the entire plateau was systematically excavated.

The reclamation project of the heathland not only threatened the Hoogeloon cemetery but also two prehistoric barrow cemeteries in nearby Knegsel and Toterfout. Due to the extensive nature of the excavations and the time pressure to release the site for further reclamation work, archaeologists divided their time between the different sites.

During the excavation of the Hoogeloon cemetery, it became clear that many graves had been disturbed. In most cases, this disturbance consisted of traces of looting in the centre of the grave whilst head and foot end had been spared. It seemed as if looters expected only to find one item per grave and gave up as soon as they had found it. Traces of penetration by a stick-like tool were found in the soil, indicating that such an object was used to find the graves. Due to the use of this method, mainly larger grave pits were identified. From the twenty-six inhumations, only three were found untouched. Amongst the cremation burials a much lower number was disturbed. Due to the approach used by the looters, a number of objects in the extremities of the coffins were missed as well as many small objects, which were recovered from the backfills of the disturbances.

Inquiries with local farmers led to the idea that the disturbance could not have taken place during the last hundred years. A meeting with a retired forester, however, revealed that the plot was searched some forty years earlier by the then headmaster of the primary school in Veldhoven. This is the same headmaster who first discovered the Veldhoven cemetery (see cemetery 13). Further talks with the headmaster's son revealed that his father first notified the National Museum of Antiquities in Leiden about his suspicion of a 'Frankish' cemetery on the

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<sup>231</sup> Glasbergen 1955, 7-9

Knegelsche Heide in the period before the First World War. After the lack of apparent interest shown by the museum, he decided to 'research' the site himself, indeed using a stick to locate the graves, as previously thought<sup>232</sup>.

## 15 – Bergeijk

*Province:* **Noord-Brabant**

*Place:* **Bergeijk**

*Locality:* **Fazantlaan**

*Abbreviation in the research:* **BF**

*Total number of human cremations:* **possibly 6**

*Total number of human inhumations:* **approximately 126**

*Period of excavation:* **1957, 1959**

*Literature:* **Theuws et al. 2012**

*Current location of the finds:* **Provinciaal Archeologisch Depot Noord-Brabant (Province of North Brabant Archaeological Depot; Eicha Museum Bergeijk; Private collection of the Van Daalen family in Amsterdam.**

Bergeijk is located in the area between Eindhoven and the Belgian border, some 15 kilometres south of Veldhoven and approximately 10 kilometres south southeast from Hoogeloon. The wider region of this part of Noord-Brabant is called 'de Kempen' and consisted largely of unfertile land during the early medieval period. The unfertile land - the later heath fields, as mentioned for the Hoogeloon cemetery - was intersected by several brooks and small rivers as well as by 'islands' of fertile soil. Early medieval settlement in the Bergeijk parish and surroundings is normally found on these fertile islands, although exact locations are sometimes hard to pinpoint. From other villages in the parish it becomes clear that early medieval settlements can often be found near isolated medieval churches which are regular features in the region. During the twelfth and thirteenth centuries, settlement was sometimes moved to a new location, leaving early churches behind. The remains of the old settlements were later covered leaving only the churches as visible reminders of former settlement locations. This is the case for various villages in the Bergeijk parish including Westerhoven, Riethoven, Dommelen

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<sup>232</sup> Glasbergen 1955, 7-11.

and Luiksgestel. Bergeijk itself, however, does not have an isolated church and traces of an early medieval settlement have not been found to date<sup>233</sup>.

The Bergeijk cemetery is part of a cluster of Merovingian cemeteries in the Kempen region. Around this cluster there are vast stretches of land which show no signs of Merovingian occupation or burial. The other nearest cemetery clusters can be found in southern Limburg and on the Haspengouws Plateau in Belgium. The 'Kempen cluster' consists of the cemetery of Bergeijk as well as those previously mentioned in Meerveldhoven, Veldhoven and Hoogeloon (see cemeteries 12, 13 and 14). Other cemeteries belonging to the same cluster are found in Dommelen and possibly in Riethoven but for various reasons do not feature in this research<sup>234</sup>.

The Bergeijk cemetery itself is relatively large in comparison to the others in the cluster. In addition, recent research confirmed the strong possibility that there is a second, smaller early medieval cemetery located in Bergeijk. The first cemetery was discovered during the excavation of a Bronze Age burial mound named the 'Kattenberg' in 1955. The findings, however, could be interpreted in several ways leading to long term uncertainty about the Merovingian provenance of this burial ground<sup>235</sup>. From all this evidence it becomes clear that Bergeijk, surrounding villages and the wider area was a beloved place for settlement and burial during the early medieval period. As such, the area shows similar clustering as can be found around Rhenen along the river Rhine and around the Meuse Valley in southern Limburg.

The Bergeijk cemetery which features in this sample is located on the western edge of an arable field complex and thus on one of the fertile 'islands' in the landscape. The island consists of various fields, some of which have better fertility than others. The cemetery is located in fields which are of lesser soil quality but is surrounded by more useful plots. Assuming that settlement was focussed on the best plots, it may be suggested that a possible settlement should be sought to the northeast and east of the cemetery<sup>236</sup>.

The cemetery site was surrounded and partly covered by evergreen trees in the period of excavation. These trees were planted in the early 1950s as part of forestation projects in order to protect the heathland from turning into areas of drifting sand. Pine was also grown on a large scale for use in coal mine construction in the south of the Netherlands<sup>237</sup>.

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<sup>233</sup> Theuws *et al.* 2012, 15-16; Theuws 1988, 222-59 (settlement Dommelen).

<sup>234</sup> Theuws *et al.* 2012, 10-15.

<sup>235</sup> Modderman 1967; Theuws *et al.* 2012, 20-23.

<sup>236</sup> Theuws *et al.* 2012, 23-25.

<sup>237</sup> Theuws *et al.* 2012, 23-25; Vangheluwe *et al.* 2009.

The cemetery was discovered in 1957 during the manual digging of foundation trenches for a house on a private plot along the Fazantlaan. The labourers did not directly recognise the presence of graves and a few were destroyed prior to investigation by an archaeologist. The excavation that followed uncovered part of the site including 75 graves. The placement and size of the trenches was partially determined by the presence of irremovable trees. The combination of tree roots and the presence of sandy soil had a negative effect on the quality of the findings, especially the recovery of organic material. The southern and western section of the site were subsequently excavated in 1959, including some areas where pine trees had been removed by the landowner for the creation of pathways to the new house. Although a large part of the cemetery was excavated, the presence of the trees means that some parts are still to be unearthed<sup>238</sup>.

## 16 – Posterholt

*Province:* **Limburg**

*Place:* **Posterholt**

*Locality:* **Achterste Voorst**

*Abbreviation in the research:* **PA**

*Total number of human cremations:* **12**

*Total number of human inhumations:* **approximately 80**

*Period of excavation:* **1983, 1984**

*Literature:* **de Haas et al. 2013; de Boone et al. 1959; Willems et al. 1984; Willems 1985.**

*Current location of the finds:* **Archeologisch Depot Provincie Limburg (Province of Limburg Archaeological Depot).**

The first indication for the presence of the Posterholt cemetery was the discovery of a spouted biconical pot during roadworks on the Tweede Heideweg in 1953<sup>239</sup>. In 1981, a Roman cremation was found during agricultural work near the location of the spouted biconical pot. As the suspected archaeology was at risk of being damaged by deep ploughing, a preliminary excavation took place in 1983. This dig revealed the presence of a Roman cremation cemetery as well as a Merovingian cemetery. A more comprehensive excavation took place in 1984 involving thirteen trenches. As the focus was mainly on the northeast section of the plot, near

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<sup>238</sup> Theuws et al. 2012, 30.

<sup>239</sup> De Boone et al. 1959, 207.

the Tweede Heideweg, not all graves discovered in the more distant trenches were fully excavated. Various trial trenches were dug to the south, west and northwest of the main area of excavation and the cemetery limits were completely or partially established in the north, south and east. The western and northwestern limits of the cemetery remain uncertain and it is likely that more graves are located below the Tweede Heideweg<sup>240</sup>.

Posterholt is a village in central Limburg, located near the German border and 14 kilometres away from the river Meuse. This distance between the Dutch-German border in the east and the Dutch-Belgian border in the west is only circa 20 kilometres. The river Meuse flows in a south-north direction from Liège (*Luik*) in Belgium via Maastricht towards the central Netherlands. Just north of Posterholt, the place name Roermond (*Roermouth*) marks the location where the river Roer joins the Meuse. The Roer flows in a southeast-northwest direction from Germany towards the Meuse and cuts through a higher area of land. The Roer valley is separated from the valley of a smaller stream called the Vlootbeek<sup>241</sup>. As the Vlootbeek valley is relatively large in comparison to the stream, it is thought that it marks a former run of the river Roer<sup>242</sup>.

The village of Posterholt is located on a plateau north of the Vlootbeek and between the Vlootbeek and the Roer. On this same plateau, at a distance of approximately 4 kilometres, the village of Vlodrop is located, together with its early medieval cemetery (not included in this research). The Posterholt cemetery is located on a different plateau, to the south of the Vlootbeek. It lays close to the hamlet of Achterste Voorst and is in an arable field complex called the Voorsterveld. The location of Posterholt, on a different plateau to the cemetery suggests that the cemetery and village are not related. It is much more likely that settlement related to the cemetery was located on or near the Voorsterveld.

As the cemeteries in Vlodrop and Posterholt are both more closely related to the river Roer than to the river Meuse, it can be suggested that they form a cluster along with cemeteries in nearby Germany such as those in Karken and Orsbeck<sup>243</sup>. The Merovingian cemetery of

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<sup>240</sup> De Haas *et al.* 2013, 24.

<sup>241</sup> De Haas *et al.* 2013, 10-14.

<sup>242</sup> Locht 2006, 35-36.

<sup>243</sup> De Haas *et al.* 2013, 10-11; Piepers 1989, 124, 374-76; Siegmund 1998, 322-23 (Karken), 347-48 (Orsbeck).

Ophoven in Belgium is also close to Posterholt but should be counted as a member of the cluster of cemeteries focussed on the river Meuse<sup>244</sup>.

The Voorsterveld has a rich history which is evidenced by archaeological finds from Prehistory as well as the Roman-, Merovingian- and Carolingian periods. There is no evidence of burial until the start of the Roman period and there are gaps in evidence related to settlement and burial between AD 200-350 and 450-525. This may indicate that there were periods of occupation in rapid succession rather than continuity. Instead of a relationship between the cemetery and the hamlet of Achterste Voorst, it can be suggested that the nearby *curia* (aristocratic habitation site) of Kirenz, which is first mentioned in AD 1276 may be a successor of a former early medieval settlement. One of the roads bordering the cemetery leads directly to the Sankt Johannes Klause chapel which is associated with the *curia* site<sup>245</sup>.

## 17 – Obbicht

*Province:* **Limburg**

*Place:* **Obbicht**

*Locality:* **Oude Molen**

*Abbreviation in the research:* **OO**

*Total number of human cremations:* **1**

*Total number of human inhumations:* **approximately 66**

*Period of excavation:* **1932, 1936**

*Literature:* **Kars et al. 2016; Beckers et al. 1940**

*Current location of the finds:* **Museum ‘Stichting Erfgoed Stein’ in Stein; Museum Het Domein in Sittard.**

The cemeteries of Obbicht, Sittard and Stein (17, 18 and 19 in this chapter) are located close to each other in the south of Limburg, in an area known as the former western mining region. With a distance of approximately 9 kilometres between them, they form a more or less isosceles triangle on the map. The Obbicht cemetery, together with the Stein cemetery, is

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<sup>244</sup> Claassen 1973; Claassen et al. 1974; Mertens 1975; Roosens 1975, 1976a, 1976b, 1977b, 1977c, 1978.

<sup>245</sup> De Haas et al. 2013, 19-23.

located in the Meuse Valley near the border with Belgium. The Sittard cemetery is located closer to the German border and on higher ground<sup>246</sup>.

The Obbicht cemetery is situated between the villages of Obbicht and Grevenbicht, on one of the lower former terraces created by the Meuse during the Holocene. The cemetery plot slopes from the northeast to the south and west and is surrounded by several historic meanders of the river. To the northeast of the cemetery, a convergence of five historic roads can be found one of which leads directly to the cemetery. The crossroads is located at the highest point in the direct surroundings and is near to arable fields and pastures. The elevated location means that this area would have been spared from flooding of the Meuse. Although no settlement is found to date, this highest point in the landscape would be a potential location<sup>247</sup>.

The area around the Obbicht cemetery has a rich heritage. During the Roman period, the river Meuse and the road on its east bank formed important connections between Gaul and Germania Inferior (the current Low Countries). During the (early) medieval period, the river and road kept their function as important routes connecting communities in the Ardennes and in the southern and central Netherlands. Evidence found in the surroundings of Grevenbicht, close to the cemetery, strongly indicates the presence of a Roman *vicus*<sup>248</sup>. A Roman villa can be found directly across the Holocene meander of the river Meuse in Obbicht-Steenakker<sup>249</sup>. A further Roman villa and a contemporary cult site known as the apothecary are poorly recorded but located some 2 kilometres east of the Obbicht cemetery<sup>250</sup>.

As mentioned previously, from the early Medieval period, no settlement is known which can be directly related to the cemetery. A second early medieval cemetery was found in the hamlet of Buchten, approximately 2 kilometres northeast of the Obbicht cemetery (not featuring in this research). The location of this site is connected to the previously mentioned cult place 'the apothecary' and most graves did not contain grave goods<sup>251</sup>. The only evidence of early medieval settlement in the region is known from the hamlet of Schipperskerk, which is located circa 1.5 kilometres north from the Buchten cemetery<sup>252</sup>.

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<sup>246</sup> Kars *et al.* 2016, 12-13.

<sup>247</sup> Kars *et al.* 2016, 20-21.

<sup>248</sup> Kars *et al.* 2016, 21; Beckers *et al.* 1940, 248, 289.

<sup>249</sup> Hendrix 2007, 191.

<sup>250</sup> Holwerda 1928b; Meeuwissen 1991; Derks *et al.* 2015.

<sup>251</sup> Derks *et al.* 2015, 46-82.

<sup>252</sup> Tichelman 2004, 44-48.

The first indication for the presence of a Merovingian cemetery near the old wooden windmill (*Oude Molen*) between Grevenbicht and Obbicht came in 1932 with the discovery of some pottery vessels. The small-scale trial excavation that followed revealed a complete grave and provided a good reason for a future full-scale excavation of the plot. The soil conditions of gravel covered by loess, however, were challenging by Dutch standards and an excavation without a concrete reason, for example a risk of site disturbance, would have been too costly. In 1936, plans were made to use the site for gravel mining, providing the awaited opportunity to go ahead with a full-scale excavation. The excavation was done by a local GP called Beckers, with a great interest in the archaeology of the Franks in Limburg. He was assisted by his son and a group of labourers. The same father and son team published the cemetery in 1940. The lack of professional archaeologists on site led to a less structured excavation without the use of trenches. It can be suspected that it was a process of haphazard digging from one grave to another. It is known that gravel extraction destroyed a number of graves, although the exact number is unclear. Graves were discovered under the road to the north of the cemetery, but it is unclear whether there are also graves located underneath the road to the east of the plot<sup>253</sup>.

## 18 – Sittard

*Province:* **Limburg**

*Place:* **Sittard**

*Locality:* **Kemperkoul**

*Abbreviation in the research:* **SK**

*Total number of human cremations:* **0**

*Total number of human inhumations:* **approximately 87**

*Period of excavation:* **1982**

*Literature:* **Kars et al. 2016**

*Current location of the finds:* **Archeologisch Depot Provincie Limburg (Province of Limburg Archaeological Depot); Museum Het Domein in Sittard.**

The cemeteries of Obbicht, Sittard and Stein (17, 18 and 19 in this chapter) are located close to each other in the south of Limburg, in an area known as the former western mining region. With a distance of approximately 9 kilometres between them, they form a more or less

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<sup>253</sup> Kars et al. 2016, 34-37.

isosceles triangle on the map. The Sittard cemetery is located closer to the German border and on higher ground whilst the Obbicht and Stein cemeteries are located in the Meuse Valley near the border with Belgium<sup>254</sup>.

The Sittard cemetery is located to the east of the city of Sittard in the municipality of Sittard-Geleen. Its location stands out, as it is nine or more kilometres away from any of the larger rivers in the region, including the Meuse and the Roer. The city of Sittard is located in the valley of a stream called the 'Geleen Beek'. To its southwest, a hill called the 'Kollenberg' is located between the valleys of the Geleen Beek and the Roode Beek. The Kollenberg forms the northernmost outcrop of the hilly loess landscape that dominates the far south of Limburg. The cemetery can be found on the lower slope of the Kollenberg, on the transition between sandy soil and loess<sup>255</sup>.

The Roman road which connected the cities of Aachen (Germany) and Heerlen (southern Limburg) with Melick (central Limburg) and Xanten (Germany) passed the Sittard cemetery at a distance of circa 1 kilometre. Direct evidence of Roman settlement near the site of the cemetery is absent but the discovery of building materials indicates possible settlement further north, near the hamlet of Broeksittard<sup>256</sup>. Excavations at the medieval hamlet of Haagsittard, close to the cemetery, revealed a Roman capital which was probably sourced from a nearby villa or from the *vicus* of Tüddern<sup>257</sup>. This *vicus* is located some 3.5 kilometres north of the cemetery in current Germany. Various smaller Roman roads are found to relate to Tüddern, including a connection across the moorlands of the Roode Beek between Tüddern and Haagsittard. It is possible that a secondary road was also present connecting Tüddern with the settlement in Grevenbicht, near the Obbicht cemetery<sup>258</sup>.

From the early medieval period, no direct link is known between the Sittard cemetery and a settlement. In the 1990s excavations took place near a local farmhouse, named after the hamlet of Haagsittard. This excavation revealed evidence for occupation during the Iron Age as well as evidence for at least one house from the Merovingian period. Although evidence for more houses is ambiguous, there could only have been two or three houses in total<sup>259</sup>. Near the

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<sup>254</sup> Kars *et al.* 2016, 12-13.

<sup>255</sup> Kars *et al.* 2016, 16.

<sup>256</sup> Kars *et al.* 2016, 17; Borsboom *et al.* 1995; van Doorn 1996.

<sup>257</sup> Stoepker 1993, 42-43.

<sup>258</sup> Kars *et al.* 2016, 16-19.

<sup>259</sup> Lauwers 1989, 7-15; Stoepker 1993, 40; Thissen 1993, 114; Kars *et al.* 2016, 19.

Merovingian house, which dates to the seventh century, two contemporary farmyard graves were found<sup>260</sup>. The small nature of the settlement and the isolated burials suggest that this is an isolated farmstead rather than a settlement housing several families. The size of the cemetery suggests, however, that it was used by at least five family groups for more than a century. It may be that the Sittard cemetery is related to a yet undiscovered settlement or that it was in shared use by the Haagsittard farmstead and other, yet to be discovered farmsteads nearby<sup>261</sup>.

The Sittard cemetery was discovered in 1982 when the council began building works for the creation of a new estate, called 'Kemperkoul', to the east of the city. The discovery of some complete graves and complete pottery vessels prompted the contractor to contact a specialist from the local museum. Subsequently, a trial trench was dug by the provincial archaeologist and his team leading to the find of several more graves. Shortly after, a full excavation of the northern part of the cemetery was undertaken. The southern part could not be excavated immediately as a building crane was positioned on top of it. The removal of the crane in the autumn of 1982 created the opportunity to extend the excavation. During the autumn excavation, access was also gained to a strip of land previously covered by a tarmac road across the cemetery<sup>262</sup>.

## 19 – Stein

*Province:* **Limburg**

*Place:* **Stein**

*Locality:* **Groote Bongerd**

*Abbreviation in the research:* **SG**

*Total number of human cremations:* **0**

*Total number of human inhumations:* **approximately 76**

*Period of excavation:* **Unknown. Probably shortly before 1940**

*Literature:* **Kars *et al.* 2016; Beckers *et al.* 1940.**

*Current location of the finds:* **Museum 'Stichting Erfgoed Stein' in Stein; Restoration facility 'Restaura' in Haelen.**

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<sup>260</sup> Stoeper 1991a; Stoeper 1991b; Stoeper 1992; Stoeper 1993.

<sup>261</sup> Kars *et al.* 2016, 17; Theuws 2008.

<sup>262</sup> Kars *et al.* 2016, 26-27.

The cemeteries of Obbicht, Sittard and Stein (17, 18 and 19 in this chapter) are located close to each other in the south of Limburg, in an area known as the former western mining region. With a distance of approximately 9 kilometres between them, they form a more or less isosceles triangle on the map. The Stein cemetery, together with the Obbicht cemetery, is located in the Meuse Valley near the border with Belgium. The Sittard cemetery is located closer to the German border and on higher ground<sup>263</sup>.

The town of Stein is situated close to the river Meuse on its middle terrace. It overlooks the lower terrace, the river and the Belgian border beyond. The cemetery itself is located on the very edge of the middle terrace and is bordered to the west by a historic channel of the Meuse and by a stream called 'Ur' to the south. The soil of historic river terraces typically contains a large amount of gravel, as is the case here. Over time, the gravel has been covered by a layer of loess<sup>264</sup>.

Although a Roman history is attributed to the town of Stein, the exact nature of this history remains unknown to date. Several finds indicating Roman presence have been found in and around the town over many decades<sup>265</sup>. These finds include a Roman ditch and a rubbish pit containing Roman material at the 'Groote Bongerd' (Large Orchard) area, close to the Merovingian cemetery<sup>266</sup>. Approximately 1,5 kilometres north of the cemetery a Roman site containing the foundations of three buildings was excavated in the 1920s. Although the site was interpreted as a villa at the time, the layout of the buildings does not support this theory. Its location, on a slope overlooking the Meuse and just east of the Ur however, seems strategically chosen<sup>267</sup>. Only 250 metres to the northeast of the supposed villa the associated cremation cemetery was found. The cemetery contained at least five cremations as well as two stone sarcophagi<sup>268</sup>.

It is suspected that a Roman road ran on the eastern bank of the Meuse, connecting Maastricht via Grevenbicht with Venlo further north. Although the most likely place for this road would have been the middle river terrace, no trace of it is found in Stein or its direct

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<sup>263</sup> Kars *et al.* 2016, 12-13.

<sup>264</sup> Kars *et al.* 2016, 23-24; Damoiseaux *et al.* 1993.

<sup>265</sup> van Wijk 2009, 23.

<sup>266</sup> Beckers *et al.* 1940, 284-286.

<sup>267</sup> Holwerda *et al.* 1928, 49; Beckers *et al.* 1940, 245,248; Bogaers 1986.

<sup>268</sup> Beckers 1926; Beckers *et al.* 1940, 310.

surroundings to date<sup>269</sup>. This does not mean that the road was not there, as evidence for its existence is known from other sites along the river.

Traces of early medieval settlement sites are scarce in Limburg, as it becomes clear in relation to the cemeteries of Posterholt, Obbicht and Sittard. Also in Stein, no trace was found of a settlement which can be connected to the cemetery. Along what is currently the Kerkweg (Church Road) in the vicinity of the cemetery, a habitation site is present with a history which goes back to the Neolithic period. On this site, discolourations of the soil indicate the presence of walls and postholes which are likely related to an early medieval building. Given the size of the cemetery, it must have been in use by more than one household. The provenance of the people buried in Stein remains therefore unknown<sup>270</sup>.

Like in Obbicht, the Stein cemetery was excavated by a local GP and his team with an interest in Frankish archaeology. The information in the 1940 publication unfortunately shows large gaps when it comes to excavation methods, excavation date and motivation for the excavation. It becomes clear that the cemetery was located opposite the ruins of Stein Castle (built from circa AD 1200 onwards) and that the plot was covered by historic oak trees. During the removal of these trees and the planting of new ones, a prehistoric pot was found. This find is likely to have triggered a preliminary excavation of the south of the Groote Bongerd area. During this dig, worked flint, a Roman coin and large quantities of pottery were found, dating to the Stone-Age, Bronze-Age, Iron-Age and Roman period. The next thing mentioned in the 1940s publication is the use of the terrain for gravel mining. This process was overseen by the GP in order to spot any archaeology. During this process, four Merovingian graves were unearthed. This discovery is likely to have led to the large-scale excavation of the site. The excavation method remains largely unclear, but it is noted that the current number of excavated graves does not represent the full cemetery. Graves have been destroyed by gravel extraction, the construction of a house, the widening of a road and by erosion of the slopes to the south of the terrain<sup>271</sup>.

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<sup>269</sup> Kars *et al.* 2016, 24.

<sup>270</sup> Kars *et al.* 2016, 24-25 and footnote 81; Beckers *et al.* 1940, 297-98.

<sup>271</sup> Kars *et al.* 2016, 43-45.

## 20 – Borgharen

*Province:* **Limburg**

*Place:* **Borgharen**

*Locality:* **Pasestraat**

*Abbreviation in the research:* **BP**

*Total number of human cremations:* **0**

*Total number of human inhumations:* **23**

*Period of excavation:* **1995, 1999, 2008, 2009**

*Literature:* **Lauwerier et al. 2011.**

*Current location of the finds:* **Current location of the finds: Archeologisch Depot Provincie Limburg (Province of Limburg Archaeological Depot).**

Borgharen is a village in the municipality of Maastricht, located on the east bank of the river Meuse to the north of the city. During prospective research of a plot of land along the Pasestraat, north of the village of Borgharen, traces were found of a Roman villa complex and a Merovingian cemetery within<sup>272</sup>. Apart from the rapid degradation of the bone material, there was no direct threat to the archaeology. The decline in bone quality and the potential loss of information this could cause, however, led to the decision to excavate part of the cemetery whilst the Roman villa was largely left untouched. The excavation took place in the form of various smaller sessions over the period of several years and was a joint effort of various universities, the National Institute for Cultural Heritage and Maastricht City Council<sup>273</sup>. During the excavation it proved difficult to recognise and excavate all contexts. Some were difficult to reach due to their location in relation to the remains of the Roman villa. The location of most graves was discovered late on in the available time<sup>274</sup>. In the period up to 2009, a total of twenty-three graves were identified but the limits of the cemetery have not yet been reached. It is therefore likely that there are more graves to be discovered. Of the twenty-three graves, five were fully excavated. One of these graves was looted overnight whilst the excavation was ongoing. A sixth grave was partially excavated, but the deepest layer could not be reached within

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<sup>272</sup> Hulst *et al.* 2008; Panhuysen 2008; Dijkman 2003; Looijenga 2003.

<sup>273</sup> Lauweriers *et al.* 2011, 9.

<sup>274</sup> Lauweriers *et al.* 2011, 23-24.

the available time. From a seventh grave only the top layer of the infill was studied. A total of sixteen graves remain discovered but untouched to date<sup>275</sup>.

Like the cemeteries of Stein and Obbicht, Borgharen cemetery is located on one of the terraces of the river Meuse which were created during the Pleistocene. Remains of a Pleistocene system of gullies in the shape of gravel ridges can be seen as relief in the surroundings of the cemetery. The cemetery itself is located on one of the gravel ridges and therefore on a relatively high place in the landscape<sup>276</sup>.

As mentioned previously, the Merovingian cemetery was found within a Roman villa complex. The Borgharen Roman villa was one of those related to the *vicus* of Maastricht. Surplus from agricultural activity related to the villa was sold in Maastricht and the area profited from the river Meuse and various road connections<sup>277</sup>.

During the Merovingian period, the focus of settlement and burial in the southernmost part of Limburg clearly lies in Maastricht, of which the city centre is home to large cemeteries from the period (see Maastricht below). In areas just outside the city centre including the Boschstraatkwartier, Lage Kanaaldijk and Dominikanerplein small cemeteries or individual graves have been excavated<sup>278</sup>. Besides Borgharen, in a radius of 10 kilometres around Maastricht, only one small cemetery is partly excavated to date (not in this research). This cemetery is located in Meerssen – Rothem and contains graves from the second half of the sixth century according to German and French chronologies<sup>279</sup>.

The area of Limburg south of Sittard and east of Maastricht seems to have been largely deserted during the early medieval period, with the exception of some funerary evidence from the estate of a Roman villa complex in Voerendaal<sup>280</sup>. In the area directly across the border in Germany, a similar scarcity of early medieval finds can be seen, with the exception of the Königsberg cemetery in Aachen<sup>281</sup>. In the fertile loess landscape to the west and southwest of Maastricht, more early medieval archaeology would be expected. Apart from some Merovingian graves on the estate of a Roman villa in Rosmeer, however, the area seems to have been largely

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<sup>275</sup> Lauweriers *et al.* 2011, 128.

<sup>276</sup> Lauweriers *et al.* 2011, 13.

<sup>277</sup> Lauweriers *et al.* 2011, 13-15.

<sup>278</sup> Bloemers 1974; Glazema *et al.* 1956; Verwers 1986; Panhuysen 1982; Panhuysen 1984; Panhuysen 1981-1991; Arts 2007.

<sup>279</sup> Braat 1956.

<sup>280</sup> Willems 1985.

<sup>281</sup> Plum 2003.

deserted. The cases of Rosmeer and Voerendaal underline, however, that Merovingian burial in or near a Roman villa as seen in Borgharen is not an exception in the south of Limburg.

From the area to the north of Maastricht, many more cemeteries are known. These include Obbicht and Stein (see cemeteries 17 and 19) in the Netherlands but also various cemeteries on the western bank of the Meuse in Belgium<sup>282</sup>.

## 21 – Maastricht

*Province:* **Limburg**

*Place:* **Maastricht**

*Locality:* **Vrijthof**

*Abbreviation in the research:* **MV**

*Total number of human cremations:* **0**

*Total number of human inhumations:* **Approximately 343**

*Period of excavation:* **1969, 1970**

*Literature:* **Theuws et al. 2017.**

*Current location of the finds:* **Archeologisch Depot Provincie Limburg (Province of Limburg Archaeological Depot).**

During the Roman- as well as the Merovingian period, Maastricht was a centre of habitation and economic and social activity. The relatively large influx of people to Maastricht in the early medieval period translated into an increased need for cemeteries. Prior to the start of the Merovingian period, Maastricht played a major role as a Roman *vicus* with regional importance. Despite several excavations and a large body of available data, the exact development of Maastricht between the Roman period and the thirteenth century remains subject to debate<sup>283</sup>.

The Roman *castrum* on the west bank of the river dominated the *vicus* during the Roman period and was possibly still in use in some form until AD 700<sup>284</sup>. This idea is supported by evidence of a new moat being dug around the south-west corner of the fortress during the fifth or sixth century. This moat was filled-in during the seventh century with new structures being

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<sup>282</sup> Heymans 1978; Kars et al. 2016, 13.

<sup>283</sup> Panhuysen et al. 1990., Panhuysen et al. 2002., Theuws 2001a., Theuws 2005b.

<sup>284</sup> Theuws et al 2017, 32., Panhuysen 1996, 51-66.

built on top<sup>285</sup>. Within the *castrum* itself, evidence was found for artisan activity and habitation from the sixth and seventh centuries.

The early building phases of the Church of Our Lady, located within the former *castrum*, are thought to date to the Merovingian period. It is unclear, however, when its construction exactly took place<sup>286</sup>. It is suggested that the building served as the Merovingian bishop's church of the city<sup>287</sup>.

Evidence for the development of the settlement surrounding the castle is not yet published in detail but studies by various scholars suggest continual habitation and commercial activity from the Roman era into the Merovingian period<sup>288</sup>. The central role played by Maastricht in the Merovingian period is evidenced by the large number of coins minted in the city during the seventh century, which are found in the Netherlands and abroad<sup>289</sup>. It is also clear that glass production, bronze working, and bone and antler working were important during this period around the Maastricht *castrum*<sup>290</sup>.

A second part of the settlement (or a second settlement) was located just opposite the late Roman *castrum*, on the east bank of the river Meuse. In this area, currently a neighbourhood of the city called Wyck (likely derived from *vicus*), traces were found of habitation, burial and industrial activity including a number of pottery kilns<sup>291</sup>.

A building that needs to be discussed when exploring the transition from the Roman to the Merovingian period in Maastricht is the Saint Servatius basilica. This large church building, which is still standing and open to the public, is considered the oldest remaining church building in the Netherlands. Although the current building largely dates to the later Middle Ages, the church has its origins in the Merovingian period. Excavations in the Saint Servatius basilica in Maastricht, during the years between 1985 and 1989 have brought to light various building phases of which the earliest can be dated to the Roman period. The second phase, a rectangular church building, dates from the sixth century. A third phase then follows during the Carolingian period<sup>292</sup>. The fact that a sixth century building phase is present is a clear indicator of the arrival

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<sup>285</sup> Theuws *et al* 2017, 32., Theuws 2001a, 178.

<sup>286</sup> Panhuysen 1996, 59-61.

<sup>287</sup> Theuws *et al* 2017, 32-34

<sup>288</sup> Theuws *et al* 2017, 32., Dijkman 1992., Van Lith 1987., Van Lith 1988., Sablerolles 1995., Sablerolles *et al.* 1997., van der Vin *et al.* 1983., Pol 1995., Dijkman *et al.* 1998., Bakels *et al.* 2000.

<sup>289</sup> Pol 1995., Theuws 2004.

<sup>290</sup> Theuws *et al* 2017, 32.

<sup>291</sup> Theuws *et al* 2017, 32., Panhuysen 1997.

<sup>292</sup> Dijkman 1994, 37.

of Christian influence in the southernmost part of the current Netherlands before AD 600. Presence of Christianity in and around Maastricht as early as approximately AD 550, however, is relatively likely<sup>293</sup>.

The strong evidence of continual habitation in Maastricht from the Roman- into the Merovingian period, combined with a suspected relatively rapid growth of the settlement in relation to a cult around Saint Servatius explains the presence of multiple large cemeteries in this southernmost city of the Netherlands. The two main Merovingian cemeteries in the city, the Vrijthof cemetery and the Pandhof cemetery are located in close vicinity to each other.

The Pandhof cemetery, which does not feature in this research, contains 498 graves. An additional 332 possible grave contexts were found. The 830 contexts in total were found during excavations around and inside the Saint Servatius basilica as well as within its *claustrum*. A number of these graves can be dated, on the basis of German and French chronologies, roughly to the period prior to AD 550. This means they are likely to date to a period prior to the building of the first stone church. It is suspected that the first interments already took place as early as the late third century. The Pandhof cemetery continued to be used during the sixth and seventh centuries, after the stone church was built. Although currently cut by a sequence of subsequent church buildings, it is considered that all 830 contexts once belonged to one single cemetery. During the sixth and seventh centuries, graves were dug inside and outside the church walls. Although it seems plausible that the choice for burial so close to the church building was related to the uptake of Christianity as a religion, it is unclear how differences were perceived between *intra muros* and *extra muros* burial<sup>294</sup>.

The Vrijthof cemetery, which is included in this research, is currently located underneath the large square in front of the Saint Servatius basilica. This cemetery was not in use during the period prior to the building of the first stone church on the basis of German and French chronologies. During the sixth and seventh centuries, however, the cemetery was in use simultaneously with the nearby Pandhof cemetery. Only a small surface area of the Vrijthof was excavated to date and it is therefore likely that the limits of the cemetery have not yet been reached<sup>295</sup>. The part currently excavated revealed the presence of 240 graves and 103 likely graves<sup>296</sup>. This number shows that, even on its own and not completely excavated, the Vrijthof

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<sup>293</sup> A more elaborate description of the Saint Servatius excavations can be found in chapter 3.2 (p. 26-27).

<sup>294</sup> Kars 2011, 9 and 96-99.

<sup>295</sup> Kars 2011, 99.

<sup>296</sup> Theuws *et al.* 2017, 416-557.

cemetery consists of many more graves than any other Dutch cemetery from the early medieval period, apart from Rhenen and Maastricht-Pandhof. Considering both the Pandhof and Vrijthof cemeteries together, the total number of 738 graves and 435 possible graves is exceptional for the Low Countries.

As discussed previously, the common layout for cemeteries in the southern half of the Netherlands is the placement of graves in more or less neat rows. The Vrijthof and Pandhof cemeteries are no exception to this. Due to their high number of inhumations, the sites have both a horizontal layout and a vertical layout<sup>297</sup>. This is unique in comparison to rural cemeteries in the Netherlands, with the exception, to some extent, of the Rhenen cemetery.

Given the likely relationship between the large cemeteries in Maastricht and the influx of pilgrims due to the Saint Servatius cult, it is interesting to swiftly touch upon the other large cemetery, in Rhenen. Whilst in Maastricht there is clear evidence for settlement and commercial activity, similar evidence is largely absent in Rhenen. In the section on the Rhenen cemetery, a possible Saint Cunera cult is briefly touched upon as are the uncertainties surrounding this theory. With a likely link between a cult and large cemeteries in Maastricht, it is possible to apply the same model to Rhenen. In other words, the large cemetery there may be an indication for the size of a possible cult around Saint Cunera. It does not offer an explanation, however, for the absence of an early medieval settlement in Rhenen.

## 5.1 THE CEMETERIES THAT DO NOT FEATURE IN THE RESEARCH

The methodology chapter of this thesis elaborates on strategies used for data selection as well as on the conditions that a cemetery must meet in order to be part of the research. The most important condition is the availability of an overview of material content per individual grave. Without such an overview, the grave goods from a certain cemetery cannot be listed in the Excel data sheet and therefore cannot be used for the purpose of Correspondence Analysis.

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<sup>297</sup> Kars 2011, 96-99., Theuws *et al.* 2017, 346-353.



### Cemeteries not in the sample

#### Key

- Cemeteries not in the research
- Cemeteries in the research
- Rivers
- Capital

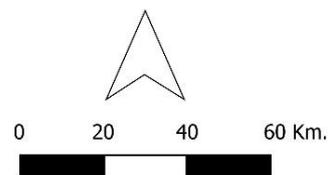


Figure 13: Early medieval cemeteries in the Netherlands which do not feature in the sample for this research.

There are several early medieval cemeteries in the Netherlands for which such a catalogue of grave goods per inhumation was not- or no longer available at the moment of data gathering. This mainly concerns very small cemeteries with less than twenty-five graves, although some are larger. The fact that a catalogue could not be accessed can have various reasons. In some cases, a catalogue has not yet been compiled. Doing so, if possible, would be interesting and valuable but goes beyond the scope of this research. In other cases, the catalogue is part of an ongoing research project or publication and was therefore not available at the moment of collecting data for this study.

Besides the absence of a catalogue, there are various other reasons for a cemetery not being suitable to feature in the research. These include the absence of inhumation graves and the absence of inhumation graves with more than two grave goods which can be dated in the German typology schemes.

Two of the cemeteries which are not included in the research, Wijchen and Maastricht-Pandhof, in principle meet all the requirements for inclusion. Omission of these cemeteries is based on reasons related to geographical distribution and research capacity which are set out in detail in chapter 4.1. *Table 2* provides a list of most of the cemeteries in the Netherlands which did not feature in this study. The cemeteries are also mapped in *figure 13*.

*Table 2: Early medieval cemeteries in The Netherlands which do not feature in the research sample*

Province	Place
<b>Friesland</b>	Beetgum-Besseburen
<b>Friesland</b>	Hogebeintum
<b>Drenthe</b>	Midlaren
<b>Drenthe</b>	Tynaarlo
<b>Drenthe</b>	Aalden
<b>Overijssel</b>	Oosterdalfsen
<b>Gelderland</b>	Didam
<b>Gelderland</b>	Zutphen
<b>Gelderland</b>	Lievalde
<b>Gelderland</b>	Wijchen
<b>Gelderland</b>	Lent (Lenteseveld)

<b>Gelderland</b>	Gardereren
<b>Gelderland</b>	Putten
<b>Utrecht</b>	Leersum
<b>Utrecht</b>	Remmerden
<b>Zuid-Holland</b>	Naaldwijk
<b>Zuid-Holland</b>	Rijnsburg (Abdij)
<b>Zuid-Holland</b>	Koudekerk aan den Rijn
<b>Noord-Brabant</b>	Alphen
<b>Noord-Brabant</b>	Uden
<b>Noord-Brabant</b>	Dommelen
<b>Limburg</b>	Vlodrop
<b>Limburg</b>	Buchten
<b>Limburg</b>	Meerssen – Rothem
<b>Limburg</b>	Gennep
<b>Limburg</b>	Maastricht-Pandhof

# 6.0 A REVISED DATE FOR INHUMATIONS FROM THE NETHERLANDS

Chapter four contains an extensive description of the methodology which is used for this research. The chapter also pays attention to the preparation for- and the application of Correspondence Analysis (CA) on funerary data from the Netherlands. From this description of the process, it became clear that the CA has been performed twice, for inhumations with a suspected male gender and for those with a suspected female gender. This chapter first focusses on the outcomes of the CA and the process of dating the male gender graves according to findings from the Netherlands. Then the outcomes of the CA for female-gender graves are discussed in a similar way.

## 6.1 A BASELINE DATE FOR EACH MALE-GENDER GRAVE

As described in chapter four, after compiling the Excel spreadsheets, every grave in the dataset was linked to a single phase or a number of phases according to the chronology by the Franken Arbeitsgruppe (*table 3, Franken Arbeitsgruppe phase 1-2 is separated in a phase 1 and 2*). This was done prior to commencing CA in order to provide an expected chronological order

for artefacts and inhumations included in the analysis. Obviously, this is based on the assumption that the chronology of artefacts from the German Rhineland does not differ too much from the expected Dutch chronology. If this difference would be greater, the outcome of the CA would be distorted before the process even started. The assumption can be made on the basis of a large overlap in material culture and a direct link between the two regions via a network of Roman roads and the river Rhine.

The dates assigned to every grave are presented in *table 5*. Within the table, the grave ID is made up of an abbreviation to indicate the cemetery and a grave number, as given to the inhumation in the original publication. The abbreviations were assigned to the cemeteries in chapter five and included in this chapter in *table 4*.

*Table 3: Division of phases according to the chronology by the Franken Arbeitsgruppe (Müssemeier et al. 2003, 102-110).*

Phase 1	<b>400 – 435/40</b>
Phase 2	435/40 – 460/80
Phase 3	460/80 – 510/25
Phase 4	510/25 – 565
Phase 5	565 – 580/90
Phase 6	580/90 – 610/20
Phase 7	610/20 – 640/50
Phase 8	640/50 – 670/80
Phase 9	670/80 – 710
Phase 10	710 – 750

*Table 4: Abbreviations of the cemeteries.*

Abbreviation	Full cemetery name
BF	Bergeijk - Fazantlaan
BH	Broekeneind - Hoogeloon
BP	Borgharen - Pasestraat
CM	Cobbeek - Meerveldhoven
DS	Den Haag - Solleveld
EW	Elst 't Woud
KK	Katwijk - Klein Duin
LA	Lent - Azaleastraat
MV	Maastricht - Vrijthof

OB	Oosterbeintum
OO	Obbicht - Oude Molen
PA	Posterholt - Achterste Voorst
RD	Rhenen - Donderberg
RH	Rijnsburg - de Horn
SG	Stein - Groote Bongerd
SK	Sittard - Kemperkoul
VC	Valkenburg - Castellum
VO	Veldhoven - Oeienbosch
WA	Wageningen
WS	Wijster
ZL	Zweeloo

For table 5 goes that the graves for which the ID is indicated in red feature in the CA, whilst those with an ID indicated in black could not be integrated. The column named 'Possible phases' provides the broadest phasing which can apply to a grave on the basis of the maximum given date range for each artefact. In other words, it shows the span between the oldest possible date for the oldest artefact and the latest possible date for the youngest artefact in the grave. The next column represents the absolute date range attached to the 'possible phases'. The column 'Likely phase' represents the most likely phase to which a grave belongs. This normally is a part of the phase range previously indicated. The 'likely phase' represents the period that most or all of the grave's artefacts coexisted according to the Franken Arbeitsgruppe typology. The last column represents the absolute dates that are attached to the column 'likely phase'.

*Table 5: Male-gender inhumations with assigned dates prior to CA, on the basis of the Franken Arbeitsgruppe phases.*

Grave ID	Gender	Possible phases	Possible date	Likely phase	Likely date
<b>RD841</b>	M	1	400 - 435/50	1	400 - 435/50
<b>RD833</b>	M	123456	400 - 610/20	1	400 - 435/50
<b>RD839</b>	M	123	400 - 510/25	1	400 - 435/50
<b>RD835</b>	M	12	400 - 460/80	2	435/50 - 460/80

<b>RD842</b>	M	12	400 - 460/80	2	435/50 - 460/80
<b>RD819</b>	M	12	400 - 460/80	2	435/50 - 460/80
<b>RD829</b>	M	12	400 - 460/80	2	435/50 - 460/80
<b>WS116</b>	M	123	400 - 510/25	2	435/50 - 460/80
<b>WA155</b>	M	23456	435/50 - 610/20	2	435/50 - 460/80
<b>EW40</b>	M	12345	400 - 580/90)	2	435/50 - 460/80
<b>RD704</b>	UKN	234	435/50 - 565	3	460/80 - 510/25
<b>WA172</b>	UKN	234	435/50 - 565	3	460/80 - 510/25
<b>OB485a</b>	UKN	23	435/50 - 510/25	3	460/80 - 510/25
<b>RD236</b>	UKN	34	460/80 - 565	3	460/80 - 510/25
<b>WA156</b>	M	234	435/50 - 565	3	460/80 - 510/25
<b>RD418</b>	M	234	435/50 - 565	3	460/80 - 510/25
<b>EW163</b>	M	34	460/80 - 565	3	460/80 - 510/25
<b>RD750</b>	M	234	435/50 - 565	4	510/25 - 565
<b>RD30</b>	M	234	435/40 - 565	4	510/25 - 565
<b>RD80</b>	M	234	435/40 - 565	4	510/25 - 565
<b>RD162</b>	M	234	435/40 - 565	4	510/25 - 565
<b>RD406</b>	UKN	34	460/80 - 565	4	510/25 - 565
<b>EW160</b>	M	34	460/80 - 565	4	510/25 - 565
<b>RD148</b>	UKN	2345	435/40 - 580/90	4	510/25 - 565
<b>RD405</b>	M	345	460/80 - 580/90	4	510/25 - 565
<b>RD376</b>	M	345	460/80 - 580/90	4	510/25 - 565
<b>RD593</b>	M	345	460/80 - 580/90	4	510/25 - 565
<b>RD809</b>	M	345	460/80 - 580/90	4	510/25 - 565
<b>RD807</b>	M	345	460/80 - 580/90	4	510/25 - 565
<b>WA174</b>	UKN	2345	435/50 - 580/90	4	510/25 - 565
<b>OO17</b>	UKN	45	510/25 - 580/90	4	510/25 - 565
<b>RD763</b>	M	23456	435/50 - 610/20	4	510/25 - 565
<b>EW179</b>	M	2345	435/50 - 580/90	4	510/25 - 565
<b>EW240</b>	M	45	510/25 - 580/90	4	510/25 - 565
<b>RD193</b>	UKN	45	510/25 - 580/90	4	510/25 - 565

<b>RD553</b>	M	234567	435/50 - 640/50	4	510/25 - 565
<b>RD65</b>	M	34567	460/80 - 640/50	4	510/25 - 565
<b>RD652</b>	M	34567	460/80 - 640/50	4	510/25 - 565
<b>EW85</b>	M	34567	460/80 - 640/50	4	510/25 - 565
<b>EW250</b>	M	34567	460/80 - 640/50	4	510/25 - 565
<b>EW133</b>	M	34567	460/80 - 640/50	4	510/25 - 565
<b>PA73</b>	UKN	456	510/25 - 610/20	4	510/25 - 565
<b>EW174</b>	M	3456	460/80 - 610/20	4	510/25 - 565
<b>RD97a</b>	M	23456	435/50 - 610/20	4	510/25 - 565
<b>RD130</b>	M	3456	460/80 - 610/20	4	510/25 - 565
<b>OO29</b>	M	3456	460/80 - 610/20	4	510/25 - 565
<b>RD445</b>	M	3456	460/80 - 610/20	4	510/25 - 565
<b>RD758</b>	M	456	510/25 - 610/20	4	510/25 - 565
<b>EW178</b>	M	23456	435/50 - 610/20	4	510/25 - 565
<b>RD137</b>	M	23456	435/50 - 610/20	4	510/25 - 565
<b>RD318</b>	UKN	4567	510/25 - 640/50	4	510/25 - 565
<b>MV168</b>	M	1234567	400 - 640/50	4	510/25 - 565
<b>OO37b</b>	M	456	510/25 - 610/20	4	510/25 - 565
<b>OB335</b>	M	34567	460/80 - 640/50	5	565 - 580/90
<b>DS483</b>	M	34567	460/80 - 640/50	5	565 - 580/90
<b>RD714</b>	M	3456	460/80 - 610/20	5	565 - 580/90
<b>RD668</b>	M	456	510/25 - 610/20	5	565 - 580/90
<b>EW96</b>	M	34567	460/80 - 640/50	5	565 - 580/90
<b>EW146</b>	M	456	510/25 - 610/20	5	565 - 580/90
<b>WA157</b>	M	56	565 - 610/20	5	565 - 580/90
<b>RD675</b>	M	3456	460/80 - 610/20	5	565 - 580/90
<b>RD443</b>	M	23456	435/50 - 610/20	5	565 - 580/90
<b>RD76</b>	M	3456	460/80 - 610/20	5	565 - 580/90
<b>RD697</b>	M	3456	460/80 - 610/20	5	565 - 580/90
<b>RD89</b>	M	3456	460/80 - 610/20	5	565 - 580/90
<b>RD709</b>	M	456	510/25 - 610/20	5	565 - 580/90

<b>SK24</b>	M	456	510/25 - 610/20	5	565 - 580/90
<b>RD501</b>	M	3456	460/80 - 610/20	5	565 - 580/90
<b>WS70</b>	M	34567	460/80 - 640/50	5	565 - 580/90
<b>RD678</b>	M	3456	460/80 - 610/20	5	565 - 580/90
<b>RD476</b>	M	3456	460/80 - 610/20	5	565 - 580/90
<b>MV19</b>	M	4567	510/25 - 640/50	5	565 - 580/90
<b>RD185</b>	UKN	456	510/25 - 610/20	5	565 - 580/90
<b>RD774</b>	M	56	565 - 610/20	5	565 - 580/90
<b>RD523</b>	M	56	565 - 610/20	5	565 - 580/90
<b>RD699</b>	M	456	510/25 - 610/20	5	565 - 580/90
<b>PA58</b>	M	34567	460/80 - 640/50	5	565 - 580/90
<b>OO30</b>	M	3456	460/80 - 610/20	5	565 - 580/90
<b>VO17</b>	M	56	565 - 610/20	5	565 - 580/90
<b>RD596</b>	M	56	565 - 610/20	5	565 - 580/90
<b>RD324</b>	M	456	510/25 - 610/20	5	565 - 580/90
<b>RD221</b>	M	34567	460/80 - 640/50	5	565 - 580/90
<b>RD796</b>	M	34567	460/80 - 640/50	5	565 - 580/90
<b>RD269</b>	M	4567	510/25 - 640/50	5	565 - 580/90
<b>RD628</b>	UKN	4567	510/25 - 640/50	5	565 - 580/90
<b>RD639</b>	M	4567	510/25 - 640/50	5	565 - 580/90
<b>OO11</b>	M	456	510/25 - 610/20	5	565 - 580/90
<b>RD630</b>	M	56	565 - 610/20	5	565 - 580/90
<b>RD726</b>	M	23456	435/50 - 610/20	5	565 - 580/90
<b>OO5</b>	M	34567	460/80 - 640/50	5	565 - 580/90
<b>SK37</b>	M	56	565 - 610/20	5	565 - 580/90
<b>SK34</b>	UKN	456	510/25 - 610/20	5	565 - 580/90
<b>EW241</b>	M	56	565 - 610/20	5	565 - 580/90
<b>RD27</b>	M	56	565 - 610/20	5	565 - 580/90
<b>RD11</b>	M	456	510/25 - 610/20	5	565 - 580/90
<b>RD724</b>	M	3456	460/80 - 610/20	5	565 - 580/90
<b>SK5</b>	M	56	565 - 610/20	5	565 - 580/90

<b>OO31</b>	M	56	565 - 610/20	5	565 - 580/90
<b>OO4</b>	M	56	565 - 610/20	5	565 - 580/90
<b>RD503</b>	M	34567	460/80 - 640/50	5	565 - 580/90
<b>RD730</b>	M	34567	460/80 - 640/50	5	565 - 580/90
<b>SK28</b>	M	567	565 - 640/50	5	565 - 580/90
<b>CM51</b>	M	567	565 - 640/50	5	565 - 580/90
<b>MV78</b>	UKN	234567	435/50 - 640/50	5	565 - 580/90
<b>MV288</b>	M	234567	435/50 - 640/50	5	565 - 580/90
<b>OO28</b>	M	4567	510/25 - 640/50	5	565 - 580/90
<b>SG1</b>	UKN	4567	510/25 - 640/50	5	565 - 580/90
<b>RD18</b>	UKN	4567	510/25 - 640/50	5	565 - 580/90
<b>BF42</b>	M	4567	510/25 - 640/50	5	565 - 580/90
<b>SK81</b>	M	4567	510/25 - 640/50	5	565 - 580/90
<b>RD329</b>	M	34567	460/80 - 640/50	5	565 - 580/90
<b>SK76</b>	UKN	4567	510/25 - 640/50	5	565 - 580/90
<b>RD509</b>	M	567	565 - 640/50	5	565 - 580/90
<b>OO59</b>	UKN	567	565 - 640/50	5	565 - 580/90
<b>SG60</b>	M	567	565 - 640/50	5	565 - 580/90
<b>SG45</b>	UKN	567	565 - 640/50	5	565 - 580/90
<b>OO23</b>	M	567	565 - 640/50	5	565 - 580/90
<b>SK39</b>	M	34567	460/80 - 640/50	5	565 - 580/90
<b>RD712</b>	M	2345678	435/50 - 670/80	5	565 - 580/90
<b>RD143</b>	M	45678	510/25 - 670/80	5	565 - 580/90
<b>RD609</b>	M	456789	510/25 - 710	5	565 - 580/90
<b>BF33</b>	M	45678910	510/25 - 750	5	565 - 580/90
<b>MV310</b>	M	23456789	435/50 - 710	5	565 - 580/90
<b>RD592</b>	M	345678910	460/80 - 750	5	565 - 580/90
<b>RD475</b>	M	3456	460/80 - 610/20	6	580/90 - 610/20
<b>RD321</b>	M	34567	460/80 - 640/50	6	580/90 - 610/20
<b>RH4</b>	M	3456789	460/80 - 710	6	580/90 - 610/20
<b>SG55</b>	M	456789	510/25 - 710	6	580/90 - 610/20

<b>SK29</b>	M	4567	510/25 - 640/50	6	580/90 - 610/20
<b>RD262</b>	M	34567	460/80 - 640/50	6	580/90 - 610/20
<b>RD594</b>	M	34567	460/80 - 640/50	6	580/90 - 610/20
<b>RD738</b>	M	567	565 - 640/50	6	580/90 - 610/20
<b>EW173</b>	M	34567	460/80 - 640/50	6	580/90 - 610/20
<b>RD782</b>	M	34567	460/80 - 640/50	6	580/90 - 610/20
<b>SK41</b>	M	34567	460/80 - 640/50	6	580/90 - 610/20
<b>OO51b</b>	M	4567	510/25 - 640/50	6	580/90 - 610/20
<b>BF62</b>	UKN	567	565 - 640/50	6	580/90 - 610/20
<b>SK26</b>	M	34567	460/80 - 640/50	6	580/90 - 610/20
<b>BF78</b>	UKN	567	565 - 640/50	6	580/90 - 610/20
<b>EW131</b>	M	4567	510/25 - 640/50	6	580/90 - 610/20
<b>MV126</b>	M	4567	510/25 - 640/50	6	580/90 - 610/20
<b>BF77</b>	UKN	567	565 - 640/50	6	580/90 - 610/20
<b>RD524</b>	M	56789	565 - 710	6	580/90 - 610/20
<b>OO40b</b>	M	456789	510/25 - 710	6	580/90 - 610/20
<b>RD276</b>	M	56789	565 - 710	6	580/90 - 610/20
<b>RD333</b>	M	3456789	460/80 - 710	6	580/90 - 610/20
<b>RD233</b>	M	456789	510/25 - 710	6	580/90 - 610/20
<b>SK14</b>	M	456789	510/25 - 710	6	580/90 - 610/20
<b>SK30</b>	M	56789	565 - 710	6	580/90 - 610/20
<b>RD662</b>	M	6789	580/90 - 710	6	580/90 - 610/20
<b>SG72</b>	M	6789	580/90 - 710	6	580/90 - 610/20
<b>SK31</b>	M	456789	510/25 - 710	6	580/90 - 610/20
<b>CM37</b>	M	456789	510/25 - 710	6	580/90 - 610/20
<b>SK20</b>	M	56789	565 - 710	6	580/90 - 610/20
<b>SK86</b>	M	456789	510/25 - 710	6	580/90 - 610/20
<b>RD271</b>	M	56789	565 - 710	6	580/90 - 610/20
<b>EW215</b>	M	345678910	460/80 - 750	6	580/90 - 610/20
<b>SK49</b>	M	456789	510/25 - 710	6	580/90 - 610/20
<b>BF64</b>	M	56789	565 - 710	6	580/90 - 610/20

<b>BF79</b>	M	56789	565 - 710	6	580/90 - 610/20
<b>WA76</b>	M	56789	565 - 710	6	580/90 - 610/20
<b>CM36</b>	M	56789	565 - 710	6	580/90 - 610/20
<b>SG8</b>	M	456789	510/25 - 710	6	580/90 - 610/20
<b>CM16</b>	M	6789	580/90 - 710	6	580/90 - 610/20
<b>BF24</b>	UKN	678910	580/90 - 750	6	580/90 - 610/20
<b>RD172</b>	UKN	34567	460/80 - 640/50	7	610/20 - 640/50
<b>VO15</b>	UKN	4567	510/25 - 640/50	7	610/20 - 640/50
<b>MV88</b>	M	45678	510/25 - 670/80	7	610/20 - 640/50
<b>SK33</b>	UKN	4567	510/25 - 640/50	7	610/20 - 640/50
<b>MV92</b>	M	4567	510/25 - 640/50	7	610/20 - 640/50
<b>BF82</b>	M	567	565 - 640/50	7	610/20 - 640/50
<b>BH13</b>	UKN	78	610/20 - 670/80	7	610/20 - 640/50
<b>OO20</b>	M	456789	510/25 - 710	7	610/20 - 640/50
<b>CM53</b>	M	456789	510/25 - 710	7	610/20 - 640/50
<b>OO46</b>	M	56789	565 - 710	7	610/20 - 640/50
<b>SG49</b>	M	6789	580/90 - 710	7	610/20 - 640/50
<b>SK84</b>	M	6789	580/90 - 710	7	610/20 - 640/50
<b>VO6</b>	UKN	45678	510/25 - 670/80	7	610/20 - 640/50
<b>BF113</b>	UKN	456789	510/25 - 710	7	610/20 - 640/50
<b>MV292</b>	M	6789	580/90 - 710	7	610/20 - 640/50
<b>MV39</b>	M	456789	510/25 - 710	7	610/20 - 640/50
<b>MV86</b>	M	6789	580/90 - 710	7	610/20 - 640/50
<b>MV11</b>	M	6789	580/90 - 710	7	610/20 - 640/50
<b>MV297</b>	M	6789	580/90 - 710	7	610/20 - 640/50
<b>BP7</b>	M	78	610/20 - 670/80	7	610/20 - 640/50
<b>CM15</b>	M	56789	565 - 710	7	610/20 - 640/50
<b>PA70</b>	M	56789	565 - 710	7	610/20 - 640/50
<b>CM12</b>	M	56789	565 - 710	7	610/20 - 640/50
<b>OO24</b>	UKN	45678910	510/25 - 750	7	610/20 - 640/50
<b>CM45</b>	M	45678910	510/25 - 750	7	610/20 - 640/50

<b>CM24</b>	M	45678910	510/25 - 750	7	610/20 - 640/50
<b>SG64</b>	M	45678	510/25 - 670/80	8	640/50 - 670/80
<b>SG56a</b>	M	5678	565 - 670/80	8	640/50 - 670/80
<b>MV15</b>	M	56789	565 - 710	8	640/50 - 670/80
<b>PA90</b>	M	56789	565 - 710	8	640/50 - 670/80
<b>LA7514</b>	M	56789	565 - 710	8	640/50 - 670/80
<b>SG65</b>	UKN	5678	565 - 670/80	8	640/50 - 670/80
<b>CM52</b>	M	456789	510/25 - 710	8	640/50 - 670/80
<b>MV58</b>	M	6789	580/90 - 710	8	640/50 - 670/80
<b>RD814</b>	M	6789	580/90 - 710	8	640/50 - 670/80
<b>MV284</b>	M	78	610/20 - 670/80	8	640/50 - 670/80
<b>MV205</b>	M	345678	460/80 - 670/80	8	640/50 - 670/80
<b>BH25</b>	M	5678	565 - 670/80	8	640/50 - 670/80
<b>KK33</b>	M	56789	565 - 710	8	640/50 - 670/80
<b>KK30</b>	M	789	610/20 - 710	8	640/50 - 670/80
<b>CM49</b>	M	5678910	565 - 750	8	640/50 - 670/80
<b>MV36</b>	UKN	78910	610/20 - 750	8	640/50 - 670/80
<b>EW181</b>	M	45678910	510/25 - 750	8	640/50 - 670/80
<b>LA7215</b>	M	45678910	510/25 - 750	8	640/50 - 670/80
<b>MV125</b>	M	45678910	510/25 - 750	8	640/50 - 670/80
<b>OO33</b>	M	678910	580/90 - 750	8	640/50 - 670/80
<b>OO51a</b>	M	78910	610/20 - 750	8	640/50 - 670/80
<b>MV278</b>	M	8910	640/50 - 750	8	640/50 - 670/80
<b>LA7224</b>	M	678910	580/90 - 750	8	640/50 - 670/80
<b>CM14</b>	M	78910	610/20 - 750	8	640/50 - 670/80
<b>VC1</b>	M	6789	580/90 - 710	9	670/80 - 710
<b>WA71</b>	M	45678910	510/25 - 750	9	670/80 - 710
<b>RD341</b>	M	5678910	565 - 750	9	670/80 - 710
<b>ZL76</b>	M	8910	640/50 - 750	9	670/80 - 710
<b>KK32</b>	M	5678910	565 - 750	10	710 - 750
<b>EW248</b>	M	10	710 - 750	10	710 - 750

In most cases, it was possible to assign each grave to one Franken Arbeitsgruppe phase or two or three consecutive phases. It turned out, however, that some of the graves contain artefacts from non-overlapping or non-subsequent phases. This can be the case for various reasons. Firstly, it may mean that the grave content represents a combination of heirloom pieces and artefacts contemporary with the inhumation itself. Alternatively, it is possible that the grave was reopened historically, leading to a disturbance and possible contamination of what otherwise can be considered a time capsule (see chapter 8). A third explanation should be sought in the typology and chronology itself and the question whether the Franken Arbeitsgruppe classification and dating system is always directly applicable to Dutch grave assemblages.

In cases where it is difficult to assign a delimited phasing to a grave on the basis of the Franken Arbeitsgruppe scheme, there was opted to do additional research with help of other available chronologies like those by Siegmund or LPV. In some cases, this provides more clarity. The graves listed below are some examples of context which were approached in this way and were eventually dated. Some of them feature in the CA with a part of their inventory, others were kept out as their place in the chronology was surrounded by too much uncertainty. The reasoning below reflects the situation prior to the development of the chronology and typology for the Netherlands and the dates for some artefacts are later revised on the basis of chronological research (see the typology in chapter 7). The examples provide an insight into the process that went into dating each context. It shows the interplay between various typologies as well as between typology, stratigraphy and the layout of cemeteries. Dating the graves in this manner showed some first indications of differences between the German chronologies and the archaeological reality in the Netherlands which will be reflected in the new typology.

**Katwijk 33**<sup>298</sup>: The spear head and axe in this grave are older than the glass cup. The axe cannot be dated in the Franken Arbeitsgruppe chronology and is possibly a local variation. It can be suggested that the axe dates to around phases 5/6 (565 – 610/20), based on types FBA 4.1 and FBA 4.2 which are most similar<sup>299</sup>. The spear head with middle rib is like type LAN 2.1 and can also be dated in phase 5/6<sup>300</sup>. Dating of the glass cup is problematic as not many comparable

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<sup>298</sup> Dijkstra 2011, 243.

<sup>299</sup> Müssemeier *et al.* 2003, 51-52.

<sup>300</sup> Müssemeier *et al.* 2003, 48-49

specimens are known from Germany. Based on this limited evidence, the cup can be dated to phases 9 and 10 (670/80 – 750)<sup>301</sup>. On the basis of this information, it can be suggested that the grave contains a combination of inherited armoury and a glass contemporary with the date of inhumation.

In the chronology for northern France, however, the glass cup can be identified as type 454 and is dated between 600 and 670 (MR1-MR2)<sup>302</sup>. According to this chronology, the cup has an earlier start in France than in Germany and the French dating for the cup resembles more closely the German dating for the armoury. The spear head dates in the French chronology between 520/30 and 600/10 (MA2-MA3) and is type 38<sup>303</sup>. The axe cannot be dated exactly in the French chronology either. The type seems most closely related to Legoux's type 12 which dates to phases MA2-MR1 (520/30 – 630/40)<sup>304</sup>.

Whilst the grave, according to the German chronology, is likely to date in phase 8 (640/50 – 670/80), it could be suggested, based on the French evidence, that a date between 600 and 630 is more likely. This is equivalent to a late phase 6 or phase 7.

**Stein 56a**<sup>305</sup>: In this grave a pottery vessel was found of Franken Arbeitsgruppe type KWT 5A. This type dates to phases 5 and 6 (565 – 610/20)<sup>306</sup>. A copper-alloy plate buckle is more difficult to classify but probably belongs to Siegmund's type Gür 3.3 or 3.4, which can be dated to his phase 8 (610 – 640)<sup>307</sup>. A second belt fitting in the grave can be classified as a Franken Arbeitsgruppe type Gür 4.8a, which can be placed in phase 8 (640/50 – 670/80)<sup>308</sup>. An iron ring from the grave, possibly belonging to a suspension chain, cannot be dated through the German schemes but resembles Legoux's type 357 which dates to phases MA2-MR1 (520/30 – 630/40)<sup>309</sup>. As the dating of buckle type Gür 4.8a by the Franken Arbeitsgruppe is limited to only one phase, it can be suggested that this bracket is too narrow for the Netherlands. It is possible that items of this type were already interred in graves from phase 7 (610/20 – 640/50). This speculation is strengthened by the find of another Gür 4.8a buckle in Stein grave 64. This grave too can be dated to phase 7. It is unclear, however, if the buckle found actually belongs to this context.

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<sup>301</sup> Mússemeier *et al.* 2003, 70

<sup>302</sup> Legoux *et al.* 2016, 58, 63.

<sup>303</sup> Legoux *et al.* 2016, 34, 60.

<sup>304</sup> Legoux *et al.* 2016, 32, 60.

<sup>305</sup> Kars *et al.* 2016, 482-83.

<sup>306</sup> Mússemeier *et al.* 2003, 60-1

<sup>307</sup> Siegmund 1998, 27-8.

<sup>308</sup> Mússemeier *et al.* 2003, 21.

<sup>309</sup> Legoux *et al.* 2016, 49, 62.

**Bergeijk 24**<sup>310</sup>: This grave is difficult to date precisely as it only contains two objects which can be classified in the Franken Arbeitsgruppe typology. The first object consists of several parts of a belt fitting which can be classified as type Gür 4.5, belonging to phases 6 and 7 (580/90 – 610/20)<sup>311</sup>. A second buckle found in the grave is a type Gür 6.2 which can be dated in phases 9 and 10 (670/80 – 750)<sup>312</sup>. The grave overlies stray find 20, which is a pottery vessel of type KWT 4a. This vessel can be dated roughly between 565 and 640/50<sup>313</sup>. The stratigraphy in this case is thus of little additional value for the purpose of dating.

In the publication this grave is assigned a phase 6 or 7 date on the basis of Gür 4.5. From the analysis of possible row patterns in the cemetery's ground plan becomes clear that most graves in the part of the cemetery where grave 24 is located can be easily assigned to a row. These graves are thus deliberately positioned, in an orderly manner<sup>314</sup>. Grave 24, however, together with three other graves in a square cluster, do not fit into the established structure of rows.

This overview of the evidence prompts two possibilities. The first being that the grave is one of the earliest in the cemetery, dug before a thought through structure was put in place. This would be in accordance with a date in phase 6 and with the grave being part of a larger cluster which is regarded to be the earliest phase of the Bergeijk cemetery. A second option is a date in phase 10, as one of the last burials in the cemetery. This would be in accordance with the find of buckle Gür 6.2 but not with the overall layout pattern. Considering the likelihood of both possibilities, the grave is placed in phase 6/7. This situation seems to have an implication for the date given to Gür 6.2 in Germany. Based on the Bergeijk data, this date seems much too late for the Netherlands.

**Elst 178**<sup>315</sup>: This grave contains a spear head of type LAN 1.4 which is dated by the Franken Arbeitsgruppe to phase 5/6 (565 – 610/20)<sup>316</sup>. Another find is a shield boss of type SBU 3 which is broadly dated to phases 3 to 6 (460/80 – 610/20)<sup>317</sup>. A glass vessel in this grave belongs to type GLA 1.3 which dates as early as phase 2/3 (435/50 – 510/20)<sup>318</sup>. An axe of type FBA 1.2 was

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<sup>310</sup> Theuws *et al.* 2012, 203-8.

<sup>311</sup> Mússemeier *et al.* 2003, 20.

<sup>312</sup> Mússemeier *et al.* 2003, 22.

<sup>313</sup> Theuws *et al.* 2012, 201; Mússemeier *et al.* 2003, 60.

<sup>314</sup> Theuws *et al.* 2012, 156-57.

<sup>315</sup> Verwers *et al.* 2015, 240-45.

<sup>316</sup> Mússemeier *et al.* 2003, 48.

<sup>317</sup> Mússemeier *et al.* 2003, 52.

<sup>318</sup> Mússemeier *et al.* 2003, 69.

also unearthed and can be placed in phases 2 to 4 (435/50 – 565)<sup>319</sup>. Further objects in the grave include a unique Saxon style pottery vessel which dates to phase 3 (460/80 – 510/25) and a rare wooden bucket which the Franken Arbeitsgruppe places in phases 3 to 5 (460/80 – 580/90)<sup>320</sup>. The combination of these finds strongly indicates a date in phase 3 or 4. The spear head, however, would indicate a later date. It is unlikely that the whole artefact assemblage in this grave consists of heirloom pieces with only the spear head being contemporary with the burial. Instead, it should be considered that the dating of the spear head given for the German Rhineland is too late for the Netherlands. This suggestion is reinforced when viewing the typology for northern France, in which this spear head classifies as a type 33 (MA1-MA3 > 470/80 – 600/610)<sup>321</sup>. If this French date is correct, it would mean a start as early as Franken Arbeitsgruppe phase 3 rather than phase 5. This dating seems much more in line with the remaining grave goods in this context.

**Rhenen 333**<sup>322</sup>: This grave contains a relatively early spear head which can be assigned to Franken Arbeitsgruppe type 1.1B, which appears in phases 3 and 4 (460/80 – 565)<sup>323</sup>. A buckle from the grave can be assigned to type Gür 2.6/7D and belongs in phase 5 (565 – 580/90)<sup>324</sup>. A third object is a seax of type SAX 2.1. This type can be placed in phases 6 to 9 (580/90 – 710)<sup>325</sup>.

When classifying and dating the same artefacts in the French typology, the dates assigned differ significantly less than according to the German scheme. The buckle can be placed in type 116 which dates to phases MA2 and MA3 (520/30 – 600/610)<sup>326</sup>. The spearhead is a type 32 which can be placed in phases PM to MA3 (440/50 – 600/10)<sup>327</sup>. The seax can be placed in type 59 which occurs in phases MA2 to MR1 (520/30 – 630/40)<sup>328</sup>. The outcome of classification and dating according to the French typology still provides a rather broad date range for this grave, namely between AD 520/30 and 600/10. This corresponds roughly with Müssemeier's phases 4/5/6.

When considering the date of Gür 2.6/7D in phase 5, it can be suggested that this is the most likely date for the inhumation. Buckles and belt fittings are generally considered chronologically reliable because they are widely observed in graves. Their frequent appearance

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<sup>319</sup> Müssemeier *et al.* 2003, 50-1.

<sup>320</sup> Müssemeier *et al.* 2003, 73.

<sup>321</sup> Legoux *et al.* 2016, 22, 33, 60.

<sup>322</sup> Wagner *et al.* 2011, 245-46.

<sup>323</sup> Müssemeier *et al.* 2003, 47-8.

<sup>324</sup> Müssemeier *et al.* 2003, 17.

<sup>325</sup> Müssemeier *et al.* 2003, 45.

<sup>326</sup> Legoux *et al.* 2016, 23, 38, 60.

<sup>327</sup> Legoux *et al.* 2016, 22, 33, 60.

<sup>328</sup> Legoux *et al.* 2016, 23, 35, 60.

means that there is much opportunity for dating and refining of the typological sequence. In the light of the date assigned to the buckle, it may be possible that the spear head continued to occur beyond phase 4 into phase 5. Alternatively, the spear head can be placed in the grave as an heirloom piece.

In any case, it would suggest that SAX 2.1 already existed before phase 6. The particular seax from grave 333 is only 4.2 centimetres wide. That makes it just too wide for a small seax (type SAX 1 – phase 3 to 7<sup>329</sup>), but very narrow for a short wide seax (type SAX 2.1). It can be suggested that the seax in grave RD333 represents a transitional type, which could be in accordance with occurrence in phase 5. Comparing the date ranges of both seax types SAX 1 and 2.1, the transition is likely to have taken place in phases 5, 6 and perhaps 7 after which the small seax does no longer occur. Alternatively, it is possible that the seax from grave 333 is a local variation. Both possibilities are strengthened by the fact that seaxes with similar dimensions, both not exactly fitting the Franken Arbeitsgruppe classification, are found in Rhenen graves 233 and 609. In both cases, these seaxes can be date to phase 5<sup>330</sup>.

## 6.2 COINS FROM- AND ABSOLUTE DATES FOR MALE-GENDER GRAVES

As previously explained in the chapter regarding methodology, the availability of exact dates for inhumation contexts from the Netherlands is limited. Although the available dates are used in the process of creating the new typology, the evidence was insufficiently strong to justify the creation of a completely new division of the period between AD 400 and 750 into a certain number of phases. Instead, it was concluded that the division into phases as created by the Franken Arbeitsgruppe was most suitable for the Netherlands. The exact dates used for this scheme are derived mainly from coin finds in the geographical research area and further afield within Germany and immediate surroundings<sup>331</sup>. This follows a similar approach by Siegmund, who incidentally also includes information gained from dendrochronological study<sup>332</sup>.

In the more than two hundred inhumations with a suspected male gender which were included in the Microsoft Excel spreadsheet, a total of only seven coins were discovered. In Rhenen grave 341, two early medieval coins were found which are suitable for dating<sup>333</sup>.

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<sup>329</sup> Müssemeier *et al.* 2003, 45.

<sup>330</sup> Wagner *et al.* 2011, 197-98 (grave 233), 432-34 (grave 609).

<sup>331</sup> Müssemeier *et al.* 2003, 74-81.

<sup>332</sup> Siegmund 1998, 200-203.

<sup>333</sup> Wagner *et al.* 2011, 250-51.

Meerveldhoven grave 38 contained a golden tremissis dating to the seventh century<sup>334</sup>. The coin in Wijster grave 116 is found in the mouth of the deceased. This coin is not yet dated but it can likely be regarded Roman<sup>335</sup>. The remaining three coins are all of Roman origin and therefore of limited value to dating the early medieval funerary contexts. The following coins (per grave) were discovered:

**Rhenen 341**<sup>336</sup>

One silver coin with damaged edge and a hole drilled through. Identified as an Ostrogothic half siliqua with a depiction of Justinian on the obverse side. A reverse side with depiction of a cross and a garland (wreath) (BMC 117, 68 Ravenna) Dated AD 555 – 565.

One silver coin with damaged edge and a hole drilled through. Identified as an Ostrogothic half siliqua with depiction of possibly Justinian on the obverse side. The reverse side has a monogram of Baduila. (Sabatien Tf. XIX, 18, S. 208, 17 – not in BMC) Dated approx. AD 541.

**Rhenen 841**<sup>337</sup>

One corroded silver coin identified as a Denar of Trajan. On the obverse side, a portrait of Trajan with writing around it (the text is worn away too much to be read). On the reverse side Victoria with a wreath and palm branch. (BMC 115ff, RIC 158) Dated AD 101 – 102.

**Rhenen 842**<sup>338</sup>

One coin in good condition (material not mentioned). Identified as a Solidus Gratians (RIC 77,5d; UN 96). Minted in Milano or northern Italy between AD 9th August 378 and 19th January 379.

**Posterholt 58**<sup>339</sup>

One copper-alloy coin identified as a Dupondius/As Antoninus Pius. Dated AD 147 – 148.

**Wijster 116**<sup>340</sup>

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<sup>334</sup> Verwers 1978, 291.

<sup>335</sup> Van Es 1967, 445-48.

<sup>336</sup> Wagner *et al.* 2011, 250-51.

<sup>337</sup> Wagner *et al.* 2011, 614-15.

<sup>338</sup> Wagner *et al.* 2011, 615-21.

<sup>339</sup> De Haas *et al.* 2013, 234-37.

<sup>340</sup> Van Es 1967, 445-48.

One Roman Denarius with a depiction of Antoninus Pius on the obverse (RIC 360). On the reverse side, a standing figure. Coin is damaged. Found in the mouth. No date available.

### **Meerveldhoven 38**<sup>341</sup>

One golden tremissis. Obverse: NIC. Reverse: CIVITAS or VICUS. In the case of the reverse reading CIVITAS, it is well possible that the coin was minted in Verdun (Meuse, France). If the reverse reads VICUS, there are several places where the coin could have been minted<sup>342</sup>. Dated AD 650-660.

As mentioned, the only coins which can aid dating of male graves within this research are found in Rhenen grave 341 and Meerveldhoven grave 38. The coins from Rhenen date to 555-565 and 541, which means that the contents of this grave can be assigned a *terminus post quem* of AD 555. Other artefacts discovered in this grave are a biconical pot of type KWT 4.52 and a buckle of type Gür 6.2. The pottery can be dated to Franken Arbeitsgruppe phases 5 to 8 but occurs most commonly in phase 6 and after<sup>343</sup>. To these phases, an absolute date is attached between 565 and 670/80 with a most frequent occurrence from 580/90 onwards. The buckle is dated in Franken Arbeitsgruppe phases 9 and 10 (670/80 – 750)<sup>344</sup>. It should be noted that most of the buckles belonging to this type which are found in the German Rhineland are made of iron. The specimen in Rhenen grave 341 is made of copper-alloy, which is rare compared to the German evidence. The buckle type is not available in the French classification. When viewing the evidence for Anglo-Saxon England, the buckle is most like types BU7 and BU9 as identified by Hines and colleagues<sup>345</sup>. As the buckle found has only two rivets, it should be placed in type BU9 rather than BU7. The chronology for Anglo-Saxon England unfortunately does not provide an absolute date for buckle type BU9 as it is commonly occurring. It is noted that similar buckles can be found across the European continent and that various subtypes exist. In England, the iron specimens are more commonly found in male gender assemblages. Type BU7, similar but with three rivets, is dated between 545-65 and 660-85<sup>346</sup>. The Anglo-Saxon date is more in harmony with the coins and pottery evidence found in Rhenen grave 341 and prompts two possible explanations. The first one is the possibility to speculate about an Anglo-Saxon buckle which found its way to the Netherlands. Given the fact that the type is simple and rather common in Britain as well as on the Continent, this suggestion seems somewhat farfetched. A second

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<sup>341</sup> Verwers 1978, 265 and 291

<sup>342</sup> Verwers 1978, 265. Identified by Prof. J. Lafaurie.

<sup>343</sup> Müssemeier *et al.* 2003, 60.

<sup>344</sup> Müssemeier *et al.* 2003, 22.

<sup>345</sup> Hines *et al.* 2013, 146.

<sup>346</sup> Hines *et al.* 2013, 485, 562.

possibility is that the date for Gür 6.2 in the Franken Arbeitsgruppe typology is too late to be applicable in the Netherlands. A similar problem, with the same buckle type, was discussed previously in this chapter in relation to Bergeijk grave 24. In this case, the conclusion was reached that the buckle probably belonged to phase 6 or 7 rather than 9 and 10. This conclusion seems equally applicable to the buckle in Rhenen grave 341.

The golden tremisses in Meerveldhoven grave 38 provides this grave with a *terminus post quem* of AD 650. The grave further contains an iron buckle with a triangular plate of type BU-5c (Franken AG type Gür 4.5) which the Franken AG dates between 610/20 and 640/50 and which occurs in the Netherlands mainly between 580/90 and 610/20<sup>347</sup>. Also in the grave were three arrow heads which are not dated in the typologies by Siegmund and the Franken Arbeitsgruppe. LPV provides the arrowheads with a date between 470/80 and 630/40<sup>348</sup>. In the Netherlands, the arrowheads belong to group AR-2b which occurs mainly between 565 and 610/20 and occasionally up to 640/50. The pyramid-shaped 'button' discovered in the grave is likely a sword button of type SW-2a. This type could not be dated for the Netherlands but is given a date between 565 and 640/50 by the Franken AG and is placed between 540/50 and 660/70 by LPV<sup>349</sup>. Assuming the correctness of the date given to the coin as well as to the artefacts, it seems as if the coin was interred with an older set of grave goods. One possible explanation for this is the artefacts being heirlooms which are eventually interred in or after AD 650. Another possibility is to reconsider the expected time during which artefacts are in circulation. Items may be made in certain specified phases but their general use, without the emotional charge of an heirloom, might continue longer than previously thought.

Besides two graves for which a *terminus post quem* could be gained from coin evidence, there is one grave which was radiocarbon dated. This is Maastricht grave 58<sup>350</sup>. The radiocarbon date is GrA 32717+30 BP - 580-640 (68.2%) - 550-650 (95.4%). This is in accordance with the presence of a seax in this grave of type SAX 2.1. This type is dated by the Franken Arbeitsgruppe to phases 6 to 9 (580/90 – 710), with a most frequent occurrence in phases 7 and 8 (610/20 – 670/80)<sup>351</sup>. A second artefact in this grave is a buckle of type Gür 4.7 which is dated to phase 8 (640/50 – 670/80)<sup>352</sup>. Although this date is possible in comparison to the generated radiocarbon

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<sup>347</sup> Mússemeier *et al.* 2003, 20-21

<sup>348</sup> Legoux *et al.* 2016, 22, 32, 60.

<sup>349</sup> Mússemeier *et al.* 2003, 42-43; Legoux *et al.* 2016, 22, 37, 60.

<sup>350</sup> Theuws *et al.* 2017, 434.

<sup>351</sup> Mússemeier *et al.* 2003, 45.

<sup>352</sup> Mússemeier *et al.* 2003, 21.

date, it may be that the German dating for this type is set somewhat too late for the Dutch evidence.

### 6.3 THE EXPECTED OUTCOME OF A CORRESPONDENCE ANALYSIS

As previously set out in the methodology chapter, CA is a method for statistical analysis and seriation of large quantities of data. The aim of performing CA on funerary data from the Netherlands is to create a relative chronology of artefacts which is specific to the country and which relies much less heavily on data from Germany and France.

The output of the CA calculation with the CAPCA plug-in is shown in a two-dimensional plot formed by a horizontal x-axis and a vertical y-axis. In this, the horizontal axis gives insight into the greatest element of variation within the dataset. The greatest element of variation in the dataset from the Netherlands is the difference that can be made between the several grave assemblages present in the cemeteries. If the analysis should be done with two non-related assemblages, they will be displayed far away from each other, on a straight horizontal line, in the output plot. The more related to each other, the closer together they appear. The vertical y-axis represents the second-largest element of variation within the dataset, namely the serial replacement of artefact types within the grave assemblages.

When working with a complex dataset, comprising of multiple seriations, the output shows clusters of more closely inter-associated artefact types and grave assemblages while those less strongly linked to these clusters will lie at greater distance from their nearest neighbour.

The output plot of a perfect seriation will yield a parabolic curve on the two principal axes. When working with real datasets from archaeological excavations, however, a perfect outcome is not to be expected. The plot will, in most cases, solely approach the shape of a parabola. An output plot can either combine variables and objects or both can be shown in separate graphs.

The outcomes of CA itself do not provide exact dates for graves or artefacts. The parabola, therefore, cannot be read as an absolute timeline. The position of the objects and variables relative to the y-axis provide an insight into serial replacement within the dataset and thus into development of the seriations (the content of cemeteries) over time. With this, the

parabola shows only a relative timeline with the oldest graves on the right and the youngest on the left. It is irrelevant for the results and interpretation whether the parabola has a convex or concave shape.

#### 6.4 OUTCOMES OF CORRESPONDENCE ANALYSIS FOR THE MALE-GENDER GRAVES

The outcome of the CA for Dutch male graves is presented in *figure 14*. The figure shows a relatively even parabola shape of which the left half is much more populated than the right half. A clear cluster of graves can be seen on the far right of the graph, representing the oldest inhumations in the sample. The cluster is formed by a number of graves from the Rhenen cemetery which can be placed with certainty in the transition phase from the Roman to the early medieval period. Besides this clear cluster, the sample includes relatively few male graves belonging to the fifth century (phases 1, 2 and 3) which were suitable to be used in CA. This is reflected in the low number of artefact types from the same period that make an appearance in at least two graves and which can therefore be included in the CA.



As mentioned previously, the outcome plot presents a sequence of succession, or a relative timeline in which graves and artefacts have their unique place. In some cases, it is clearly visible on the plot which grave is the younger and which is the older. Where there are dense clusters, these subtle differences only become visible when zooming in. It is especially within these clusters, however, that the most satisfying results can be obtained. The graves within a cluster often all seem to date to one certain phase according to their content. It is the subtle highlighting of slight variations within artefact assemblages that can visualise minimal but important chronological distinctions.

*Table 6* shows the grave numbers from the graph, which are sometimes difficult to read, in a clear timeline. The timeline is formed of two columns, each comprising of three sub-columns. The oldest grave is placed at the top, the second oldest is immediately below it and so on until the youngest grave is reached. Graves that are placed next to each other are too similar in terms of chronology to provide a distinction between them. For the graves in the table, an estimate has been made in which phase they belong according to the CA. This is done on the basis of the analysis of natural gaps in the sequence, clustering and spread in the output curve. The phasing in the table should be approached with the necessary caution but is most certain up to and including phase 5. For graves placed in ‘double phases’ (e.g. phase 5-6), it not exactly clear if they belong in phase 5 or 6. The chronological order in relation to each other, however, is correct according to the CA output. The table forms a continual relative timeline which transcends the phases mentioned in it. The content of the table shows that CA allows to distinguish chronologically through set phases but also between individual graves within these phases.

*Table 6: Relative timeline of male-gender inhumations from the sample.*

PHASE 2 (435/40 – 460/80)			PHASE 6 (580/90 – 610/20)		
<b>RD835</b>	RD842		OO31	SK5	
<b>RD841</b>			SG60		
<b>RD829</b>	RD819		OO59		
<b>WS116</b>			SG45	OO28	
PHASE 3 (460/80 – 510/25)			OO4	OO23	
<b>WA156</b>			EW173		
PHASE 3-4 (460/80 – 565)			SK28		
<b>RD30</b>			OO40b		
<b>RD162</b>			SK29		
<b>RD80</b>	RD418		BF62		
<b>EW160</b>			<b>PHASE 6-7 (580/90 – 640/50)</b>		

RD130	RD406		SK30		
EW163			SK86		
RD593			BF82		
RD376	RD809		SK14		
PHASE 4 (510/25 – 565)			<b>PHASE 7 (610/20 – 640/50)</b>		
RD143			SG72		
RD592			SK20		
RD609			CM16		
OO17			OO46		
RD269	RD628	RD639	SG8		
RD193			CM36		
RD553			SK84	SG49	
RD137			CM12	MV58	LA7514
CM53			OO33		
RD445	EW133		MV86		
MV205			<b>PHASE 7-8 (610/20 – 670/80)</b>		
RD796			RD814		
PHASE 5 (565 – 580/90)			CM15	CM45	
EW96	DS483	OB335	MV297		
RD714	RD262	WS70	LA7224		
RD89	RD476		WA76		
RD678	RD697	WA157	MV292		
EW241			MV15		
RD329			MV284		
RD758			MV11		
OO5			MV88		
RD27			<b>PHASE 8 (640/50 – 670/80)</b>		
RD221			PA90		
RD11			MV39		
EW215			BF113		
PHASE 5-6 (565 – 610/20)			BP7		
SK31			ZL76		
BF42			PA70		
RD523			OO51a		
RD509			CM14	LA7215	MV278
SK37			KK30		
SK76			KK32		
MV19					
RD774					
OO20					
SK81					

Based on the outcome of CA, the graves that featured were assigned a revised date, derived from data from the Netherlands rather than from its surrounding countries. Based on these newly generated dates and the overlap in artefact content, graves that did not feature in

the CA could also be assigned a revised date. Ultimately, this process led to the revision of the date for every artefact type in the research as given by the Franken Arbeitsgruppe. An adapted date was provided on the basis of local Dutch data and is presented in the new typology.

## 6.5 A BASELINE DATE FOR EACH FEMALE-GENDER GRAVE

As previously done for the male-gender graves, also the female-gender graves were provided with a date and phase according to the Franken Arbeitsgruppe and based on their artefact content (*table 3*). This was done prior to commencing CA and with the same considerations in mind as previously mentioned for the male-gender graves. A major difference in the approach to the material culture from the female-gender graves, relative to the male-gender graves, is formed by the presence and treatment of beads. Where in the male-gender graves all grave goods could be treated more or less equally, it soon became clear for the female-gender graves that the beads were causing a problem for accurate dating. Although the aim is to keep intervention with the data at an absolute minimum in order to present a CA outcome which is as natural as possible, doing nothing would have caused the CA outcome to be completely distorted and unusable.

After grouping the beads in the Microsoft Excel spreadsheet, following the method explained in the methodology chapter, it became clear that the combination groups and related dates, postulated for various German regions, do not match the archaeological reality in the Netherlands. The spreadsheet shows many graves containing multiple artefacts other than beads which place the context, with relatively great certainty, in one or two phases. In almost all cases it is the beads which completely distort the picture provided by other artefacts, destabilising the dating. If this happens a few times in a large dataset, it can be suggested that the problem should be sought in the dates of the artefacts other than beads, which are possibly inadequate. Another explanation would be that, in occasional circumstances, beads appear outside their proposed date ranges. The quantity of graves in which the problem occurs, however, is too high to attribute the phenomenon to any of these explanations.

The polychrome beads, grouped by Koch, are dated tightly and to phases of short length<sup>353</sup>. The dates given to the beads are often out of tune with the archaeological reality in the Netherlands. This can be caused by the fact that the phases are not set broad enough or

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<sup>353</sup> Koch 1977, 198-218; Koch 2001, 593-620.

simply because the research area used by Koch, southwestern Germany, is too far away from the Netherlands to provide a situation suitable for comparison. Most of the monochrome beads have broader date ranges, set by Siegmund and the Franken Arbeitsgruppe, which reduces the risk of them standing out. However, especially the very early and the very late monochrome beads, with the tightest phasing, are equally part of the problem<sup>354</sup>.

It may be possible to partially explain the problem through the theory of inheritance. Beads that are made for generation A are passed on, down the female line, from generation to generation to be finally interred with a family member of generation E. This can cause a bead with an expected early date to be found in a younger burial. In such a case, the bead is often found in the company of other beads which are contemporary with the inhumation or which date to period between generation A and E. This explanation, however, only goes for the older beads which appear in younger graves and cannot be applied in those cases where a suspected young bead is found in an older grave. In the latter scenario, it is likely that the date generated for Germany by either Koch, Siegmund or the Franken Arbeitsgruppe is not suitable for application on Dutch material. Especially not if this scenario is often reoccurring. There are a relatively high number of bead types which seem to occur in the Netherlands prior to making an appearance in southwestern Germany or the Rhineland and Eifel regions. It would be interesting to undertake comparative research into beads from northern Germany, Denmark and the Netherlands in order to see how they are chronologically related. It may well be possible that certain fashions move from north to south rather than from east to west or south to north, as probably expected.

The baseline dates provided for every grave, prior to CA, are presented in *table 7*. The layout of the table is similar to that of the baseline date-table made for the male-gender graves but is summarised here once more.

Within the table, the grave ID is made up of an abbreviation to indicate the cemetery (*table 4 and chapter 5*) and a grave number, as given to the inhumation in the original publication. The graves for which the ID is indicated in red feature in the CA, whilst those with an ID indicated in black could not be integrated. The column named 'Possible phases' provides the broadest phasing which can apply to a grave on the basis of the maximum given date range for each artefact. In other words, it shows the span between the oldest possible date for the oldest artefact and the latest possible date for the youngest artefact in the grave. The next column represents the absolute date range attached to the 'possible phases'. The column 'Likely

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<sup>354</sup> Müssemeier *et al.* 2003, 35-39; Siegmund 1998, 57-80.

phase' represents the most likely phase to which a grave belongs. This normally is a part of the phase range previously indicated. The 'likely phase' represents the period that most or all of the grave's artefacts coexisted according to the Franken Arbeitsgruppe typology. The last column represents the absolute dates that are attached to the column 'likely phase'.

For the phasing provided in the column 'possible phases', the beads were considered. As becomes clear from the table, this results in long date ranges and plenty of graves which can theoretically belong in phase 1 as well as phase 10 or any phase in between. For determination of 'likely phase', beads are generally not used. Only in cases where there is just one artefact available other than beads, the beads are considered. Omitting the beads led to a stable expected date per grave which can serve as a baseline for CA. On the basis of the revised dates that are generated by using CA, it was possible to assign a Dutch date to most bead types found. These new dates for beads can be found in the typology.

*Table 7: Female-gender inhumations with assigned dates prior to CA, on the basis of the Franken Arbeitsgruppe phases.*

Grave ID	Gender	Possible phases	Possible date	Likely phase	Likely date
<b>RD846</b>	M+F	12345	400 - 580/90	1	400 - 435/40
<b>RD842</b>	UKN	12345	400 - 580/90	1	400 - 435/40
<b>OBa</b>	F	12345678	400 - 670/80	1	400 - 435/40
<b>WS211</b>	F	12345678910	400 - 750	1	400 - 435/40
<b>RD825</b>	F	123	400 - 510/25	2	435/40 - 460/80
<b>RD844</b>	F	123	400 - 510/25	2	435/40 - 460/80
<b>RD845</b>	F	23	435/40 - 510/25	2	435/40 - 460/80
<b>RD356</b>	F	23	435/40 - 510/25	2	435/40 - 460/80
<b>RD834</b>	F	23	435/40 - 510/25	2	435/40 - 460/80
<b>RD822</b>	F	1234	400 - 565	2	435/40 - 460/80
<b>RD832</b>	F	234	435/40 - 565	2	435/40 - 460/80
<b>RD82</b>	F	2345678	435/40 - 670/80	2	435/40 - 460/80
<b>RD799</b>	F	1234567	400 - 640/50	2	435/40 - 460/80
<b>WA124</b>	F	123456789	400 - 710	2	435/40 - 460/80
<b>EW201</b>	F	123456	400 - 610/20	3	460/80 - 510/25
<b>RD704</b>	UKN	234	435/40 - 565	3	460/80 - 510/25
<b>WA172</b>	UKN	234	435/40 - 565	3	460/80 - 510/25
<b>RD31</b>	F	234	435/40 - 565	3	460/80 - 510/25
<b>OB485a</b>	UKN	234	435/40 - 565	3	460/80 - 510/25
<b>OB393</b>	F	234	435/40 - 565	3	460/80 - 510/25
<b>RD373</b>	F	34	460/80 - 565	3	460/80 - 510/25
<b>RD78</b>	F	1234	400 - 565	3	460/80 - 510/25
<b>WA153</b>	F	1234	400 - 565	3	460/80 - 510/25
<b>RD578</b>	F	34	460/80 - 565	3	460/80 - 510/25

<b>RD372</b>	F	2345	435/40 - 580/90	3	460/80 - 510/25
<b>WA104</b>	F	2345	435/40 - 580/90	3	460/80 - 510/25
<b>RD95</b>	F	2345	435/40 - 580/90	3	460/80 - 510/25
<b>EW175</b>	F	23456	435/40 - 610/20	3	460/80 - 510/25
<b>RD93</b>	F	345	460/80 - 580/90	3	460/80 - 510/25
<b>ZL86</b>	F	12345678	400 - 670/80	3	460/80 - 510/25
<b>RD181</b>	F	2345678	435/40 - 670/80	3	460/80 - 510/25
<b>RD99</b>	F	2345678	435/40 - 670/80	3	460/80 - 510/25
<b>WS19</b>	F	12345678	400 - 670/80	3	460/80 - 510/25
<b>RD438</b>	F	12345678	400 - 670/80	3	460/80 - 510/25
<b>RD753</b>	F	2345678	435/40 - 670/80	3	460/80 - 510/25
<b>RD79</b>	F	2345678	435/40 - 670/80	3	460/80 - 510/25
<b>RD380</b>	F	345678	460/80 - 670/80	3	460/80 - 510/25
<b>RD600</b>	F	345678	460/80 - 670/80	3	460/80 - 510/25
<b>RD716</b>	F	34567	460/80 - 640/50	3	460/80 - 510/25
<b>RD374</b>	F	234567	435/40 - 640/50	3	460/80 - 510/25
<b>RD808</b>	F	12345678	400 - 670/80	3	460/80 - 510/25
<b>RD195</b>	F	12345678	400 - 670/80	3	460/80 - 510/25
<b>OB360</b>	F	12345678	400 - 670/80	3	460/80 - 510/25
<b>ZL87</b>	F	123456789	400 - 710	3	460/80 - 510/25
<b>RD660</b>	F	345678	460/80 - 670/80	3	460/80 - 510/25
<b>RD708</b>	F	2345678	435/40 - 670/80	3	460/80 - 510/25
<b>ZL49</b>	F	12345678910	400 - 750	3	460/80 - 510/25
<b>RD131</b>	F	34	460/80 - 565	4	510/25 - 565
<b>EW216</b>	F	34	460/80 - 565	4	510/25 - 565
<b>RD88</b>	F	34	460/80 - 565	4	510/25 - 565
<b>EW239</b>	F	34	460/80 - 565	4	510/25 - 565
<b>RD505</b>	F	12345	400 - 580/90	4	510/25 - 565
<b>PA59</b>	F	2345	435/40 - 580/90	4	510/25 - 565
<b>MV12</b>	F	234567	435/40 - 640/50	4	510/25 - 565
<b>RD440</b>	F	34567	460/80 - 640/50	4	510/25 - 565
<b>RD406</b>	UKN	345	460/80 - 580/90	4	510/25 - 565
<b>RD526</b>	F	45	510/25 - 580/90	4	510/25 - 565
<b>RD563</b>	F	345	460/80 - 580/90	4	510/25 - 565
<b>RD193</b>	UKN	45	510/25 - 580/90	4	510/25 - 565
<b>EW159</b>	F	2345	435/40 - 580/90	4	510/25 - 565
<b>WA174</b>	UKN	2345	435/40 - 580/90	4	510/25 - 565
<b>MV274</b>	F	45	510/25 - 580/90	4	510/25 - 565
<b>RD157</b>	F	2345	435/40 - 580/90	4	510/25 - 565
<b>OO17</b>	UKN	45	510/25 - 580/90	4	510/25 - 565
<b>BH9</b>	F	12345	400 - 580/90	4	510/25 - 565
<b>EW238</b>	F	3456	460/80 - 610/20	4	510/25 - 565
<b>PA73</b>	UKN	456	510/25 - 610/20	4	510/25 - 565
<b>WS119</b>	F	123456789	400 - 710	4	510/25 - 565
<b>MV101</b>	F	45	510/25 - 580/90	4	510/25 - 565
<b>EW112</b>	F	3456	460/80 - 610/20	4	510/25 - 565

<b>MV230</b>	F	456	510/25 - 610/20	4	510/25 - 565
<b>EW249</b>	F	123456	400 - 610/20	4	510/25 - 565
<b>RD510</b>	F	23456	435/40 - 610/20	4	510/25 - 565
<b>WS16</b>	F	2345678	435/40 - 670/80	4	510/25 - 565
<b>RD608</b>	F	345678	460/80 - 670/80	4	510/25 - 565
<b>RD564</b>	F	3456	460/80 - 610/20	4	510/25 - 565
<b>MV18</b>	F	234567	435/40 - 640/50	4	510/25 - 565
<b>RD182</b>	M+V	345678	460/80 - 670/80	4	510/25 - 565
<b>RD470</b>	F	2345678	435/40 - 670/80	4	510/25 - 565
<b>RD152</b>	F	2345678	435/40 - 670/80	4	510/25 - 565
<b>EW118</b>	F	3456	460/80 - 610/20	4	510/25 - 565
<b>RD661</b>	F	123456789	400 - 710	4	510/25 - 565
<b>RD87</b>	F	34567	460/80 - 640/50	4	510/25 - 565
<b>RD433</b>	F	345678	460/80 - 670/80	4	510/25 - 565
<b>RD165</b>	F	2345678	435/40 - 670/80	4	510/25 - 565
<b>MV306</b>	F	345678	460/80 - 670/80	4	510/25 - 565
<b>WA99</b>	F	345678	460/80 - 670/80	4	510/25 - 565
<b>RD647</b>	F	345678	460/80 - 670/80	4	510/25 - 565
<b>PA8</b>	F	345678	460/80 - 670/80	4	510/25 - 565
<b>RD546</b>	F	2345678	435/40 - 670/80	4	510/25 - 565
<b>RD601</b>	F	345678	460/80 - 670/80	4	510/25 - 565
<b>RD530</b>	F	345678	460/80 - 670/80	4	510/25 - 565
<b>RD712</b>	F	2345678	435/40 - 670/80	4	510/25 - 565
<b>RD394</b>	F	23456789	435/40 - 710	4	510/25 - 565
<b>RD696</b>	F	12345678	400 - 670/80	4	510/25 - 565
<b>RD423</b>	F	123456789	400 - 710	4	510/25 - 565
<b>RD413</b>	F	2345678	435/40 - 670/80	4	510/25 - 565
<b>RD345</b>	F	2345678	435/40 - 670/80	4	510/25 - 565
<b>RD338</b>	F	45678	510/25 - 670/80	4	510/25 - 565
<b>MV187</b>	F	12345678910	400 - 750	4	510/25 - 565
<b>MV314</b>	F	345678910	460/80 - 750	4	510/25 - 565
<b>MV95</b>	F	12345678910	400 - 750	4	510/25 - 565
<b>WS2</b>	F	2345678910	435/40 - 750	4	510/25 - 565
<b>RD781</b>	F	1234567	400 - 640/50	5	565 - 580/90
<b>RD148</b>	UKN	34567	460/80 - 640/50	5	565 - 580/90
<b>BF30</b>	F	345678	460/80 - 670/80	5	565 - 580/90
<b>MV97</b>	F	4567	510/25 - 640/50	5	565 - 580/90
<b>DS479</b>	F	45678	510/25 - 670/80	5	565 - 580/90
<b>CM23</b>	F	45678	510/25 - 670/80	5	565 - 580/90
<b>OB428</b>	F	2345678	435/40 - 670/80	5	565 - 580/90
<b>OB295</b>	F	45678	510/25 - 670/80	5	565 - 580/90
<b>MV235</b>	F	123456789	400 - 710	5	565 - 580/90
<b>RD625</b>	F	3456	460/80 - 610/20	5	565 - 580/90
<b>RD180</b>	F	34567	460/80 - 640/50	5	565 - 580/90
<b>RD185</b>	UKN	456	510/25 - 610/20	5	565 - 580/90
<b>BF65</b>	F	56	565 - 610/20	5	565 - 580/90

<b>RD344</b>	F	45678	510/25 - 670/80	5	565 - 580/90
<b>OO19</b>	F	345678	460/80 - 670/80	5	565 - 580/90
<b>RD671a</b>	F	3456789	460/80 - 710	5	565 - 580/90
<b>RD350</b>	F	123456789	400 - 710	5	565 - 580/90
<b>MV258</b>	F	3456789	460/80 - 710	5	565 - 580/90
<b>EW155</b>	F	34567	460/80 - 640/50	5	565 - 580/90
<b>RD235</b>	F	4567	510/25 - 640/50	5	565 - 580/90
<b>RD628</b>	UKN	4567	510/25 - 640/50	5	565 - 580/90
<b>MV308</b>	F	234567	435/40 - 640/50	5	565 - 580/90
<b>MV75</b>	F	4567	510/25 - 640/50	5	565 - 580/90
<b>RD332</b>	F	12345678	400 - 670/80	5	565 - 580/90
<b>SG1</b>	UKN	4567	510/25 - 640/50	5	565 - 580/90
<b>OO10</b>	F	567	565 - 640/50	5	565 - 580/90
<b>SK76</b>	F	4567	510/25 - 640/50	5	565 - 580/90
<b>OO59</b>	UKN	567	565 - 640/50	5	565 - 580/90
<b>SG45</b>	UKN	567	565 - 640/50	5	565 - 580/90
<b>WS210</b>	F	2345678	435/40 - 670/80	5	565 - 580/90
<b>RD179</b>	F	345678	460/80 - 670/80	5	565 - 580/90
<b>RD163</b>	F	45678	510/25 - 670/80	5	565 - 580/90
<b>RD397</b>	F	2345678	435/40 - 670/80	5	565 - 580/90
<b>SK88</b>	F	45678	510/25 - 670/80	5	565 - 580/90
<b>OB374b</b>	F	45678	510/25 - 670/80	5	565 - 580/90
<b>VO15</b>	UKN	4567	510/25 - 640/50	5	565 - 580/90
<b>SK33</b>	UKN	4567	510/25 - 640/50	5	565 - 580/90
<b>VO10</b>	F	3456789	460/80 - 710	5	565 - 580/90
<b>RD343</b>	F	345678	460/80 - 670/80	5	565 - 580/90
<b>RD168</b>	F	12345678	400 - 670/80	5	565 - 580/90
<b>WA148</b>	F	345678	460/80 - 670/80	5	565 - 580/90
<b>OB60</b>	F	345678	460/80 - 670/80	5	565 - 580/90
<b>MV68</b>	F	12345678910	400 - 750	5	565 - 580/90
<b>MV166</b>	F	345678910	460/80 - 750	5	565 - 580/90
<b>MV152</b>	F	2345678910	435/40 - 750	5	565 - 580/90
<b>RD562</b>	F	45678	510/25 - 670/80	5	565 - 580/90
<b>EW127</b>	F	45678	510/25 - 670/80	5	565 - 580/90
<b>RD396</b>	F	345678	460/80 - 670/80	5	565 - 580/90
<b>MV178</b>	F	12345678910	400 - 750	5	565 - 580/90
<b>SK11</b>	F	12345678910	400 - 750	5	565 - 580/90
<b>SK80</b>	F	345678910	460/80 - 750	5	565 - 580/90
<b>RD169</b>	F	12345678910	400 - 750	5	565 - 580/90
<b>CM19</b>	F	345678910	460/80 - 750	5	565 - 580/90
<b>RD166</b>	F	345678910	460/80 - 750	5	565 - 580/90
<b>RD803</b>	F	345678910	460/80 - 750	5	565 - 580/90
<b>RD270</b>	F	12345678910	400 - 750	5	565 - 580/90
<b>SG51</b>	F	2345678910	435/40 - 750	5	565 - 580/90
<b>RD328</b>	F	2345678910	435/40 - 750	5	565 - 580/90
<b>RD595</b>	F	2345678910	435/40 - 750	5	565 - 580/90

<b>RD646</b>	F	345678910	460/80 - 750	5	565 - 580/90
<b>SK32</b>	F	345678910	460/80 - 750	5	565 - 580/90
<b>RD160</b>	F	345678910	460/80 - 750	5	565 - 580/90
<b>RD219</b>	F	34567	460/80 - 640/50	6	580/90 - 610/20
<b>MV78</b>	UKN	567	565 - 640/50	6	580/90 - 610/20
<b>WS163</b>	F	123456789	400 - 710	6	580/90 - 610/20
<b>OB362</b>	F	34567	460/80 - 640/50	6	580/90 - 610/20
<b>RD431</b>	F	12345678	400 - 670/80	6	580/90 - 610/20
<b>RD791</b>	F	2345678	435/40 - 670/80	6	580/90 - 610/20
<b>MV285</b>	M+F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>RD469</b>	F	2345678	435/40 - 670/80	6	580/90 - 610/20
<b>BH23</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>WA69</b>	F	3456789	460/80 - 710	6	580/90 - 610/20
<b>PA7</b>	F	5678	565 - 670/80	6	580/90 - 610/20
<b>RD641</b>	F	45678	510/25 - 670/80	6	580/90 - 610/20
<b>WA101</b>	F	45678	510/25 - 670/80	6	580/90 - 610/20
<b>RD667</b>	F	123456789	400 - 710	6	580/90 - 610/20
<b>MV124</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>OB398</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>VO14</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>RD404</b>	F	5678	565 - 670/80	6	580/90 - 610/20
<b>RD158</b>	F	5678	565 - 670/80	6	580/90 - 610/20
<b>RD436</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>SG30</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>BF53</b>	F	2345678	435/40 - 670/80	6	580/90 - 610/20
<b>BF78</b>	UKN	567	565 - 640/50	6	580/90 - 610/20
<b>CM27</b>	F	23456789	435/40 - 710	6	580/90 - 610/20
<b>ZL50</b>	F	45678	510/25 - 670/80	6	580/90 - 610/20
<b>MV110</b>	F	2345678	435/40 - 670/80	6	580/90 - 610/20
<b>OB342</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>RD790</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>RD579</b>	F	5678	565 - 670/80	6	580/90 - 610/20
<b>RD645</b>	F	5678	565 - 670/80	6	580/90 - 610/20
<b>RD222</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>RD670</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>RD138</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>BF43</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>RD659</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>MV100</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>MV247</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>ZL85</b>	F	123456789	400 - 710	6	580/90 - 610/20
<b>RD722</b>	F	45678	510/25 - 670/80	6	580/90 - 610/20
<b>MV214</b>	F	345678	460/80 - 670/80	6	580/90 - 610/20
<b>SG22</b>	F	3456789	460/80 - 710	6	580/90 - 610/20
<b>CM10</b>	F	23456789	435/40 - 710	6	580/90 - 610/20
<b>CM35</b>	F	23456789	435/40 - 710	6	580/90 - 610/20

<b>BF62</b>	UKN	5678	565 - 670/80	6	580/90 - 610/20
<b>SG66</b>	F	5678	565 - 670/80	6	580/90 - 610/20
<b>SG7</b>	F	5678	565 - 670/80	6	580/90 - 610/20
<b>CM28</b>	F	5678910	565 - 750	6	580/90 - 610/20
<b>MV85</b>	F	12345678910	400 - 750	6	580/90 - 610/20
<b>RD669</b>	F	345678910	460/80 - 750	6	580/90 - 610/20
<b>MV48</b>	F	2345678910	435/40 - 750	6	580/90 - 610/20
<b>VO6</b>	UKN	345678910	460/80 - 750	6	580/90 - 610/20
<b>CM29</b>	F	2345678910	435/40 - 750	6	580/90 - 610/20
<b>OO36</b>	F	345678910	460/80 - 750	6	580/90 - 610/20
<b>BH26</b>	F	345678910	460/80 - 750	6	580/90 - 610/20
<b>RD320</b>	F	345678910	460/80 - 750	6	580/90 - 610/20
<b>SK43</b>	F	345678910	460/80 - 750	6	580/90 - 610/20
<b>PA78</b>	F	45678910	510/25 - 750	6	580/90 - 610/20
<b>RD630</b>	M+F	5678910	565 - 750	6	580/90 - 610/20
<b>SK46</b>	F	5678910	565 - 750	6	580/90 - 610/20
<b>CM48</b>	F	2345678910	435/40 - 750	6	580/90 - 610/20
<b>SK79</b>	F	5678	565 - 670/80	7	610/20 - 640/50
<b>RD769</b>	F	3456789	460/80 - 710	7	610/20 - 640/50
<b>RD605</b>	F	5678	565 - 670/80	7	610/20 - 640/50
<b>CM42</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>CM50</b>	F	2345678910	435/40 - 750	7	610/20 - 640/50
<b>CM46</b>	F	2345678910	435/40 750	7	610/20 - 640/50
<b>BF45</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>SK23</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>RD816</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>BF88</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>BF113</b>	UKN	456789	510/25 - 710	7	610/20 - 640/50
<b>SG11</b>	F	6789	580/90 - 710	7	610/20 - 640/50
<b>BH13</b>	UKN	678	580/90 - 670/80	7	610/20 - 640/50
<b>MV105</b>	F	3456789	460/80 - 710	7	610/20 - 640/50
<b>RD403</b>	F	5678	565 - 670/80	7	610/20 - 640/50
<b>OO8</b>	F	12345678910	400 - 750	7	610/20 - 640/50
<b>PA46</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>BF28</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>ZL65</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>ZL70</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>ZL96</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>CM21</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>WS120</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>CM11</b>	F	12345678910	400 - 750	7	610/20 - 640/50
<b>CM47</b>	F	2345678910	435/40 - 750	7	610/20 - 640/50
<b>BF122</b>	F	2345678910	435/40 - 750	7	610/20 - 640/50
<b>SG32</b>	F	2345678910	435/40 - 750	7	610/20 - 640/50
<b>RD323</b>	F	2345678910	435/40 - 750	7	610/20 - 640/50
<b>ZL59</b>	F	12345678910	400 - 750	7	610/20 - 640/50

<b>WS10</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>CM32</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>WS11</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>RD71</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>SK2</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>CM18</b>	F	12345678910	400 - 750	7	610/20 - 640/50
<b>SK71</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>OO49</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>OO35</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>SK60</b>	F	45678910	510/25 - 750	7	610/20 - 640/50
<b>PA22</b>	F	45678910	510/25 - 750	7	610/20 - 640/50
<b>CM40</b>	F	45678910	510/25 - 750	7	610/20 - 640/50
<b>BF36</b>	F	45678910	510/25 - 750	7	610/20 - 640/50
<b>RD7</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>WS207</b>	F	45678910	510/25 - 750	7	610/20 - 640/50
<b>PA9</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>MV277</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>SK44</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>PA77</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>RD587</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>OO57</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>PA85</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>BF7</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>RD13</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>WS168</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>PA83</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>SK25</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>BF27</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>RD178</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>ZL66</b>	F	678910	580/90 - 750	7	610/20 - 640/50
<b>CM30</b>	F	2345678910	435/40 - 750	7	610/20 - 640/50
<b>ZL46</b>	F	5678910	565 - 750	7	610/20 - 640/50
<b>BF77</b>	UKN	5678	565 - 670/80	7	610/20 - 640/50
<b>BF19</b>	F	345678910	460/80 - 750	7	610/20 - 640/50
<b>RD642</b>	F	45678910	510/25 - 750	7	610/20 - 640/50
<b>BP2</b>	F	45678910	510/25 - 750	7	610/20 - 640/50
<b>SG23</b>	F	345678910	460/80 - 750	8	640/50 - 670/80
<b>SG65</b>	UKN	5678	565 - 670/80	8	640/50 - 670/80
<b>RD73</b>	F	5678	565 - 670/80	8	640/50 - 670/80
<b>ZL32</b>	F	2345678	435/40 - 670/80	8	640/50 - 670/80
<b>WS32</b>	F	678	580/90 - 670/80	8	640/50 - 670/80
<b>PA86</b>	F	5678910	565 - 750	8	640/50 - 670/80
<b>ZL89</b>	F	123456789	400 - 710	8	640/50 - 670/80
<b>PA62</b>	F	56789	565 - 710	8	640/50 - 670/80
<b>BF89</b>	F	5678910	565 - 750	8	640/50 - 670/80
<b>WS73</b>	F	78910	610/20 - 750	8	640/50 - 670/80

<b>WS148</b>	F	12345678910	400 - 750	8	640/50 - 670/80
<b>WS204</b>	F	2345678910	435/40 - 750	8	640/50 - 670/80
<b>WS5</b>	F	2345678910	435/40 - 750	8	640/50 - 670/80
<b>SK59</b>	F	45678910	510/25 - 750	8	640/50 - 670/80
<b>BF9</b>	F	345678910	460/80 - 750	8	640/50 - 670/80
<b>RD565</b>	F	2345678910	435/40 - 750	8	640/50 - 670/80
<b>LA7211</b>	F	5678910	565 - 750	8	640/50 - 670/80
<b>LA7201</b>	F	678910	580/90 - 750	8	640/50 - 670/80
<b>LA7218</b>	F	2345678910	435/40 - 750	8	640/50 - 670/80
<b>ZL51</b>	F	12345678910	400 - 750	8	640/50 - 670/80
<b>BF22</b>	F	5678910	565 - 750	8	640/50 - 670/80
<b>LA7519</b>	F	5678910	565 - 750	8	640/50 - 670/80
<b>RD815</b>	F	678910	580/90 - 750	8	640/50 - 670/80
<b>BF24</b>	UKN	678910	580/90 - 750	8	640/50 - 670/80
<b>ZL45</b>	F	345678910	460/80 - 750	9	670/80 - 710
<b>WS156</b>	F	12345678910	400 - 750	9	670/80 - 710
<b>WS7</b>	F	45678910	510/25 - 750	9	670/80 - 710
<b>WS30</b>	F	45678910	510/25 - 750	9	670/80 - 710
<b>WS138</b>	F	5678910	565 - 750	9	670/80 - 710
<b>WS182</b>	F	678910	580/90 - 750	9	670/80 - 710
<b>WS199</b>	F	78910	610/20 - 750	9	670/80 - 710
<b>ZL33</b>	F	78910	610/20 - 750	9	670/80 - 710
<b>SK16</b>	F	345678910	460/80 - 750	9	670/80 - 710
<b>RD793</b>	F	5678910	565 - 750	9	670/80 - 710

For the male-gender graves, a similar table with phasing and dates was followed by examples of graves for which the date was difficult to assign. This difficulty was formed by the fact that these graves contained artefacts which were, in the typology by the Franken Arbeitsgruppe, dated to a variety of phases, forming a non-coherent assemblage in the chronological sense. Similar problems also occur in female-gender graves but are mainly caused by the dating of beads, as previously discussed. Issues with dating which are not based around beads were dealt with in a similar way as explained for the male-gender graves, with help of further research and typologies from, amongst others, Siegmund and Legoux.

## 6.6 COINS FROM FEMALE-GENDER GRAVES

The find of coins in graves can generally be regarded beneficial for dating purposes. The graves with a suspected male gender exemplify, however, that coins which date to the early medieval period occur only very rarely in funerary contexts from the Netherlands.

Unfortunately, in the case of graves with a supposed female gender, early medieval coin finds are equally rare. From the total of female-gender graves in the research, ten graves contained a total of thirteen coins. From these thirteen coins, only two can be assigned, with certainty, to the early medieval period. The first one of these is a golden Dorestad/Madelinus Tremissis from Bergeijk grave 89 which can be dated after AD 630/40<sup>355</sup>. The second coin is a golden Tremissis, minted by Chagnomiris in Maastricht. The coin can be dated between AD 590 and 600 and was found in grave 2 of the Borgharen cemetery, which is very near to Maastricht<sup>356</sup>. Ten further coins can all be dated in the Roman period. One coin is in such a damaged condition that dating is impossible.

#### **Maastricht 95**<sup>357</sup>

One copper-alloy coin, corroded. Antoninianus, Barbarian imitation. Dated: AD 270-300.

One copper-alloy coin, slightly corroded. Antoninianus, Quitillus. Dated: AD 270.

#### **Bergeijk 89**<sup>358</sup>

One golden coin, good condition. Dorestad/Madelinus Tremissis. Dated (630/40) 670/80 and onwards.

#### **Posterholt 46**<sup>359</sup>

One copper-alloy coin, complete condition. M. Porcius Cato, Quinarius. Dated: 89 BC.

#### **Posterholt 85**<sup>360</sup>

One copper-alloy coin, fragment. Identified as type AES 4, dating after the reform of AD 348, possibly between AD 348 and 402.

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<sup>355</sup> Theuws *et al.* 2012, 266-69.

<sup>356</sup> Lauwerier *et al.* 2011, 95; de Belfort 1894, types 6461, 6579

<sup>357</sup> Theuws *et al.* 2017, 451-53.

<sup>358</sup> Theuws *et al.* 2012, 266-69.

<sup>359</sup> De Haas *et al.* 2013, 222-24.

<sup>360</sup> De Haas *et al.* 2013, 263-66.

**Rhenen 31**<sup>361</sup>

One silver coin. Corroded and a part is missing. This is possibly the result of a failed attempt to drill a hole through. Antoninian Gordians III. Dated AD 238-244.

**Rhenen 152**<sup>362</sup>

One silver coin, possibly made into a pendant. Corroded and heavily damaged. Identified as AES, no further identification possible. Dated between: AD 280 and 325.

One silver coin, possibly made into a pendant. Corroded and heavily damaged. Barbarian copy of a Roman coin. Obverse: not possible to identify. Reverse: a sitting Roman lady, but in Barbarian style. Dated: AD 375-400 or earlier.

**Rhenen 332**<sup>363</sup>

One silver coin, incomplete and heavily corroded. Obverse: Lucilla. Reverse: Sitting figure of Concordia or Luno. Identified as a Denar of M. Aurelius and L Verus (RIC 332 or 342ff). Dated: AD 164-169 or later.

One copper-alloy coin, heavily damaged and corroded. No identification or dating possible.

**Rhenen 842**<sup>364</sup>

One coin in good condition (material not mentioned) Identified as a Solidus Gratians (RIC 77,5d; UN 96). Minted in Milano or northern Italy between AD 9<sup>th</sup> August 378 and 19<sup>th</sup> January 379.

**Rhenen 846**<sup>365</sup>

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<sup>361</sup> Wagner *et al.* 2011, 70-71.

<sup>362</sup> Wagner *et al.* 2011, 138-41.

<sup>363</sup> Wagner *et al.* 2011, 242-44.

<sup>364</sup> Wagner *et al.* 2011, 615-21.

<sup>365</sup> Wagner *et al.* 2011, 626-30.

One copper-alloy coin in corroded condition. Denar of Antoninus Pius (COS IIII. BMC S. 81).  
Obverse: cannot be determined. Reverse: standing figure of Liberalitas. Dated: Roman period.

### **Borgharen 2**<sup>366</sup>

One gold coin. Tremissis, made by Chagnomiris in Maastricht. Obverse: A head looking to the right and the text Chagnomiris M. (M = monetarius). Reverse: A cross on a globe surrounded by a chain of pearls and the text TRIIECTO (made in Maastricht). Dated: AD 590-600.

Besides the thirteen coins listed above, twenty graves with suspected female gender contain a further twenty-seven coins with one or more holes drilled through. These coins were made into pendants and likely worn around the neck or suspended from a belt. They are all added to the research spreadsheet as coin pendants. From the twenty-seven coin-pendants, two were too corroded to be identified or dated. A further twenty-three were dated to the Roman period. Two coins can be identified as early medieval and are therefore of interest for dating purposes as part of this study. The first one is a coin made of unknown metal which is damaged and corroded. Its obverse shows Anastasius. Its reverse a monogram of Theoderich (Krauss 44, Ravenna). The coin is identified as a Half Siliqua of Theoderich and is dated between AD 500 and 525. The coin is found in Rhenen grave 413 together with two other coin pendants which can be dated in the first and second centuries AD respectively<sup>367</sup>. The second early medieval coin pendant is made of gilded copper-alloy and its obverse shows the bust of an unknown person looking to the right. The reverse shows a cross which stands on a small ball. The coin, found in Elst cemetery grave 91, is identified as a counterfeited Tremissis and is dated to c. AD 600<sup>368</sup>.

### **Maastricht 48**<sup>369</sup>

One corroded coin, suspension partly present. 24 mm. diameter. Dupondius/As indeterminate. Dated: AD 54 – 96.

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<sup>366</sup> Lauwerier *et al.* 2011, 95; de Belfort 1894, types 6461, 6579.

<sup>367</sup> Wagner *et al.* 2011, 292-300.

<sup>368</sup> Verwers *et al.* 2015, 181-82.

<sup>369</sup> Theuws *et al.* 2017, 430-32.

One coin in good condition but perforated. 17 mm diameter. Follis, Constantinus 1. Made in Trier.

Dated: AD 330 – 334.

**Maastricht 100**<sup>370</sup>:

One copper-alloy coin, corroded. Suspension hole present. 21 mm diameter. Aes II, indeterminate. Dated: AD 346-423.

**Posterholt 9**<sup>371</sup>

One copper-alloy coin in good condition. Suspension loop present. Hadrian (117-138), Dupondius/AS. Dated: AD 138 – 253.

**Posterholt 85**<sup>372</sup>

One copper-alloy coin in complete condition. Suspension hole present. Half Centenionalis from the Dynasty of Theodosius (379-455). Dated: AD 383 – 402.

**Sittard 11**<sup>373</sup>

One copper-alloy coin, heavily corroded. Fragment of a ring is present in the suspension loop. Too corroded to determine or date.

**Sittard 43**<sup>374</sup>

One copper-alloy coin, heavily corroded. A fragment of wire is present in the suspension hole. Diameter 2.5 cm. Cannot be determined or dated.

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<sup>370</sup> Theuws *et al.* 2017, 457-59.

<sup>371</sup> De Haas *et al.* 2013, 189-90

<sup>372</sup> De Haas *et al.* 2013, 263-66.

<sup>373</sup> Kars *et al.* 2016, 323-29.

<sup>374</sup> Kars *et al.* 2016, 359-60.

**Sittard 87**<sup>375</sup>

One copper-alloy coin. Heavily corroded and with damaged edges. Two suspension holes present. Diameter 2.6 cm. Roman coin. Cannot be further determined or dated.

**Obbicht 8**<sup>376</sup>

One copper-alloy coin, heavily corroded. Suspension hole present. Letters on one side spell out: HINOP. Cannot be further determined. Dated: Roman period.

**Rhenen 79**<sup>377</sup>

One silver coin, corroded. Suspension hole present. Obverse: Lulia Paula. Reverse: Luno Conservatrix. Identified as a Denar of Elagabal (RIC 219). Dated AD 219-220.

**Rhenen 138**<sup>378</sup>

One copper-alloy coin, heavily corroded. Suspension hole present. Obverse: Faustina II. Reverse: Cannot be determined. Identified as a Dupondius/AS Marcus Aurelius. Dated AD 161-176.

**Rhenen 169**<sup>379</sup>

One silver coin, corroded and damaged. Suspension hole present. Identified as a Denar of Caracalla (RIC?). Dated AD 211-217.

**Rhenen 195**<sup>380</sup>

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<sup>375</sup> Kars *et al.* 2016, 386-88.

<sup>376</sup> Kars *et al.* 2016, 396-98.

<sup>377</sup> Wagner *et al.* 2011, 90-92.

<sup>378</sup> Wagner *et al.* 2011, 129-32.

<sup>379</sup> Wagner *et al.* 2011, 159-60.

<sup>380</sup> Wagner *et al.* 2011, 178-81.

One silver coin, corroded and damaged. Two suspension holes present. Obverse: cannot be determined. Reverse: Sitting figure (possibly an emperor). Identified as an Antoninian Philipps II – RIC 2b (26?). Dated: AD 245.

One silver coin, corroded. Suspension hole present. Obverse: cannot be determined. Reverse: Sol. Identified as a Denar of Elagabal – BMC 199 (111?). Dated: AD 220-222.

#### **Rhenen 413**<sup>381</sup>

One silver coin, corroded and slightly damaged. Suspension hole present. Obverse cannot be determined. Reverse: Fides (BMC 123). Identified as a Denar of Commodus. Dated AD 183-184.

One silver coin, corroded and slightly damaged. Two suspension holes present. Obverse: cannot be determined. Reverse: text SPQR/OB/C S (?). (BMC 34, but without laurel wreath). Identified as a Denar of Galba. Dated AD 69.

One silver coin, corroded and slightly damaged. Suspension hole present. Obverse: Diva Faustina. Reverse: cannot be determined. Identified as a Denar of Antoninus Pius. Dated: after AD 141.

One coin of unknown metal, damaged and corroded. Suspension hole present. Obverse: Anastasius. Reverse: Monogram of Theoderich (Krauss 44, Ravenna). Identified as a Half Silica of Theoderich. Dated: AD 500-525.

#### **Rhenen 563**<sup>382</sup>

One silver coin. Suspension hole present. Obverse: Bellona and a privy mark. Reverse: Biga and an unidentifiable letter. Identified as a Republican Denar. Dated: 150 – 91 BC.

#### **Elst 91**<sup>383</sup>

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<sup>381</sup> Wagner *et al.* 2011, 292-300.

<sup>382</sup> Wagner *et al.* 2011, 402-404.

<sup>383</sup> Verwers *et al.* 2015, 181-82.

One coin, gilded copper-alloy. Suspension hole present. Obverse: Bust of an unknown person looking to the right. Reverse: a cross standing on a small ball. Identified as a counterfeit Tremissis. Dated: c. AD 600.

**Elst 155**<sup>384</sup>

One copper-alloy coin in a heavily corroded state. Suspension hole present. Cannot be determined. Dated to approximately AD 1 – 299.

**Elst 161**<sup>385</sup>

One copper-alloy coin. Suspension hole present. Obverse: Crispus. Reverse: the word VOTA. Cannot be identified. Dated (based on Crispus): AD 317 – 326.

**Elst 175**<sup>386</sup>

One silver coin in burnt/molten condition. Suspension hole present. Identifiable as a Denarius. Dated AD 100 – 200.

**Wageningen 153**<sup>387</sup>

One copper-alloy coin, heavily corroded. Suspension hole present. Identified as a coin of Magentius or Decentius. Obverse: unknown (probably depiction of one of the above names). Reverse: SALUS DD NN AUG ET CAES as well as a Christ monogram flanked by A and Ω. (Hill, Kent, Carson 1960 II, likely number 445 or 446). Dated between AD 351 and 353.

One heavily corroded coin of unknown metal. Suspension hole present. Very little information provided. Identified as Antoninianus of Claudius Gothicus. (likely Mattingly 1923, number 10) Dated: AD 269.

One heavily corroded coin of unknown metal. Suspension hole present. Identified as a Denarius Divus Antoninus (Pius). Dated between: AD 160 – 180.

**Wageningen 168**<sup>388</sup>

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<sup>384</sup> Verwers *et al.* 2015, 218-19.

<sup>385</sup> Verwers *et al.* 2015, 223.

<sup>386</sup> Verwers *et al.* 2015, 237-38.

<sup>387</sup> Van Es 1964, 229-33.

<sup>388</sup> Van Es 1964, 238-39.

One copper-alloy coin, heavily corroded. Suspension hole present. Obverse: Constantius II. Reverse: FEL TEMP REPARATIO. Dated between: AD 346 – 360.

## 6.7 ABSOLUTE DATES FROM FEMALE-GENDER GRAVES

As seen previously for the male-gender graves, absolute dates are very rare for early medieval cemeteries in the Netherlands. For the female-gender graves the situation is very similar, with only two available absolute dates gained through radiocarbon dating. The first dated grave is Maastricht grave 210<sup>389</sup>. This grave contains the skeletal remains of an individual who was between 35 and 45 years old at time of death. Osteoarchaeological research on the remains is not conclusive but there is a chance that the biological sex of the individual in this grave is male. The grave furnishings consist of a small buckle of type SNA 1.1, dated in phases 4 and 5 according to the Franken Arbeitsgruppe, and a pair of tweezers which are classified as type GER 2.6 and which date to phases 7 and 8<sup>390</sup>. Based on the discovery of the tweezers and buckle, which both can be indicative for a male or female gender, the grave was placed into the male as well as the female-grave spreadsheet in this research. The grave was radiocarbon dated to GrA 32719 1590+30 BP 420-470 (27.6%), 480-540 (40.6%), 410-550 (95.4%). Unfortunately, it does not become clear what element of the inhumation was radiocarbon dated, but it should be assumed that it involves the skeletal remains rather than the container. The radiocarbon date shows an overlap with the phase 4 date assigned to the buckle found. The proposed date of the tweezers, however, is much later than the results of radiocarbon dating. Due to the large chronological difference between buckle and tweezers, this grave could not be integrated in the CA. It raises the possibility that the buckle is contemporary with the burial. The tweezer would then have ended up in the grave at a later date. A reason for this, or indeed a specific indication of it happening, is not found. After the process of creating a new typology, the buckle was classified as a type BU-3h and the tweezers as type TW-1b. The assigned date for both these types is in accordance with the radiocarbon date.

The second grave which was dated using the radiocarbon method is grave 214 of the Maastricht cemetery<sup>391</sup>. This grave contains the remains of a biologically female individual in the

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<sup>389</sup> Theuws *et al.* 2017, 499.

<sup>390</sup> Müssemeier *et al.* 2003, 23 (buckle), 54 (tweezers).

<sup>391</sup> Theuws *et al.* 2017, 500

age of between 20 and 34 at time of death. The grave contains various monochrome beads which are indecisively dated to phases 3 to 8. Some polychrome beads belonging to the same necklace, however, place the grave in phases 6 to 8. The infill of the coffin contained a roof tile of Roman origin. The grave was radiocarbon dated to GrA 32721 1535±30 BP 430-490 (31.8%), 530-580 (36.4%), 430-600 (95.4%). It is again unclear which part of the burial is used to generate this date. Due to the large date range attached to the monochrome beads in this grave, they fit as expected with the radiocarbon dates. The polychrome beads, however, are assigned to phases 6 to 8 (580/90 – 670/80) and therefore somewhat late in comparison with the exact date. This might indicate that the types of polychrome beads present in this grave should be dated slightly earlier in the Netherlands than in the south of Germany. Due to the combination of artefacts, it was not possible to include this grave in the CA.

## 6.8 OUTCOMES OF CORRESPONDENCE ANALYSIS FOR THE FEMALE-GENDER GRAVES

After preparing the Microsoft Excel spreadsheet for female-gender graves, as described in the methodology chapter, CA was applied using the CAPCA plug-in tool. The process of CA and the expected way in which the outcomes present themselves in a two-dimensional plot are similar to those for the male-gender graves and are explained in more detail earlier in this chapter. The output plot for female-gender grave (*figure 15*) shows a reversed parabola shape representing a relative timeline. The oldest graves can be found on the right side and the youngest graves on the left.

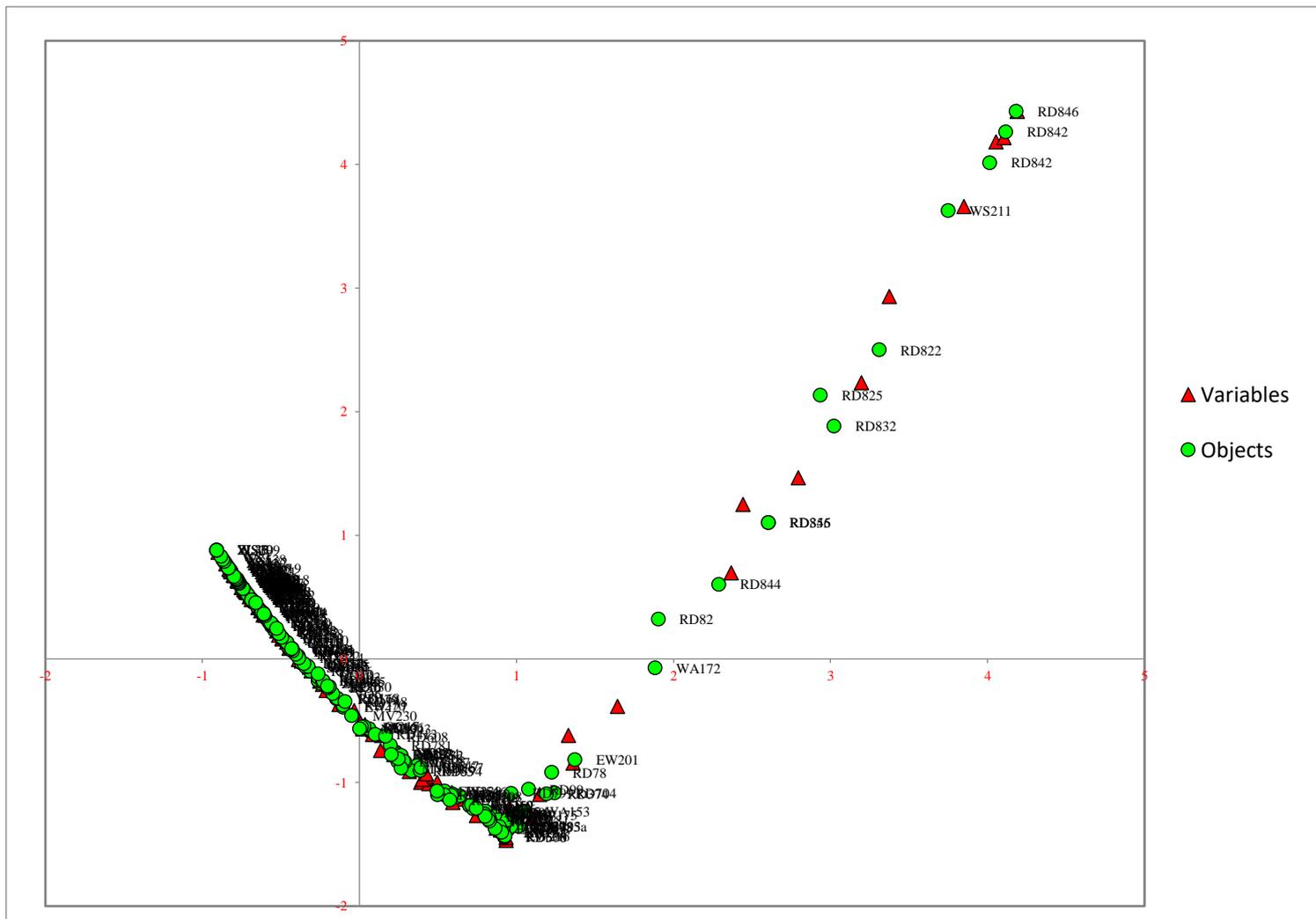


Figure 15: CA outcomes for female-gender graves from the Netherlands.

Again in a similar way as can be seen in the output curve for the male graves, the objects (the individual graves) are indicated as green dots whilst the variables (the artefact types) are indicated with red triangles. When viewing the graph, it becomes instantly clear that the name codes for graves and artefacts cannot be read properly in the crowded parts of the curve. The graves are therefore presented in chronological order in *table 8* below.

From the relatively low number of objects in the right half of the output plot can be concluded that a relatively low number of female-gender graves can be attributed to globally the first three phases. This is a similar picture as could be seen for the male graves (*figure 14*). The cluster on the far right of the graph, up to WS211 consists of the earliest graves which belong to phase 1. The relatively equally spaced graves starting with RD845 and running up to WA172 can be placed in phase two and the earliest years of phase three. The fact that these graves are placed relatively far away from each other on the outcome plot means that there is a relatively large amount of variation within the grave assemblages. From the second half of phase 3

onwards, slightly to the right of the lowest point of the graph, the assemblages become more uniform causing the dots to lay closer together.

The graph further shows a relatively even spread of graves throughout its left half. This reflects the fact that there are a relatively similar number of graves assigned to each phase between phases 4 and 8. The even spread makes it more difficult to assign a phase to a particular grave on the basis of its relative position. This is again similar as seen for the male-gender graves. When zooming in on the graph, it can be seen that there are four slight clusters of which the oldest is located as the lowest point of the graph. This cluster represents a group of graves belonging to phase 4. The further three clusters, all in the lower half of the left side of the graph represent groups of graves in phases 5, 6 and 7 respectively. The top half of the graph's left side mainly consists of graves from the second half of phase 7 and phase 8 and includes a few graves belonging to phase 9 on the far left.

As mentioned above, the individual graves are presented in table 7, which forms a relative timeline in accordance with the CA outcome plot. The timeline is formed of two columns, each comprising of five sub-columns. The oldest grave is placed at the top, the second oldest is immediately below it and so on until the youngest grave is reached. Graves that are placed next to each other are too similar in terms of chronology to provide a distinction between them. For the graves in the table, an estimate has been made in which phase they belong according to the CA. This is done on the basis of the analysis of natural gaps in the sequence, clustering and spread in the output curve. The phasing in the table should be approached with the necessary caution but is most certain up to and including phase 5. For graves placed in 'double phases' (e.g. phase 5-6), it not exactly clear if they belong in phase 5 or 6. The chronological order in relation to each other, however, is correct according to the CA output. The table forms a continual relative timeline which transcends the phases mentioned in it. The content of the table shows that CA allows to distinguish chronologically through set phases but also between individual graves within these phases.

*Table 8: Relative timeline of female-gender inhumations from the sample.*

PHASE 1 (400 – 435/40)	<b>RD396</b>
<b>RD846</b>	RD803
<b>RD842</b>	OO10
<b>WS211</b>	<b>PHASE 5-6 (565 – 610/20)</b>
PHASE 2 (435/40 – 460/80)	RD696
<b>RD822</b>	RD195
<b>RD825</b>	CM18

**RD832**  
**RD845** RD356  
**RD844**  
**RD82**  
 PHASE 2-3 (435/40 – 510/25)  
**WA172**  
**EW201**  
**RD704**  
**RD78**  
**RD374**  
 PHASE 3 (460/80 – 510/25)  
**RD99**  
**WA153**  
**OB393** OB485a  
**EW175**  
**RD799**  
**RD31**  
**RD373**  
**RD181**  
 PHASE 3-4 (460/80 – 565)  
**RD578** RD600 EW216  
**RD808**  
**RD131**  
**RD380**  
**EW112**  
**RD88**  
**EW239**  
**RD753**  
**RD564**  
**RD372**  
**RD433**  
**RD470**  
**RD716**  
**RD93** RD95  
**RD510** WA104  
**RD438**  
**RD79**  
 PHASE 4 (510/25 – 565)  
**RD406**  
**RD152**  
**WS210** PA59  
**RD708**  
**WS119**  
**MV12**  
**RD440**  
**WS1**  
**RD563**  
**MV95**

**SK11**  
**OB342** OB398  
**MV235**  
**RD712**  
**MV314**  
**RD222**  
**BF122**  
**RD601**  
**RD669**  
**CM23**  
**CM11**  
**OB295**  
**WA101**  
**OO19**  
**SG51**  
**CM48**  
**MV110**  
**DS479**  
**PHASE 6 (580/90 – 610/20)**  
**OO35**  
**CM29** MV258  
**RD182**  
**PA78**  
**SK88** RD722  
**BP2** OO59 SG45  
**RD344**  
**MV78**  
**RD790**  
**RD345**  
**ZL96** RD645  
**BF78** RD397  
**OO49**  
**RD641**  
**MV124** RD667  
**CM46**  
**RD671a**  
**CM47** RD469  
**PA77**  
**OO8** OO36 BH26 RD630 RD791  
**RD320**  
**PHASE 6-7 (580/90 – 640/50)**  
**BF62** SG66 MV85 RD138  
**RD323** WA69  
**PA9**  
**BF53** RD328  
**SG32**  
**SK71**  
**ZL85** OB374b WA148



graves dated, it became possible to assign a revised date to the various artefact groups. This new date is displayed in the typology (chapter 7).

## 7.0 TYPOLOGY

Chapter 6 of this thesis presents the results of Correspondence Analysis (CA) which was undertaken using artefact data from early medieval cemeteries in the Netherlands. The aim of this analysis was the creation of an artefact chronology which is specifically based on data from the Netherlands. Previously, Dutch archaeologists had to rely on typological schemes and chronologies which were developed on the basis of artefact data from neighbouring countries. Whilst these foreign schemes are of high quality, accuracy is lost when used in a Dutch context as they are based on information from often distant locations.

As becomes clear in chapter 6, the aim of adapting the artefact dates originally gained from chronological schemes from Germany and France to the archaeological reality in the Netherlands was successful. During the process of data gathering, the expectation was soon confirmed that the early medieval Netherlands was a melting pot of different material cultures. Although Dutch finds are typically most closely linked to those from the German lower Rhine area and the Eifel region, many artefacts could not be assigned this provenance. Instead, the assumption was further supported that a sizable number of artefact types from the Netherlands had their typological origin in Belgium, northern France and beyond. For the northern Netherlands, it was confirmed that artefact origins do not usually lie in the Frankish realm but often in the Frisian and Saxon lands of northern Germany and possibly southern Denmark.

The fact that so many different artefact types, with their origins in various European countries, form the artefact assemblage of the early medieval Netherlands prompted the need for a comprehensive and holistic typology to accompany the new chronological framework.

The new typology, as set out here, means that for the accurate study of Dutch artefact assemblages, one no longer needs to work across a vast array of typological schemes and chronological frameworks. Finds from cemeteries in most regions of the Netherlands are included, representing Merovingian as well as Frisian material culture.

The typology consists of the twenty-three following sections: Buckles and belt fittings, pottery, glassware, spearheads, seaxes, shield bosses, axes, swords, arrowheads, brooches,

pins, earrings, pendants and amulets, bracelets, finger rings, combs, tweezers, rings and chatelaines, keys, tools and utensils, metal vessels, wooden vessels and beads.

All sections have a two-letter section code for reference (e.g. BU for buckles, PO for pottery).

Every section is divided into one or more categories which are indicated with a number which follows the section code (e.g. BU-1, PO-4). The categories represent the main groups within the section and are accompanied by a brief introduction. In the case of pottery, for example, the section is divided into ten categories including, amongst others, biconical vessels with roulette stamp decoration, Anglo-Saxon pottery, bowls and jugs.

In turn, every category is divided into one or more artefact groups. The groups represent one artefact type and are indicated with a lower-case letter (e.g. BU-1f, PO-5b). The codes that arise by combining the different elements are the unique artefact identification codes.

Every group is given a name which describes the leading characteristics of the artefact type. Each group is accompanied by a clear description, in which a definition of the group is given as well as characteristics of the artefact type. Where relevant, variations are discussed in relation to examples from the dataset. The description often includes a brief discussion regarding the chronology of the artefact type, based on Dutch finds and parallels from abroad.

For every group, an alphabetical list is provided of cemeteries in the sample in which an item from the group was found. The name of a cemetery in this list is followed by the grave number(s) in which the item occurred. These grave numbers correspond with those in the relevant publications.

For the purpose of wider contextualisation and comparison, it is indicated for each group whether similar artefacts feature in foreign typologies. As a baseline, each group is checked against the typologies by Siegmund (German Rhineland)<sup>392</sup>, the Franken Arbeitsgruppe (Greater German Rhineland)<sup>393</sup>, Legoux, Périn and Vallet (northern France)<sup>394</sup> and Hines and Bayliss (England)<sup>395</sup>. For ease of reading, The Franken Arbeitsgruppe is usually indicated with 'Franken

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<sup>392</sup> Siegmund 1998.

<sup>393</sup> Mússemeier *et al.* 2003.

<sup>394</sup> Legoux *et al.* 2016.

<sup>395</sup> Hines *et al.* 2013.

AG', the scheme by Legoux and colleagues is indicated with the abbreviation LPV and Hines and Bayliss is indicated with the name 'Hines'.

Where an item features in any of these typologies, the corresponding artefact number is provided together with the relevant phase and calendar date. In cases where 'related to' is written before the artefact number, a relevant comparable artefact was found, but not an exact match.

In addition to the standard checks using the above-mentioned volumes, artefact-specific schemes were used for reference if relevant. In the case of ovoid pottery vessels, for example, the groups are checked against the artefact specific typological scheme by Van Spelde. The use of any schemes other than the four standard volumes is indicated in the introduction of every section or category.

In the groups, not every corresponding artefact in foreign typologies is individually referenced, however, the right type can be easily found through the general reference and the artefact number provided.

The final element included in every group is a 'date for the Netherlands'. This indication of phasing and calendar date represents the outcome of the study of the dataset using Correspondence Analysis and the extrapolation of the results thereof. In case other factors were considered when determining the date, this is mentioned in the group description.

Per group, an image of the artefact type is provided. In most cases, the image is an artist impression kindly created for this thesis by Holly Wortmann. Permission is obtained for these artworks to be used whilst copyright remains with her. The watercolour paintings serve the purpose of reference only and are not made to scale as they do not represent one specific object. In the artist impression, only one variant of colour and decoration is usually included while other variations may be described in the group's introductory text. If an illustration originates from any other source than Holly Wortmann, the reference is provided in the caption.

# BUCKLES AND BELT FITTINGS

Buckles and belt fittings occur relatively often in early medieval graves from the Netherlands and are found in both male- and female-gender contexts. The oldest buckles and belt fittings in this typology can be dated to the transition period between the Roman and early medieval period. Buckles were most frequently used for fastening belts around the waist but are also found in relation to shoes and purses. This section is divided into five categories covering Late antique buckles, early Merovingian buckles, buckles without a plate, copper-alloy belt fittings and iron belt-fittings.

For reference related to the classification of buckles, no typological schemes are used other than those by Siegmund, the Franken Arbeitsgruppe and LPV.

## BU-1: LATE ANTIQUE BUCKLES

Late antique buckles are a rare find in graves from the early medieval period in the Netherlands. Due to their link with the late Roman period, they only occur in very early graves. This makes the buckles a guiding artefact which signals the placement of a grave in phase 1 or 2. Whilst most late antique buckles which feature in this sample are found in the cemeteries near the river Rhine, one example was discovered as far north as Wijster in Drenthe.

### **BU-1a Animal head buckle with a moveable plate**

Buckles with an oval loop, ending in stylised animal heads on both sides. Loop, tongue and plate often show simple decoration. The shape of the tongue and broadness of the loop vary. The plate of this buckle type normally has two rivets and is rectangular. The fixture of the plate to the loop allows for movement. The examples found in the Netherlands are made of copper-alloy, sometimes with an iron tongue. The plate is missing on various occasions.

**Occurrence in the Netherlands:**

*Rhenen: 819, 822, 829, 833, 835, 839, 841, 842.*

*Wijster: 116.*

**Identification in other typologies:**

Franken AG: **Gür 1.1** (phases 1 and 2 > AD 400 – 460/80).

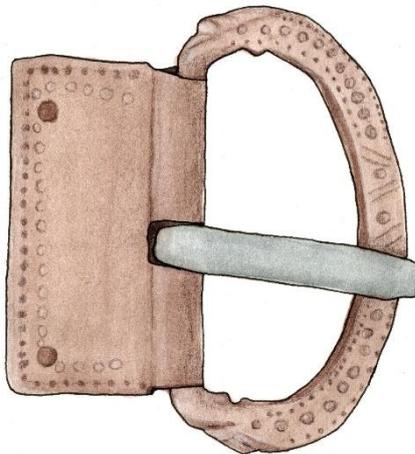
Siegmund: **Gür 1.2** (phase 1 > AD 400 – 440).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phases 1-2 (400 – 460/80).



*BU-1a*

**BU-1b Animal head buckle with a fixed plate**

Buckle with an oval loop, ending in stylised animal heads on both sides. Loop, tongue and plate often show simple decoration. The shape of the tongue and broadness of the loop vary. The plate of this buckle type is normally slightly trapezoidal. The plate and loop are fused together. The examples found in the Netherlands are made of copper-alloy. Buckles of this type seem to be successors of type BU-1a and are noticeably smaller.

**Occurrence in the Netherlands:**

*Rhenen: 834, 835, 842*

*Wageningen: 155*

**Identification in other typologies:**

Franken AG: **Gür 1.2** (phase 2 > 435/50 – 460/80).

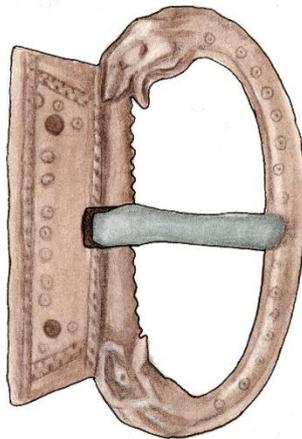
Siegmund: **Gür 1.1** (phase 2 > 440 – 485).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phases 1 and 2 (400 – 460/80). Most frequently in phase 2 (435/50 – 460/80).



*BU-1b*

**BU-1c Belt sets with integrated buckle and chip-carved decoration**

Elaborately decorated belt fittings made of copper-alloy. A set consists of several pieces in different shapes, which were once applied to a leather belt. The buckle consists of an oval loop, ending in stylised animal heads on both sides, and is integrated in a rectangular plate. The buckle's hinge bar mechanism is connected with another rectangular plate. The buckle has a simple straight tongue which is often decorated. Decoration of the back-plate and other

parts of the belt fitting is created by chip carving in the base material. The decoration comes in various motifs; floral and linear patterns, cross-like shapes, zigzags, spirals and geometric patterns.

The belt set from Rhenen grave 846 has small rings attached to its sides. The sets of this type found in Rhenen are the only known examples from a Merovingian context in the Netherlands. Similar belt sets, however, were found in various cemeteries in nearby parts of Germany, for example in the Dortmund-Asseln cemetery (Nordrhein-Westfalen)<sup>396</sup>, and the Krefeld-Gellep cemetery (Nordrhein-Westfalen)<sup>397</sup>. Belt sets of this type are often referred to in literature as 'Military belts' or *Kerbschnittgürtelgarnitur*. This type belt set occurs in male-gender graves only.

**Occurrence in the Netherlands:**

*Rhenen: 818, 833, 846.*

**Identification in other typologies:**

Müssemeier: -

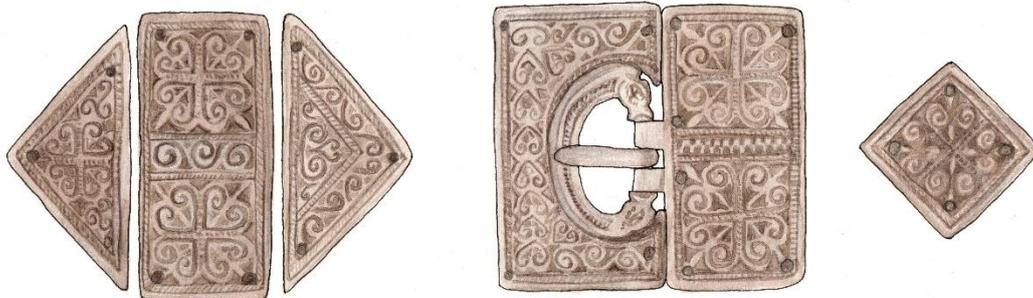
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 1-2 (400 – 460/80)



BU-1c

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<sup>396</sup> Könemann 2015, 211-12.

<sup>397</sup> Pirling *et al.* 2006, 357.

## BU-2: EARLY MEROVINGIAN BUCKLES

This category comprises the earliest buckles from the Merovingian period. The types follow onto the late antique buckles but are much less elaborate, signalling a significant change in material culture. Buckles belonging to this category are mainly found in the central and southern Netherlands and are characteristic for phases 2 and 3.

### **BU-2a** Early Merovingian buckles with a plate

Buckles with an oval loop and an oval or kidney-shaped plate with three rivets. The rivets and tongue occur in iron or copper-alloy. The tongue is a hinge bar and often has a rectangular base. The loop and back-plate are copper-alloy. Examples found in the Netherlands only show simple linear pattern decoration on the plate. This contrasts with similar shaped buckles, identified by Hines (type BU1-b) and LPV (type 142), which are made of iron and show composite decorations of copper-alloy, silver, gold as well as garnet inlay. Also absent in the Netherlands are examples with a decoration of brass damascene, as identified by the Franken Arbeitsgruppe and Siegmund (type Gür 1.3), or silver damascene, as identified by LPV (type 141).

#### **Occurrence in the Netherlands:**

*Wageningen: 124, 153.*

#### **Identification in other typologies:**

Müssemeier: related to **Gür 1.3** (phase 2 > 435/50 – 460/80).

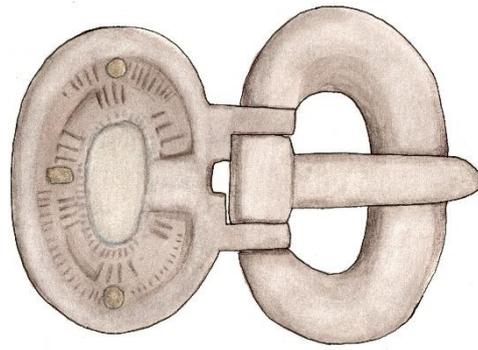
Siegmund: related to **Gür 1.3** (phase 2 > 440 – 485).

LPV: related to **141** (phases PM-MA1a > 440/50 – c. 500).

Hines: - related to **BU1-b** (No date provided)

#### **Dating in the Netherlands:**

Phases 2-3 (435/50 – 510/25).



BU-2a

### **BU-2b Buckles with a rectangular back-plate and applied garnet decoration**

From this type, only one example was found across the sample studied for this research. The buckle is made of iron and has an oval loop decorated with a silver linear damascene pattern. The tongue is simple, with a notch around one third of its length, measured from the tip. The tongue is attached to the back-plate with a hinge bar mechanism. The back-plate, of iron, is short rectangular and has four copper-alloy rivets on the corners. Five garnets, in different sizes, are placed on the plate in a similar pattern to the five on a dice. The garnets are placed in a silver setting.

#### **Occurrence in the Netherlands:**

*Rhenen: 799.*

#### **Identification in other typologies:**

Franken AG: -

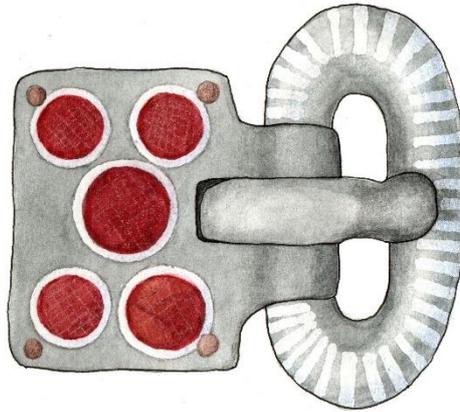
Siegmund: -

LPV: **related to 145** (phase PM-MA1 > 440/50 – 520/30).

Hines: **related to BU1-a** (no date provided).

#### **Dating in the Netherlands:**

Phase 2 (435/50 – 460/80).



*BU-2b*

### **BU-3: BUCKLES WITHOUT A PLATE**

This category includes mostly simple buckles without a back plate. The buckles in this section could have been used in relation to a belt but also, for instance, for the fastening of shoes. The oldest buckles in the category distinguish themselves through the shape and decoration of their loops. The slightly younger types display a typological development in the shape of the tongue and tongue base. Buckles without back-plates belong to phases 3 to 5 and are the predecessors of copper-alloy buckles with a back plate.

#### **BU-3a Buckles with a kidney-shaped loop**

Buckles without a backplate and with a kidney-shaped loop. This type is made of iron or copper-alloy and occurs with a simple straight tongue or with a club-shaped tongue. On one occasion, a rectangular tongue base was observed (Oosterbeintum grave 485a). Amongst the four specimens within this sample, it is noticeable that both buckles from Rhenen are made of iron and both buckles from Oosterbeintum are made of copper-alloy, possibly indicating a regional difference between northern and central Netherlands.

#### **Occurrence in the Netherlands:**

*Oosterbeintum: 393, 485a*

*Rhenen: 660, 704*

**Identification in other typologies:**

Franken AG: **Gür 2.1** (phase 2-3 > 435/50 – 510/25).

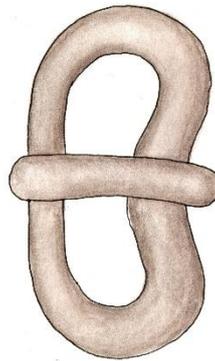
Siegmund: **Gür 2.1** (phase 2 > 440 – 485).

LPV: **105** (phases PM-MA1 > 440/50 – 520/30).

Hines: **BU2-a** (AS-MA > pre-525).

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).



*BU-3a*

**BU-3b Buckles with a round loop**

Buckles without a plate and with a round loop. This buckle type is made of iron or copper-alloy. The condition of the specimens within this sample prevents any determination of the tongue shape.

Maastricht grave 168 contains a buckle which is attributed to Siegmund's equivalent category (Gür 2.2a/b)<sup>398</sup>. The loop shape of this particular buckle, however, is oval rather than round. The attribution is probably based on evidence from the German cemeteries of Köln-Müngersdorf (graves 116, 123, 125, 148) and Köln-Junkersdorf (grave 213). These graves

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<sup>398</sup> Theuws *et al.* 2017, 483.

show buckles, attributed by Siegmund to his type Gür 2.2a/b, which have an oval loop rather than a round one<sup>399</sup>. The large variety of different shapes and sizes in the sample by Siegmund has led to the type not being taken over in the chronology by the Franken Arbeitsgruppe. For the Netherlands, buckle type BU-3b solely contains types with a distinctive round loop. For this reason, the buckle from Maastricht grave 168 was not assigned to this type.

Buckles with an oval loop, made of iron or copper-alloy, and with a simple straight tongue are common in the Netherlands during the Merovingian period and do not have chronological relevance. They are therefore not categorised separately in this typology.

#### **Occurrence in the Netherlands:**

*Oosterbeintum: 360.*

*Wijster: 19.*

#### **Identification in other typologies:**

Franken AG: **Gür 2.2** (no date provided).

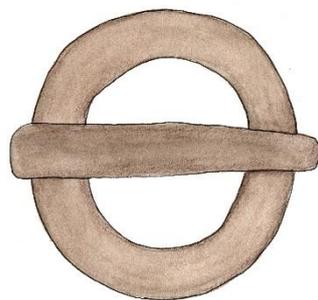
Siegmund: **Gür 2.2a** (phases 1-2 > 400 – 485). **Gür 2.2b** (phases 2-3 > 440 – 530).

LPV: -

Hines: -

#### **Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).



*BU-3b*

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<sup>399</sup> Müssemeier *et al.* 2003, 16.

### **BU-3c Buckles with an oval iron loop and damascene decoration**

Buckles with an oval iron loop and a simple tongue. The loop is decorated with a linear pattern of silver damascene. This type does not have a plate.

#### **Occurrence in the Netherlands:**

*Elst: 211.*

*Posterholt: 4.*

*Rhenen: 99, 380, 840.*

#### **Identification in other typologies:**

Franken AG: **Gür 2.3** (phase 4 > 510/25 - 565).

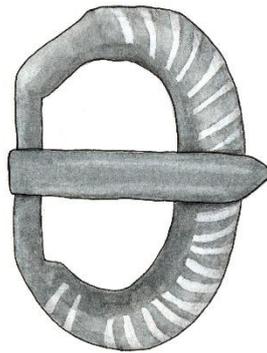
Siegmund: **Gür 2.3** (no date provided).

LPV: -

Hines: -

#### **Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).



*BU-3c*

### **BU-3d Buckles with a club-shaped tongue**

Buckles with an oval or broad-oval loop and without a plate. This group contains buckles with a traditional club-shaped tongue as well as those with a club-shaped tongue which is notched in- or around the middle. The latter provides for the largest part of the sample. On one occasion, a faceted tongue is observed. The tongues occur in various lengths and can be thick and broad as well as thin and narrow. The tongue-base is rectangular or simply part of the club-shape. In Rhenen grave 152, the rectangular tongue-base once contained inlay, possibly of garnet or glass.

This buckle type is made of copper-alloy or silver-plated copper-alloy. The loop can be plain or simply decorated with grouped parallel grooves.

**Occurrence in the Netherlands:**

*Elst: 163.*

*Maastricht: 187*

*Rhenen: 78, 95, 130, 152, 181, 375, 376, 406, 418, 433, 446, 470, 503, 564, 593, 595, 708, 809 .*

*Wageningen: 99.*

**Identification in other typologies:**

Franken AG: **Gür 2.4/5A** (phase 3-4 > 460/80 - 565).

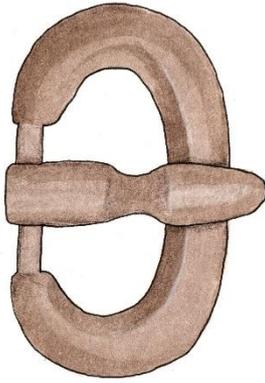
Siegmund: **Gür 2.4 and 2.5** (phase 4 > 530 - 555).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phases 3-4 (460/80 – 565). Two examples occurred in male-gender graves dating to phase 5 (565 – 580/90).



*BU-3d*

### **BU-3e Buckles with a shield-shaped tongue base**

Buckles with an oval or D-shaped loop, a straight tongue and no plate. The tongue base is shield-shaped and varies in size. This buckle type is often made of copper-alloy. In some cases, however, silver- or silver-plated copper-alloy examples are found. One example (Rhenen grave 143) is made of a white metal, either silver or copper-alloy with a high tin content. Various examples of this type are decorated with simple circular or linear stamp motifs on the loop and/or tongue. In a small number of cases a carved motif, centrally on the shield-shaped tongue base can be seen, possibly representing a cross symbol.

The buckle found in Rhenen grave 30 is likely to belong to group BU-3e, judging from the shape of the loop. As the characteristic tongue is missing, this cannot be determined with certainty.

#### **Occurrence in the Netherlands:**

*Borgharen: 2.*

*Elst: 85, 160, 174, 208, 240, 250.*

*Maastricht: 89, 95, 214, 286 .*

*Rhenen: (30), 80, 130, 136, 143, 162, 215, 238, 333, 406, 445, 513, 526, 652, 675, 678, 702.*

#### **Identification in other typologies:**

Franken AG: **Gür 2.6/7C** (phase 4 > 510/25 - 565).

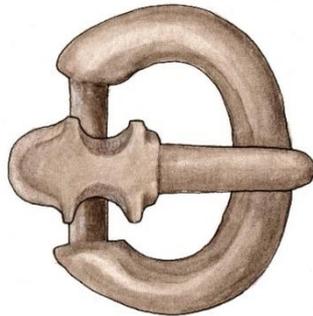
Siegmund: **Gür 2.6 and 2.7** (phase 4 > 530 - 555).

LPV: **114, 115, 116** (114: phase MA1 > 470/80 – 520/30, 115: phase MA1b-MA3 > 495 – 600/10, 116: phase MA2-MA3 > 520/30 – 600/10).

Hines: **BU2-d** (phase AS-MB > 525/50 – 545/65, AS-FB > 510/45 – 555/85).

### Dating in the Netherlands:

Phases 3-5 (460/80 – 580/90). No examples were found in female-gender graves dating before AD 510/25.



BU-3e

### **BU-3f** Buckles with a mushroom-shaped tongue base

Buckles with an oval or broad-oval loop, a straight tongue and no plate. The tongue base has a mushroom shape. Buckles of this type are made of copper-alloy. From one example, in Rhenen grave 781, only the tongue was found. This tongue is made of iron and shows possible traces of silver damascene. All examples found are decorated, mostly with simple circular stamp motifs on the loop, tongue and/or tongue base. In a single case, Wageningen grave 157, a motif of grouped grooves was found on the loop.

### Occurrence in the Netherlands:

*Elst: 240, 241.*

*Obbicht: 10.*

*Rhenen: 333, 678, 781, 816.*

*Wageningen: 157.*

### Identification in other typologies:

Franken AG: **Gür 2.6/7D** (phase 5 > 565 – 580/90).

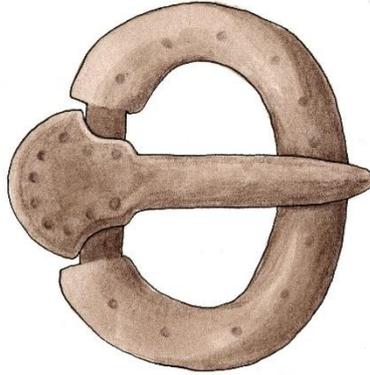
Siegmund: -

LPV: **118** (phase MA1b-MA3 > 495 – 600/10).

Hines: **BU2-e** (No date provided).

**Dating in the Netherlands:**

Phases 5-6 (565 – 610/20).



*BU-3f*

**BU-3g Copper-alloy buckles with an iron tongue**

Buckles made of copper-alloy with an iron tongue and no plate. The German typologies combine copper-alloy buckles with an iron tongue with those made of silver. Silver buckles with an iron tongue have not been found as part of this sample. The loop of buckles in this group is oval or D-shaped. Decoration was not found.

In some cases, buckles are included in this group of which only the loop was found. It can be suggested in these cases that the tongue was lost due to corrosion. Placing buckles in this group on the basis of the absence of a tongue involves the risk of an incorrect classification. Buckles with no tongue present have only been placed in this group if other features of the buckle support this categorisation.

**Occurrence in the Netherlands:**

*Maastricht: 68.*

*Meerveldhoven: 24.*

*Rhenen: 76, 195, 438, 450, 562, 595, 639, 647, 668, 796.*

*Veldhoven: 15.*

**Identification in other typologies:**

Franken AG: **Gür 2.8/2.9** (phase 4 > 510/25 – 565).

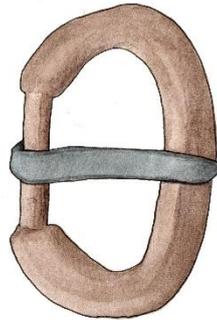
Siegmund: **Gür 2.8/2.9** (phase 4 > 530 – 555).

LPV: -

Hines: -

### **Dating in the Netherlands:**

Phases 3-5 (460/80 – 580/90).



*BU-3g*

### **BU-3h Buckle with a rectangular loop**

Buckles with a rectangular loop in various sizes, without a plate. These buckles are made of copper-alloy, iron or white metal (probably silver or copper-alloy with a high tin content), sometimes with an iron tongue. The tongue shape is simple and straight in most cases, sometimes however showing a shield-shaped tongue base. The loop is often faceted. Especially for the small examples it can be suggested that these buckles were not used as a belt fitting but were likely used on bags or shoes.

Although a date in phase 4 or 5 is prevailing, the example from Meerveldhoven can be placed in phase 7 and the example from Maastricht in phase 8.

### **Occurrence in the Netherlands:**

*Elst: 133.*

*Maastricht: 205, 210.*

*Meerveldhoven: 53.*

*Rhenen: 185, 193, 221, 439, 445, 563, 609, 697.*

**Identification in other typologies:**

Franken AG: **SNA 1.1 – small examples** (Phase 4b – 7 > 535/40 – 640/50).

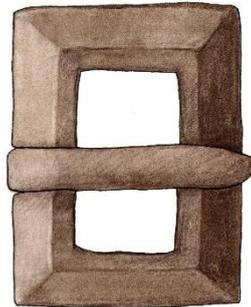
Siegmund: **SNA 1.1 – small examples** (phase 5 > 555 – 570).

LPV: **122** – ((large): phase MA1 > 470/80 – 520/30; **123** – (large): phase MA2-MA3 > 520/30 – 600/10; **124** – (small): phase MA1-MR1 > 470/80 – 630/40).

Hines: -

**Dating in the Netherlands:**

Phases 4 and 6 (510/25 – 610/20). Sporadically also phases 7 and 8 (610/20 – 670/80).



*BU-3h*

**BU-3i Copper-alloy shoe buckle with an oval loop**

Small buckles with an oval loop and a simple straight tongue. The loop is plain or provided with a circular or linear stamp decoration. In Maastricht grave 97, the loop is ribbed. Siegmund in his type description postulates that these buckles are found in pairs in undisturbed graves. This has not been the case in the Netherlands. Buckles in this group from the sample presented were found in female-gender graves only.

**Occurrence in the Netherlands:**

*Maastricht: 97, 101.*

**Identification in other typologies:**

Franken AG: -

Siegmund: **SNA 1.2** – (phase 6 > 570 – 585).

LPV: (**120**), **126** - (120 (ribbed loop): phase MA2-MA3 > 520/30 – 600/10, 126: phase MA1-MR1 > (470/80 – 630/40).

Hines: -

### **Dating in the Netherlands:**

Phases 4 and 5 (510/25 – 580/90).



*BU-3i*

### **BU-3j Circular- or Shield-shaped rivets**

Rivets with a shield-shaped top, often made of copper-alloy. These rivets are often found alone, in pairs or in groups of three and in combination with buckles without a back-plate. Rivets with a round head also occur, they can be dated largely similar to those with shield-shaped heads. Rivets occur mostly in male-gender graves, however, they appear occasionally in female-gender inhumations.

### **Occurrence in the Netherlands:**

*Elst: 240.*

*Maastricht: 101.*

*Rhenen: 139, 161, 162, 439, 580, 675, 702.*

### **Identification in other typologies:**

Franken AG: **Gür 2.10B** – (phase 4 > 510/25 – 565).

Siegmund: **Gür 2.10** – (phase 4 > 530 – 555).

LPV: **(192), 193, (194)** – (192: phase PM-MA1a > 440/50 – 490/500. 193: phase MA1b-MA2 > 490/500 – 560/70. 194: phase MA2-MA3 > 520/30 – 600/10).

Hines: **BU2-h** – (phase AS-MB, AS-FB > 525/50 – 545/65, 510/45 – 555/85).

### **Dating in the Netherlands:**

Phase 4 (510/25 – 565). Occasionally in phase 5 (565- 580/90).



*BU-3j*

## **BU-4: COPPER-ALLOY BELT FITTINGS**

Copper-alloy buckles with a back plate follow onto those without a backplate. They exist partly contemporary with iron buckles with a back plate. The belt fittings in this category come in various shapes and sizes and some designs are much rarer than others. A triangular- or tongue-shaped back plate is most commonly found although other shapes occur too.

### **BU-4a Copper-alloy belt fittings with a decorated triangular back-plate**

Buckles with an oval or D-shaped loop and a triangular back-plate, usually with three rivets. The tongue base, where present, is mushroom shaped in all cases included in this sample. The tongue is a hinge bar. The back-plate and, in some cases, the tongue and tongue base are

decorated. Decoration comes in various forms including triangle, linear or circular motifs. Also dot in circle designs were found.

This type was found in the Netherlands in male- as well as female-gender inhumations. In England, the buckles were found in male-gender graves only, as postulated by Hines in his type description. Siegmund includes this group in the category containing Gür 3.1, 3.2 and 3.3, depending, amongst other criteria, on the number of parts the belt fitting consists of. For the Netherlands, division into types according to number of parts to the belt-fitting was not found chronologically relevant for the present sample.

#### **Occurrence in the Netherlands:**

*Den Haag: 479.*

*Maastricht: 48, 310.*

*Rhenen: 27, 177, 182, 223, 666, 697, 699.*

*Sittard: 31.*

#### **Identification in other typologies:**

Franken AG: **Gür 3A** – (phase 5 > 565 – 580/90).

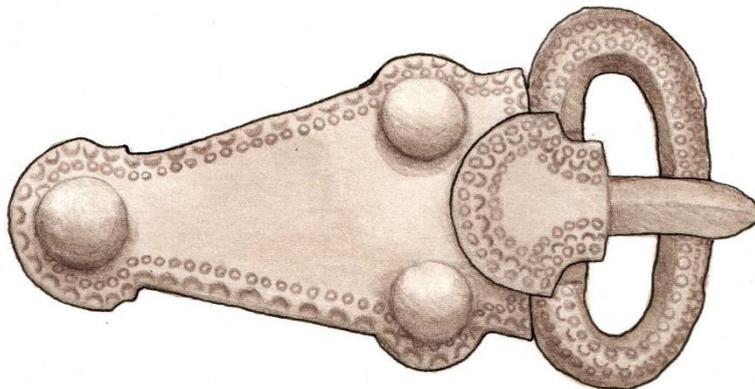
Siegmund: **Gür 3.1, 3.2, 3.3** – (3.1, 3.2: phase 6 > 570 – 585, 3.3: phase 8 > 610 - 640).

LPV: **162** (phase MA2-MA3 > 520/30 – 600/10), **170** (phase MA2b – MA3 > (540 – 600/10).

Hines: **BU3-a** – (phase AS-MC, D and F > 545/65 – 580/610 and 610/45 – 660/85).

#### **Dating in the Netherlands:**

Phases 5-6 (565 – 610/20).



*BU-4a*

## **BU-4b Copper-alloy belt fittings with an undecorated triangular back-plate**

Buckle with an oval or D-shaped loop and a triangular back-plate, usually with three rivets. The tongue-base, where present, is mushroom-shaped in all cases included in this sample. The tongue is a hinge bar. The back plate, tongue and tongue-base are not decorated. Within this sample, the type only occurs in male-gender inhumations.

Siegmund includes this group in the category containing Gür 3.1, 3.2 and 3.3, depending, amongst other criteria, on the number of parts the belt fitting consists of. For the Netherlands, division into types according to number of parts to the belt-fitting was not found chronologically relevant for the present sample.

### **Occurrence in the Netherlands:**

*Posterholt: 58, (90).*

*Sittard: 31, 87.*

### **Identification in other typologies:**

Franken AG: **Gür 3B** – (phase 5-6 > 565 – 610/20).

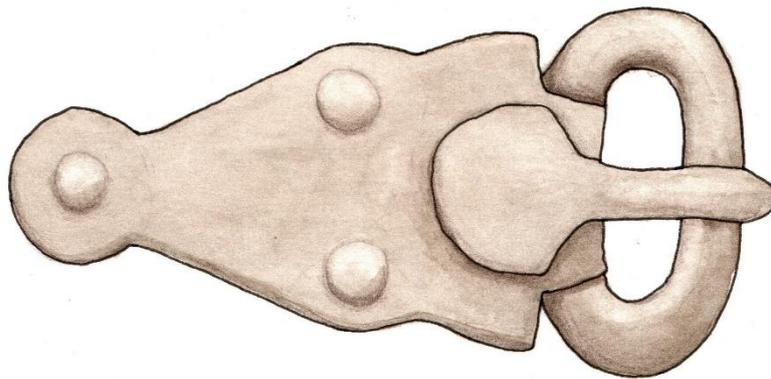
Siegmund: **Gür 3.1, 3.2, 3.3** – (3.1, 3.2: phase 6 > 570 – 585, 3.3: phase 8 > 610 - 640).

LPV: **172** – (phase MR1-MR2 > 600/10 – 660/70).

Hines: **BU3-b** – (phase AS-MC, D > 545/65 – 580/610).

### **Dating in the Netherlands:**

Phases 5-6 (565 – 610/20).



BU-4b

**BU-4c Copper-alloy belt fittings with an undecorated triangular back-plate and fake rivets**

Buckle with an oval or D-shaped loop and a triangular back-plate, usually with three fake rivets and attachment loops at the back. The tongue is a hinge bar. The buckles and plates from Maastricht and Posterholt are not decorated whilst the Den Haag specimen has a decoration of incised lines, mainly around the outline. Within this sample, this type only occurred in combination with artefacts signalling a female-gender and in none of the cases was a tongue present. In the typology by the Franken Arbeitsgruppe, this type is described as a three-part Tauberbischofsheim type.

It is not completely sure whether the belt fitting from Den Haag belongs to this group. The presence of a loop for attaching on the reverse, however, signals that this belt fitting once had fake rivets.

**Occurrence in the Netherlands:**

*Den Haag: 479.*

*Maastricht: 110.*

*Posterholt: 77.*

**Identification in other typologies:**

Franken AG: **Gür 3D** – (phase 7 > 610/20 – 640/50).

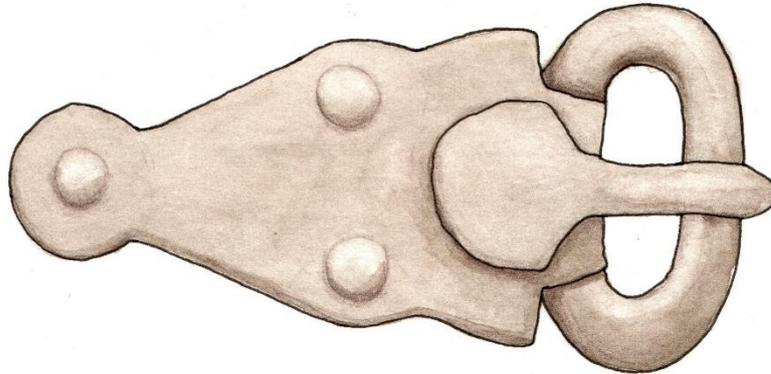
Siegmund: **Gür 3.3** – (phase 8 > 610 - 640).

LPV: -

Hines: **BU3-d** – (No date provided).

**Dating in the Netherlands:**

Phases 5-7 (565 – 640/50).



*BU-4c*

**BU-4d Copper-alloy belt fittings with a profiled triangular back-plate and cast animal-style decoration**

Buckles with an oval or D-shaped loop and a triangular profiled back-plate, usually with three rivets. The tongue-base is mushroom-shaped. The tongue is a hinge bar. The back-plate, tongue and tongue-base are decorated with cast animal style motifs. Within this sample, the type only occurred in male-gender inhumations.

**Occurrence in the Netherlands:**

*Maastricht: 205.*

**Identification in other typologies:**

Franken AG: **Gür 3E** – (phase 8-9 > 640/50 - 710).

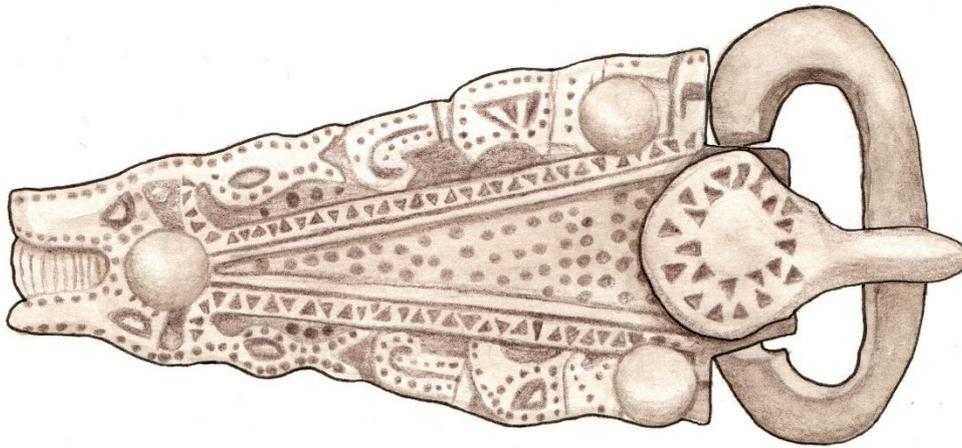
Siegmund: -

LPV: **179** – (phase MR1-MR3 > 600/10 – 700/10).

Hines: -

### Dating in the Netherlands:

Phase 6 (580/90 – 610/20) Possibly also in phase 7 (610/20 – 640/50).



BU-4d

### **BU-4e** Belt fittings of copper-alloy with cut-away decoration and garnet inlay

The only example of this type of belt fitting has no known parallels in- or outside the Netherlands. The belt set from Stein is discussed in detail in publications by Ypey<sup>400</sup> and Kars<sup>401</sup>. The following type description is based on the findings of both these scholars.

This belt set consists of five hollow copper-alloy elements and matching wooden elements that were originally placed in the hollow spaces. The buckle has an oval and undecorated loop. The tongue is simple, and the tongue-base is roughly mushroom shaped. Both tongue and tongue-base are not decorated. The back-plate is semi-circular or D-shaped and shows three rivets with copper-alloy domes. Twelve openings of various shapes are cut away in the metal. The metal 'bands' created by the positioning of the openings are decorated with carved geometric and dot-in-circle motives. On the crossings of the 'bands' swastika motives are visible.

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<sup>400</sup> Ypey, 1974.

<sup>401</sup> Kars *et al.* 2016, 195-8.

Two larger rectangular plates were discovered in connection with the buckle and back-plate, both also hollow and equipped with carefully placed cut outs in the metal, in order to create the illusion of braids. The braids are also decorated with geometric patterns, dot-in-circle stamp decoration and swastika motives in places where the braids cross. Both plates have four copper-alloy domed rivets in the corners.

Two further associated plates are much smaller and roughly oval in shape. Both have protruding extremities with copper-alloy domed rivets. Centrally, the plates show two cut out openings each. Further decoration on the plates is similar to the other pieces of the set.

As mentioned, the above-described metal pieces are all hollow and once contained pieces of wood. Some of these pieces were preserved and show to be of finely nerved wood, for example from the pear tree. In the wooden plates, sunken fields were created which match the cut-out spaces in the metal work. The sunken fields were covered with thin gold foil with a fine raster. Onto the gold foil, garnets were placed which would have poked through the open spaces in the metalwork. This is the case on the buckle's back-plate as well as on the four further plates.

As this belt set seems to be a unique find to date, it is difficult to place it adequately in a certain chronological phase. In the aforementioned publications, a discussion is set out regarding its date. Ypey postulates a date in the late sixth and possibly early seventh century, mainly based on the swastika decoration, the rounded back-plate and the braided ornaments<sup>402</sup>.

In the typological schemes for various regions of Germany and for northern France, the buckle can possibly be compared, to some extent, with various known types. It can be suggested that the type forms a variation to Siegmund's type Gür 3.2b, dated to AD 570-585, but with garnets and cut-out metalwork. The typology by LPV groups belt fittings with cut-out metalwork but with a square back-plate in type 165 (AD 560/70 – 630/40). Belt fittings with garnets are placed in the French typology under types 142, 146 and 147 (AD 470/80 – 520/30). In case of these types, however, the garnets are not associated with cut-out metalwork but placed in the cloisonné style. Copper-alloy belt sets with rounded and often gilded plates with carved decoration are summarised under the French types 157 and 158 (AD 560/70 – 630/40, most predominantly between AD 580 and 600). The shape of the back-plate should possibly be

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<sup>402</sup> Ypey, 1957/58, 548-50

leading in the dating, as it is a type that often occurs in Merovingian graves from northern France. A date towards the end of the sixth century therefore seems most plausible and also in accordance with the further artefacts held in the Stein grave.

Buckles with cut-out metalwork, but without the other characteristics of the belt fitting discussed here, are grouped by Hines in category BU6 and are only dated for female-gender inhumations. Stein grave 12, however, is a male-gender inhumation.

**Occurrence in the Netherlands:**

*Stein: 12.*

**Identification in other typologies:**

Franken AG: -

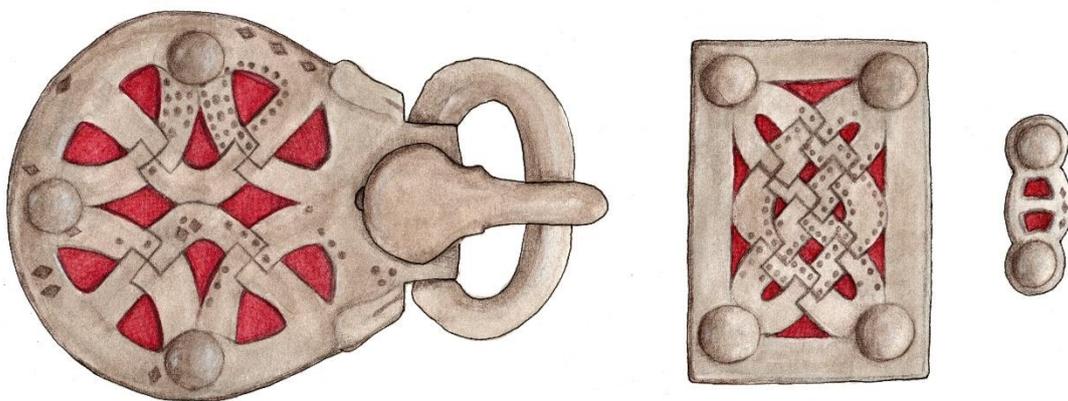
Siegmund: **related to Gür 3.2b** – (570 – 585).

LPV: **related to 165, 157, 158** – (phase MA3-MR1 > 560/70 – 630/40. 157).

Hines: **related to BU6** – (phase AS-FE > 625/50 – 660/85).

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20).



*BU-4e*

#### **BU-4f Buckles of copper-alloy with an outline back-plate**

Copper-alloy buckles with a rectangular loop which is fixed to a roughly triangular backplate. The backplate is open in the centre, leaving only a strongly profiled outline. The terminus of the plate is semi-circular. Just over halfway along the back-plate is a 'bridge', keeping both sides of the outline together. The tongue of the belt is simple and ends in a shield-shaped tongue-base. No decoration is present on the metalwork as far as can be established. An example of this type is only found once in the Netherlands to date, but has parallels, in copper-alloy and silver, in various other European countries.

Fingerling, who analysed buckles with a fixed back-plate postulates this type to be of Mediterranean origin. He suggests fixed-plate belt buckles to be a transitional form between simple copper-alloy buckles and the later copper-alloy buckles with a mobile back-plate<sup>403</sup>. The development from no back-plate to a fixed back-plate and then to a mobile back-plate is most clearly seen for buckles in male-gender graves, whilst women were still inhumated with simple copper-alloy buckles into the sixth century<sup>404</sup>. The possibly Mediterranean buckles belonging to this group are found in male- as well as female-gender graves, refuting the theory of a transitional type. Based on this, it can be suggested that the belt fittings with an outline back-plate should be regarded a rare, but independent type which did not necessarily influence the overall development of Merovingian buckle types in the Netherlands and surrounding areas.

Buckles which are very similar to the Dutch example were found in the Swiss Bülach cemetery (canton of Zürich)<sup>405</sup>, Altenerding<sup>406</sup> and Reichenhall<sup>407</sup> cemeteries in Germany (Bayern), Weingarten cemetery in Germany (Baden Württemberg)<sup>408</sup> and in the French Caranda cemetery (Aisne)<sup>409</sup>. The above mentioned Bülach grave was dated to the first half of the

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<sup>403</sup> Fingerling 1967, 161.

<sup>404</sup> Theuws *et al.* 2017, 222.

<sup>405</sup> Fingerling 1967, 181 and Werner 1953, 22, 87.

<sup>406</sup> Sage 1984, 202

<sup>407</sup> Fingerling 1967, 181

<sup>408</sup> Roth *et al.* 1995, 222-23.

<sup>409</sup> Fingerling 1967, 181

seventh century. The grave at Altenerding can possibly be dated to the second half of the sixth century, based on further grave goods contained in the burial. The other graves mentioned could not be dated specifically and are therefore not helpful for establishing a position for this group in the chronology. Other buckles which have an open plate and can possibly be linked to the Dutch example were found in Kranj (Slovenia), Palazuelos, Carpio de Tajo, Castiltierra and Alarilla (Spain), Langenenslingen, Cologne and Krufft (Germany) and in Charnay (France). The example from Langenenslingen was discovered in combination with a sword, dated the middle of the sixth century<sup>410</sup>.

In the Maastricht Pandhof cemetery (not included in this sample), a buckle was found which is very similar to the one discussed here, albeit without the open back-plate. The shape of the buckle and plate is identical, yet the middle field is inlaid with silver gilded foil and filigree decoration is running along the edges. The filigree also forms comma-shaped decorations in the middle field. Based on a parallel, discovered in the Swiss cemetery of Basel-Bernerring (canton of Basel), this buckle can possibly be dated in the third quarter of the sixth century<sup>411</sup>. Although the chronological evidence is not overly strong, taking the various parallels into account it is possible to suggest a date for this type in the second half of the sixth century, probably the early seventh century.

The occurrence of buckles from this group and those with great similarities in areas significantly further south than the Netherlands may suggest that the Mediterranean provenance should be considered a likely possibility.

#### **Occurrence in the Netherlands:**

*Maastricht: 194.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **possibly related to 162** – (phase MA2-MA3 > 520/30 – 600/10).

Hines: -

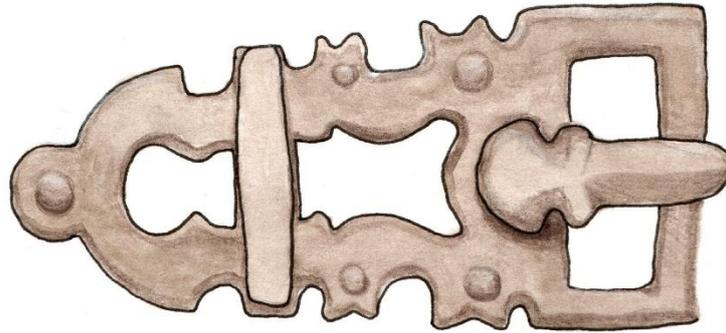
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<sup>410</sup> Theuws *et al.* 2017, 224.

<sup>411</sup> Martin 1976, 64-6, 281-8.

### Dating in the Netherlands:

Phases 5-6 (565 – 610/20).



*BU-4f*

### **BU-4g** Copper-alloy buckles with a triangular back-plate and foil inlay

Copper-alloy buckles featuring a rectangular loop and a tongue which terminates in a trapezoid shaped tongue-base. The back-plate is triangular in shape. The terminal of the back-plate is formed of two attached circular bulges, placed next to each other. The back-plate therefore resembles a fish tale with a fin at the end. The central fields of the tongue-base, back-plate and circular bulges are inlayed with bronze foil with a dot-in-circle decoration. Two fasteners are present on the back of the plate for attachment to the belt. No rivets are visible on the plate itself.

From cemeteries outside of the Netherlands, similar belt fittings are known with only one circular bulge at the end of the back-plate. This difference can be regarded a variation within the same type.

The type with two circular bulges includes two examples from the Netherlands, the first from the Maastricht – Vrijthof cemetery and the second from the Lent – Lentseveld cemetery. The latter of these cemeteries is not included in the sample.

There are also various parallels known from outside the Netherlands which provide an indication for dating the type. Similar buckles to the Dutch examples were found in the Sankt

Severin cemetery in Cologne<sup>412</sup> and in Unteren Wied near Koblenz<sup>413</sup> (Germany – Nordrhein Westfalen). Further German cemeteries holding specimens are located in Gondorf<sup>414</sup>, Kärlich<sup>415</sup> and in the surroundings of Monsheim<sup>416</sup> (Rheinland-Pfalz) as well as in Niedernberg am Main (Bayern)<sup>417</sup>. Further examples are known from the Grez-Doiceau cemetery in Belgium (Brabant-Wallon)<sup>418</sup>, Schleithem cemetery in Switzerland (canton of Schaffhausen)<sup>419</sup>, the French cemetery of La-Roche-sur-Foron (Haut Savoie)<sup>420</sup> and Kranj in Slovenia<sup>421</sup>.

Päffgen dates the Cologne example to c. AD 550-590. Vinski postulates a date post AD 565 for the example from Kranj. Schulze-Dörrlamm dates the Gondorf buckle to the period between AD 520/30 and 600. This buckle, however, is not exactly similar to the types found in the Netherlands as it does not show the bronze foil application. Instead, a similar dot-in-circle motive is pressed directly on the copper-alloy back-plate. The Kärlich grave which contains the buckle, also holds a brooch, dated by Koch to the second half of the sixth century. The closely related type, as mentioned earlier, with only one circular bulge at the end of the back-plate is categorised in the LPV typology for northern France (162) and is dated between 520/30 and 600/10. In general can be stated that the types found in the Netherlands, with a double circular terminus to the back-plate can be dated to c. AD 550 to 600.

#### **Occurrence in the Netherlands:**

*Maastricht: 73.*

*Lentseveld (not in this sample): 1 example.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

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<sup>412</sup> Päffgen 1992, 388-89, 703-05.

<sup>413</sup> Grünewald 2001.

<sup>414</sup> Schulze-Dörrlamm 1990(1), 264-65.

<sup>415</sup> Hanel 1994, 23-4.

<sup>416</sup> Behrens 1947, 47.

<sup>417</sup> Hanel 1994, 24 (note 67).

<sup>418</sup> Société Archéologique de Namur, 2006.

<sup>419</sup> Burzler *et al.* 2002 (1), 143.

<sup>420</sup> Colardelle 1983, 118.

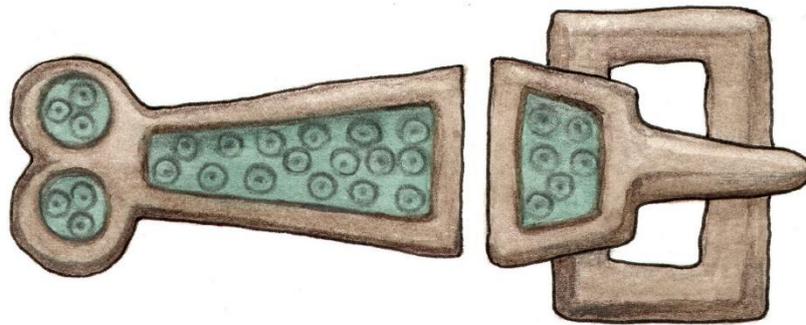
<sup>421</sup> Vinski 1980, 97 and Stare 1980, 119.

LPV: **related to 162** – (phase MA2-MA3 > 520/30 – 600/10).

Hines: -

**Dating in the Netherlands:**

Phases 4b-6 (approximately 540 – 610/20).



*BU-4g*

**BU-4h Buckles with a tongue-shaped backplate, hinge construction and degenerated animal style decoration.**

Buckle with an oval loop and a simple tongue which ends in a round tongue base. The back-plate is attached to the loop with a hinge construction, is profiled and tongue-shaped. The back-plate is decorated with degenerated animal style patterns, which show close resemblance to animal style two.

The example found in Maastricht Vrijthof grave 99 was accompanied by a strap end, decorated in the same style. The second example in the Netherlands, from Maastricht Vrijthof grave 154 cannot be assigned with certainty to this group as the backplate is missing. The hinge construction and characteristics of the loop, however, suggest it belongs in this group. The buckle from grave 99 was found accompanied by two glass vessels, one dating to the late Roman period and the other dating to around AD 600. A comparable buckle to the one found in grave 99 was discovered in the German cemetery of Stetten an der Donau (Baden-

Württemberg)<sup>422</sup>. In this grave, however, the buckle seemed to be part of foot ware whilst in Maastricht the position of the buckle in the grave suggests a belt fastener.

Further comparative buckles, although made of silver and with a shield-shaped tongue base, were found in the French excavation of the Saint-Evre church in Toul (Meurthe-et-Moselle). The two silver plated buckles found there are of similar shape and show comparable degenerated animal style decoration. The grave in Toul was dated between AD 600 and 650<sup>423</sup>.

In his typological scheme for the German Rhineland, Siegmund postulates hinge bar constructions to be a chronologically significant aspect<sup>424</sup>. The buckles with hinge construction listed in his typology, however, are all larger and have a more triangular plate than the buckles in this group. The date Siegmund postulates for these types (AD 610 – 640) may be applicable here as well.

#### **Occurrence in the Netherlands:**

*Maastricht: 99, (154).*

#### **Identification in other typologies:**

Franken AG: **related to 3F** – (phase 6-7 > 580/80 – 640/50).

Siegmund: **related to 3.3, 3.4** – (phase 8 > 610 – 640).

LPV: -

Hines: -

#### **Dating in the Netherlands:**

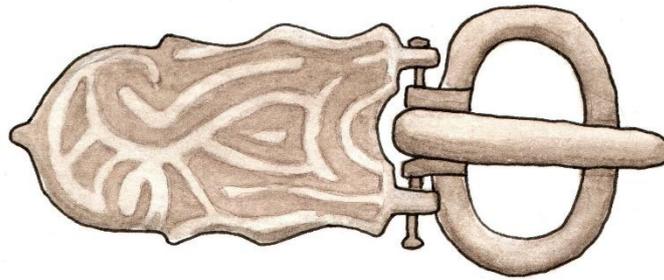
Phases 5-6 (565 – 610/20).

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<sup>422</sup> Weis 1999, grave 206.

<sup>423</sup> Wieczorek *et al.* 1996, 1033-34.

<sup>424</sup> Siegmund 1998, 27-8



BU-4h

### **BU-4i Buckles with a round back-plate and stamped decoration**

Buckles with a broad oval loop and a semi-circular back-plate which is mobile relative to the loop. From the example found in the Netherlands, the tongue was not preserved. However, as the tongue may have been relatively short, it is likely to be a simple type. The possible presence of a shaped tongue-base is unknown. The rounded back-plate is decorated with a stamped motif of three lines parallel to the plate edge. The central field shows a dot-in-circle pattern. Some of the dot-in-circles are enclosed by three lines, originating from the three lined boundary. The buckle was found with a strap end and it can be suggested it was part of a larger belt set consisting of multiple mounts. The type is found in male-gender graves only.

A similar buckle, which was part of a multi piece belt set, was found in the German cemetery of Kleinlangheim (Bayern)<sup>425</sup>. This buckle was dated to AD 560/70 – 600. Another example was found in the Belgian village of Maasmechelen (Limburg), just across the Dutch-Belgian border and approximately 12 kilometres from Maastricht<sup>426</sup>. This type is very similar yet shows triangular decorative motifs. Although the belt type is recognised in the typologies by both Siegmund, the Franken Arbeitsgruppe and LPV, no examples are known from parts of Germany close to the Dutch border. A relation to iron buckles with a round backplate, however, can be assumed.

#### **Occurrence in the Netherlands:**

*Maastricht: 79.*

#### **Identification in other typologies:**

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<sup>425</sup> Pescheck 1996, 50.

<sup>426</sup> Heymans 1978, 94.

Franken AG: **3C** – (phase 5-6 > 565 – 610/20).

Siegmund: **3.2b** – (phase 6 > 570 – 585).

LPV: **157, 158, 159** – (phase MA3-MR1 > 560/70 – 630-40).

Hines: -

**Dating in the Netherlands:**

Phases 5-6 (565 – 610/20).



*BU-4i*

**BU-4j Small buckles with a fixed triangular back-plate**

Small copper-alloy buckle with a triangular plate which is fixed to the loop. The terminal of the back-plate is sometimes rounded. The plate and loop are plain or show a cast or stamped decoration. The examples found of this type were likely used as fasteners for purses or shoes.

**Occurrence in the Netherlands:**

*Bergeijk: 10, 11.*

*Maastricht: 48, 110.*

*Rhenen: 221, 328, 641.*

**Identification in other typologies:**

Franken AG: **SNA 2.2A** – (phase 5-8 > 565 – 670/80).

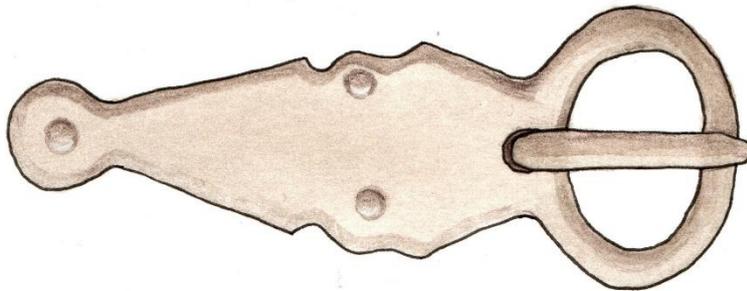
Siegmund: **SNA 2.2** – (phase 5-8 > 555 – 640).

LPV: **130** – (phase MA2-MR1 > 520/30 – 630/40).

Hines: -

#### **Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*BU-4j*

#### **BU-4k Small buckles with a fixed round back-plate**

Small copper-alloy buckle with a round plate which is fixed to the loop. The plate and loop can be plain but are often decorated with a cast or stamped motif. The examples found of this type were likely used as fasteners for purses. This type only occurs in female-gender graves.

#### **Occurrence in the Netherlands:**

*Bergeijk: 30.*

*Maastricht: 100.*

#### **Identification in other typologies:**

Franken AG: -

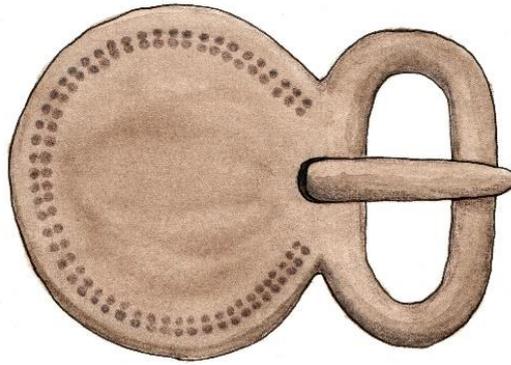
Siegmund: **SNA 2.2** – (phase 5-8 > 555 – 640).

LPV: **131** – (phase MA3-MR2 > 560/70 – 660/70).

Hines: -

#### **Dating in the Netherlands:**

Phase 6 (580/90 – 610/20).



BU-4k

**BU-4i Small belt fittings with a rectangular loop and a fixed triangular- or bar-shaped back-plate**

Small copper-alloy (occasionally iron) belt fittings with a rectangular loop, no tongue present and a triangular or bar-shaped back-plate which is fixed to the loop. This type is mainly plain but is found decorated on one occasion (Bergeijk grave 49).

**Occurrence in the Netherlands:**

*Bergeijk: 49.*

*Rhenen: 611.*

*Sittard: 30.*

**Identification in other typologies:**

Franken AG: **Gür 8b** – (phase 6-7 > 580/90 – 640/50).

Siegmund: -

LPV: **130** – (phase MA2-MR1 > 520/30 – 630/40).

Hines: **BU3-i** – (no date provided).

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).



BU-4I

## BU-5: IRON BELT FITTINGS

Iron belt-fittings are in use around the same time as their copper-alloy counterparts. A second similarity between the two categories is the prevalence of triangular plates. The plates of iron belt fittings are often richly decorated with damascene patterns including geometric and animal style motifs. Due to the nature of the metal, preservation of belt fittings belonging to this category is often much less than for their copper-alloy counterparts. Information on decoration often has to be gained through X-ray photography.

### **BU-5a Iron belt fitting with a semi-circular back-plate**

Iron belt fitting with a (broad) oval loop and a semi-circular back-plate. The back-plate has three rivets. The rivets and tongue are in some cases made of copper-alloy. The tongue-base is mostly mushroom-shaped and is sometimes decorated with a simple stamp or cast motif. Within the Dutch sample, this type occurred solely in male-gender inhumations. The belt fitting can consist of one, two or three parts.

#### **Occurrence in the Netherlands:**

*Bergeijk: 33.*

*Maastricht: 75.*

*Rhenen: 160, 233, 726.*

*Sittard: 14, 26, 37.*

*Stein: (8).*

**Identification in other typologies:**

Franken AG: **Gür 4.1/2** – (phase 5-6 > 565 – 610/20).

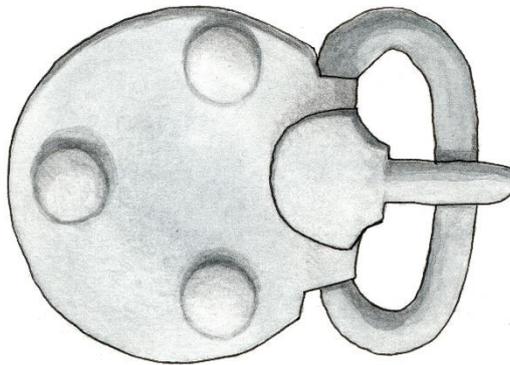
Siegmund: **Gür 4.1, 4.2** – (phase 7 > 585 – 610).

LPV: **148, 149** – (phase MA3-MR1 > 560/70 – 630/40).

Hines: -

**Dating in the Netherlands:**

Phases 5-6 (565 – 610/20).



*BU-5a*

**BU-5b Iron belt fitting with roughly triangular back-plate and four or more rivets**

Iron belt fitting with a (broad) oval loop and a roughly triangular back-plate. In one occasion (Rhenen, grave 262), a rectangular loop was found. The back-plate is in some cases more tongue-shaped or trapezoid, but its shape always approaches a triangle. The back-plate has four or more rivets.

In this sample, none of the plates had more than five rivets although examples with six rivets are known from Germany. The tongue is simple and has a hinge bar mechanism. The tongue-base is mushroom-shaped in some cases. This type is not decorated. The belt fitting can consist of multiple parts.

**Occurrence in the Netherlands:**

*Rhenen: 262.*

*Sittard: 29, 30, 86.*

*Stein: 7.*

**Identification in other typologies:**

Franken AG: **Gür 4.3** – (phase 6-7 > 580/90 – 640/50).

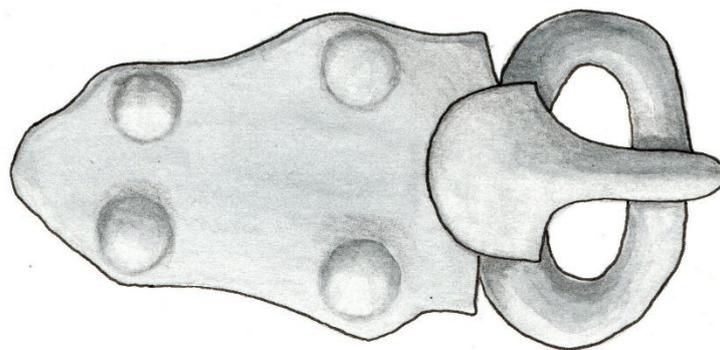
Siegmund: **Gür 4.1, 4.2** – (phase 8 > 610 – 640).

LPV: **151, 154** – (151: phase MA3-MR2 > 560/70 – 660/70, 154: phase MR1-MR2 > 600/10 - 660/70).

Hines: -

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20).



*BU-5b*

**BU-5c Iron belt fitting with roughly triangular back-plate and three rivets**

Iron belt fitting with a (broad) oval loop and a roughly triangular back-plate. In one occasion (Rhenen, grave 594), a rectangular loop was found. The shape of the back-plate is in some cases more tongue-shaped or trapezoid but always approaches a triangle. The back-plate has three rivets, occasionally two. The tongue is simple and has a hinge bar mechanism. The

tongue-base is mushroom-shaped in some cases. This type is not decorated. Rivets are often made of copper-alloy. The belt fitting can consist of multiple parts.

This type can be compared with the English type BU-3g, however, the tongue of Dutch examples is not always of a simple shape. The English type only occurs in male-gender graves according to the description by Hines whilst the Dutch type also appears in female-gender inhumations.

**Occurrence in the Netherlands:**

*Bergeijk: 24, 62.*

*Elst: 173.*

*Meerveldhoven: 10, 30, 35, 38.*

*Obbicht: 40b, 51b.*

*Rhenen: 96, 594, 782, 783, 815.*

*Sittard: 20, 41, 49.*

*Stein: 8, 66, 72.*

**Identification in other typologies:**

Franken AG: **Gür 4.5** – (phase 7 > 610/20 – 640/50).

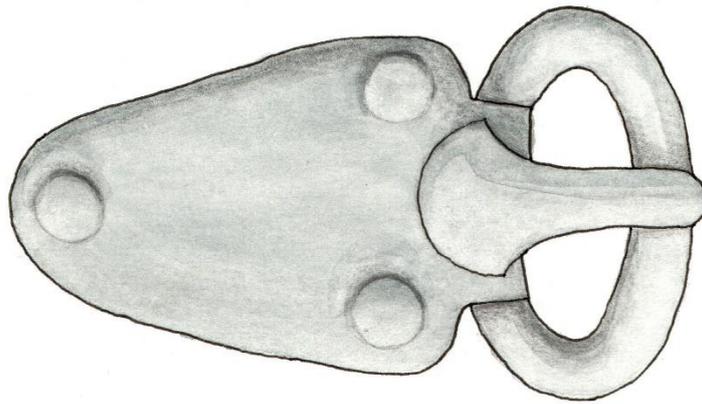
Siegmund: **Gür 4.4, 4.5** – (phase 7-8 > 585 – 640).

LPV: **150, 152, 153, 155** – (150 + 152: phase MA3-MR2 > 560/70 – 660/70, 153: phase MR1-MR3 > 600/10 – 700/10, 155: MR2-MR3 > 630/40 – 700/10).

Hines: **related to BU3-g** – (AS-MC > 545/65 – 565/95).

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20). Occasionally up to phase 8 (610/20 – 670/80).



BU-5c

**BU-5d Iron belt fitting with a triangular back-plate with damascene decoration of geometric style**

Iron belt fitting with a (broad) oval loop and a roughly triangular back-plate. The back-plate is in some cases more tongue-shaped or trapezoid but always approaches a triangle. The back-plate has three rivets. The tongue has a hinge bar mechanism. The tongue-base is mushroom-shaped in most cases. In most cases, this type has monochrome damascene decoration of silver or brass on the loop, tongue-base and/or plate. The decoration comprises geometric patterns. Occasionally, polychrome geometric decoration occurs (e.g. Meerveldhoven grave 15 and Elst grave 12). Rivets are often made of copper-alloy and sometimes covered with a gilding or silver layer. The belt fitting can consist of multiple parts.

This type includes the so called Bülach type buckles, as identified by Werner in the Bülach cemetery in the Swiss canton of Zürich<sup>427</sup>.

**Occurrence in the Netherlands:**

*Bergeijk: 47, 82.*

*Elst: 12.*

*Lent: 7224.*

*Maastricht: 86, 92, 125.*

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<sup>427</sup> Werner 1953, 30-31

*Meerveldhoven: 15, 41, 42, 45, 49, 53.*

*Obbicht: 46.*

*Posterholt: 82.*

*Rhenen: 73, (520), (521), 662.*

*Sittard: 79.*

*Stein: 49.*

**Identification in other typologies:**

Franken AG: **Gür 4.6** – (phase 7 > 610/20 – 640/50).

Siegmund: **Gür 4.6** – (no date provided).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 6-8 (580/90 – 670/80).



*BU-5d*

**BU-5e** Iron belt fitting with a triangular back-plate with polychrome damascene decoration of animal-style

Iron belt fitting with a (broad) oval loop and a roughly triangular back-plate. The back-plate is in some cases more tongue shaped or trapezoid but always approaches a triangle. The back-plate has three rivets. The tongue has a hinge bar mechanism. The tongue-base is mushroom-shaped in most cases. This type has polychrome damascene decoration on the loop, tongue-base and/or plate. The decoration consists of silver in combination with messing, copper-alloy or brass. The decoration resembles animal-style patterns. Rivets are often made of copper-alloy and sometimes covered with a messing or silver layer. The belt fitting can consist of multiple parts.

**Occurrence in the Netherlands:**

*Bergeijk: 69.*

*Lent: 7224, 7514.*

*Maastricht: 58, 284.*

*Meerveldhoven: 12.*

*Posterholt: 90.*

*Rhenen: 73, 738, 814.*

*Sittard: 84.*

*Stein: 23, 65.*

**Identification in other typologies:**

Franken AG: **Gür 4.7** – (phase 8 > 640/50 – 670/80).

Siegmund: **Gür 4.7** – (phase 9 > 640 – 670).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 6-8 (580/90 – 670/80).



BU-5e

**BU-5f Iron belt fitting with a triangular back-plate with polychrome damascene decoration of degenerated animal-style**

Iron belt fitting with a (broad) oval loop and a roughly triangular back-plate. The back-plate is in some cases more tongue shaped or trapezoid but always approaches a triangle. The back-plate has three rivets. The tongue has a hinge bar mechanism. The tongue-base is mushroom-shaped in most cases. This type has polychrome damascene decoration on the loop, tongue-base and/or plate. The decoration consists of silver in combination with messing, copper-alloy or brass. The decoration resembles degenerated animal-style patterns. Rivets are often made of copper-alloy and sometimes covered with a messing or silver layer. The belt fitting can consist of multiple parts.

**Occurrence in the Netherlands:**

*Lent:* 7215.

*Maastricht:* 15, (105), 278.

*Meerveldhoven:* 14, 25, (52).

*Obbicht:* 39.

*Sittard:* 45.

*Stein:* 37, 56a, 64.

**Identification in other typologies:**

Franken AG: **Gür 4.8a** – (phase 8 > 640/50 – 670/80).

Siegmund: **Gür 4.8** – (phase 9 > 640 – 670).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 7-8 (610/20 – 670/80).



*BU-5f*

**BU-5g Belt fittings of the 'Ophoven type'**

Iron belt set, usually consisting of a buckle with a rectangular to tongue-shaped back-plate, three or four belt mounts and a strap end. Positioning of the various pieces in the graves in which this type was found suggests a belt around the waist, fastened with the buckle. Attached to the belt, there was a leather strap running down to ankle or knee height, with

the three or four mounts attached to it. The end of the leather strap was adorned with the strap end<sup>428</sup>.

The decoration of the sets varies, but generally consists of the following: The buckle is either not decorated or shows a braid- or animal style pattern of silver inlay. The central fields of the mounts are generally decorated with a plaited motif of silver inlay. The mounts have a border, marked by a silver line and filled-in with a silver zigzag- or linear pattern. The strap end often shows a silver-inlay braided pattern, similar to the mounts, but larger. Examples are also found of strap ends with no decoration. The strap end of one example shows a decoration which is similar to the Anglo-Saxon animal style II<sup>429</sup>. The Ophoven belt set appears, apart from iron, also in a copper-alloy variant.

From this type, there are no examples known from Germany or northern France. The type seems to be local to the north and east of Belgium and the southern Netherlands. It is therefore likely that the type was made locally, in the Meuse valley region<sup>430</sup>. The type is named after the Belgian village and Merovingian cemetery of Ophoven (Limburg), where examples were found in graves 64, 131 and 132. Further examples in Belgium are found in the cemeteries of Borsbeek (Antwerpen)<sup>431</sup>, Hamoir (Liège)<sup>432</sup>, Erps-Kwerps (Flemish Brabant)<sup>433</sup>, Braives (Liège)<sup>434</sup> and Wellin (Luxembourg)<sup>435</sup>.

#### **Occurrence in the Netherlands:**

*Bergeijk: 50, 89*

*Geldrop (not in this sample): 6b*

*Meerveldhoven: 41*

*Posterholt: 62*

*Veldhoven: 10*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

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<sup>428</sup> Theuws *et al.* 2012, 63.

<sup>429</sup> Theuws *et al.* 2012, 63-4, 66-7.

<sup>430</sup> Theuws *et al.* 2012, 65, 67

<sup>431</sup> De Boe 1970, 22-25.

<sup>432</sup> Alenus-Lecerf 1978 (I) 31 + 134, (II) 27-28.

<sup>433</sup> Verbeeck 1987/1988, 53, 55,58.

<sup>434</sup> Brulet *et al.* 1979, 25, 72-73.

<sup>435</sup> Evrard 1997, 32.

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 7-9 (610/20 – 710).



*BU-5g*

**BU-5h Buckles with hinge bar and a folded rectangular back-plate**

Simple buckle with an oval loop and a straight- or club-shaped tongue of the hinge bar type. This type of buckle is made of iron or sometimes copper-alloy. The back-plate is undecorated and has a short rectangular shape. The back-plate has one or two rivets and is folded around the loop. More than two rivets occur on the examples in Rhenen graves 87 and 818.

In the German typologies the type is placed in the second half of the seventh- and the first half of the eighth centuries. In most cases in the Netherlands, however, the type occurs much earlier. The buckle is a relatively common find and circulates in phase 5 to 8. In addition, a similar type also occurs in late antique graves of phases 1 and 2 (indicated in bold below).

Unfortunately, this makes the type less chronologically relevant and less well suitable as a guiding artefact for the dating of contexts.

**Occurrence in the Netherlands:**

*Bergeijk: 22, 24.*

*Borgharen: 2.*

*Lent: 7224, 7519.*

*Meerveldhoven: 45.*

*Rhenen: 87, 341, 476, 592, 595, 642, 669, 776, 815, **818**, 824.*

*Zweeloo: 51, 76.*

**Identification in other typologies:**

Franken AG: **Gür 6.2** – (phase 9-10 > 670/80 - 750).

Siegmund: **Gür 6.2** – (phase 10-11 > 670 – 740).

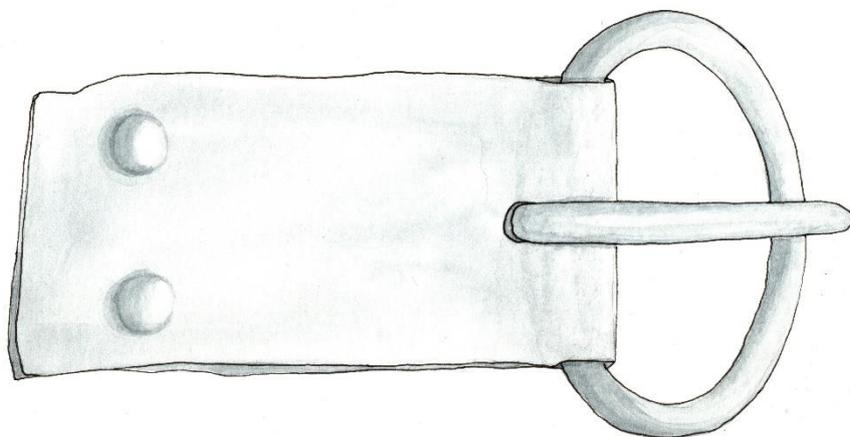
LPV: -

Hines: **related to BU9** – (no date provided).

**Dating in the Netherlands:**

Late antique variant: phase 1-2 (400 – 460/80).

Early medieval variant: phase 5-8 (565 – 670/80).



*BU-5h*

## **BU-5i Shoe buckles with polychrome decoration**

Buckles made of iron which were used for the fastening of shoes. The buckles have an oval loop and a simple tongue with a mostly mushroom-shaped tongue-base. The back plate is roughly triangular. The loop, tongue-base and/or backplate are usually decorated with inlay in silver, messing, brass and/or copper-alloy. Monochrome decoration also occurs, although very rarely. The decoration can be described as animal style, often with a braided pattern on the back-plate. In most cases, these buckles are found in pairs.

### **Occurrence in the Netherlands:**

*Bergeijk: 77.*

*Maastricht: 105, 126.*

*Meerveldhoven: 16.*

*Rhenen: 13.*

### **Identification in other typologies:**

Franken AG: **SNA 2.5** – (phase 7-8 > 610/20 – 670/80).

Siegmund: **SNA 2.5** – (phase 8-9 > 610 - 670).

LPV: **related to 135** – (phase MR1 > 600/10 – 630/40).

Hines: -

### **Dating in the Netherlands:**

Phases 6-7 (580/90 – 640/50).



*BU-5i*

# POTTERY

Besides beads, pottery is the largest section within this typology. Finds from this category occur in the majority of early medieval graves. The most characteristic type of early medieval pottery in the Netherlands is the biconical pot. This type occurs in different shapes and sizes and is plain or decorated in various ways. The pottery section is divided into ten categories covering various forms of biconical vessels, ovoid vessels, bowls, jugs, bottles, Anglo-Saxon pottery, other hand formed types and unique pieces. Pottery is a category of finds which occurs in both male- and female-gender inhumations.

In this section, the most frequently used European typologies for comparison and reference are those by Siegmund, the Franken Arbeitsgruppe and LPV. In addition, various category-specific schemes were used including those by Van Spelde (Ovoid vessels from the Netherlands), Krol (Anglo-Saxon pottery from the Netherlands) and Leahy (Anglo-Saxon pottery from England).

## PO-1: BICONICAL VESSELS WITH A CONCAVE UPPER WALL

Biconical vessels with a concave upper wall are considered the earliest form within the typology of the biconical vessels. Type PO-1c stands out from the other vessels in this group because of its modest size. The types PO-1a and PO-1b have many similarities. The difference between the two types, however, is the degree of concavity of the upper wall. To the trained eye, it is possible to decide in which category a vessel belongs without calculating the concavity. If there is a desire to calculate the concavity, however, the following formula can be used:  $\text{relative concavity} = (\text{diameter of the carination} + \text{diameter of the opening}) / 2 - (\text{smallest diameter} / \text{height of the upper wall}) / 2$ . The boundary between strongly and slightly concave is a relative concavity of 0.15<sup>436</sup>.

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<sup>436</sup> Siegmund 1998, 127.

### **PO-1a Large biconical vessels with a strongly concave upper wall**

Large biconical vessels which have a large opening and a strongly concave upper wall. The relative concavity is 0.15 or higher. This type is decorated with individual stamp decoration and/or linear incisions, horizontally around the body. The stamped decoration normally consists of individual rosettes with a flower-like shape, made up of triangular impressions.

#### **Occurrence in the Netherlands:**

*Elst: 174.*

*Rhenen: 380, (470).*

*Wageningen: 153.*

*Zweeloo: 87.*

#### **Identification in other typologies:**

Franken AG: **KWT 1A** – (phase 3 > 460/80 – 510/25).

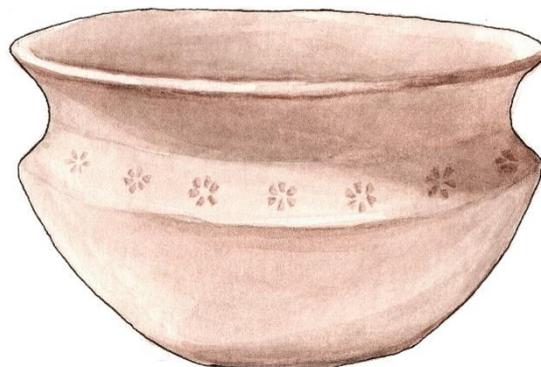
Siegmund: **related to kwt 1.11** – (phase 3 > 485 – 530).

LPV: **related to 387** – (phase MA1 > 470/80 – 520/30).

Hines: -

#### **Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).



*PO-1a*

### **PO-1b Biconical vessels with slightly concave upper wall**

Biconical vessels which have a large opening and a slightly concave upper wall. The relative concavity is 0.15 or less. This type is decorated with individual stamp decoration and/or linear incisions, horizontally around the body. The stamped decoration normally consists of individual rosettes with a flower-like shape, made up of triangular impressions.

#### **Occurrence in the Netherlands:**

*Rhenen: 76, 697, 750.*

#### **Identification in other typologies:**

Franken AG: **KWT 1b** – (phase 4 > 510/25 – 565).

Siegmund: **related to kwt 1.12** – (phase 3-4 > 485 – 555).

LPV: **related to 386** – (phase PMb-MA1 > 450/60 – 520/30).

Hines: -

#### **Dating in the Netherlands:**

Phases 4-5 (510/25 – 580/90).



*PO-1b*

### **PO-1c Small biconical vessels with concave upper wall**

Small biconical vessels with a beaker-like shape and a concave upper wall. The decoration of this type often consists of multiple horizontally incised lines closely together around the upper body. Not all vessels, however, are decorated.

On one occasion (Rhenen grave 374), the incised lines are accompanied by small knife impressions. The example from Elst grave 201 has roulette stamp decoration in combination with a concave upper wall. This is a unique combination within the sample. The vessel is added to this category based on its concave upper wall and small size.

Besides the main type described above, this category also includes slightly larger vessels with a bowl-like shape and small undecorated biconical vessels with a concave upper wall, made of coarse ware (Siegmund's type Kwt 4.51).

#### **Occurrence in the Netherlands:**

*Elst: 179, 201.*

*Rhenen: 92a, 99, 105, 133, 137, 148, 345, 374, 462, 555, 576, 613, 704, 747.*

*Wageningen: 172.*

#### **Identification in other typologies:**

Franken AG: **KWT 1c** – (phase 2-4a > 430/35 – 535/40).

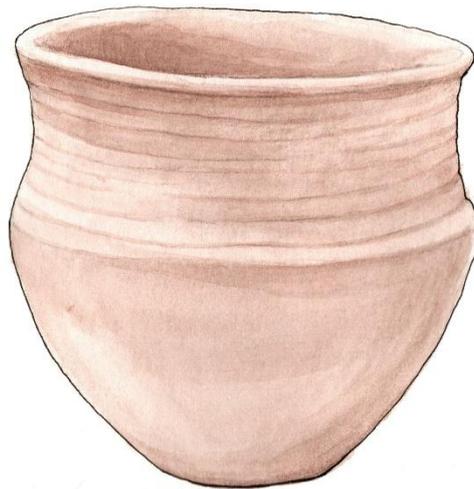
Siegmund: **related to KWT 1.22** (phase 4-5 > 530 – 570), **KWT 4.51** (phase 3 > 485-530).

LPV: **shape-wise related to 383** – (phase PMb-MA1 > 450/60 – 520/30).

Hines: -

#### **Dating in the Netherlands:**

Phases 3-4 (460/80 – 565).



*PO-1c*

## PO-2: BICONICAL VESSELS WITH A STRAIGHT UPPER WALL

The biconical vessels with a concave upper wall are typologically followed by those with a straight upper wall. The latter were used for longer during the early Medieval period and are therefore more numerous in funerary contexts from the period.

Biconical vessels with a straight upper wall occur in various sizes and there is a degree of variety in shape, within the boundaries of the overall biconical appearance. The vessels grouped in category PO-2 are either undecorated, decorated with incised lines or decorated with single stamps; vessels with roulette stamp decoration are grouped in PO-3.

In Siegmund's typology for the German Rhineland, vessels are classified according to a combination of shape and decoration. Siegmund works with five basic shapes to which a vessel can be assigned on the basis of its proportional ratios. Then the basic shape is combined with decorative features to arrive at a final classification<sup>437</sup>.

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<sup>437</sup> Siegmund 1998, 128

The Franken Arbeitsgruppe takes over only a small number of Siegmund's types directly. For the majority of types, the classification based on shape is abandoned and decoration is used as the sole condition for classification<sup>438</sup>.

During this research it became clear that the methodology of the typology designed by the Franken Arbeitsgruppe generates the best result for the Netherlands. In most cases, a chronological distinction based on shape variety within the same decoration type-group cannot be proven on the basis of the Dutch find material in this sample.

There are exceptional cases, however, in which it is useful to classify based on decoration as well as vessel shape. In these cases it usually concerns a division between vessels with 'average' proportions and vessels which are relatively slender. In order to independently calculate if a vessel has an average shape, the following formula can be used to establish the relative ratio between height and width: **Diameter of the carination / total height**.

In some cases, vessels within this category are equipped with a spout and handle. The decoration remains the leading factor for classification in those cases. Individual vessels with handle and/or spout are indicated per group below.

### **PO-2a Biconical vessels – undecorated**

Biconical vessels with a straight upper wall and without decoration. The ratio between the height and the diameter of the carination (**d/h**) is more than 1.07. This group includes most of the undecorated vessels, apart from those with a slender shape (see PO-2b). The more pouch-shaped vessels, such as present in Bergeijk grave 30 are related to Siegmund's type Kwt 4.11 which dates between AD 585 and 625.

One of the two vessels from Obbicht grave 51b has a handle and spout. The vessel from Obbicht grave 46 has an atypical shape with a very low shoulder.

#### **Occurrence in the Netherlands:**

*Bergeijk: 19, 20, 30, 111.*

*Elst: (118).*

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<sup>438</sup> Müssemeier 2003, 56-63

*Maastricht: 19.*

*Meerveldhoven: 18, 23, 40.*

*Obbicht: 40a, 40b, 46, 51b, 61.*

*Rhenen: 81, 239, 318.*

*Rijnsburg: 4.*

*Sittard: 31, 71, (88).*

*Stein: 22, 64.*

*Veldhoven: 6.*

*Wageningen: 130, 168.*

**Identification in other typologies:**

Franken AG: **KWT 4A** (phase 4-7 > 510/25 – 640/50).

Siegmund: **related to KWT 2.41** (phase 4 > 530-555), **2.42** (phase 7 > 585-610).

LPV: **related to** 385 (phase MA1-MA2 > 470/80-560/70), 391 (phase MA2-MA3 > 520/30-600/10, 392 (phase MA3-MR2 > 560/70-660/70), 393 (phase MA3-MR1 > 560/70-630/40).

Hines: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50). Sporadically in phase 4 (510/25-565) and phase 8 (640/50-670/80).

The vessels with an explicitly rounded carination are likely to belong in phases 6 or 7 (580/90 – 640/50).



*PO-2a*

## **PO-2b Biconical vessels – undecorated – slender**

Biconical vessels with a straight upper wall and without decoration. The ratio between the height and the diameter of the carination ( $d/h$ ) is less than 1.07. This group includes the tall, slender vessels in the category 'undecorated' (for other shapes see PO-2a). Vessels of this type often have a narrow neck and mouth and a relatively high collar or rim.

### **Occurrence in the Netherlands:**

*Bergeijk: 7, 18, 31, 47, 49, 112, 113.*

*Maastricht: 105, 223, 292.*

*Obbicht: 64.*

*Posterholt: 70.*

*Rhenen: 271.*

*Stein: 11.*

*Veldhoven: 6.*

*Wageningen: 100.*

### **Identification in other typologies:**

Franken AG: **S-KWT 2.43** (phase 6-9 > 580/90-710).

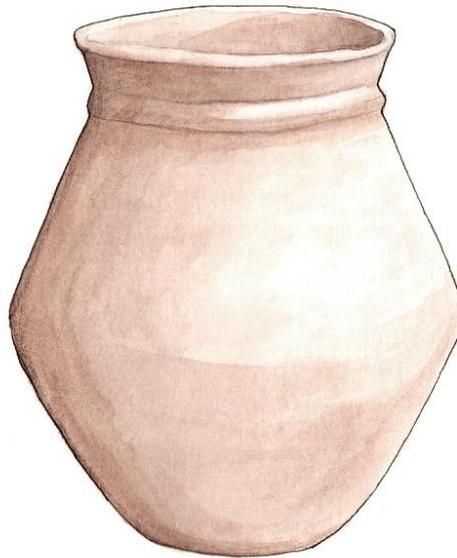
Siegmund: **KWT 2.43** (phase 8-9 > 610-670).

LPV: -

Hines: -

### **Dating in the Netherlands:**

Phase 6-7 (580/90-640/50).



PO-2b

**PO-2c Small biconical vessels made of undecorated coarse ware**

Small biconical vessels with a straight upper wall and without decoration. The vessels are made of rough-walled earthenware and are no higher than 11 centimetres.

**Occurrence in the Netherlands:**

*Rhenen: 143, 314, 318 341, 354, 436, 642, 673, 705.*

**Identification in other typologies:**

Franken AG: **S-KWT 4.52** (phase 5-8 > 565-670/80, most prominently in phases 6-8 > 580/90-670/80).

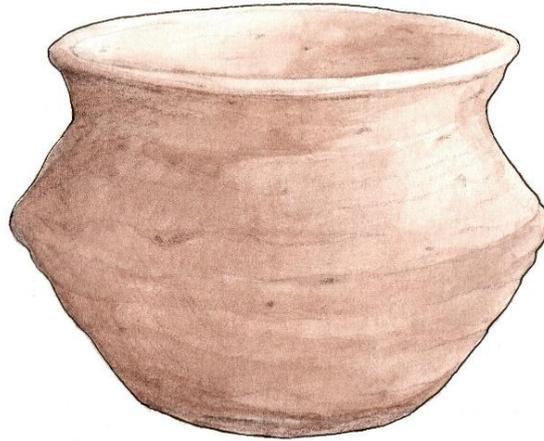
Siegmund: **KWT 4.54** (phase 8-9 > 610-670).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565-610/20).



PO-2c

### **PO-2d Biconical vessels with incised lines and rosette stamp decoration**

Biconical vessels with a straight upper wall, occurring in various sizes and proportions. The decoration consists of horizontal incised lines in combination with single stamps. The stamps are individual rosettes with a flower-like shape made up of triangular impressions.

In some cases a combination occurs of rosettes and other single stamps. These other stamps are often rectangles made up of multiple rows of small rectangles.

The vessel from Rhenen grave 481 has a handle and spout.

#### **Occurrence in the Netherlands:**

*Obbicht*: 17.

*Posterholt*: 26, 73.

*Rhenen*: 193, 202, 274, 481, 514.

*Stein*: 1.

#### **Identification in other typologies:**

Franken AG: **KWT 2A** – (phase 4-5 > 510/25 – 580/90).

Siegmund: **related to KWT 2.11, 2.12, 2.21, 2.22** – (phase 3-5, 8a > 485-570, 610-625).

LPV: **related to 387 Est** – (phase MA1 > 470/80 – 520/30).

Hines: -

### Dating in the Netherlands:

Phase 4-5 (510/25 – 580/90).



*PO-2d*

### **PO-2e Biconical vessels with a straight upper wall and single stamp decoration**

Biconical vessels with a straight upper wall, occurring in various sizes and proportions. The decoration consists of single stamps of any type other than rosette stamps. The most common stamp motif is a large rectangle formed by various small rectangles. The single stamp decoration occurs in one or more rows and is in some cases accompanied by horizontal incised lines.

The Franken AG divides vessels of this type in categories KWT 2b and 2c based on the ratio between the height and the diameter of the carination as well as the presence of incised decoration. This division was taken over directly from the typology by Siegmund. Applying this division to the vessels from the Netherlands, however, does not add value to the chronology. It could even be argued that groups PO-2d and PO-2e could be merged, based on the chronology of their occurrence.

**Occurrence in the Netherlands:**

*Bergeijk: 34, 73.*

*Elst: 127, 162, 238.*

*Maastricht: 88.*

*Obbicht: 28.*

*Posterholt: 73.*

*Rhenen: 338, 534, 562, 576, 623, 755b, 796.*

*Sittard: 34.*

*Stein: (25), 28, 30, 36, 59.*

*Veldhoven: 12.*

**Identification in other typologies:**

Franken AG: **KWT 2B** – (phase 4-6 > 510/25 – 610/20, most prominently in 4-5 > 510/25 – 580/90) and **KWT 2C** – (phase 7-8 > 610/20 – 670/80).

Siegmund: **related to KWT 2.11** (phase 4-5 > 530-570), **2.12** (phase 4 > 530-555), **2.21** (phase 3-4 > 485-555), **2.22** (phase 8a > 610-625).

LPV: **related to 387** (phase MA1 > 470/80 – 520/30) and **390 type c** (MA2-MR1 > 520/30 – 630/40 most prominently in MA3-MR1 > 560/70 – 630/40).

Hines: -

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90). Occasionally in phase 6 (580/90 – 610/20).



PO-2e

## **PO-2f Biconical vessels with a decoration of horizontal incised lines.**

Biconical vessels with a straight upper wall, occurring in various sizes and proportions. The decoration consists of horizontal incised lines, normally located on the upper part of the vessel's body. In some cases, however, the incised decoration extends below the shoulder.

The examples from Sittard graves 24 and 49 and Meerveldhoven grave 53 are equipped with a handle and spout. The vessel from Elst grave 159 has a regular row of dents running horizontally along the shoulder. These dents are somewhat reminiscent of the facet decoration that occurs in Anglo-Saxon vessels (PO-5).

### **Occurrence in the Netherlands:**

*Bergeijk: 33, 67.*

*Elst: 91, 96, 146, 159, 193, 215.*

*Maastricht: 88, 110, 187, 230, 310.*

*Meerveldhoven: 53.*

*Obbicht: 7, 17, 20.*

*Rhenen: 18, 143, 157, 168, 188, 195, 233, 269, 273, 332, 336, 343, 553, 592, 609, 628, 636, 639, 649, 672, 699, 700, 704, 709, 715.*

*Sittard: 24, 29, 32, 33, 36, 49, 80.*

*Stein: 18, 50, 52, 56b, 63.*

*Veldhoven: 6, 10, 14.*

*Wageningen: 174.*

### **Identification in other typologies:**

Franken AG: **KWT 3A** – (phase 4-5 > 510/25 – 580/90, sporadically in phase 6 > 580/90 – 610/20).

Siegmund: **related to KWT 2.31** (phase 5 > 555-570), **2.32** (phase 4-5 > 530-570), **2.33** (phase 6-8 > 570-640).

LPV: **related to 396** (phase MR1-MR3 > 600/10 – 700/10) and **397** (MA3-MR2 > 560/70 – 660/70).

Hines: -

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20). Most frequently in phase 4-5 (510/25 – 580/90). Occasionally in phase 3 and 7 (460/80 – 510/25 and 610/20 – 640/50).



*PO-2f*

**PO-2g Biconical vessels with a combined decoration of horizontal incised lines and incised waves**

Biconical vessels with a straight upper wall, occurring in various sizes and proportions. The decoration consists of horizontal incised lines in combination with incised waves. A band of incised waves is often placed centrally between two or more bands of horizontal incised lines. The decoration is usually only present on the upper wall of the vessel.

The example from Obbicht grave 32 has a spout and handle. The vessel from Sittard grave 14 has only incised waves.

**Occurrence in the Netherlands:**

*Elst: 127.*

*Hoogeloon: 3.*

*Maastricht: (274).*

*Obbicht: 32.*

*Posterholt: 91.*

*Rhenen: 137, 324, 396, 595, 612a, 646.*

*Sittard: 14.*

**Identification in other typologies:**

Franken AG: **KWT 3B** (phase 4-5 > 510/25 – 580/90).

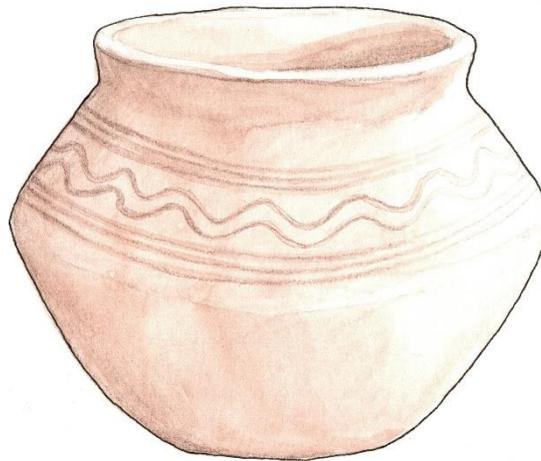
Siegmund: **related to KWT 2.31** (phase 5 > 555-570), **2.32** (phase 4-5 > 530-570), **2.33** (phase 6-8 > 570-640).

LPV: **related to 397** (MA3-MR2 > 560/70 – 660/70).

Hines: -

**Dating in the Netherlands:**

Phase 5 (565 – 580/90). Occasionally in phases 4 (510/25 – 565) and 6 (580/90 – 610-20).



*PO-2g*

**PO-2h Biconical vessels with decoration and a foot ring**

Biconical vessels with a straight upper wall, occurring in various sizes and proportions. The binding factor within this group is the foot ring, which is rare amongst biconical vessels from the early Medieval period. Another characteristic of vessels in this group is the often vertical or slightly conical upper wall which provides the vessels with a large opening, often approximately similar in diameter to the carination. Vessels of this type are decorated in

various ways including roulette stamp decoration, single stamp decoration and incised decoration.

**Occurrence in the Netherlands:**

*Bergeijk: 114.*

*Hoogeloon: 13.*

*Meerveldhoven: 32.*

*Obbicht: 46 .*

**Identification in other typologies:**

Franken AG: **S-Kwt 4.3** (phase 7-8 > 610/20-670/80).

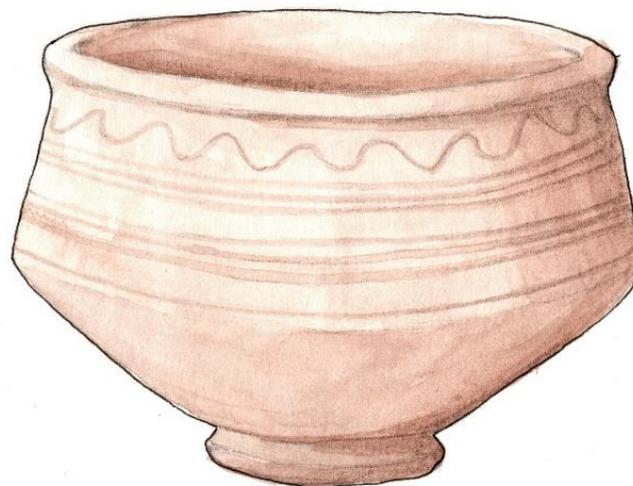
Siegmund: **Kwt 4.3** (phase 8b-9 > 625-670).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50).



*PO-2h*

## **PO-2i Biconical vessels with two ribs in the upper wall**

Biconical vessels with a straight upper wall, occurring in various sizes and proportions. This type is characterised by the presence of two ribs, running horizontally around the upper wall. In addition to the ribs, vessels in this group are sometimes decorated. The example from Lent grave 7224 shows a horizontal band of oval impressions below the carination.

### **Occurrence in the Netherlands:**

*Lent: 7224.*

### **Identification in other typologies:**

Franken AG: **KWT 6** (phase 6b-9 > 595 – 710, most prominently phase 7-8 > 610/20-670/80).

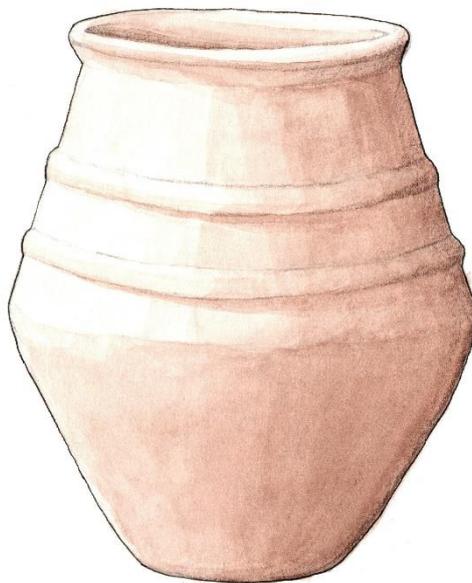
Siegmund: -

LPV: -

Hines: -

### **Dating in the Netherlands:**

Phase 6 (580/90 – 610/20). Possibly ending in phase 7 or 8.



*PO-2i*

## **PO-2j Biconical vessels of coarse ware with a very rounded carination**

Vessels in this group are made of rough-walled earthen ware and have a very rounded carination which almost negates the biconical shape.

Due to their globular appearance, vessels in this group closely relate to those in ovoid vessel group PO-4h. The vessels in group PO-2j distinguish themselves from those in PO-4h through their slightly more compressed-globular appearance and therefore slightly more pronounced shoulder or carination. The differences, however, are small and arbitrary and it is possible to suggest that both groups should be merged. A merger between both groups is possible on the basis of chronology as PO-4h dates to Phase 4-7 (510/25 – 640/50).

### **Occurrence in the Netherlands:**

*Bergeijk: 53, 110.*

### **Identification in other typologies:**

Franken AG: -

Siegmund: **Kwt 4.12** (Phase 10 > 670-705, uncertain).

LPV: -

Hines: -

### **Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).



*PO-2j*

## PO-3: BICONICAL VESSELS WITH A STRAIGHT UPPER WALL AND ROULETTE STAMP DECORATION

Besides plain vessels and incised or single stamp decoration, roulette stamp decoration is a common feature on pottery from the early medieval period. Roulette stamp decoration occurs most frequently on biconical vessels but in some cases can also be found on bowls or jugs.

Roulette stamps occur in two different forms. There are stamps leaving a single line of impressions and stamps leaving multiple lines of impressions. This difference is important for the classification of some types below. In all cases multiple rows of stamps can be applied to a single vessel. Two separate stamp impressions, either with a single line or with multiple lines, can be distinguished by the space between them and, in case of a complex pattern, by a pattern repetition. The space between two separate stamp impressions is usually somewhat larger than the space between lines of impression within one stamp.

The pattern of the stamp differs, with the simplest and most common form being rectangular or square impressions. Triangular or chevron impressions occur too, but are less frequent. The more complex stamps show a combination of the above shapes, as well as crosses. Within a complex stamp, the basic shapes are often placed in various directions, for instance triangles pointing left and right. The complex stamps occur with a continuous pattern as well as with an interrupted pattern. The latter closely resembles single stamp decoration.

For most vessels in category PO-3 the shape is not chronologically relevant within the sample from the Netherlands. In a few instances, however, vessels within the same category of decoration are divided into vessels with 'average' proportions and vessels which are relatively slender. In order to independently calculate if a vessel has an average shape, the following formula can be used to establish the relative ratio between height and width: **Diameter of the carination / total height**.

Some vessels are equipped with a spout and handle. In those cases, the decoration remains the leading factor for classification.

**PO-3a Biconical vessels with a single-line roulette stamp decoration of rectangular or square impressions.**

Biconical vessels with a straight upper wall, occurring in various sizes and proportions. The decoration consists of one or more horizontal rows of single-line roulette stamp impressions. The roulette stamp consists of rectangles or squares.

The vessels from Sittard grave 5, Obbicht grave 18 and Stein grave 34 are equipped with a spout and handle. The example from Posterholt grave 70 shows a spout and the example from Posterholt grave 78 a handle. Both these vessels from Posterholt are found fragmentary.

The vessel in Rhenen grave 581 shows a combination of single-line roulette stamp and regular impressions along the carination.

The vessel from Maastricht grave 11 is of a high and slender shape (Siegmund type 3.13). Based on other artefacts in this context, it can be suggested that this is one of the very few vessels in the sample which can be dated no earlier than phase 7. This may allow for suggesting that the higher and slenderer shape is generally later than the lower and wider shape. A similar phenomenon can be seen with undecorated vessels PO-2a and PO-2b. The evidence within the Dutch sample, however, is not strong enough to state this with certainty. If slender shapes were to be found an indicator of vessels from a later date, it does not mean that later vessels are exclusively of a slender shape, as evidenced by the example in Obbicht grave 20 and Stein graves 23 and 56a.

**Occurrence in the Netherlands:**

*Bergeijk: 44, 62, 65, 77.*

*Borgharen: 2.*

*Elst: (82), 118, 173.*

*Hoogeloon: 4, 6, 26.*

*Maastricht: 11, 78, 218, 287.*

*Meerveldhoven: 15, 16, 28, 52.*

*Obbicht: (6), 14, 15, 18, 20, 36, 40b, 46, 59.*

*Posterholt: 70, 78, 84.*

*Rhenen: 138, 180, 185, 267, 276, 319, 334, 344, 395, 409, 449, 523, 581, 625, 645, 666,*

*671a, 675, 706, 774, 790, 792, 794.*

*Sittard: 6, 13, 28, 50.*

Stein: 23, 24, 34, 53, 56a, 66.

**Identification in other typologies:**

Franken AG: **KWT 5A** (phase 5-6 > 565 – 610/20).

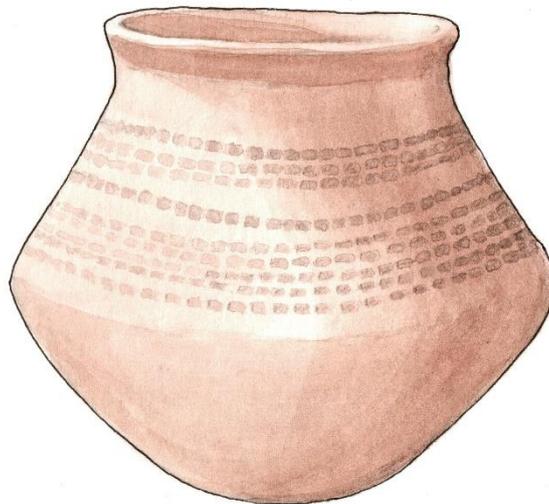
Siegmund: **related to KWT 3.11** (phase 6-7 > 570-610), **3.12** (phase 6-7 > 570-610), **3.13** (phase 6-7 > 570-610).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50). Occasionally in phase 4 (510/25 – 565) and phases 8 (640/50 – 670/80).



*Po-3a*

**PO-3b Biconical vessels with a multi-line roulette stamp decoration of rectangular or square impressions**

Biconical vessels with a straight upper wall, occurring in various sizes and proportions. The decoration consists of one or more horizontal rows of multi-line roulette stamp impressions. The roulette stamp consists of rectangles or squares.

Vessels in the graves Sittard 3 and 76, Bergeijk 41, 78, 82 and 85, Elst 140 and Meerveldhoven 29 are equipped with a spout and handle. Vessel sherds in Obbicht grave 59, Sittard grave 32 and Posterholt grave 72 only showed evidence of a spout. It is likely, however, that a handle was once present too.

The chronological distinction made by the Franken Arbeitsgruppe, between 'average' and slender-shaped vessels with multi-line roulette stamp decoration (KWT 5b and 5c), could not be recognised within the sample from the Netherlands.

**Occurrence in the Netherlands:**

*Bergeijk: 19, 39, 41, 42, 77, 78, 82, 85.*

*Borgharen: 2.*

*Elst: 140.*

*Maastricht: 84, 288.*

*Meerveldhoven: 11, 19, 29, 46, 48.*

*Obbicht: 1, 10, 23, 28, 35, 49, 59.*

*Posterholt: 30, 52, 72, 77, 84.*

*Rhenen: 321, 329, 397, 446, 509.*

*Sittard: 3, 5, 11, 30, 32, 47, 76, 81.*

*Stein: 1, 45, 60, 61, 62, 65, 67, 69.*

*Veldhoven: 4, 16.*

**Identification in other typologies:**

Franken AG: **KWT 5B** (phase 5-7 > 565 – 640/50). **KWT 5C** (phase 7-8 > 610/20 – 670/80).

Siegmund: **related to KWT 3.21** (phase 7-8 > 585-640), **3.22** (phase 7-8 > 585-640), **3.23** (phase 8 > 610-640).

LPV: **related to decoration type 414** (phase MA1-MR2 > 470/80-660/70) **415** (phase MA2-MR1 > 520/30-630/40).

Hines: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50). Sporadically in phase 8 (640/50 – 670/80).



*PO-3b*

**PO-3c Biconical vessels with a roulette stamp decoration of triangles or chevrons.**

Biconical vessels with a straight upper wall, occurring in various sizes and proportions. The decoration consists of one or more horizontal rows of roulette stamp impressions. The roulette stamp typically consists of solid (opposite) triangles. An example of this typical stamp can be seen in Rhenen grave 172. In some cases, the triangles are not solid and merely resemble chevrons, as can be seen in Maastricht grave 88 and Veldhoven grave 15. The triangle shapes are sometimes accompanied by incised lines or rectangular roulette impressions.

The vessel found in Stein grave 57 is equipped with a spout and handle.

The example from Veldhoven, occurring in combination with a buckle of type BU-3g, may be the oldest in this sample and the only one dating to phase 5. This may suggest that the chevron-like triangles are a slightly earlier form than the solid triangles.

**Occurrence in the Netherlands:**

*Bergeijk: 71.*

*Hoogeloon: 13.*

*Maastricht: 88.*

*Rhenen: 172, 722.*

*Sittard: 33.*

*Stein: 57.*

Veldhoven: 15.

Wageningen: (76).

**Identification in other typologies:**

Franken AG: **KWT 5D** (phase 6 > 580/90 – 610/20).

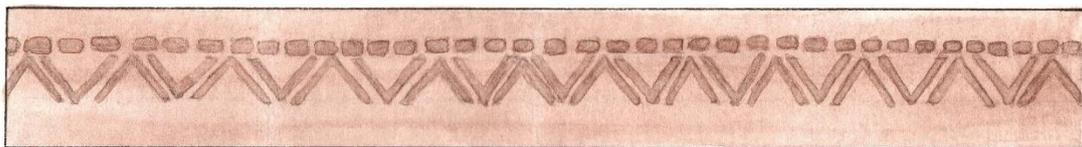
Siegmund: **related to KWT 3.21** (phase 7-8 > 585-640), **3.22** (phase 7-8 > 585-640), **3.23** (phase 8 > 610-640).

LPV: **related to decoration type 411** (phase PM-MA1 > 440/50-520/30) **429** (phase MR1 > 600/10 -630/40).

Hines: -

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20). Sporadically in phase 5 or 7 (565 – 580/90 or 610/20 – 640/580).



PO-3c

### **PO-3d Biconical vessels with a complex interrupted roulette stamp decoration.**

Biconical vessels with a straight upper wall, occurring in various sizes and proportions. The decoration consists of one or more horizontal rows of roulette stamp impressions. The impressions resemble squares which are separated by open space and which are individually decorated. The decoration of each square typically consists of geometric shapes, such as triangles or rectangles, in various compositions.

#### **Occurrence in the Netherlands:**

*Bergeijk: 77.*

*Meerveldhoven: 51.*

*Obbicht: 12, 43.*

*Rhenen: 159, 179, 332.*

*Sittard: 9.*

*Stein: 26.*

#### **Identification in other typologies:**

Franken AG: **KWT 5F** (phase 5-7 > 565 – 640/50).

Siegmund: **related to KWT 3.21** (phase 7-8 > 585-640), **3.22** (phase 7-8 > 585-640), **3.23** (phase 8 > 610-640).

LPV: -

Hines: -

#### **Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).



PO-3d

**PO-3e Biconical vessels with a complex uninterrupted roulette stamp decoration.**

Biconical vessels with a straight upper wall. The ratio between the height and the diameter of the carination ( $d/h$ ) is more than 1.1. In addition, this group includes vessels with an average or wide opening. The ratio between the diameter of the opening and the diameter of the carination ( $D_o/D_c$ ) is more than 0.78.

The decoration consists of one or more horizontal rows of roulette stamp impressions. The impressions resemble a complex, uninterrupted pattern of geometric shapes in various compositions. The geometric shapes often include triangles, rectangles and chevrons. The pattern is regular in some cases but seems incoherent in others.

The examples found in Obbicht graves 28 and 62 and in Stein grave 55 are equipped with a spout and handle. The pattern on the vessel from Stein grave 58 seems to be incised rather than stamped, but in a style coherent with this group.

**Occurrence in the Netherlands:**

*Bergeijk: 53.*

*Lent: 7208.*

*Obbicht: (3), 4, 8, 11, 19, 28, 37b, (52), 62.*

Rhenen: (18), 140, 504, 630, 791.

Stein: 45, 51, 55, (58).

Veldhoven: 5.

Wageningen: 76.

**Identification in other typologies:**

Franken AG: **KWT 5G** (phase 5-6 > 565 – 610/20).

Siegmund: **related to KWT 3.21** (phase 7-8 > 585-640), **3.22** (phase 7-8 > 585-640), **3.23** (phase 8 > 610-640).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



PO-3e

**PO-3f Biconical vessels with a complex uninterrupted roulette stamp decoration – slender**

Biconical vessels with a straight upper wall. The ratio between the height and the diameter of the carination ( $d/h$ ) is less than 1.1. In addition, this group includes vessels with a narrow

opening. The ratio between the diameter of the opening and the diameter of the carination ( $D_o/D_c$ ) is less than 0.78.

The decoration consists of one or more horizontal rows of roulette stamp impressions. The impressions resemble a complex, uninterrupted pattern of geometric shapes in various compositions. The geometric shapes often include triangles, rectangles and chevrons. The pattern is regular in some cases but seems incoherent in others.

The vessel from Sittard grave 86 has a combination of a complex uninterrupted- and a multi-line rectangular roulette stamp. This vessel is also equipped with a handle and spout.

**Occurrence in the Netherlands:**

*Lent: 7514.*

*Rhenen: 442, 463, 587.*

*Sittard: 86.*

*Stein: 30.*

**Identification in other typologies:**

Franken AG: **KWT 5H** (phase 5-7 > 565 – 640/50).

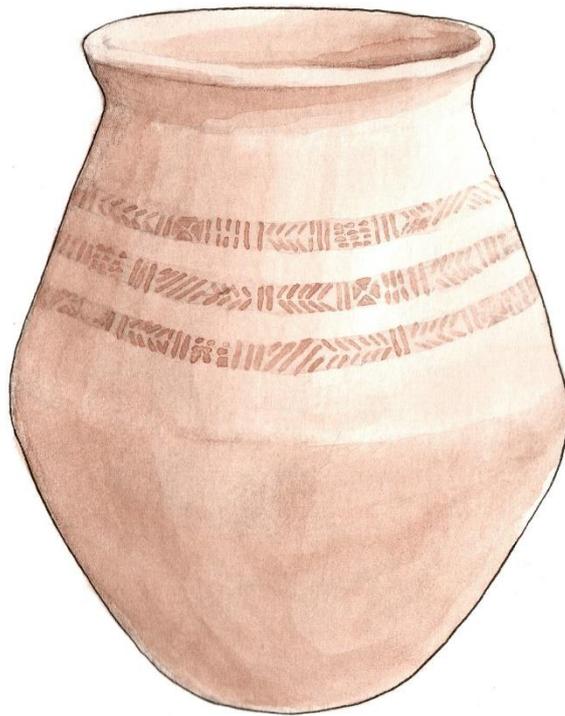
Siegmund: **related to 3.23** (phase 8 > 610-640).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 6-8 (580/90 – 670/80).



*PO-3f*

## PO-4: OVOID VESSELS

Ovoid vessels, mainly used for cooking, regularly appear in early Medieval settlement contexts. In cemeteries, the number of ovoid vessels is significantly lower than the number of biconical vessels. This is especially the case in inhumation burials, resulting in a limited number of ovoid vessels featuring in the sample used for this study.

'Ovoid vessels' in this research is a generalising term for pots which adhere to the three following conditions:

- a) The pot is made on the potter's wheel.
- b) The pot is made of coarse ware.
- c) The pot is not biconical in shape.

The pots in this category do not necessarily have an ovoid appearance but come in all kinds of shapes including bucket-, egg- and heart shapes. In addition to different shapes, there is a great variety in size. A rule of thumb prescribes that smaller vessels are generally older than larger vessels.

Siegmund identifies a group of ovoid vessels with 'early characteristics' and a group with 'late characteristics'. The groups are further divided into various subtypes, based on specific characteristics and ratios<sup>439</sup>. The Franken Arbeitsgruppe takes over Siegmund's classification unchanged<sup>440</sup>.

The division between Siegmund's early and late group is primarily based on style features including seven different rim types<sup>441</sup>:

1: Thickened everted rim. On the outside, a light groove runs towards the inside. The rim is separated from the neck of the vessel with a slight incised line.

2: Thickened everted rim, derived from type 1. The light groove is absent, and the incised line is mostly absent.

3: Slightly everted rim which is no thicker than the wall itself. The lip is pronounced and round or rounded.

4: Everted rim which is not or hardly thickened in comparison to the wall. The clearly visible ledge makes this a so called 'sickle edge'.

5: Slightly everted rim which is no thicker than the wall itself. The lip is obliquely finished on the outside.

6: Slightly everted rim which is thickened. The lip is obliquely finished on the outside.

7: Thickened rim which everts to a horizontal position. The lip is either undercut or its lower edge forms a horizontal line.

Rim types 1 and 2 are considered early, types 3 and 6 can be early or late and types 4, 5 and 7 are considered late.

An early rim type in combination with incised decoration, a flat base and a concave or conical lower wall is the typical description of a vessel belonging to the early group. A vessel belonging

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<sup>439</sup> Siegmund 1998, 135-143.

<sup>440</sup> Müssemeier *et al.* 2003, 63-64.

<sup>441</sup> Siegmund 1998, 137-138.

to the late group will typically have a late rim type, a convex lower wall and often a convex base and is relatively tall.

Once split into an early and late group, the vessels are subdivided according to calculations of different proportions. Within the late group, vessels are subdivided using a calculation of the relative ratio between the base diameter and the height ( $bd/h$ ). In some cases, the next step is calculating the ratio between the diameter of the shoulder and the height ( $sd/h$ )<sup>442</sup>.

For the early group, calculation of the angle of inclination gives a slightly more specific classification of overall vessel shapes and is used for subdivision. The angle of inclination is the angle between the line perpendicular to the vertical axis of the vessel and the line connecting the extreme edge of the base with the extreme edge of the rim on the same side. The angle can be measured but also calculated, using the following formula<sup>443</sup>:  $\text{Angle of inclination} = \arctan (\text{height} / [(\text{diameter of the opening} - \text{diameter of the base}) / 2]) \times 57.29577951$ .

The identification of ovoid vessels through a combination of calculation and use of specific characteristics is useful to some extent. During this research it became clear that typologically separating the vessels from the Netherlands according to Siegmund's method does not necessarily lead to a more detailed chronological sequence. In other words, although the classes created by the calculations are typologically different, they overlap chronologically and are sometimes completely contemporary. In such cases, the meaning and purpose of having multiple categories is undermined.

This undesirable result arises because the German system pays insufficient attention to the general shape of the vessels. It is this overall shape which largely dictates the chronological positioning. Although the German typologies differentiate based on ratios and are therefore to some extent based on shape, this is not detailed enough to bring nuance to the chronology. An additional problem with the more detailed characterisations is the fact that it is often unclear what the actual rim shape of a vessel is, especially when classifying from reports or photos rather than the actual object. The lack of detailed illustrations in the published German typologies is not helpful in this regard.

If Siegmund's system were to be followed, the vessels in this sample would be classified and dated as displayed in table 9.

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<sup>442</sup> Siegmund 1998, 142-143

<sup>443</sup> Siegmund 1998, 135-139.

Table 9: Ovoid vessels from the Netherlands classified according to the typologies by Siegmund and the Franken AG.

<i>Siegmund/FAG type</i>	<i>FAG phase</i>	<i>Contexts</i>
<b>Wwt 1.1 (early)</b>	3-5 (460/80-580/90)	BH9 RD92b, 153, 160, 435, 505, 546, 578, 809 WA72
<b>Wwt 1.2 (early)</b>	3-5 (460/80-580/90)	BF32 EW81, 208, 212 RD106, 163, 405, 474, 502, 582, 600, 661, 788
<b>Wwt 1.3 (early)</b>	<i>Siegmund:</i> 5-6 (555-585)	RD165, 712
<b>Wwt 2.1 (late)</b>	6-8 (580/90-670/80)	EW 86, 181 MV36 RD 186, 737, 739 SG14, 17, 42
<b>Wwt 2.21 (late)</b>	9-10 (670/80-750)	EW131 OO24
<b>Wwt 2.22 (late)</b>	9-10 (670/80-750)	RD141, 793 SK16 SG43

The lack of detail regarding ovoid vessel in the German typologies was previously recognised<sup>444</sup>. During the past decade, an attempt was made to further specify the typology and chronology of early Medieval ovoid pots in the Netherlands, based on vessels and their rims found at the Abdijterrein settlement site in Rijnsburg<sup>445</sup>. Based on this study, further research was done incorporating three datasets which complemented but also cross-checked each other. This study incorporated ovoid vessels from the Oegstgeest settlement (near Rijnsburg) as one dataset and vessels from various cemetery sites in the Dutch and German Rhineland as another. The third dataset was previously created by Bult and includes information on rim shapes of ovoid vessels from various settlements which together span the whole of the Merovingian period<sup>446</sup>. One of the aims of the research was to produce a proposal for a new and uniform classification system for Dutch early Medieval pottery, preferably as part of the 'Deventer system'<sup>447</sup>. This pre-existing system is used in the Netherlands for classification of pottery and other artefacts from the late Medieval and early modern period.

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<sup>444</sup> Van Spelde 2014, 99-100

*Although a move to a standardised use of the Deventer system is probably not the best solution for making the Dutch early medieval archaeology more internationally accessible, the research by Van Spelde has resulted in promising outcomes regarding the artefact category of ovoid vessels.*

*The typology and chronology created by Van Spelde is based on a combination of rim shapes and overall shapes of ovoid vessels from the previously mentioned datasets. It is especially the combination of both factors which aids the creation of enough chronological differentiation<sup>448</sup>. In funerary archaeology, the researcher often benefits from the presence of complete or nearly complete vessels. In settlement archaeology on the contrary, often only fragments of vessels are found. In the case of the ovoid vessels in the Netherlands, the walls and bases do not change significantly enough over time to be useful for seriation. It is especially unhelpful if a wall or base sherd is the only fragment present of one particular vessel. A good understanding of overall shape development can be helpful in such cases to come to a classification. The rim shape changes significantly over time and can be a typological indicator in its own right, without the direct need for the rest of the vessel. Having more information about the vessel's overall shape in addition to the rim, however, makes identification and dating more precise<sup>449</sup>.*

*General shape development of ovoid vessels can be divided into two pathways, both originating from late Roman vessel shapes. The first pathway starts with the so called Alzei 27 vessel and the second pathway with the Alzei 32/33 vessel<sup>450</sup>. Alzei type 27 is characterised by a small opening, a roughly heart-shaped appearance and a clearly defined sickle-shaped rim with a ledge. Alzei type 32/33 has a wide opening, a more bucket-shaped appearance and a simple everted rim which is sometimes thickened and does not include a ledge<sup>451</sup>.*

*It is the presence or absence of a ledge which places a vessel in the Alzei 27 or Alzei 32/33 pathway. The specific rim shape and overall shape of the vessel further details its place in the typological and chronological sequence.*

*As can be seen from the rim-typologies by Dijkstra and Van Spelde, the ledge in the vessels belonging to the Alzei 27 pathway is most prominent in earlier vessels. This is followed by a*

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<sup>445</sup> Dijkstra 2006.

<sup>446</sup> Van Spelde 2014, 97, 100., Bult 2012, 224-286

<sup>447</sup> Van Spelde 2014, 100.

<sup>448</sup> Van Spelde 2014, 101.

<sup>449</sup> Van Spelde 2014, 101.

<sup>450</sup> Unverzagt 1916., Gross 1992.

<sup>451</sup> Van Spelde 2012, 64

*period in which the ledge is much less pronounced. In the very late vessels, the ledge gains prominence again<sup>452</sup>. It is especially in this middle phase, when the ledge is less pronounced that mistakes are easily made whilst dividing vessels between the pathways. This problem is exacerbated by the fact that also the overall shape becomes more alike between the pathways around the same time.*

*Following examples from the Iron Age and Roman period, ovoid vessels from early medieval times also appear in the soil as miniature versions. Vessels are characterised as miniatures when the diameter of the shoulder is 8 centimetres or less. The miniature vessels are normally exact copies of known life size counterparts and date to the same period. Some miniatures are of good quality whilst others seem to be rather naive and coarse. Miniatures occur mainly in settlement contexts in the Netherlands, Germany and Denmark. The purpose of the small-scale vessels is unclear, although it is suggested that they may have held costly goods which come in small volumes, such as ointments. The miniatures are often found in combination with larger sized vessels<sup>453</sup>.*

*For the creation of the typology of ovoid vessels in this research, this research steps away from the systems of Siegmund and the Franken Arbeitsgruppe, which are traditionally used in the Netherlands. Instead, the grouping of vessels is loosely based on the sequence designed by Van Spelde. Where possible it is indicated for each group how they compare to the types identified by Van Spelde. All Van Spelde's type codes, shapes and dates as used in PO-4 are derived from: van Spelde 2014, 102-103.*

#### **PO-4a Ovoid vessels with a large opening, incised decoration and no ledge**

Ovoid vessels without a ledge and therefore belonging to the Alzei 32/33 pathway.

Vessels of this type are relatively low and have a large opening. The diameter of the opening is only slightly smaller than the diameter of the shoulder. The rims of vessels in this group are thickened and fold outward. Below the rim, the upper walls of the vessel develop outwardly and curve inwards quite sharply after the rounded shoulder. The lower walls terminate in a relatively small base. Vessels in this group often have a slightly concave base and are mostly

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<sup>452</sup> Van Spelde 2014, 102-103.

<sup>453</sup> Nieuwhof 2014, 94-95

equipped with one or a few incised line(s) running horizontally along the upper wall. Most vessels have a shoulder at approximately one third of the vessel's height. There is a variety, however, in which the shoulder can be found approximately two thirds from the top.

**Occurrence in the Netherlands:**

*Elst: 208.*

*Hoogeloon: 9.*

*Rhenen: 578.*

**Identification in other typologies:**

Franken AG: **related to S-Wwt 1.1** (phase 3-5 > 460/80 – 580/90, mainly phase 4 > 510/20 - 565). **Related to S-Wwt 1.2** (phase 3-5 > 460/80 – 580/90). **Related to S-Wwt 1.3** (no date provided).

Siegmund: **related to Wwt 1.1** (phase 4 > 530-555). **Related to Wwt 1.2** (phase 3-5 > 485 - 570). **Related to Wwt 1.3** (phase 5 > 555-570, possibly phase 6 > 570-585).

LPV: -

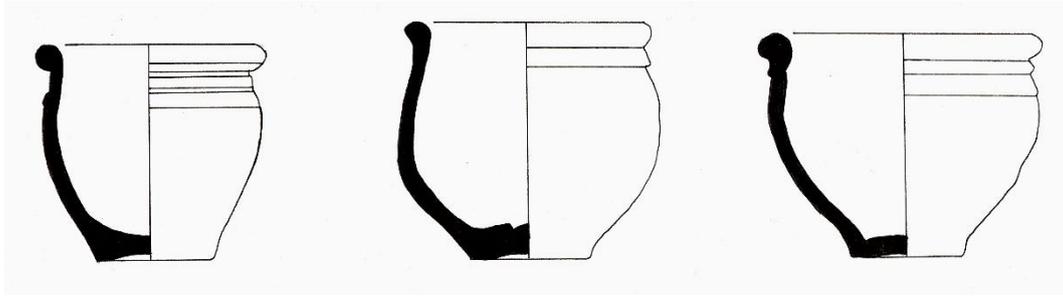
Hines: -

Van Spelde: **Includes tnp-01 (all variants)** (450-525).

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).





PO-4a

### **PO-4b Ovoid vessels with an egg-shaped body, coarse rim and no ledge**

Ovoid vessels without a ledge and therefore belonging to the Alzei 32/33 pathway.

Vessels of this type are relatively low and have a large opening. The diameter of the opening is only slightly smaller than the diameter of the shoulder. The rims of vessels in this group are thickened, fold outward and are sometimes undercut. The rims make a rather coarse impression in comparison to later examples. Below the rim, the upper walls of the vessels bow outward. The lower walls curve fluently inwards after the rounded shoulder. This gives the vessels an egg-like shape. The lower walls terminate in a relatively small base. Van Spelde's tnp-07 is characterised by its pronounced rim. This vessel is lower and broader than tnp-02 and has a more pronounced shoulder. The latter has the more traditional egg shape due to its greater height.

#### **Occurrence in the Netherlands:**

*Bergeijk: 32.*

*Elst: 81.*

*Rhenen: 92b, 160, 165, 405, 546, 661.*

*Stein: 14.*

#### **Identification in other typologies:**

Franken AG: **related to S-Wwt 1.1** (phase 3-5 > 460/80 – 580/90, mainly phase 4 > 510/20 - 565). **Related to S-Wwt 1.2** (phase 3-5 > 460/80 – 580/90). **Related to S-Wwt 1.3** (no date provided).

Siegmund: **related to Wwt 1.1** (phase 4 > 530-555). **Related to Wwt 1.2** (phase 3-5 > 485 – 570). **Related to Wwt 1.3** (phase 5 > 555-570, possibly phase 6 > 570-585).

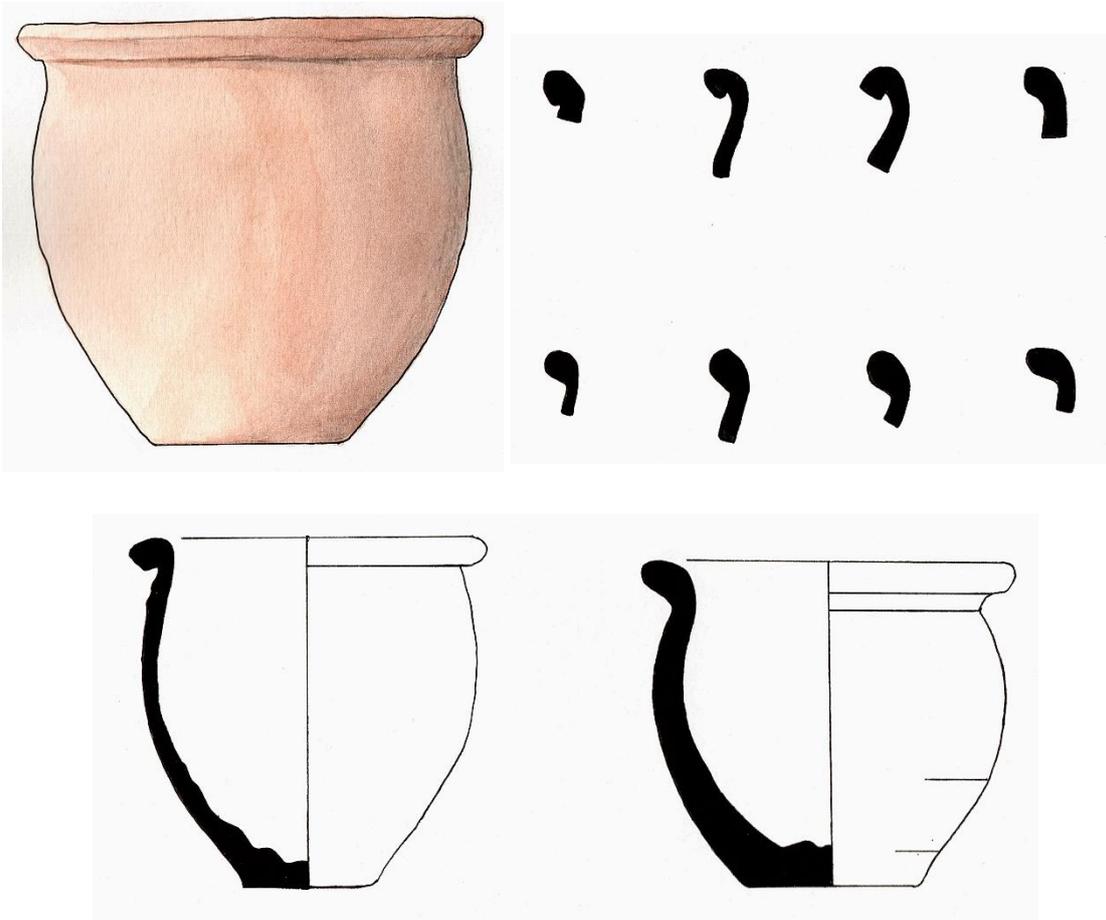
LPV: -

Hines: -

Van Spelde: **Includes tnp-02** (450-550), **tnp-7** (525-600)

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).



PO-4b

**PO-4c Ovoid vessels with a bowl-shaped body, coarse rim and no ledge**

Ovoid vessels without a ledge and therefore belonging to the Alzei 32/33 pathway.

Vessels of this type are relatively low and have a large opening. The diameter of the opening is only slightly smaller than the diameter of the shoulder. The rims of vessels in this group are thickened, fold outward and are sometimes undercut. The rims make a rather coarse impression in comparison to later examples. Below the rim, the upper walls of the vessels are

relatively straight for a short while, before reaching the rounded shoulder. The lower walls curve inwards quite sharply. This gives the vessels in this group an overall bowl shape with a high shoulder. The lower walls terminate in a relatively small base.

**Occurrence in the Netherlands:**

*Rhenen: 153, 600, 809*

**Identification in other typologies:**

Franken AG: **related to S-Wwt 1.1** (phase 3-5 > 460/80 – 580/90, mainly phase 4 > 510/20 - 565). **Related to S-Wwt 1.2** (phase 3-5 > 460/80 – 580/90). **Related to S-Wwt 1.3** (no date provided).

Siegmund: **related to Wwt 1.1** (phase 4 > 530-555). **Related to Wwt 1.2** (phase 3-5 > 485 – 570). **Related to Wwt 1.3** (phase 5 > 555-570, possibly phase 6 > 570-585).

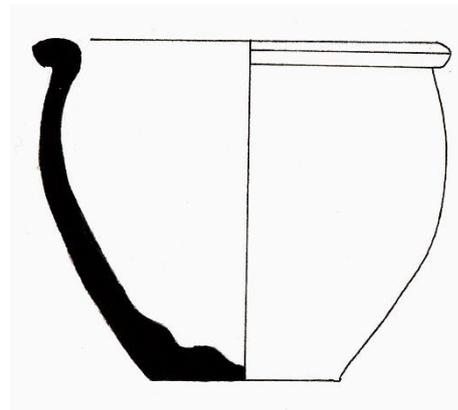
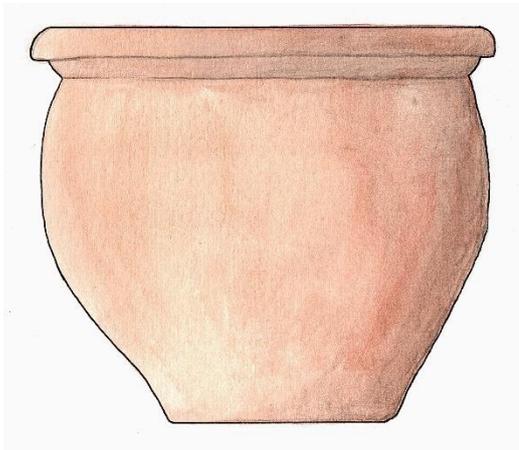
LPV: -

Hines: -

Van Spelde: **Includes tnp-06** (525-600)

**Dating in the Netherlands:**

Phase 4 (510/25 - 565).





PO-4c

**PO-4d Ovoid vessels with a particularly broad or narrow shape, refined rim and no ledge**

Ovoid vessels without a ledge and therefore belonging to the Alzei 32/33 pathway.

Vessels of this type are relatively low and have a large opening. The diameter of the opening is only slightly smaller than the diameter of the shoulder. The rims of vessels in this group are thinner and more refined than those of chronological predecessors and are everted rather than folded. Van Spelde's type tnp-04 still has a slightly thickened and rounded rim.

This group represents various vessel shapes whose commonality is that they are relatively low in comparison to group PO-4e, but particularly broad or narrow in comparison to vessels from groups PO-4a to PO-4c.

The group contains vessels with a roughly s-shaped profile and a high shoulder (tnp-09). This type has a similar shape to PO-4c, but with a larger shoulder diameter and a more pronounced curve to the upper wall. In comparison to the shoulder diameter, the vessel's opening is smaller, and its base is narrower.

Also included in this group is type tnp-10, which is a small and narrow vessel with a characteristic bucket shape.

The third vessel in this category is tnp-04, which is broad, has a relatively broad base in comparison to contemporaries and predecessors and has a low shoulder at approximately two thirds of the vessel's height.

**Occurrence in the Netherlands:**

*Rhenen: 106, 163, 186, 435, 502, 582.*

**Identification in other typologies:**

Franken AG: **related to S-Wwt 1.1** (phase 3-5 > 460/80 – 580/90, mainly phase 4 > 510/20 - 565). **Related to S-Wwt 1.2** (phase 3-5 > 460/80 – 580/90). **Related to S-Wwt 1.3** (no date provided). **related to S-Wwt 2.1** (phase 6-8 > 580/90 – 670/80).

Siegmund: **related to Wwt 1.1** (phase 4 > 530-555). **Related to Wwt 1.2** (phase 3-5 > 485 – 570). **Related to Wwt 1.3** (phase 5 > 555-570, possibly phase 6 > 570-585). **Related to Wwt 2.1** (phase 8b-9 > 625-670).

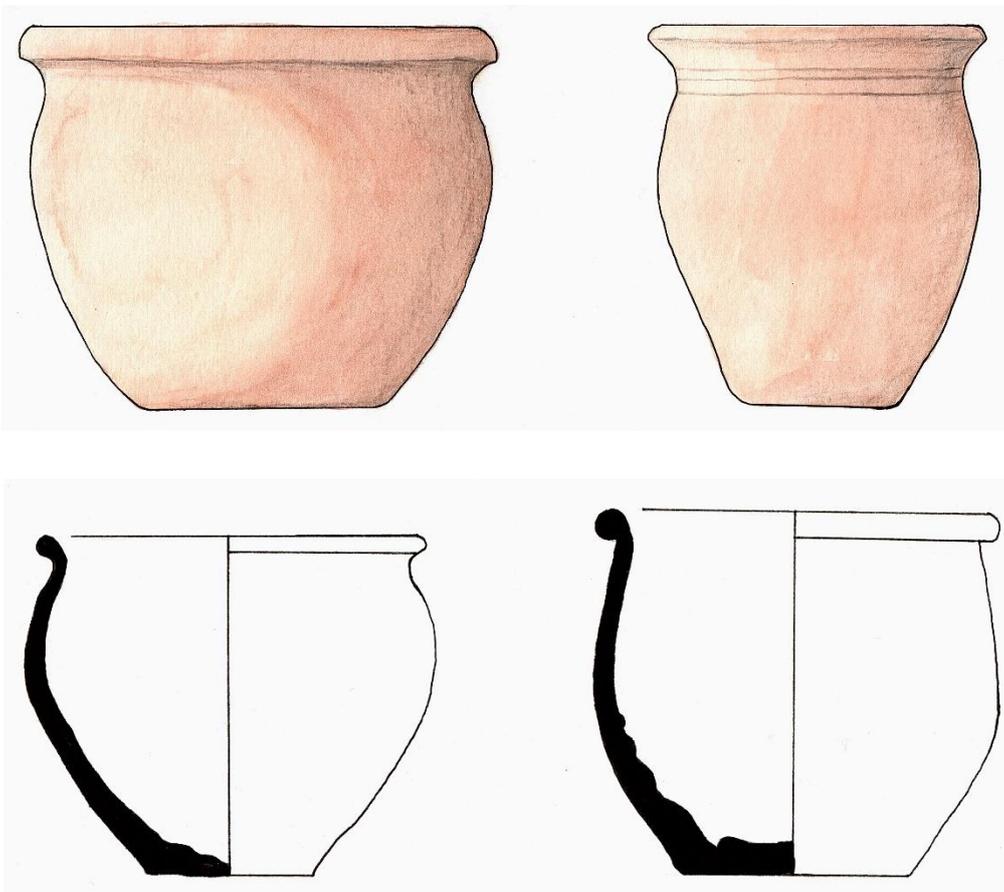
LPV: -

Hines: -

Van Spelde: **Includes tnp-09** (525-725), **tnp-10** (550-675), **tnp-04** (575-675).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).





PO-4d

### **PO-4e Large ovoid vessels without a ledge**

Ovoid vessels without a ledge and therefore belonging to the Alzei 32/33 pathway.

Vessels of this type are taller and broader than their predecessors and have a large opening. The diameter of the opening is only slightly smaller than the diameter of the shoulder. The rims of vessels in this group are thin, outwardly curved and often flattened at the edge.

This group contains vessels which are mainly bucket-shaped. Van Spelde's tnp-12 is the largest, with roughly vertical upper walls, bending inwards towards a narrow and often slightly convex base.

Tnp-11 is less tall, has slightly more conical upper walls and a broader base in comparison to its opening.

Tnp-13 has a roughly biconical shape, yet not as pronounced as the biconical vessels from categories PO-2 and PO-3. Its upper walls are conical, the shoulder is relatively sharp and the lower wall curves sharply inwards. This vessel is made with a slightly thicker rim than tnp-11 and 12.

#### **Occurrence in the Netherlands:**

*Rhenen: 141, 737, 739.*

*Stein: 17, 43.*

#### **Identification in other typologies:**

Franken AG: **related to S-Wwt 2.1** (phase 6-8 > 580/90 – 670/80), **Related to S-Wwt 2.21** (phase 9-10 > 670/80 – 750). **Related to S-Wwt 2.22** (phase 9-10 > 670/80 – 750).

Siegmund: **related to Wwt 2.1** (phase 8b-9 > 625-670). **Related to Wwt 2.21** (phase 10 > 670 – 705). **Related to Wwt 2.22** (phase 10-11 > 670-740).

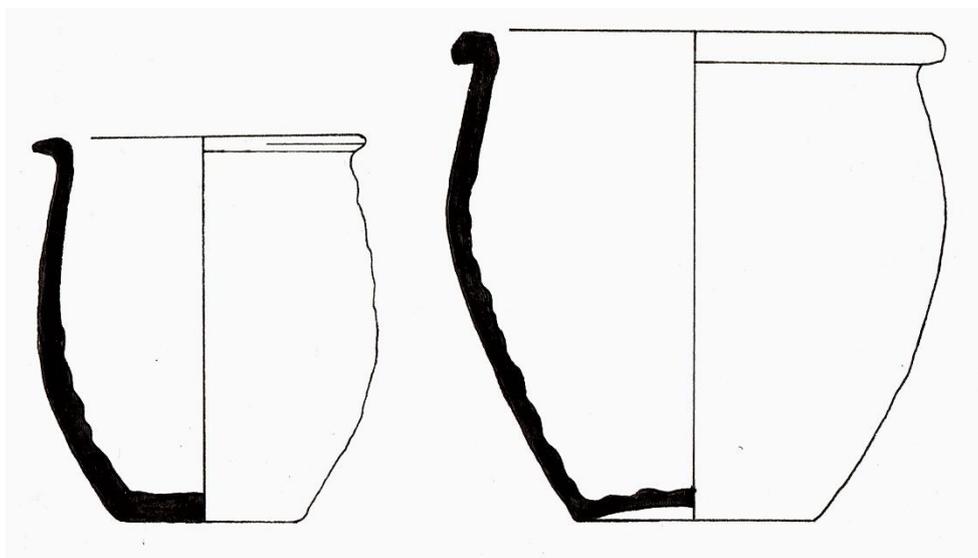
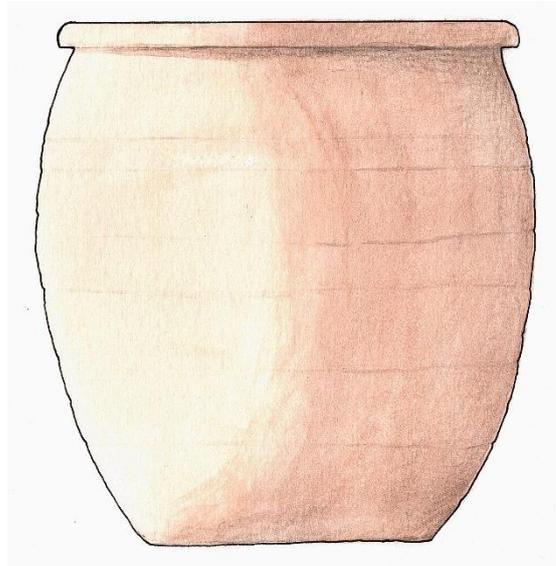
LPV: -

Hines: -

Van Spelde: **Includes tnp-12** (600-700), **tnp-11** (600-750), **tnp-13** (600-750).

**Dating in the Netherlands:**

Phase 7-9 (610/20 - 710).



PO-4e

## **PO-4f Ovoid vessels with a heart-shaped profile, a narrow base and a ledge**

Ovoid vessels with a ledge and therefore belonging to the Alzei 27 pathway.

The vessels in this category are directly related to Roman predecessors from Alzei, but the type is later specified by Vanvinckenroye and Pirling.<sup>454</sup> The former does this on the basis of the large quantity of Roman pottery found in and around the Belgian city of Tongeren (*Tongres*), not far from Maastricht. The latter specification is based on finds from the large and internationally important Krefeld-Gellep cemetery in the German Rhineland<sup>455</sup>.

The rims of vessels from the Roman type come in various shapes<sup>456</sup>. For the early Medieval period, the rim shapes are more uniform. The rims of vessels in this group are somewhat thickened and folded outwards to an almost horizontal position. The shape of the rim incorporates the ledge which once held the lid. The base is flat, and its diameter is modest compared to the shoulder diameter. The characteristic heart-shaped profile of the vessels coincides with an opening which is smaller than the diameter of the shoulder.

Van Spelde places the basic shape of this vessel for the Merovingian period between AD 450 and 525. Vanvinckenroye provides a specific date for each subtype identified. For each vessel in this group, the Vanvinckenroye date is displayed below<sup>457</sup>. Where possible a Pirling date is also displayed<sup>458</sup>.

The vessel from Maastricht grave 299 is lower than the others in this sample and has a very broad shoulder diameter compared to its opening and base.

### **Occurrence in the Netherlands:**

*Maastricht*: 299 (Vanvinckenroyen type 107 > between circa AD 150 - 250) – (Pirling type 100/101 > 340-400).

*Rhenen*: 832 (Vanvinckenroyen type 115b > middle/late fourth century, possibly early fifth century). 838 (Vanvinckenroyen type 106 > between circa AD 150 - 400). 842

(Vanvinckenroyen type 115a > middle/late fourth century AD).

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<sup>454</sup> Unverzagt 1916.

<sup>455</sup> Vanvinckenroye 1967., Pirling *et al.* 2006.

<sup>456</sup> Vanvinckenroye 1967, pl 18-21.

<sup>457</sup> Vanvinckenroye 1967, 54, 56-57, pl 19-20.

<sup>458</sup> Pirling *et al.* 2006.

**Identification in other typologies:**

Franken AG: -

Siegmund: -

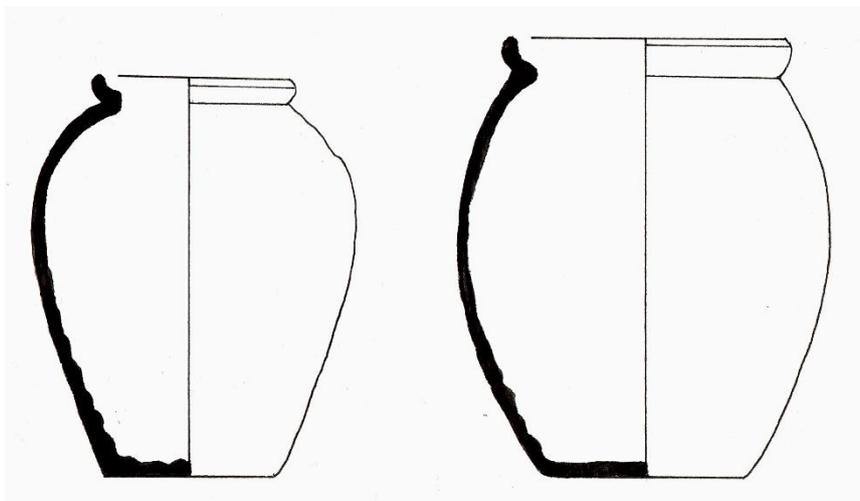
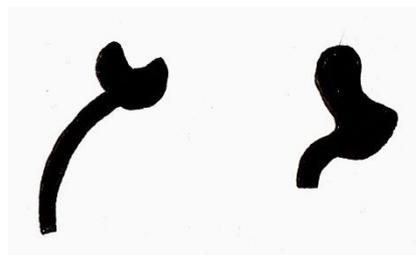
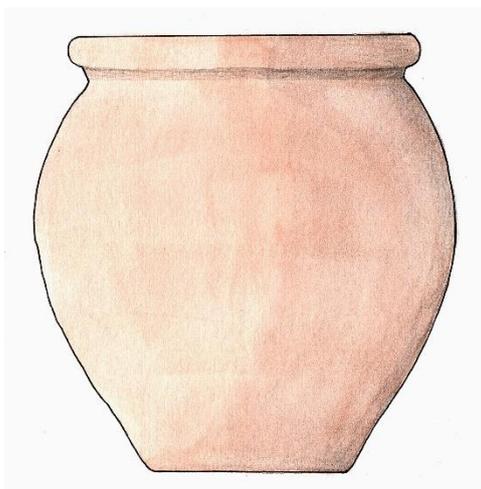
LPV: **related to 404** (Phase PM-MR1 > 440/50 – 630/40).

Hines: -

Van Spelde: **Includes tnp-20** (450-525).

**Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).



PO-4f

## **PO-4g Ovoid vessels with a roughly heart-shaped profile, a broad base and a ledge**

Ovoid vessels with a ledge and therefore belonging to the Alzei 27 pathway.

Vessels of this type have a largely similar shape to those from group PO-4f, albeit somewhat coarser. The broader base, the larger opening and the less curvaceous upper wall make the overall heart shape less pronounced. Rims of vessels of this type vary between slightly thickened (Wageningen grave 72) and bulkier and course (Elst grave 212). The example from Elst is equipped with a handle.

### **Occurrence in the Netherlands:**

*Elst: 212.*

*Wageningen: 71.*

### **Identification in other typologies:**

Franken AG: -

Siegmund: -

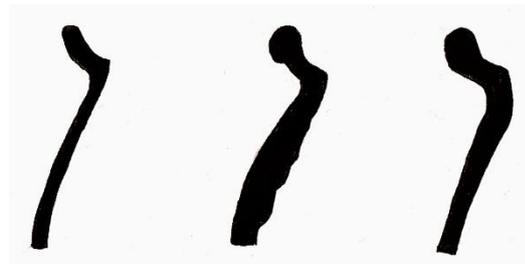
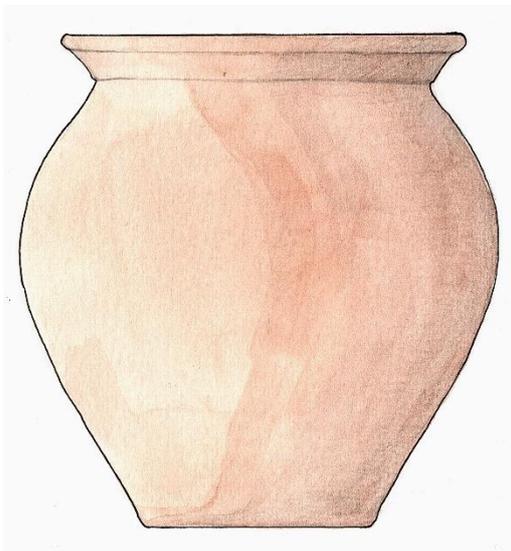
LPV: **related to 404** (Phase PM-MR1 > 440/50 – 630/40).

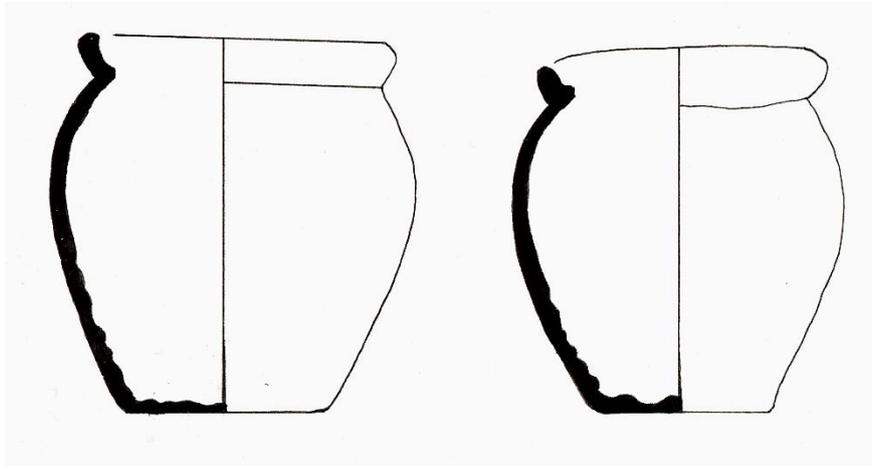
Hines: -

Van Spelde: **Includes tnp-21** (475-600)

### **Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).





PO-4g

#### **PO-4h Ovoid vessels with a rounded or globular shape and a ledge**

Ovoid vessels with a ledge and therefore belonging to the Alzei 27 pathway.

This category includes vessels with a rounded or globular shape. The rounded shape occurs when the opening is roughly the same diameter as the shoulder (Rhenen graves 505 and 788). The more globular shape occurs when the diameter of the opening is significantly smaller than the diameter of the shoulder (Elst graves 86 and 181, Maastricht grave 36, Obbicht grave 24 and Stein grave 42).

Within the globular group, it is possible to distinguish between vessels with a shoulder at approximately one third of the vessel's height (Elst grave 86 and 181, Maastricht grave 36) and those with a shoulder at roughly half the height (Stein grave 42, Obbicht grave 24). The vessels from Obbicht, Maastricht and Stein have a more upright, collar-like rim in comparison to their globular counterparts from Elst. The vessel from Rhenen grave 712 could be regarded part of the globular group. The vessel stands out, however, because of its foot ring and carination which is quite sharp rather than rounded.

Generating a detailed date for vessels in this category is somewhat problematic. Those pots with a rounded shape may be related to Van Spelde's type tnp-25 (600-700) but are not an exact match. The shapes are more like PO-4c, dating to phase 4 (510/25 – 565), but with a ledge. Rhenen grave 505, in which a rounded vessel occurs, can be dated to phase 4, or 5 at the latest (510/25 – 580/90), on the basis of stratigraphy. The other rounded vessel, Rhenen grave 788 cannot be dated.

The globular vessels are possibly related to Van Spelde's type tnp-24 (575-650), but again are not an exact match. The vessels in the sample are more globular with a larger size difference between the diameter of the opening and the diameter of the shoulder.

A perfect example of Van Spelde's type tnp-24 was found in cremation burial Rhenen 390 which cuts, and therefore postdates Rhenen grave 505. Assuming that Van Spelde's date for tnp-24 is correct, it confirms the placement of Rhenen grave 505 in phase 4 or 5. This date for grave 505 is also confirmed by other stratigraphical evidence.

Elst graves 86 and 181, both holding a globular-shaped vessel, can also be dated to phases 4 or 5 (510/25 – 580/90), based on other artefacts in the same contexts and/or stratigraphical information. This somewhat undermines the possibility that the rounded vessels are predecessors of the globular ones and makes it more likely that they occurred simultaneously. The other globular vessel with a higher shoulder was found in Maastricht grave 36 and can be dated as late as phase 7 (610/20-640/40), based on the find of a glassware 'palm cup' of type GL-6c in the same context, which dates to this phase. The stratigraphy unfortunately did not provide extra information.

The globular vessel from Stein grave 42, with its shoulder more in the middle, cannot be dated on the basis of other artefacts or stratigraphy. The other vessel with a shoulder about halfway was found in Obbicht grave 24 and can only be dated very broadly, to phases 4 to 7 (510/25-640/50), with help of a bowl of type PO-6h which was found in the same context. Here, too, stratigraphy did not provide additional information.

The roughly globular vessel from Rhenen grave 712, with a somewhat atypical shape and features, can be placed in phase 4 based on other artefacts in the same context as well as stratigraphical data.

In conclusion it can be stated that on the basis of this sample, none of the vessels date later than phase 7 (AD 640/50) and none earlier than phase 4 (AD 510/25). The one rounded vessel which could be dated does not date later than phase 5 (AD 580/90). On one occasion, a globular vessel can be placed in phase 7 (610/20 – 640/50) with relative certainty. On two, or possibly three occasions, however, a globular vessel can be placed with certainty in phase 4 and/or 5 (510/25 – 580/90). For the remaining globular vessel, a date between AD 510/25 and 640/50 is possible.

It is possible that the biconical vessels with very rounded carination from group PO-2j actually belong to this group. From a chronological point of view, this would be consistent. Please see PO-2j for further information.

**Occurrence in the Netherlands:**

*Elst: 86, 181.*

*Maastricht: 36.*

*Obbicht: 24.*

*Rhenen: (474), 505, (712), 788.*

*Stein: 42.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

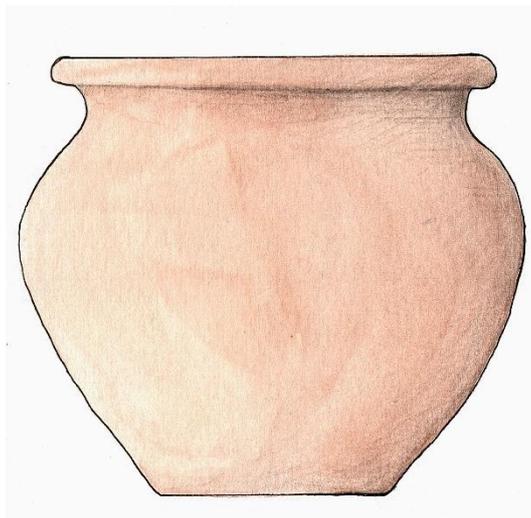
LPV: **related to 404** (Phase PM-MR1 > 440/50 – 630/40).

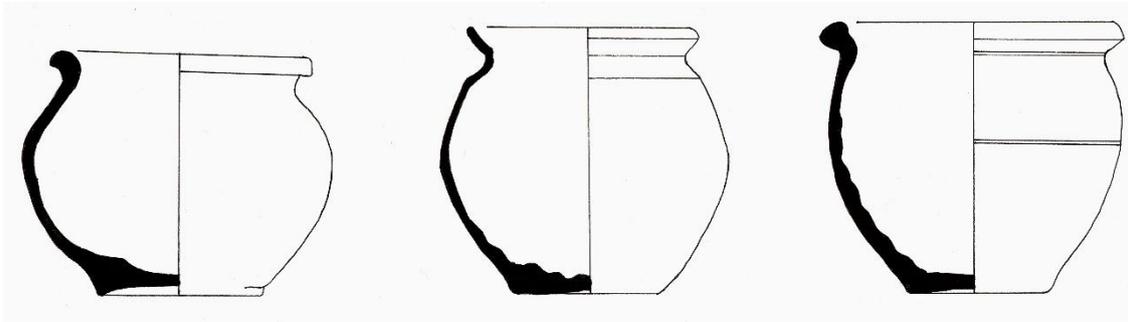
Hines: -

Van Spelde: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).





PO-4h

### **PO-4i Ovoid vessels with a barrel shape and a ledge**

Ovoid vessels with a ledge and therefore belonging to the Alzei 27 pathway.

Vessels of this type are somewhat larger than their predecessors within the Alzei 27 pathway and have a barrel- or egg shape. As a result, they correspond in shape to Van Spelde's type tnp-11 which is included in category PO-4e. The diameter of the shoulder is about as large as the diameter of the opening. Rim types vary between thin and slightly thickened and show a ledge which is sometimes more pronounced than other times.

The vessel from Sittard grave 16 has a more rounded shape than Van Spelde's tnp-27.

#### **Occurrence in the Netherlands:**

*Sittard: 16.*

#### **Identification in other typologies:**

Franken AG: **related to S-Wwt 2.1** (phase 6-8 > 580/90 – 670/80).

Siegmund: **related to Wwt 2.1** (phase 8b-9 > 625-670).

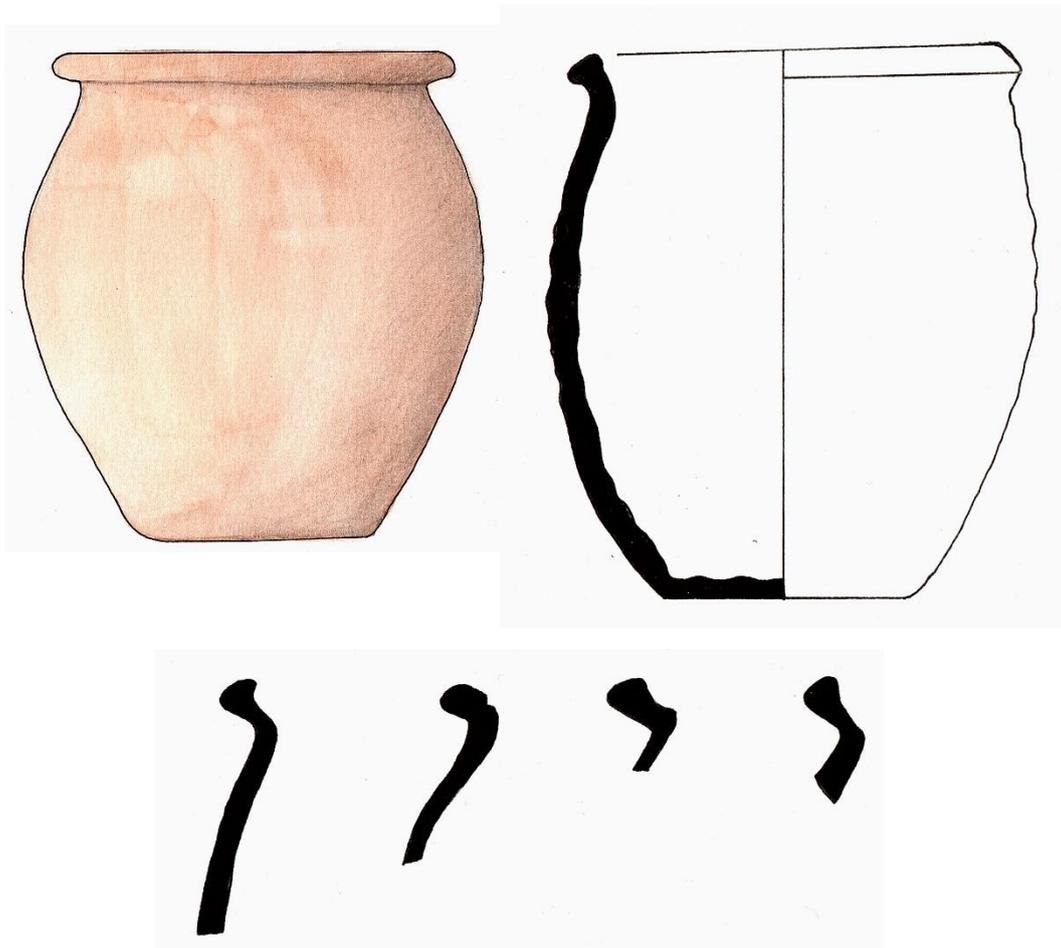
LPV: **related to 405** (Phase MR1-MR3 > 600/10 – 700/10).

Hines: -

Van Spelde: **Includes tnp-27** (600-725).

#### **Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).



PO-4i

**PO-4j Large ovoid vessels with a barrel shape and a ledge**

Ovoid vessels with a ledge and therefore belonging to the Alzei 27 pathway.

Vessels of this type are larger than their predecessors within the Alzei 27 pathway and have a barrel- or egg shape. Although in shape related to Van Spelde's types tnp 11 and 27 (PO-4e and PO-4i respectively), the height of vessels in this category is comparable with tnp-12 (PO-4e). The diameter of the shoulder is about as large as the diameter of the opening. The rims of vessels in this group are barely thickened and are folded out horizontally or are undercut. In contrast with tnp-12 the base of this type is flat.

**Occurrence in the Netherlands:**

*Rhenen: 793.*

**Identification in other typologies:**

Franken AG: **related to S-Wwt 2.1** (phase 6-8 > 580/90 – 670/80), **Related to S-Wwt 2.21** (phase 9-10 > 670/80 – 750). **Related to S-Wwt 2.22** (phase 9-10 > 670/80 – 750).

Siegmund: **related to Wwt 2.1** (phase 8b-9 > 625-670). **Related to Wwt 2.21** (phase 10 > 670 – 705). **Related to Wwt 2.22** (phase 10-11 > 670-740).

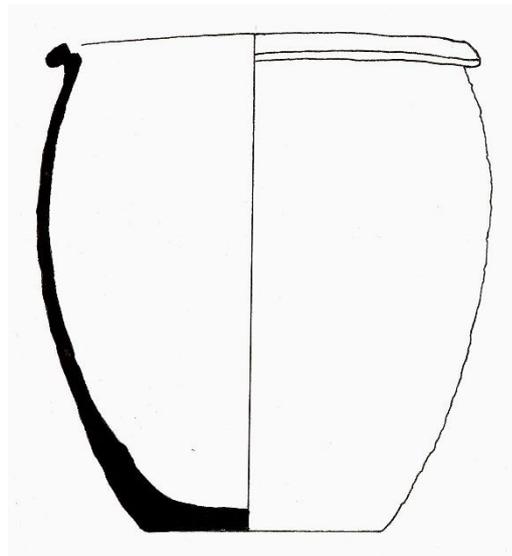
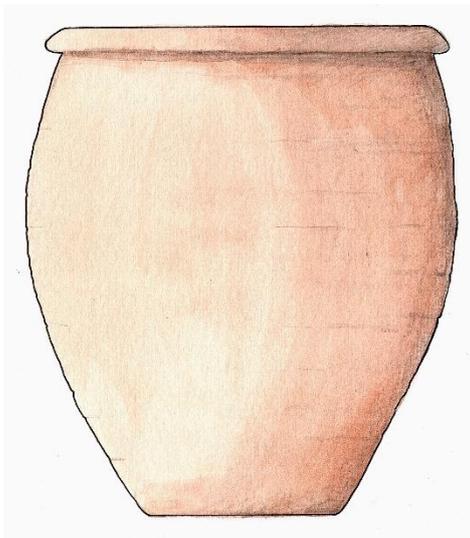
LPV: -

Hines: -

Van Spelde: **Includes tnp-28** (600-725).

**Dating in the Netherlands:**

Phase 7-9 (610/20 - 710).



PO-4j

## **PO-4k Rounded vessels with a high shoulder, incised decoration and a ledge**

Ovoid vessels with a ledge and therefore belonging to the Alzei 27 pathway.

The only vessel of this type in the sample was found in Elst grave 131. The overall shape is very rounded, with a shoulder above the middle of the pot and a shoulder diameter which is relatively large in comparison to the diameters of the opening and base. The vessel is an oxidised bake and has a flat base. The rim is thin and everted at a 45 degrees angle. The vessel is decorated with groups of horizontally incised lines above, on and below the shoulder.

The overall shape of this vessel is generally regarded as characteristic for the Carolingian period (post AD 750). The shape of the example in Elst grave 131 resembles Van Spelde's type W VA (AD 700-900). This type, however, belongs to the Alzei 32/33 pathway and has no ledge. The closest type with ledge is W III B/C (AD 700-900). This type also shows the incised decoration.

### **Occurrence in the Netherlands:**

*Elst: 131.*

### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

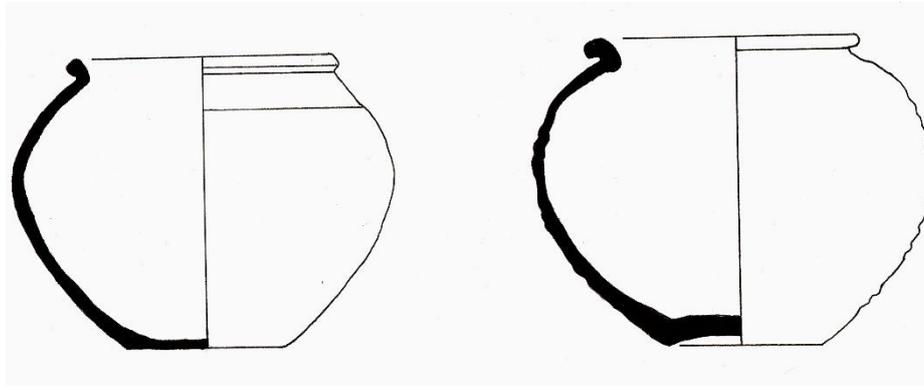
Hines: -

Van Spelde: **Related to types W VA and W III B/C (700-900)**

### **Dating in the Netherlands:**

Phase 7-8 (610/20 – 670/80).





PO-4k

### **PO-4I Large vessels with a high shoulder, incised decoration and no ledge**

The only vessel in the sample belonging to this type was found in grave 30 of the Bergeijk cemetery. The shape of the vessel is dominated by a broad and high shoulder, while in comparison the opening and base are relatively small. The size of the vessel is considerably larger than the average ovoid- or biconical pot. The vessel has no ledge, a flat base and is decorated with three distributed groups of horizontal incised lines, creating two intermediate zones. The upper intermediate zone is decorated with an incised wavy band consisting of multiple lines. The vessel is made of hard coarse ware and is a reduced bake.

It is somewhat unclear if this vessel belongs to category PO-4 as its shape is not ovoid, egg or bucket like. The shape could even be interpreted, with some imagination, as biconical. The vessel, however, is much larger than the biconical vessels which are typical for the Merovingian period and the carination and upper wall are much more rounded.

When placing this vessel in the PO-4 category, it is the lack of a ledge which would suggest that the vessel descends from Alzei 32/33 rather than Alzei 27. The 'closed' shape, with a broad shoulder and a relatively small opening, however, is more indicative of the Alzei 27 pathway of development.

For the publication of the Bergeijk cemetery, Theuws performed a thorough background research on the vessel from grave 30 and similar vessels found outside of the Netherlands<sup>459</sup>. His findings can be summarised as follows:

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<sup>459</sup> Theuws *et al.* 2012, 113-114 + fig. 6.50.

From the study it appears that a vessel which shows great similarity to the example from Bergeijk was found in grave 19 of the Kaarst cemetery in the German state of Nordrhein-Westfalen. The German vessel was placed by Siegmund in biconical vessel category Kwt 2.33<sup>460</sup>. This group contains a non-homogeneous ensemble of larger biconical vessels with a decoration combining horizontal incised lines and incised wavy bands. Siegmund dates the type between phases 6 and 8 (570-640). In addition to the pot, Kaarst grave 19 contained rectangular copper alloy mounts which indicate a seventh century date and a so-called palm cup of type GL-6c which dates to phase 9 (640-670). A tremisses found in the same context could not be identified with certainty but is expected to date around 620/30<sup>461</sup>.

In grave 2604 of the Krefeld-Gellep cemetery in the German state of Nordrhein-Westfalen a vessel was found with a similar decoration to the pot from Bergeijk. The carination of this vessel, however, is sharper and the base is concave. This grave does not contain any other objects which could help with chronological determination. Pirling classifies the vessel from Krefeld-Gellep as a biconical pot of Böhners type B1b, dating to his *Stufe* 3 (general sixth century).<sup>462</sup>

A vessel from Liège (*Luik*) in Belgium (province of Liège) is equipped with a spout and handle but is otherwise identical to the pot from Bergeijk, including its decoration. This vessel is dated to the seventh century<sup>463</sup>. This chronological placement is in accordance with the well-documented evidence from Kaarst. It should be kept in mind however, that the type of decoration which consists of bundles of horizontal and wavy incised lines generally occurs somewhat earlier, in Franken AG phase 4-5 (510/25 – 580/90)<sup>464</sup>. In this research it became apparent that biconical vessels with similar decoration occur in the Netherlands in phase 5 and sporadically in phase 6 (565 – 580/90(610/20)).

A different light is shone onto the Bergeijk vessel by Van Wersch who notes that coarse ware of this type is not uncommon in settlements, including pottery production centre Maastricht-Wyck<sup>465</sup>. In general it can be said that the Bergeijk vessel can be assigned to Van Wersch's category '*pot ovoïde à lèvre enroulée*'. The shape of the Bergeijk vessel, however, is more

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<sup>460</sup> Siegmund 1998, 130.

<sup>461</sup> Siegmund 1998, 319-321.

<sup>462</sup> Pirling 1979, (1) 71, (2) 46, tafel 36,15.

<sup>463</sup> Otte 1986, figure 8.

<sup>464</sup> Müssemeier *et al.* 2003, 59-60.

<sup>465</sup> Van Wersch 2011, 185.

rounded than the generally ovoid shaped vessels in the Van Wersch category. The shape of the Bergeijk vessel is probably most comparable to Van Wersch's '*vase à lèvre enroulée*'. The Bergeijk vessel also matches other vessels, of higher quality, which are made using different production techniques. These include Van Wersch's types '*céramique tourné grise à surface lissée cuisson réductrice*' and '*céramique tourné grise à surface lissée cuisson réductrice et enfumage*'. Both these types are very rare and only found once in the Maastricht-Wyck settlement in the Netherlands and the Grognon site in Namur (*Namen*) in Belgium (Province of Namur)<sup>466</sup>. Both these pots show a decoration which is largely similar to the Bergeijk vessel. Van Wersch unfortunately has insufficient evidence to date the vessels to a timeframe more specific than the Merovingian period in general<sup>467</sup>.

In addition to the few occurrences of vessels of this type in the Netherlands, Germany and Belgium, excavations of the Cleatham Anglo-Saxon cemetery (Lincolnshire, England) have revealed four similar looking vessels which are made using a Romano-British production method<sup>468</sup>. The vessels were used as cremation urns and one was equipped with a lead plug, as is relatively common in the Anglo-Saxon period<sup>469</sup>. Especially urn 702 has a shape which approaches the Bergeijk example. The English vessel, however, has a shoulder which is slightly lower and more rounded. The neck of urn 702 is a little higher. The Cleatham vessel is decorated with various singular horizontal incised lines which form intermediate zones. In the case of urn 702, three of these intermediate zones contain incised wavy lines<sup>470</sup>.

Two other vessels from Cleatham have a comparable shape to urn 702, be it slightly lower (urn 961) or broader (urn 649). The fourth vessel (urn 828) is incomplete, but it can be estimated that its shape approaches that of the other three. Urn 961 has a very rounded carination and a similar decoration to urn 702. Urn 649 has a slightly more angular carination which is most like the Bergeijk vessel. The remains of vessel 828 show traces of a wavy line decoration<sup>471</sup>. Unfortunately it was not possible for the Cleatham vessels to be dated. Urn 649 was assigned to Leahy's Cleatham phase 2. The Cleatham phases are designed to illustrate chronological order but are not attached to calendar dates.

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<sup>466</sup> Van Wersch 2011, 134, 145.

<sup>467</sup> This overview is a summary of the study presented by Theuws in the Bergeijk cemetery publication (Theuws *et al.* 2012, 113-114.)

<sup>468</sup> Leahy 2007, 127.

<sup>469</sup> Leahy 2007, 121, 126.

<sup>470</sup> Leahy 2007, 121, 126-127.

<sup>471</sup> Leahy 2007, 121.

The closest parallel to the Cleatham urns comes from the nearby Millgate cemetery in Newark on Trent, Lincolnshire. Urn 262 from this cemetery has a similar shape and decoration but has a narrower neck. This urn was one of four suspected Romano British vessels in the Millgate cemetery which could not be assigned an independent date<sup>472</sup>. Myres, however, includes Millgate urn 262 in his 'Corpus of Anglo-Saxon pottery' and dates the type as 'sub-Roman'<sup>473</sup>. A similar vessel to Millgate urn 262 is known from Great Casterton, Rutland. This urn could be dated to post AD 375 on the basis of coin evidence<sup>474</sup>. This find, at last, provides an indication for a date related to the style of the vessels from Great Casterton, Millgate and possibly Cleatham. The Cleatham cemetery was in use roughly between 450 and 700<sup>475</sup>.

The post AD 375 date for the Casterton vessel strengthens Myres claim that the Millgate vessels are post Roman. A post Roman date is at least equally likely for the Cleatham vessels as underlined by the approximately AD 450 commencement date of Cleatham cemetery as well as by the placement of urn 649 in Cleatham phase 2. Both these factors suggest a fifth century or possibly even early sixth century date. The use of a lead plug in one of the urns is a further indicator for Anglo-Saxon rather than Roman use.

Leahy quotes Romano British pottery specialist Maggie Darling as saying that the shape of the Cleatham urns is more like Anglo-Saxon vessels, whilst late Roman jars are usually taller and narrower<sup>476</sup>. From the Bergeijk vessel it can also be said that its shape is more reminiscent of Anglo-Saxon pottery than anything else. Both the Bergeijk vessel and those from Cleatham, however, are wheel thrown, unlike Anglo-Saxon pottery.

Given the find locations, it is of course more likely that the pots from Germany and Belgium are related to the pot from Bergeijk than those from eastern England. It is worth underlining, however, that the shape and decoration of pots like the Bergeijk vessel are rare but not unique to the fifth and sixth centuries. The shape of the Bergeijk vessel, as well as the other pots mentioned, may well derive from either Roman or Anglo-Saxon predecessors. Theuws notes that the wavy line decoration is also found on bottles discovered in the German Rhineland and which date to the early eighth century (Siegmond type Fla 2.2). He suggests that the wavy line decoration may be related to the vessel's function of containing liquids<sup>477</sup>.

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<sup>472</sup> Leahy 2007, 126.

<sup>473</sup> Myres 1977, fig 92, No. 3740).

<sup>474</sup> Corder 1951, 32 and Fig. 9, No. 23.

<sup>475</sup> Leahy 2007, 227-228.

<sup>476</sup> Leahy 2007, 127.

<sup>477</sup> Theuws *et al.* 2012, 114.

When returning to ovoid vessels and the typology by Van Spelde, it becomes clear that the Bergeijk vessel is most similar in terms of shape to the suggested Carolingian types. The shape of the Bergeijk vessel resembles type W IIIA, which also has a decoration of at least one incised horizontal line. This vessel has a convex base, in contrast to the Bergeijk vessel. Decoration wise, the Bergeijk vessel is most like W II, which is equipped with bundles of horizontal incised lines. The wavy lines are not mentioned in relation to any of these types. Type W II has a ledge and a convex base, which differs from the Bergeijk example. Both W II and W IIIA are dated by Van Spelde to post AD750. From the vessels in group PO-4k it becomes clear, however, that vessels decorated with bundles of incised lines and with shapes reminiscent of the suspected Carolingian vessels already occur in Phase 7-8 (610/20 – 670/80) of the Merovingian period. PO-4l, for now only represented by the vessel from Bergeijk grave 30, seems to show a similar picture.

In addition to the pot discussed here, Bergeijk grave 30 contains other finds which could play a role in dating the context.

The first of these finds is a small copper-alloy plate buckle of type BU-4k which dates in the Netherlands to phase 6 (580/90 – 610/20). A similar type is identified in the German Rhineland (Sna 2.2) and dates to Siegmund's phases 5-8 (555 – 640). LPV identified a similar type (131) in northern France which is dated to phases MA3-MR2 (560/70-660/70).

A second pottery vessel, which is small and biconical was found in the grave. The carination of this vessel is rounded, creating a pouch shape. Due to the lack of decoration, this vessel belongs in group PO-2a, which dates to Phases 5-7 (565 – 640/50) with sporadic occurrence in phase 8 (640/50-670/80). Siegmund places this vessel in Kwt 4.11, which dates to his late seventh and early eighth phase (approximately 600-625).

A third find in addition to the large pot discussed here is a complete glassware bag beaker (GL-1d). The beaker is unique to the Netherlands and cannot be placed exactly in the existing typologies. Given the style, however, it would be possible to date the vessel between phases 5 and 7 (565-640/50). Like the pottery vessel discussed here, this bag beaker also appears to have a link with England (for more information see GL-1d).

From the analysis above it becomes clear that the artefact assemblage in Bergeijk grave 30 can be dated to the late sixth or early seventh century. A similar date can also be attributed to biconical pots with a similar decoration to the vessel discussed here (PO-2g). The date is

largely in accordance with evidence from Kaarst and Liège, where vessels were found which could probably belong in PO-4I.

The vessels which were found in eastern England and which show likeness to the Bergeijk-Kaarst-Liège type can probably be dated somewhat earlier, to the transition between the fifth and sixth century. It can be strongly suspected that the vessels in Bergeijk, Kaarst, Maastricht-Wyck, Liège and possibly Krefeld-Gellep are somehow linked. At the very least, a connection can be seen in shape, decoration and geography. More research is needed to establish whether the English vessels, other than typological likeness, have a connection to the continental group.

**Occurrence in the Netherlands:**

*Bergeijk: 30.*

**Identification in other typologies:**

Franken AG: -

Siegmund: **related to Kwt 2.33** (phase 6-8 > 570-640).

LPV: -

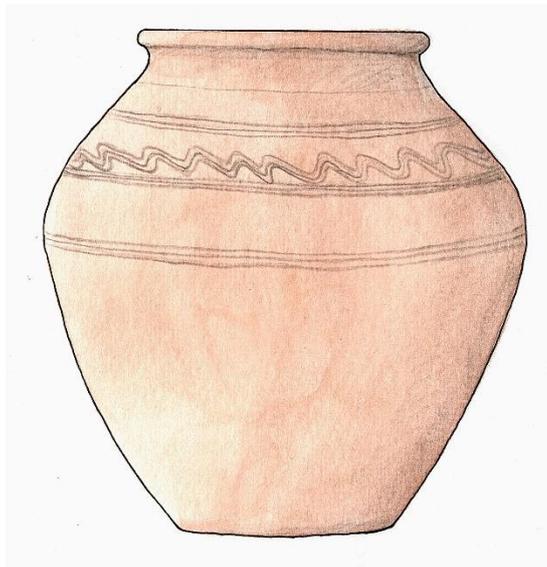
Hines: -

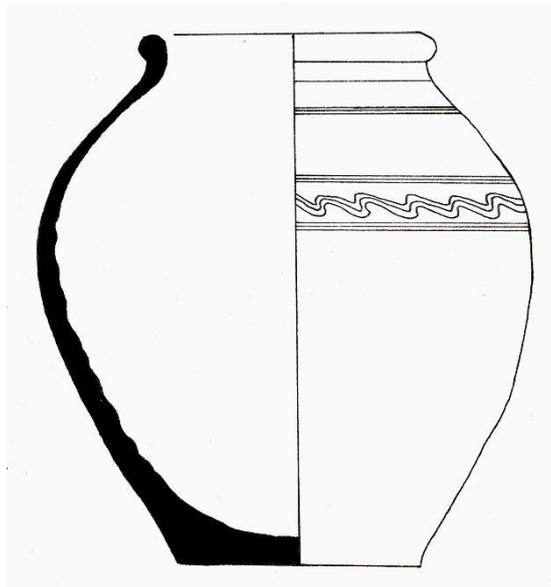
Van Spelde: **related to types W II and W IIIA** (700-900).

Leahy: **related to group 21** (phase 2).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).





PO-51

## PO-5: ANGLO-SAXON VESSELS

Anglo-Saxon pottery is the third largest category of pottery found in the Netherlands. Find numbers, however, are much lower than for ovoid vessels and especially biconical vessels. Anglo-Saxon style pottery is mainly found in the three northernmost provinces, Friesland, Groningen and Drenthe but occasionally occurs in early Medieval cemeteries along the river Rhine, such as Rhenen and Elst.

Most Anglo-Saxon pottery in the Netherlands was found as a stray find or as part of settlement excavations. In the fewer instances that Anglo-Saxon pottery occurs in cemeteries, it is often related to cremation burials and not, as is the case with biconical vessels, to the grave furnishings of inhumation burials. As this research focusses primarily on inhumations and their contents, Anglo-Saxon pottery only has a limited presence in the sample.

The vessels featuring in this research are found in the cemeteries of Wijster, Rhenen and Elst. The vessels from Oosterbeintum are too fragmentary to be classified with certainty and are therefore omitted. For a more comprehensive insight into the availability of Anglo-Saxon pottery in the Netherlands, it is advisable to view material from the settlement excavation of,

amongst other places, Hogebeintum, Ezinge, Midlaren and Wijster as well as from the cremation cemetery of Beetgum-Besseburen<sup>478</sup>.

Within this research pottery is described as 'Anglo-Saxon' in order to indicate a style that originates in north western Germany. However, no distinction has been made in style variation that may reveal a difference between pottery from the Angles and from the Saxons. Please refer to category PO-9 for hand-formed pottery which cannot be identified as Anglo-Saxon.

The dating of Anglo-Saxon pottery is problematic for various reasons, including the fact that there is a large variety in shape, size and decoration. Another factor is that Anglo-Saxon pottery was not introduced everywhere at the same time. This means, for example, that types found only in Scandinavia, Germany and the Netherlands are likely to date to the fourth century or earlier. Types found Scandinavia, Germany and the Netherlands as well as in England generally date to the fifth century or later. Types only found in England should be considered of sixth century date or later<sup>479</sup>.

An added problem for dating Anglo-Saxon pottery specifically from the Netherlands is the fact that most vessels are found as stray finds or in a context of little chronological relevance. Dating of Dutch vessels is therefore often performed using the typology for Germany, as created by Plettke, and the typology for eastern England as created by Myres<sup>480</sup>. For the Netherlands specifically, Van Es created a typology and chronology based on the Anglo-Saxon vessels found at the Wijster settlement site in Drenthe<sup>481</sup>.

Various studies performed over the past decades have indicated that the 'terpen region' of Friesland and most of Groningen was deserted during the fourth century. The region was re-occupied around AD 400, followed by a relatively rapid population growth<sup>482</sup>. Research into cross-shaped brooches and gold bracteates from the northern coastal zone of the Netherlands postulates re-occupation of the region by people from north-western Germany<sup>483</sup>. It seems to be clear that these migrants are the same groups, the Angles and the Saxons, who migrated to England around the same time. Research into pottery from the three

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<sup>478</sup> Knol 2008 (Beetgum-Besseburen), Boeles 1906 (Hogebeintum), Nieuwhof 2014 (Ezinge), Nieuwhof 2008a (Midlaren), van Es 1967 (Wijster).

<sup>479</sup> Kennett 1978, 11

<sup>480</sup> Plettke 1921., Myres 1969.

<sup>481</sup> Van Es 1967.

<sup>482</sup> Krol 2018, 107.

<sup>483</sup> Bos *et al.* 2005. (Brooches), Nicolay 2005 (Bracteates).

northernmost provinces by Taayke, and later by Krol, largely endorse this theory<sup>484</sup>. The occurrence of Anglo-Saxon pottery in Friesland and most of Groningen is thus likely the result of migration of people from current Germany into the Netherlands.

For Drenthe the situation is rather different as this area, away from the coast, sees continual habitation during the fourth century. It can be suggested that the socio-economical networks from the Roman period still play a certain role in Drenthe whilst the 'terpen region' becomes deserted<sup>485</sup>. Settlement research in Wijster and Midlaren shows a changing pottery typology during the fourth century, which includes the introduction of Anglo-Saxon pottery<sup>486</sup>. This also applies to the settlement of Ezinge, one of the rare examples of continuous habitation in Groningen<sup>487</sup>. From this it can be concluded that Anglo-Saxon pottery already occurs in Drenthe during the fourth century whilst its onset in Friesland and most of Groningen does not take place before the turn to the fifth century.

Some forty years after Van Es developed the first Dutch typology and chronology for Anglo-Saxon pottery with a focus on Drenthe, Krol created a new and enhanced typo chronology focussing on the available evidence from the three northern provinces. In addition to comparing finds and their contexts within the Netherlands, she also cross-references the evidence with the previously mentioned typologies for north-western Germany, eastern England and Drenthe<sup>488</sup>. This thorough research has resulted in a detailed scheme of characteristics for vessels from the different centuries, roughly between AD 200 and 700. A distinction was made based on colour and finish, but mostly on shape and decoration.<sup>489</sup> The extensive scheme of identified features can be summarised in the following characteristics for three phases:

### **Phase 1: The early phase (AD 350-425).**

Anglo-Saxon pottery from the third century only occurs sporadically and production really picks up during the fourth century. Vessels with early characteristics keep occurring until the end of the first quarter of the fifth century.

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<sup>484</sup> Taayke 1996., Krol 2006.

<sup>485</sup> Krol 2018, 107., Nieuwhof 2011, 2013, 2016.

<sup>486</sup> Taayke 1996., van Es 1967., Nieuwhof 2008a.

<sup>487</sup> Nieuwhof 2014.

<sup>488</sup> Krol 2006, 13-14.

<sup>489</sup> Krol 2006, 12-13.

Vessels from this phase usually have a brown, red brown or beige colour. Later in the phase, the prevailing colour shifts to black, anthracite or speckled brown. Vessels from the early phase have a very regular shape and carefully finished decoration. Up to and including the fourth century, vessels have a flat base. Handles are another characteristic belonging to the third or fourth century. An exception to this is the presence of perforated lugs.

Anglo-Saxon vessels from the early phase are often reminiscent of Roman style pottery, such as bowl type PO-6a. The so-called bowl urn is also an early form. This biconical vessel is low and has a large mouth whose diameter is only slightly smaller than the shoulder diameter. The often-sharp angular shapes of these vessels are typical for the fourth century. Later examples are slightly more rounded. Already in this early phase some vase-like shapes occur such as Plettke's types A5, A6 and A8.

Decoration in the early phase is generally simple and geometric. Vessels are often decorated with horizontal incised lines and later with arch- and upside-down arch shapes<sup>490</sup>.

## **Phase 2: The mixed phase (AD 400-500).**

This second phase differs most characteristically from the first phase through much more varied and exuberant decorations. For the first quarter of the fifth century, the more and less elaborately decorated vessels exist alongside each other. Decorative elements such as incised arches, chevrons, bundles of horizontal incisions, rosette stamps and a band of small round impressions are all characteristic for the first half of the fifth century.

The bowl urns from phase 1 appear much less frequently in phase 2, except for examples with late decoration. In case of the bowl urn, this decoration includes faceted impressions along the carination, stamps and plastic decoration such as bosses. The Roman-inspired vessels continue to exist, be it with the above-mentioned decorative elements.

Vase-shaped vessels are much more common in this phase than in phase 1. A frequently seen variety is a development of Plettke's type A6 and A8. Also, these vessels are more elaborately decorated. They usually have a rounded base and a more rounded shape than earlier types. Beaker-shaped vessels also occur during this phase.

A characteristic vessel for phase 2 is Plettke's type A7 which includes buckle urns. These extravagant vessels are typical for the later part of the fifth century. The buckle urn is characterised by the use of bosses as well as stamp decoration. Linear incised decoration occurs less frequently. The decoration generally covers a larger part of the vessel's surface than in the early phase. Nearing the end of the fifth century, the development of type A7 is

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<sup>490</sup> Krol 2006, 14-15 (summary translation of type 1).

concluded. The carination has moved from lower to higher in the vessel and is more rounded in later examples. The extremely wide examples show especially the rounded carination. The development of the neck moves towards ever longer and wider throughout the fifth century<sup>491</sup>.

### **Phase 3: The late phase (AD 480/90 – 600)**

The final phase of Anglo-Saxon pottery in the Netherlands starts in the late fifth century and continues until the end of the sixth century. Only very sporadically is it possible to date Anglo-Saxon vessels in the Netherlands to the seventh century.

After the black, dark grey and dark brown tones from the fifth century, the pottery from phase 3 often has a ruddy grey colour. The surface feels like fine-grained sandpaper. The shapes of the vessels are often irregular, and the decoration has a messy finish. The decoration also returns to being much more sober than in phase 2.

Bowl-shaped vessels from the sixth century have a simple profile and sober, often badly finished decorations of elongated bosses or impressions. These two decorative elements are often accompanied by bundles of vertically incised lines.

Similar decorations are also characteristic for other vessel types from the sixth century, including buckle urns. The regular occurrence of pedestals in buckle urns is often replaced by a foot ring in the sixth century. The decoration of sixth century vessels seems more formal than seen in late fifth century examples. The use of decorative panels is more frequent. The buckle urns show more straight linear incised decorations rather than curvy incised lines. The amount of surface covered by decoration is generally less in phase 3 than in phase 2.

Vessels with a bottle- or pouch shape are especially late. These types do not occur in the typologies of Plettke (Germany) or Van Es (Drenthe). They do, however, feature in Myres typology for eastern England.

Another late vessel, starting from the sixth century, is the high bowl with a simple profile and a wide mouth. Perforated lugs, for the purpose of running a rope through, are typical for hand formed pottery from the seventh century, but sporadically occur on sixth century Anglo-Saxon vessels. Early globular pots with plastic decoration in the form of bosses can also be included in the Anglo-Saxon pottery range<sup>492</sup>.

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<sup>491</sup> Krol 2006, 15-16 (summary translation of type 2).

<sup>492</sup> Krol 2006, 16-17 (summary translation of type 3).

Just like in the Netherlands, research into Anglo-Saxon pottery in England has undergone a renewal over the past twenty years. Following the excavation of the Cleatham cemetery in north Lincolnshire, Kevin Leahy studied the large number of Anglo-Saxon vessels found. This study resulted in a detailed typology which classifies different vessel, mainly based on their decoration<sup>493</sup>. The Cleatham cemetery was in continual use between circa AD 450 and 700 and therefore provides very useful evidence regarding changing pottery styles. The chronology of the Cleatham pottery is divided into five phases which provide a typological sequence of succession. Dates, exact or otherwise, are not attached to these phases. Two tables, however, provide an estimated date for each vessel found in relation to other finds in the same context<sup>494</sup>. From these dates, it may be possible to extract an estimated date for the various phases, be it with a substantial overlap.

The publication of part 9 of the excavation records from the large cremation cemetery of Spong Hill in North Elmham (Norfolk) includes the results of Correspondence Analysis on 1333 Anglo-Saxon pottery vessels<sup>495</sup>. The research covers various characteristics of the pottery vessels including stamps and decorative motifs. In addition, the cemetery chronology, and therefore the chronology of Anglo-Saxon vessels is further strengthened by the application of Correspondence Analysis to other female gender and non-female gender grave goods<sup>496</sup>. The extensive and detailed research has resulted in a typology of decorative elements on Anglo-Saxon pottery and a chronological division into three phases with an absolute dating attached<sup>497</sup>.

As the number of Anglo-Saxon vessels which are part of the sample and which can be classified according to any of the aforementioned typological schemes is very limited, the decision was made to include Anglo-Saxon pottery in the typology as a single group. Based on the find combinations to which the small number of vessels from the research belong as well as on the chronologies by Krol, Hakenbeck and Leahy, the general group is dated to phases 3 and 4 for the Netherlands. It is likely, however, that the most prominent occurrence should be attributed to phase 3. With the arrival of two major studies on Anglo-Saxon pottery in England since the publication of the work by Krol, it can be recommended to re-assess finds

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<sup>493</sup> Leahy 2007.

<sup>494</sup> Leahy 2007, 227-228.

<sup>495</sup> Hakenbeck 2013, 169-210.

<sup>496</sup> Hakenbeck 2013, 202-212.

<sup>497</sup> Hakenbeck 2013, 230-32.

from the Netherlands including the evidence from the aforementioned cremation burials and/or cemeteries. The number of pots found as part of this sample forms an insufficiently strong basis for a detailed typology.

### **PO-5a Anglo-Saxon pottery**

Hand formed pottery vessels in the Saxon or Anglo-Saxon style from northwestern Germany. Vessels of this type are usually biconical or pouch-shaped and elaborately decorated with incised lines, faceted bands, indentations and stamps. Occasionally, the vessels are equipped with bosses or a foot ring. Whilst most vessels are neatly finished, some specimens have a rather primitive look.

The illustrations included show examples of shapes and decorative patterns of Anglo-Saxon vessels. Many more decorative styles, however, are known and examples thereof can be found in the aforementioned publications.

#### **Occurrence in the Netherlands:**

*Elst: 112, 155, 163, 178, 179, 216, 239.*

*Rhenen: 14, 109a, 236, 373, 380, 440, 548.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **384** (phase MA1-MA2 > 470/80 – 560/70, most frequently in MA1 > 470/80 – 520/30).

Hines: -

#### **Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).





*PO-5a*

## PO-6: BOWLS

Bowls form a large category within the pottery assemblage from early Medieval cemeteries in the Netherlands. The sample represented in this research includes various late Roman bowls which found their way into early Medieval inhumations. The variety of bowls known from the early Medieval period itself is quite large. The vessels are classified based on various characteristics including the overall shape, the shape of the base (flat, with foot ring or with pedestal), the shape of the rim, bake, colour, finish and/or decoration.

### **PO-6a Bowl with a pedestal and a s-shaped profile - reduced bake**

Late antique bowl with a pedestal, a curved lower wall and a clearly concave upper wall (a roughly S-shaped profile). Vessels of this type have a smooth surface and are reduced bakes. The ware-type is Terra Nigra or a derivative thereof.

In both German typologies, a sharp carination is attributed to vessels of this type. The Dutch examples, however, sometimes show a more rounded shoulder, in accordance with some French examples presented by LPV.

This highlights one of few subtle differences which can be seen between bowls of this type with a French origin and those with a German origin<sup>498</sup>. The French bowl was identified by Chenet, as type 342, in 1941 and was assumed to have been produced in the Argonne area in northeast France<sup>499</sup>. Direct evidence for production of these vessels in the Argonne region, however, has not been found to date<sup>500</sup>. A kiln and burial dating to AD 360 discovered in Lavoye (Meuse) could be a possible production site for these vessels<sup>501</sup>.

Vessels very similar to Chenet's type 342 were found in Germany, where concentrations have been researched found to have originated from the Hellweg region between the rivers Lippe and Ruhr. The German bowls are described by Pirling and Siepen as Gellep types 273 and 274<sup>502</sup>. Gellep 273 is most like Chenet 342 whilst Gellep 274 is a more cup-shaped vessel, which is a variation on type 273<sup>503</sup>.

In comparison to the Chenet type, the geographical area of distribution of the Gellep types is much smaller. A large cluster holding dense concentrations of the Gellep vessels, can be found along the river Rhine, mostly on its east bank. Smaller concentrations can be found in the Eifel region and in the German-Belgian border region. Relatively large concentrations of the Gellep vessels can also be found in the Netherlands, especially in the eastern half of the central Dutch river basin. Some smaller concentration can be found in the German-Dutch border region north of the main rivers.

The geographical spread of the Chenet type spans a large area, roughly between the north coast of the Netherlands in the north, the river Seine in France in the south and the Rhine valley around Heidelberg and Mannheim in Germany to the east. To the west, the spread is limited by the North Sea and Channel coast, with one find known from Kent. The largest concentrations of the Chenet type are found along the river Seine, on its north as well as its south bank, along the French coast between Dieppe and Boulogne sur Mer and in the central

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<sup>498</sup> Van Thienen *et al.* 2017, 89-92

<sup>499</sup> Chenet 1941.

<sup>500</sup> Van Thienen *et al.* 2017, 92.

<sup>501</sup> Chenet 1941, 92.

<sup>502</sup> Pirling *et al.* 2006, 189.

<sup>503</sup> Van Thienen *et al.* 2017, 89.

river basin in the Netherlands<sup>504</sup>. Besides these pockets of larger concentrations, the Chenet type generally occurs in lower concentrations per site than the Gellep vessels but distributed over a larger geographical area. The Chenet vessels are generally found in burial contexts in northwest Gaul dating roughly between AD 350 and 450. Recent discoveries in the Netherlands and Belgium associate the vessels with settlement as well as water infrastructure such as ditches and wells<sup>505</sup>. This may be one of the reasons for relatively large concentrations found in the Netherlands.

As becomes clear that the find record in the Netherlands shows a real mixture of the French and German types. It should be noted that hardly any vessels, both French and German, were found along the Dutch west coast and in the southern Netherlands and northern Belgium. For the west coast, it is possible that this absence reflects the more challenging find conditions related to the lowland characteristics of the region. In the southern Netherlands and northern Belgium, relatively many cemeteries have been excavated and researched, which may suggest that the absence of the vessels there is genuine. A similar pocket of absence, to be researched in more detail, is found in the German Mosel region around Trier<sup>506</sup>.

The example from Wageningen grave 172 is decorated, above and below the carination as well as underneath the base, with single lines of rectangular and triangular impressions. This example is the only one in the sample with a possible date in phase 3 (460/80-510/25). The examples from Wageningen grave 198 and Rhenen grave 156 have rectangular impressions above and below the shoulder. Vessels from this type are also known from the Wijster excavations, but not directly related to the inhumations discussed in this research<sup>507</sup>.

#### **Occurrence in the Netherlands:**

*Elst: 40.*

*Rhenen: 156, 312b, 356, 819, 829, 841, 844, 845, 847.*

*Wageningen: 172, 198.*

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<sup>504</sup> Van Thienen *et al.* 2017, 92-93.

<sup>505</sup> Van Thienen *et al.* 2017, 91

<sup>506</sup> Van Thienen *et al.* 2017, 92-93., Heeren *et al.* 2017, 365-375/406-408 (similarities with brooches along the west coast)., Roymans *et al.* 2017., van Thienen 2016 (southern Netherlands and northern Belgium)., Hussong *et al.* 1972., Bernhard 1985 (Mosel-Trier).

<sup>507</sup> van Es 1967, 158-168.

**Identification in other typologies:**

Franken AG: **S-Sha 2.11** (phase 2-3 > 435 – 510/25)

Siegmund: **Sha 2.11** (phase 2 > 440-485).

LPV: **380** (phase PM-MA1 > 440/50-520/30, most frequently in PM > 440/50 - 470/80).

**Related to 382** (same dating as 380)

Hines: -

**Dating in the Netherlands:**

Phase 2 (435 – 460/80).



*PO-6a*

**PO-6b Gallo-Roman bowl of Samian ware 'Chenet 320'**

Bowl made of Samian ware with a slightly thickened rim and a foot ring. This bowl was identified by Chenet as type 320 and by Vanvinckenroye as type 152. Typologies focussing on France and Belgium describe decorated and undecorated versions of this bowl. The example from Rhenen, the only one featuring in this sample, is decorated.

The decorated type is dated by Vanvinckenroye as approximately fourth century<sup>508</sup>.

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<sup>508</sup> Vanvinckenroye 1967, 65-66.

**Occurrence in the Netherlands:**

*Rhenen: 833.*

**Identification in other typologies:**

Franken AG: -

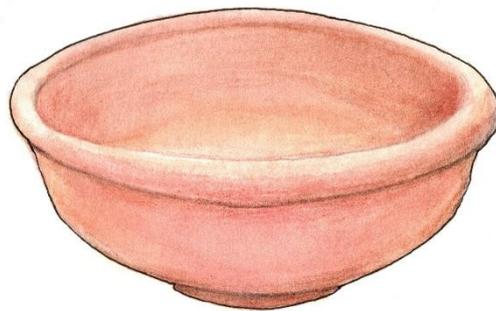
Siegmund: -

LPV: **380** (decorated - phase PM-MA1 > 440/50 – 520/30, most prominently in PM > 440/50 – 470/80). **Related to 381** (undecorated – phase PM-MA3 > 440/50 – 600/10, most prominently in MA1-MA2 > 470/80 – 560/70).

Hines: -

**Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).



*PO-6b*

**PO-6c Gallo-Roman bowl of Samian ware 'Brulet 414'**

Conical bowl made of Samian ware with a low foot ring and a horizontal, everted rim. The bowl has a style which developed out of type 314 as identified by Chenet<sup>509</sup>. This bowl was identified by Brulet as type 414 and dated between AD 400 and 500<sup>510</sup>.

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<sup>509</sup> Chenet 1941.

<sup>510</sup> Brulet 1990.

**Occurrence in the Netherlands:**

*Maastricht: 291.*

**Identification in other typologies:**

Franken AG: -

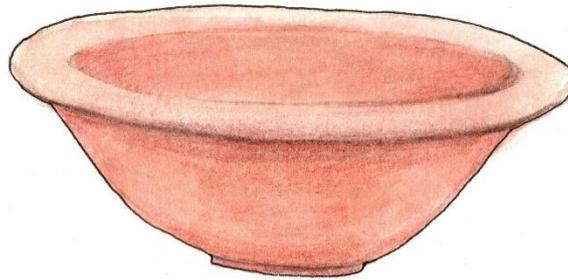
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 1-3 (400 – 510/25).



*PO-3c*

**PO-6d Flat bowl with foot ring and horizontal rim**

Flat and relatively broad bowls with a foot ring and thickened rim which is everted in a horizontal position. The example from Rhenen grave 470 is equipped with a flange above the rim in order to hold a lid in place.

The German typologies do not provide detail regarding decoration, fabric, colour or bake in relation to this type. In the French typology, biconical bowls in various shapes, sizes and heights, with the horizontal rim as a binding factor, are grouped together.

The example from Elst grave 163 is relatively broad and flat and made of polished *Terra Nigra* or a similar ware. This bowl is decorated on its inside with a roulette stamp decoration made up of rectangles and has six single circular stamps on the inside of the base

**Occurrence in the Netherlands:**

*Elst: 163.*

*Rhenen: 18, 470.*

**Identification in other typologies:**

Franken AG: **related to S-Sha 2.32** (phase 3-4 > 460/80 - 565).

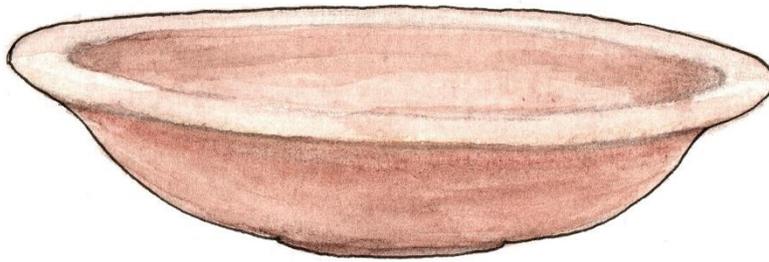
Siegmund: **related to Sha 2.32** (phase 4 > 530-555).

LPV: **381** (phase PM-MA3 > 440/50-600/10, most frequently in MA1-MA2 > 470/80 - 560/70).

Hines: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).



*PO-6d*

**PO-6e Conical bowl with a rough surface, flat base and an inverted rim**

Conical bowl with a straight or slightly convex wall and an inverted rim. Vessels of this type have a rough surface and a flat base. The sharpness with which the edge bends inwards differs per vessel.

**Occurrence in the Netherlands:**

*Rhenen: 148, 318, 405, 595, 647, 712, 756.*

*Wageningen: 119, 148.*

**Identification in other typologies:**

Franken AG: **S-Sha 1.11** (phase 3-5 > 460/80 – 580/90).

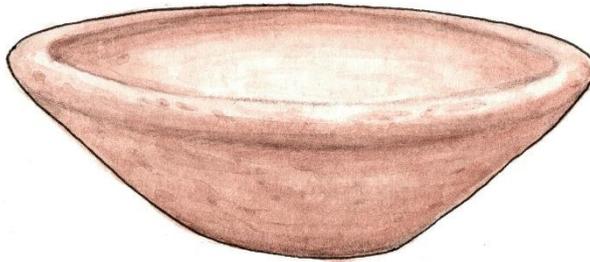
Siegmund: **Sha 1.11** (phase 4-5 > 530-570).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).



*PO-6e*

**PO-6f Biconical bowl with strongly concave upper wall and a flat base**

Biconical bowl with a sharp carination, a strongly concave upper wall and a flat base. Vessels of this type have a rough surface. The diameter of the opening is equal to- or wider than the shoulder diameter. Although the examples from the graves in Rhenen are all quite low, the bowl from Wageningen grave 107 is somewhat higher and narrower.

**Occurrence in the Netherlands:**

*Rhenen: 103, 328, 627.*

*Wageningen: 107.*

**Identification in other typologies:**

Franken AG: **S-Sha 2.41** (phase 4-5 > 510/25 – 580/90).

Siegmund: **Sha 2.41** (phase 4 > 530-555).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5 (565 – 580/90).



*PO-6f*

**PO-6g Biconical bowl with a slightly concave upper wall and a flat base**

This group includes two types identified by Siegmund. The first type, Sha 2.42, is a rough-walled biconical bowl with a slightly concave upper wall and a flat base. The diameter of the mouth is generally larger than the diameter of the carination. The concavity of the upper wall is less pronounced than in type PO-6f. The second type included in this group is Sha 2.43. This is a rough-walled biconical bowl with a flat base and a carination which is pronounced with a rib. The upper wall is straight or slightly conical and the rim is thin and simple.

**Occurrence in the Netherlands:**

*Elst: 82.*

**Identification in other typologies:**

Franken AG: **S-Sha 2.42/2.43** (phase 5-9 > 565 – 710).

Siegmund: **Sha 2.42** (phase 8-9 > 610-670). **Sha 2.43** (phase 9 > 640-670).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).



*PO-6g*

**PO-6h Biconical bowl with a pedestal and a straight upper wall, oxidised bake**

Biconical bowl with a pedestal and a straight or slightly concave upper wall. The fabric of these vessels is mostly smooth and often polished. In some cases, however, coarse ware occurs. The leading criteria for classification are the oxidised bake and pedestal. Vessels of this type are undecorated or equipped with roulette stamp decoration (i.e. Obbicht grave 24).

Bowls of this type have various shapes and sizes, ranging from relatively flat bowls with a large opening (e.g. Sittard grave 81), smooth carinations (e.g. Obbicht grave 49) to relatively high examples with a large upper wall and a strong carination (e.g. Bergeijk grave 42).

The German typologies describe the rim of vessels of this type as thin or only slightly thickened. Within the sample from the Netherlands, however, rim types vary from relatively thick and pronounced (i.e. Maastricht grave 18 and Bergeijk grave 42) to thin and modest (e.g. Maastricht grave 19).

The bowl from Bergeijk grave 36 has a shape which seems somewhat atypical in comparison to the other examples. The shape resembles PO-6f, with a diameter of the opening which is smaller than the diameter of the shoulder. The bake and foot ring, however, place the bowl in PO-6h. The vessel from Bergeijk grave 42 has characteristics which fit with the description of type PO-6g. It is again the oxidised bake and the pedestal which place the bowl in this group. Both examples indicate that the three types PO-6f, g and h are closely related in style. This corresponds with an overlapping period of occurrence.

#### **Occurrence in the Netherlands:**

*Bergeijk: 36, 42, 72.*

*Elst: 128.*

*Maastricht: 18, 19, 75, 168, 209.*

*Obbicht: 24, 49.*

*Rhenen: 713.*

*Sittard: 81, (82).*

*Stein: 37.*

*Veldhoven: 10, 14.*

#### **Identification in other typologies:**

Franken AG: **S-Sha 2.21** (phase 4-7 > 510/25 – 640/50).

Siegmund: **Sha 2.21** (phase 5-8 > 555-640, roulette decorated phase 6-8 > 570-640).

LPV: **403** (phase MA2b-MA3 > 540/50 – 600/10, most frequently in MA3 > 560/70 – 600/10).

Hines: -

#### **Dating in the Netherlands:**

Phase 4 - 7 (510/25 – 640/50). Pinpointing a date for this type has proven difficult. Vessels are found with a suspected phase 4, 5 and 7 date, based on the wider grave inventory. The examples dating to phase 7, however, are mainly placed in this phase based on rather

uncertain chronological evidence from beads. It is not unthinkable that the spread of undecorated vessels in this category is limited to phases 4 and 5 whilst decorated vessels, such as the bowl in Obbicht grave 24, keep occurring until the end of phase 7. The shape of the bowl in Bergeijk grave 36, for instance, suggests a date in phase 5 instead of the current dating in phase 7.



*PO-6h*

**PO-6i Biconical bowl of coarse ware with a pedestal and an undercut rim**

Biconical bowls with a pedestal and made of rough-walled earthenware. The vessels have a slightly thickened rim which is everted to a horizontal position and which is somewhat undercut.

**Occurrence in the Netherlands:**

*Rhenen: 703b.*

**Identification in other typologies:**

Franken AG: -

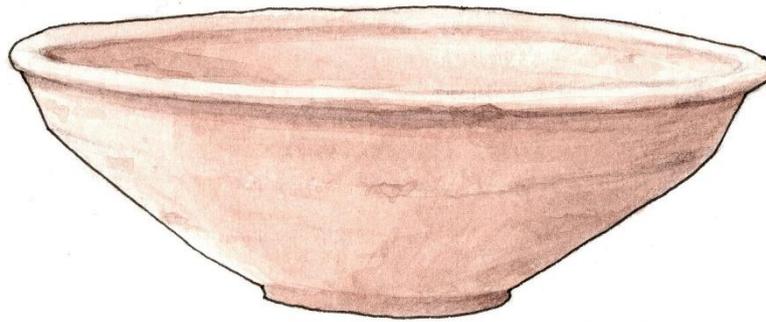
Siegmund: **Sha 2.22** (phase 10-11 > 670-740).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).



*PO-6i*

**PO-6j Biconical bowl with a straight upper wall, smooth surface and flat base**

Vessels of this type have a biconical shape and generally a smooth surface. The upper wall is straight or only very slightly concave. The vessels have a flat base and no specific rim.

**Occurrence in the Netherlands:**

*Elst: 131.*

*Stein: 46.*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Sha 2.5** (phase 7-8 > 585-640).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 7-8 (610/20 – 670/80).



*PO-6j*

### **PO-6k Biconical bowl of red-painted ware (Frankish Samian ware)**

The vessels in this category have a biconical shape and are made of smooth-surfaced, red-painted ware. They have a foot ring or pedestal. Red-painted ware is also known as Frankish Samian ware, as a similar colour to Roman Samian ware is created by painting directly onto the fired vessel. The makers of Frankish Samian ware attempted to recreate the fine texture of Roman Samian ware. The colour of the bake underneath the red paint is often reddish-ochre or yellow ochre.

The vessel from Rhenen grave 184 is atypical and resembles a biconical bowl with a sharp carination and a slightly conical upper wall. The rim of this bowl is everted, and its top is decorated with linear incisions. A line of irregular rectangular shapes around the body remains unpainted, showing the ochre base colour, as a form of decoration.

The bowl from Obbicht grave 21 has no specific rim and has a very rounded shoulder. The vessel from Maastricht grave 110 is equipped with roulette stamp decoration above the carination.

#### **Occurrence in the Netherlands:**

*Maastricht: 110, 279.*

*Obbicht: 21.*

*Rhenen: 184, 321.*

**Identification in other typologies:**

Franken AG: **S-Sha 2.31** (phase 3-5 > 460/80 – 580/90).

Siegmund: **Sha 2.31** (phase 4 > 530-555).

LPV: **related to 403** (phase MA2b-MA3 > 540/50-600/10, most prominently in MA3 > 560/70-600/10).

Hines: -

**Dating in the Netherlands:**

Phase 3-5 (460/80-580/90).



*PO-6k*

**PO-6I Rounded bowl of red-painted ware (Frankish Samian ware)**

The vessels in this group are made of smooth-surfaced, red-painted ware and have a foot ring. Red-painted ware is also known as Frankish Samian ware, as a similar colour to Roman Samian ware is created after firing via the process of painting. The makers of Frankish Samian ware attempted to recreate the fine texture of Roman Samian ware.

Vessels in this category have a strongly convex wall which ends in a thickened rim.

**Occurrence in the Netherlands:**

*Rhemen: 519.*

**Identification in other typologies:**

Franken AG: -

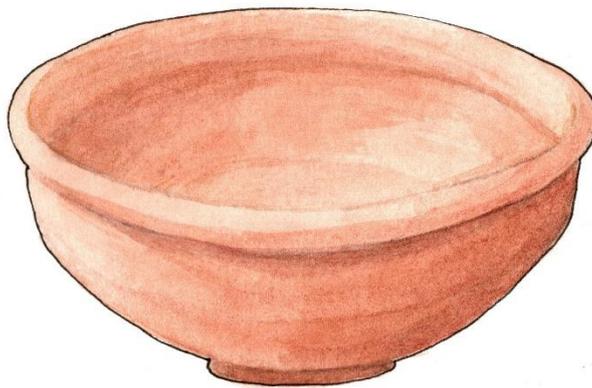
Siegmund: **Sha 1.2** (phase 5 > 555-570).

LPV: **related to 381** (phase PM-MA3 > 440/50-600/10, most prominently in MA1-MA2 > 470/80-560/70).

Hines: -

**Dating in the Netherlands:**

Phase 2-3 (435 – 510/20).



*PO-6l*

**PO-6m Bowl with carinated wall and foot stand**

Bowls which are placed on a high foot stand. The bowls have a conical lower wall, a straight upper wall and a horizontal flattened rim. The only known example of this type in the Netherlands to date was found in Maastricht grave 79. This vessel is made of fine clay in a grey colour. A decoration of incised lines is present on the foot and outer walls of the bowl. On the inner surface, the remains are visible of what was probably an incised spiral made up of dots<sup>511</sup>.

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<sup>511</sup> Theuws *et al.* 2017, 297.

A second bowl on a foot stand resembling the example from Maastricht was found in the Grez-Doiceau cemetery in the Belgian province of Brabant Wallon, southeast of Brussels.<sup>512</sup> This bowl is somewhat asymmetrical and lacks decoration but is otherwise comparable. A second example outside of the Netherlands is known from Rißtissen in the German state of Baden-Württemberg<sup>513</sup>. This example, also grey, is decorated with an incised undulating line along its straight upper wall and on top of its flat rim<sup>514</sup>.

The specific shape of this type of bowl possibly derives from the so-called Roman *Räucherkelche* which dates between circa AD 1 and 400<sup>515</sup>. In the description of this type it is noted that a vertical upper wall, as present in the Maastricht example, is a characteristic of a late vessel.

Vessels of this type are neither identified by Siegmund or the Franken Arbeitsgruppe in Germany nor by LPV in France. In Maastricht grave 79, the bowl is found in combination with copper alloy belt fittings of type BU-4i which date to phase 5-6 (565-610/20). This date, however, is mainly based on evidence from comparable finds outside of the Netherlands.

#### **Occurrence in the Netherlands:**

*Maastricht: 79.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV -

Hines: -

#### **Dating in the Netherlands:**

Phase 5-6 (565 – 610/20). This date is uncertain and based on limited evidence.

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<sup>512</sup> Vrielynck 2007, 39 + Fig. 10.

<sup>513</sup> Fuchs *et al.* 2001.

<sup>514</sup> Theuws *et al.* 2017, 297-298.

<sup>515</sup> Gose 1976, nrs. 443-448.



*PO-6m*

## PO-7: JUGS

Jugs occur in early Medieval inhumations in the Netherlands in various shapes and sizes. In both German typologies, a distinction is made between jugs and pitchers in two separate categories, based on the presence or absence of a runnel for pouring. Because vessels from both categories show great similarities overall, no added value could be discovered in preserving the separation in this typology. German types with both a KAN and a KRU code can therefore be found in category PO-7.

A large group of jugs can be classified as so-called trefoil jugs, referring to the typical shape of the opening. Trefoil jugs are divided in a slender and a broad type, based on the relative ratio between the largest diameter of the belly and the vessel's height (**Largest diameter of the belly / height**).

Biconical jugs occur in various graves and have either a circular- or trefoil shaped opening. The absence of a spout and a generally taller height distinguishes this type from the more numerous spouted biconical pot. The latter, which usually resembles the appearance of a tea pot, is classified in categories PO-2 and PO-3, according to decoration, and does not form a separate jug type.

In addition to the trefoil- and biconical jugs, there are types which have a round circular and a single handle. Non biconical vessels with a circular opening are divided into three groups on the basis of the relative ratio between the diameter of the neck and the largest diameter of the belly (*Diameter of the neck / largest diameter of the belly*).

### **PO-7a Trefoil jug – slender**

Jugs with a carefully formed trefoil-shaped opening and a ratio between diameter of the jug's belly and its total height of less than 1.0 (*db/h*). The jugs are sometimes decorated with narrow bands of linear horizontal incisions.

This group includes the generally slender vessels or those that are slightly broader but lower. The jugs do not have a homogeneous shape, some having a longer and more elegant neck than others. The shape of the body is sometimes elongated and ovoid whilst other vessels are chunkier and more rounded.

In the typology for the German Rhineland, Siegmund differentiates between types Kan 1.11 and 1.12, based on the identifiability of the base. Type 1.11 has a clearly identifiable base and a concave lower wall, whilst type 1.12 has a less pronounced base and a conical or slightly convex lower wall<sup>516</sup>. Siegmund's statement that the oldest vessels have a somewhat concave lower wall is in accordance with the evidence from the Netherlands. The more defined base on older vessels, however, is something not recognised in this sample.

All younger (phase 4) vessels have a clearly pronounced foot, except for the vessel in Wageningen grave 174. All older vessels (phase 2) have a non-pronounced foot. Strangely enough, this seems to indicate a situation which is exactly the opposite of what is seen in the German Rhineland.

As the identifiability of the base does not seem to hold the same significance in the Netherlands as it does in the German Rhineland, it has been chosen to omit the separation into two different types. If any conclusion could be drawn from the shape of the foot, this sample would suggest that a more pronounced build points towards a younger date in the Netherlands (roughly phase 4). A slightly concave lower wall may be an indicator for an earlier date within the spectrum (phase 2).

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<sup>516</sup> Siegmund 1998, 151.

Although the variety between the concave and conical lower wall can be recognised in general in the Netherlands, it is often minimal and difficult to identify. It does not provide the substantial evidence needed to justify two separate types.

**Occurrence in the Netherlands:**

*Maastricht: 18.*

*Rhenen: 94, 95, 712, 822, 831, 832.*

*Wageningen: 109, 155, 174.*

**Identification in other typologies:**

Franken AG: **Kan 1.1/2** (phase 2- early 4 > 435 – c. 510/30).

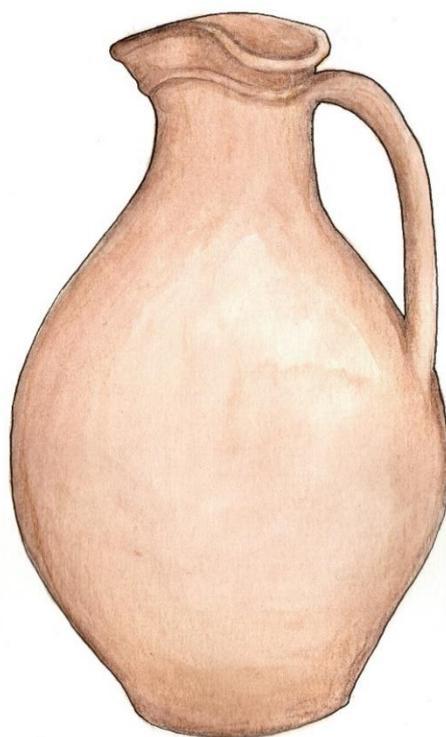
Siegmund: **Kan 1.11** (phase 2-3 > 440-530, most frequently in phase 2 > 440-485) **Kan 1.12** (phase 2-4 > 440-555, most frequently in phase 3 > 485-530).

LPV: **401** (phase PM-MA1 > 440/50 – 520/30, most frequently in PM > 440/50 – 470/80).

Hines: -

**Dating in the Netherlands:**

Phase 2-4 (435 – 565).



*PO-7a*

## **PO-7b Trefoil jug – broad**

Jug with a trefoil-shaped opening which is generally less pronounced than in type PO-7a. The jugs are sometimes decorated with broad bands of linear horizontal incisions. This category includes the broader or higher vessels with a rounded body which make a somewhat plump impression.

Jugs in this category have a ratio between diameter of the jug's belly and its total height of 1.0 or higher (db/h).

### **Occurrence in the Netherlands:**

*Maastricht: 78, 85, 300.*

### **Identification in other typologies:**

Franken AG: **Kan 1.2** (phase 5 – 7 > 565 – 640/50)

Siegmund: **Kan 1.2** (phase 8 > 610-640)

LPV: **402** (phase MA1-MR1 > 470/80 – 630/40, most frequently in MA2-MA3 > 520/30 – 600/10).

Hines: -

### **Dating in the Netherlands:**

Phase 6 (580/90 – 610/20).



*PO-7b*

## **PO-7c Biconical jug**

Jugs which may be best described as stretched biconical vessels. The jugs have a single handle and the rim is pinched forward from the rim for pouring. This type of jug should not be confused with the more teapot-like biconical vessels with a handle and a spout. The latter vessels are more commonly found and are listed amongst the biconical vessels in sections PO-1, 2 and 3. They can be dated according to their shape and decoration.

The example from Meerveldhoven grave 24 has a pedestal, a round mouth and an upper wall which is higher than the lower wall. The upper wall is decorated with multi-lined roulette stamp decoration and the surface of the jug shows traces of polishing. A ridge marks the transition from upper wall to rim.

The vessel from Meerveldhoven grave 14 has a sharp carination and an upper and lower wall which are more equal in size. The neck is straight, and the mouth is trefoil shaped. The decoration of this jug consists of three bands of zigzag-shaped spatula impressions separated by horizontally incised lines. The jug from Maastricht again has a high upper wall but is decorated with horizontal incised lines only. The example from Stein grave 41 shows single-line rectangular roulette stamp impressions in three zones divided by horizontal incised lines. Both the jugs from Maastricht and Stein have a trefoil shaped opening. The vessel from Posterholt, also with a trefoil shaped opening, is incomplete but seems undecorated.

Based on the various other artefacts found in the same contexts as the jugs mentioned it can be suggested that the jug from Posterholt dates to phase 6 or 7, the jug from Stein to phase 7 and the jug from Meerveldhoven grave 24 to phase 6. In Meerveldhoven grave 14, the jug occurs in combination with a buckle of type BU-5f, suggesting a phase 8 date. The vessel from Maastricht could not be dated in relation to its context.

### **Occurrence in the Netherlands:**

*Maastricht: 228.*

*Meerveldhoven: 14, 24.*

*Posterholt: 86.*

*Stein: 41.*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Related to Kwt 4.4** (Phase 8 > 640/50 – 670/80).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 6-8 (580/90 – 670/80).



*PO-7c*

**PO-7d Jug with a broad neck, round opening and single handle**

Jug with a single handle, a broad neck and a round opening. The ratio between the diameter of the neck and the diameter of the belly is between 0.525 and 0.8 (*Dn/Db*).

Jugs in this category are characterised by a clear transition between shoulder and neck, often pronounced by an incised line. The rim is usually rounded, thickened and/or everted. The lower wall of the jug has a conical shape, and the base is relatively small.

Jugs of this type are often made of rough-walled earthenware and the shapes are not homogenous. Some vessels have a more pronounced rounded belly (Rhenen 839) whilst the body line of others is more flowing (Wageningen 106).

**Occurrence in the Netherlands:**

*Elst: 201.*

*Rhenen: 78, 91, 554a, 839, 844.*

*Wageningen: 106.*

**Identification in other typologies:**

Franken AG: **S-Kru 1.2** (phase 1-3 > 400 – 510/25).

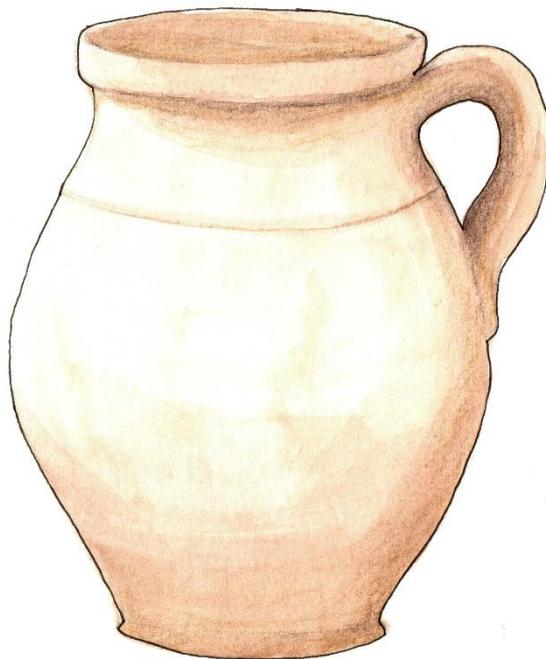
Siegmund: **Kru 1.2** (phase 1-2 > 400 – 485).

LPV: **400** (phase PM-MA1 > 440/50 – 520/30).

Hines: -

**Dating in the Netherlands:**

Phase 2-3 (435 – 510/25). Possibly already as early as phase 1 (from AD 400).



*PO-7d*

### **PO-7e Jug with a narrow neck and single handle**

Jugs with a single handle, a round- or roughly trefoil shaped opening and a narrow neck. The ratio between the diameter of the neck and the diameter of the belly is less than 0.525 ( $D_n/D_b$ ). Vessels of this type can be either decorated or undecorated.

#### **Occurrence in the Netherlands:**

*Sittard: 46, (81).*

#### **Identification in other typologies:**

Franken AG: **S-Kru 1.1** (phase 5-6 > 565 – 610/20).

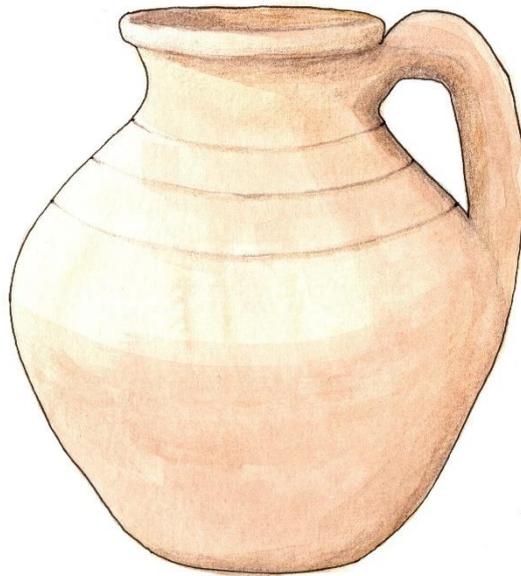
Siegmund: **Kru 1.1** (phase 7 > 585 - 610).

LPV: -

Hines: -

#### **Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*PO-7e*

**PO-7f Pitcher with an extremely broad neck and a single handle**

Pitcher with a single handle and an extremely broad neck. The ratio between the diameter of the neck and the diameter of the belly is more than 0.8. Due to its broad neck, the bodies of vessels of this type look almost spherical.

**Occurrence in the Netherlands:**

*Maastricht: 258.*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Kru 1.3** (phase 5 > 555 - 570).

LPV: **related to 400** (phase PM-MA1 > 440/50 – 520/30).

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*PO-7f*

## PO-8: Bottles

Bottles are a category of pottery which occurs to a limited extent in early Medieval cemeteries in the Netherlands. The bottles vary greatly in shape, making exactly similar bottles a rarity. The large shape variety makes it difficult to group the bottles efficiently on the basis of their appearance.

For the German Rhineland, Siegmund distinguishes between four groups, based on the relative ratio between the diameter of the neck and the diameter of the base (*diameter neck / diameter base*). The broader bottles in the Rhineland sample are further divided based on the ratio between the largest diameter of the belly and the vessel's height (*diameter belly / height*)<sup>517</sup>. The four types are adopted by the Franken Arbeitsgruppe unchanged. LPV identify only one category of bottles within their geographical research area of northern France.

For the research area of southern Germany and northern Switzerland, Koch has made a useful attempt to specify the bottle chronology in relation to different shapes<sup>518</sup>. Koch's date for every vessel in this sample is indicated below. In view of local chronological variation, however, it is debatable whether the subcategorisation for southern Germany and northern Switzerland can be applied directly to the Netherlands. This local chronological variation already becomes apparent when viewing differences in dating between similar bottles from the samples of Siegmund, the Franken Arbeitsgruppe and LPV.

When the few bottles present in the Dutch sample are classified according to the mathematical method suggested by Siegmund and the Franken Arbeitsgruppe, all vessels belong in the same category. All vessels can be dated to a two-phase bracket and no more chronological significance could be gained from analysing individual shapes.

### PO-8a Bottle with a narrow neck

Bottles with a narrow neck. The ratio between the diameter of the neck and the diameter of the base is less than 0.75 (*Dn/Db*).

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<sup>517</sup> Siegmund 1998, 143-146.

<sup>518</sup> Koch 2001, 182-187, 343-347.

Bottles in this group come in various shapes and sizes. In general, it can be suggested that this category includes bottles with a spherical body and a cylindrical neck as well as elongated bottles with a shorter neck. The rims of the bottles in this group are generally everted. The base of the bottles is flat.

**Occurrence in the Netherlands:**

*Bergeijk*: 53 (Koch type D > 620-650 or E > 600-620).

*Obbicht*: 57 (Koch type E > 600-620 or G > 620-650).

*Posterholt*: 91 (Unknown – fragmentary).

*Rhenen*: 219 (Koch type G > 620-650), 485 (Koch type E > 600-620 or G > 620-650).

*Sittard*: 39 (Koch type D > 620-650).

**Identification in other typologies:**

Franken AG: **S-Fla 1.1** (phase 5-7 > 565 – 640/50).

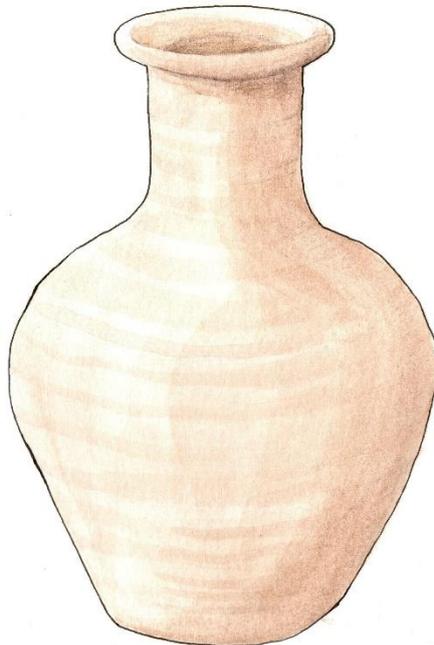
Siegmund: **Fla 1.1** (phase 8 > 610-640, sometimes slightly younger).

LPV: **407** (phase MA3-MR1 > 560/70 – 630/40).

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20). Possibly also in phase 7 (until 640/50).



*PO-8a*

## **PO-9: Hand formed pottery**

This category is comprised of vessels made without using a potter's wheel. A number of vessels in this category fall into the category of so-called Anglo-Saxon pottery (PO-5). Other handmade vessels are merely locally made, indigenous pottery that cannot necessarily be labelled Anglo-Saxon. The fact that most vessels included in this category were found in cemeteries north of the river Rhine, however, may indicate that they are related to similar manufacturing traditions as can be seen in north western Germany and Scandinavia. This makes certain similarities with the Anglo-Saxon pottery from said areas, as well as England, noticeable.

Handmade pottery, including Anglo-Saxon pottery, is scarce in the south and west of the Netherlands. In these areas, wheel-turned pottery imported from the German Rhineland prevails.

The hand formed vessels discussed in this category often have a rather primitive shape. They are usually made of coarsely tempered clay and lack a detailed finish. Unlike Anglo-Saxon pottery, vessels in this category are rarely decorated. In those cases when decoration occurs, it does not resemble the very recognisable Anglo-Saxon style.

### **PO-9a Vessels with perforated lugs**

Hand formed vessels with two perforated lugs. In one case, Wijster grave 12, four lugs can be identified. The lugs are usually placed along the rim, at the top of the vessel. The pot from Wijster grave 55 shows two lugs which are placed at approximately one third of the vessel's height. Although this pot is unique within the Dutch sample for its low lug placement, a similar style is more common in England, as evidenced by findings from the Cleatham cemetery<sup>519</sup>.

The vessels in this group have a rounded shape. In one case, Wijster grave 147, the pot is particularly rounded and approaches the shape of a spherical pot which occurs in the Netherlands from the second half of the eighth century onwards. The example from Wijster grave 12 is higher and narrower whilst the example from Wijster grave 14 is lower and broad.

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<sup>519</sup> Leahy 2007, 89-91

Most vessels in the sample have a relatively large opening in comparison to the largest belly diameter. The neck of the vessels is short, with a vertical or slightly everted rim. The rim has the same thickness as the vessel's wall or is slightly thickened. In all cases the base is flat. This contrasts with the Cleatham sample from England, in which foot rings and pedestals occur<sup>520</sup>. Most vessels are stone tempered, and fabrics range from relatively smooth to coarse. Most vessels are undecorated. The pot in Wijster grave 12 has a wavy band of small stripe-like incisions below the lugs. The vessel from Wijster grave 147 has two lines of small circular impressions running horizontally below the lugs.

Providing a date for this group based on the vessels in this sample is difficult because the pots rarely appear in the same context as datable objects. The limited evidence available, however, substantiates the seventh century date postulated by Krol<sup>521</sup>. The vessel from Wijster grave 12, for example, occurs together with a millefiori bead with a general date in the seventh century. A now unidentifiable disc brooch was also found in this grave. Although the brooch is in an advanced state of decay, it seems clear that it is not an example in which garnet inlay is used. Disc brooches without garnet inlay generally occur in the Netherlands from phase 6 (post AD 580/90). The vessel in Wijster grave 147 is possibly later than the other vessels in the sample, based on its globular shape. It occurs together with a seax and a spear head. The seax is a so called *Langsax* which dates between phase 8 and 10 (640/50-750). In the case of the spear head it is difficult to establish whether it has an open or closed shaft. Assuming that this example has a closed shaft would place it in the broad bracket of phases 4 to 9 (510/25 – 710).

**Occurrence in the Netherlands:**

*Wijster: 12, 14, 55, 75, 146, 147.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

Krol: Post phase 3 (seventh century or later).

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<sup>520</sup> Leahy 2007, 89-90

<sup>521</sup> Krol 2006, 17

Leahy: 01p (Cleatham phase 3-5)<sup>522</sup>

**Dating in the Netherlands:**

Phase 7-10 (610/20 - 750). Possibly continuing up to approximately AD 800.



*PO-9a*

**PO-9b Hand formed rounded vessels**

Vessels in this category are not homogenous in appearance but have their rounded shape in common. The vessels generally have convex sides and a rim which is not thickened or only slightly. The rim is slightly everted. The diameter of the opening dictates the roundness of the body and differs amongst the vessels in the sample. The pot from Rhenen grave 843, for example, has a small opening and is therefore very rounded. The vessel from Zweeloo grave 76 has an opening which is as wide as the vessel's maximum diameter. For this reason, the vessel has a more bowl-like appearance. For the vessels with a less curved wall the transition from body to neck is often indicated by an indentation in the wall. The vessels in this sample are undecorated, with the exception of the pot from Rhenen grave 841. This example is decorated with vertical, slightly oblique bands of rectangular impressions. The vessel from Wijster grave 213 is equipped with a small round handle attached to the neck.

Unfortunately, this group cannot be placed within a detailed chronological framework. The vessel from Rhenen grave 841 occurs in combination with a bowl of type PO-6a as well as an

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<sup>522</sup> Leahy 2007, 89-91

animal head buckle. These finds place the grave in phase 2 (435-460/80). Rhenen grave 843 cannot be dated independently but is also part of the oldest cluster in the cemetery.

In Rhenen grave 133, the vessel occurs alongside a pot of type PO-1c which can be dated in phase 3 or 4 (460/80 – 565). Based on the find of an axe of type FBA 2.1 and a spearhead of type LAN 1.4 in the same context, the vessel from Rhenen grave 596 can be placed in phase 5 (565-580/90).

Knol dates the vessel in Oosterbeintum grave 420 to between 550 and 725 (roughly phase 5 to 10)<sup>523</sup>. The tree trunk coffin in Oosterbeintum grave 483 was radiocarbon dated to between 450 and 625. Grave 483 cuts, and therefore postdates grave 605. The coffin contained in the latter was radiocarbon dated between 400-550<sup>524</sup>. This places the vessel from grave 483 roughly between 500/25 and 625 (phase 4-6).

The spindle whorl in Oosterbeintum grave 241 places this context in phases 3 to 7. The grave is cut by context 501 which is dated between 625 and 750, based on the find of an equal armed brooch. This would place grave 241 roughly in phases 3 to 6 (460/80 – 610/20).

The vessel from Zweeloo grave 76 occurs in combination with a so called *Langsax* and can therefore be dated between phase 8 and 10 (640/50-750).

Rhenen grave 337 cannot be dated independently but is located directly adjacent to grave 247 at the same high level. In this grave, an ovoid pot of type PO-4e was found, which indicates a date in phase 7 to 9 (610/20 – 710).

#### **Occurrence in the Netherlands:**

*Oosterbeintum: 241, 420, 483.*

*Rhenen: 133, 149, 337, 596, 841, 843.*

*Wijster: 56, 213.*

*Zweeloo: 76.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

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<sup>523</sup> Knol 1996, 399.

<sup>524</sup> Knol 1996, 404 and 409.

### Dating in the Netherlands:

Phase 2-10 (435-750).



*PO-9b*

### **PO-9c** Hand formed biconical vessels

Hand formed vessels with a sharp carination and a straight or concave upper wall. The vessels have a relatively high neck and an opening which is somewhat smaller than the diameter of the carination. The rim is not thickened and slightly everted.

The example from Wijster grave 25 has a horizontal spout applied at the carination on one side of the vessel. The spout provides an open connection with the pot's interior and has a thickened end.

The vessel from Rhenen grave 822 has an atypical shape with a low carination, a vertical upper wall and therefore an opening as wide as the carination.

Siegmund places vessels of this type in his phase 2 (440-485) or, more generally, in the late fifth or early sixth century. This date is in accordance with Rhenen grave 822 which dates to phase 2 (435/50 - 460/80). Rhenen grave 563 can be dated somewhat later, to phase 4 (510/25-565). Wijster grave 25 cannot be dated.

### Occurrence in the Netherlands:

*Rhenen: 563, (822).*

*Wijster: 25.*

**Identification in other typologies:**

Franken AG: -

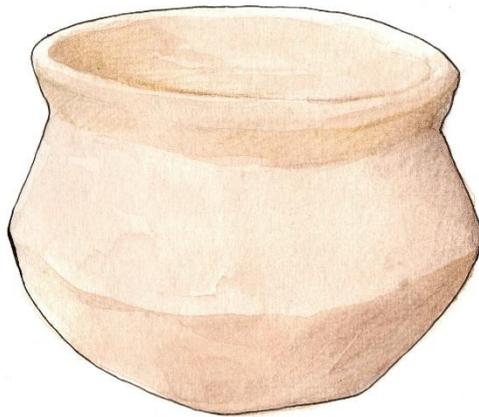
Siegmund: **Hnd 2** (phase 2 > 440-485, generally late fifth or early sixth century).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 2 – 4 (435/50 – 565).



*PO-9c*

**PO-9d Hand formed bowl**

Hand formed bowls with a flat base and a large opening. The vessels are generally conical shaped with a rim which is not thickened or otherwise accentuated.

The example from Elst grave 217 has a narrow base. The vessel in Rhenen grave 822 has a broad base and walls which curve slightly inwards at the rim. The bowl in Oosterbeintum grave 248 also shows a slight curve in the upper walls, towards a vertical position at the rim.

The bowl from Rhenen dates to phase 2 (435/50-510/25), based on the presence a jug of type PO-7a and an animal head buckle (BU-1a) in the same context. The vessel from Oosterbeintum grave 398 can be dated to phase 3 on the basis of a cruciform brooch found in the same context. The bowl in Oosterbeintum grave 248 cannot be dated independently. The presence of amber beads in the same context, however, points towards a date in the fifth

or sixth century. The vessel from Elst grave 217 is placed in phases 1 to 3 (400-510/25) by the excavators. The basis for this date is unclear, but the shape of the bowl is probably the main factor.

**Occurrence in the Netherlands:**

*Elst: 217.*

*Oosterbeintum: 248, 398.*

*Rhenen: 822.*

**Identification in other typologies:**

Franken AG: -

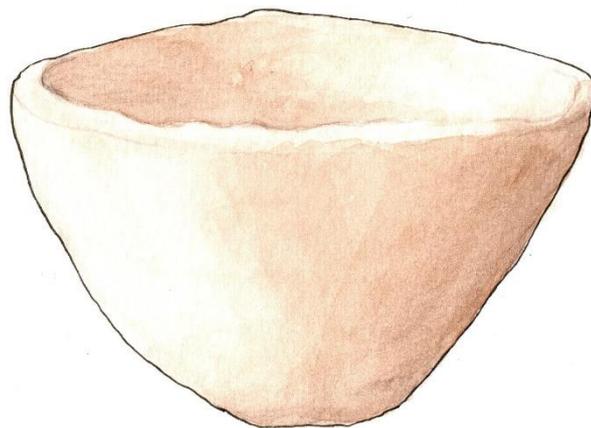
Siegmund: **Hnd 3** (No date provided).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 2 – 3 (435/50 – 510/25).



*PO-9d*

## **PO-9e Hand formed beaker**

The hand formed beaker has a high conical shape, a large opening and in comparison, a narrow base. The example from Elst grave 205 has a flat base and is decorated with irregularly placed single stamps of a circle with a cross in it. The beaker from Rhenen grave 846 has walls which are slightly rounded near the bottom and therefore an overall bell shape. This vessel is placed on a pedestal and undecorated. The rim of both vessels is not thickened or otherwise accentuated.

### **Occurrence in the Netherlands:**

*Elst: 205.*

*Rhenen: 846.*

### **Identification in other typologies:**

Franken AG: -

Siegmund: **related to Hnd 1** (Phase 1 > 400-440).

LPV: -

Hines: -

### **Dating in the Netherlands:**

Phase 1 – 2 (400 – 460/80).



*PO-9e*

## **PO-9f Hand formed cup with a handle**

Hand formed cups with a flat base, a large opening and one handle. The cups have a roughly rounded shape and a neck which is slightly everted. The rim is not thickened.

The examples from Rhenen grave 820 and Wageningen grave 102 are relatively low and broad with the handle attached to the upper half of the body. The cup in Rhenen grave 107a is narrower but higher. Its handle is attached halfway up the cup's height.

In Rhenen grave 280, the cup is found in combination with a conical glass beaker of type GL-4a which is dated by the Franken Arbeitsgruppe to phase 2 (430/35-460/80). Siegmund and LPV, however, date this type of glass vessel somewhat later to 485 – 530 and 440/50 – 520/30 respectively. The remaining contexts cannot be dated, leaving the chronological positioning of group PO-9f uncertain.

### **Occurrence in the Netherlands:**

*Rhenen: 107a, 820.*

*Wageningen: 102.*

### **Identification in other typologies:**

Franken AG: -

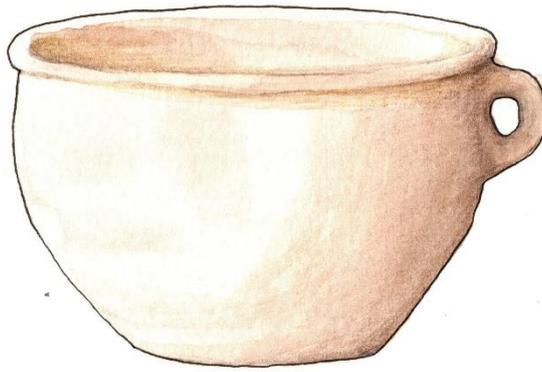
Siegmund: -

LPV: -

Hines: -

### **Dating in the Netherlands:**

Phase 2 - 3 (430/35 – 510/25).



PO-9f

### **PO-9g Hand formed vessels with 'noses'**

Hand formed vessels with a straight lower wall and a high shoulder. The diameter of the shoulder is relatively large in comparison to the diameter of the opening. The diameters of opening and base are approximately equal. The vessels have a relatively high neck or collar and a rim which is slightly everted. The rim is not thickened. Around the shoulder, the vessels are decorated with a number of 'noses'. These are small yet long bosses which point outwards and slightly downwards. The bosses distinguish themselves from those on Anglo-Saxon pottery through their smaller footprint, their more pointed shape and the fact that they protrude further. The style, however, can be considered as related. In this regard, a relation can be suggested between this group and group PO-5a.

The only vessel included in this sample is equipped with eight noses and can be dated to phase 2 (435/50 – 460/80).

#### **Occurrence in the Netherlands:**

*Rhenen: 822.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

Leahy: **related to 1b** (Cleatham phases 1-5).

Krol: **Phase 2** (400-500) related to the early buckel urn.

**Dating in the Netherlands:**

Phase 2 (435/50 – 460/80).



*PO-9g*

## PO-10: MISCELLANEOUS VESSELS

This category includes various vessels which could not be classified in any of the foregoing categories and groups. The vessels in this category are mostly unique pieces to the Netherlands and surrounding countries. In some cases they occur more often, but in lower numbers, when compared to the vessels from categories PO-1 to PO-9.

### **PO-10a Ribbed beaker without a pronounced foot**

Pottery vessels of various heights with a characteristic beaker shape. The vessels are equipped with a varying number of pronounced ribs. The rim shape varies between straight and everted. Vessels in this group have a non-pronounced or flat base. Similar vessels also occur equipped with a more pronounced base such as a pedestal (PO-10b).

Vessels of types PO-10a and PO-10b are rare in the Netherlands and northern Belgium. The example from Bergeijk is the northernmost vessel found. One vessel without a pronounced foot is known from the Maastricht Vrijthof cemetery. A stray find from the same excavation includes a pronounced foot as does a vessel from Borgharen and Sittard. From the Pandhof cemetery, which is not included in this sample, a further two vessels with a pronounced foot are known<sup>525</sup>.

The beakers of types PO-10a and b are equally rare in the German Rhineland and surrounding areas and are therefore not mentioned in the typologies by Siegmund and the Franken Arbeitsgruppe. The beakers are more common, however, in northern France and southern Belgium and are included in the typology by LPV.

In the publication of the Bergeijk cemetery, Theuws includes a list of find locations of ribbed vessels of types PO-10a and PO-10b<sup>526</sup>. This list, which is included below for reference purposes, consists of a combination of previous inventories created by Böhner, Dasnoy,

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<sup>525</sup> Kars 2011, 193., Ypey *et al.* 1955, 80.

<sup>526</sup> Theuws *et al.* 2012, 288-289.

Dierkens and Mathiaut-Legros<sup>527</sup>. In addition to the French vessels listed below (*table 10*), mainly from the Grand Est and Bourgogne-Franche-Comté regions, Mathiaut-Legros mentions that similar beakers also occur in the Hauts-de-France region. These finds are not further specified<sup>528</sup>.

*Table 10: Pottery vessels of types PO-10a and PO-10b in Belgium, France, Germany and The Netherlands (After: Theuws et al. 2012, 288-289).*

#	Country	Province	Place
1	Belgium	Hainaut	Ciply
2	Belgium	Hainaut	Maurage
3	Belgium	Hainaut	Hantes-Wihéries
4	Belgium	Luxembourg	Resteigne
5	Belgium	Namur	Éprave
6	Belgium	Namur	Éprave
7	Belgium	Namur	Florennes
8	Belgium	Namur	Franchimont
9	Belgium	Namur	Wancennes
10	Belgium	Namur	Wancennes
11	Belgium	Namur	Wancennes
12	Belgium	Namur	Wancennes
13	France	Ardennes	Jandun
14	France	Ardennes	Mezières
15	France	Ardennes	Saucles-Monclin
16	France	Ardennes	Thin-le-Moutier
17	France	Aube	Mailly-le-Camp
18	France	Aube	Poivres
19	France	Bas-Rhin	Heidolsheim
20	France	Bas-Rhin	Molsheim
21	France	Côte-d'Or	Buxerolles
22	France	Côte-d'Or	Quincey
23	France	Haute-Marne	Andilly-en-Bassigny
24	France	Haute-Marne	Lezéville
25	France	Haute-Marne	Villiers-aux-Chênes
26	France	Haute-Saône	Blondefontaine
27	France	Haute-Saône	La Bruyère
28	France	Haute-Saône	Mantoché
29	France	Marne	Bréban
30	France	Marne	Broussy-le-Petit
31	France	Marne	Joches
32	France	Marne	Le Fresne Saint-Hilaire
33	France	Marne	Le Meix-Tiercelin
34	France	Marne	Oyes
35	France	Marne	Reims

<sup>527</sup> Böhner 1958, (1) 46-47, (2) table 3.3 (Germany), Dasnoy 1966 (Belgium)., Dierkens 1981, 26-27, 100 (Belgium and France)., Mathiaut-Legros 2006, 197, 199, Fig. 8, 10 (France).

<sup>528</sup> Mathiaut-Legros 2006, 197-199.

36	France	Marne	Saint-Loup
37	France	Marne	Villevénard
38	France	Meuse	Dieu-sur-Meuse
39	France	Moselle	Cocheren
40	France	Moselle	Forbach-le Hérapel
41	France	Moselle	Morsbach
42	France	Saône-et-Loire	Charnay-lès-Chalon
43	France	Yonne	Le Vaudonjon
44	Germany	Rheinland-Pfalz	Nittel-Junkertswiese
45	Germany	Rheinland-Pfalz	Tawern-Röler
46	Germany	Rheinland-Pfalz	Wiltingen
47	Netherlands	Noord-Brabant	Bergeijk
48	Netherlands	Limburg	Borgharen
49	Netherlands	Limburg	Maastricht (Pandhof)
50	Netherlands	Limburg	Maastricht (Pandhof)
51	Netherlands	Limburg	Maastricht (Vrijthof)
52	Netherlands	Limburg	Maastricht (Vrijthof)
53	Netherlands	Limburg	Sittard

**Occurrence in the Netherlands:**

*Maastricht: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **398** (Phase MR1-MR2 > 600/10 – 660/70).

Hines: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50). Based on one example only.



PO-10a

### **PO-10b Ribbed beaker with a pronounced foot**

Pottery vessels of various heights with a characteristic beaker shape. The vessels are equipped with a varying number of pronounced ribs. The rim shape varies between straight and everted. Vessels from this type have a pronounced foot (e.g. a pedestal). Similar vessels also occur without a pronounced base (PO-10a).

Please see the description of PO-10a for more information regarding the geographical distribution of vessels belonging to this group.

#### **Occurrence in the Netherlands:**

*Bergeijk: 53.*

*Borgharen: 51.*

*Maastricht Pandhof (not in this sample): 10031, 10743.*

*Sittard: 3.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **398** (Phase MR1-MR2 > 600/10 – 660/70).

Hines: -

**Dating in the Netherlands:**

Phase 6-8 (580/90 – 670/80).



*PO-10b*

**PO-10c Earthenware 'bell beaker' with roulette stamp decoration**

Pottery vessel in the shape of bell beaker. The bell beaker shape is normally seen amongst Merovingian glassware and not as a pottery variant. The example found has a smooth surface and is decorated with three bands of multi-lined roulette stamps consisting of rectangular impressions.

The vessel is found with no associated finds and can therefore not be dated. The multi-lined roulette stamp decoration, however, points towards a date in phase 5 to 7 (565-640/50). A date in phase 5 or 6 (565-610/20) is consistent with the occurrence of the glass ware bell beakers which are most alike.

**Occurrence in the Netherlands:**

*Rhenen: 740.*

**Identification in other typologies:**

Franken AG: -

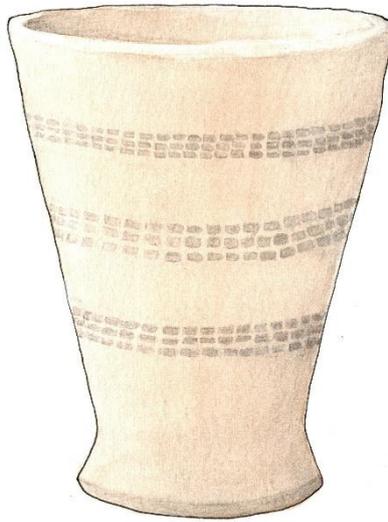
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



PO-10c

**PO-10d Globular vessel with feathered decoration**

Dark coloured vessel of a Terra-Nigra-like bake. The vessel has a globular body with a slightly conical neck and an everted rim. On the top half of the body, the vessel is decorated with an incised decoration in eight or ten lines. The nature of the decoration is described as 'a feather pattern' but resembles lines of small diagonal markings.

**Occurrence in the Netherlands:**

*Rhenen: 99.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **Related to 394** (phase MA3-MR1 > 560/70 – 630/40).

Hines: -

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).



*PO-10d*

**PO-10e Vase with rounded belly and ribbed neck**

Dark coloured vessel with a beaker or vase-like shape. The vessel has a conical lower wall, a rounded belly/shoulder and a diabolo-shaped neck. The neck is decorated with horizontal ribs.

The example from Maastricht grave 258 is the only known example of this type in the Netherlands. Literature research did not reveal any examples outside of the Netherlands.

**Occurrence in the Netherlands:**

*Maastricht: 258.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*PO-10e*

**PO-10f Small biconical jug with a large trefoil-shaped opening**

Small jug with a biconical body. The carination is very sharp with the upper walls almost running horizontally. The biconical shape is crowned with a cylindrical neck which opens out into a large trefoil-shaped rim. A single thin handle connects the large rim with the biconical body of the vessel.

The jug found in Maastricht grave 273 is a unique find in the Netherlands to date. Literature research did not reveal any examples outside of the Netherlands.

The shapes of the handle and rim/runnel of this vessel represent those of Merovingian trefoil jugs. The overall shape of the vessel, however, corresponds to bronze jugs known from the Roman period<sup>529</sup>. This likeness is strengthened by the presence of two small bulges, possibly imitating rivets, at the point where the handle meets the rim<sup>530</sup>.

The bronze specimen from the Valkhof museum in Nijmegen, which looks most like the pottery jug, most likely dates to the second century AD. Maastricht grave 273 did not hold any further finds for relative dating. The nature of the cemetery suggests that a date in the Merovingian period is most likely. A Roman date, however, cannot be excluded<sup>531</sup>.

#### **Occurrence in the Netherlands:**

*Maastricht: 273.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

#### **Dating in the Netherlands:**

Unknown.



*PO-10g*

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<sup>529</sup>Den Boesterd 1956, 67-68, plate 10.

<sup>530</sup>Theuws *et al* 2017, 302.

<sup>531</sup>Theuws *et al* 2017, 302.

# GLASSWARE

Compared to pottery, glassware is found on a much smaller scale in early medieval cemeteries in the Netherlands. Some of the pieces are more common than others whilst some are very rare, even in a wider European context. The glassware section is divided into nine categories covering various beakers types, bowls, cups, bottles and jugs. Glassware is a category of finds which occurs in both male- and female-gender inhumations.

As is the case throughout this typology, the go-to European typologies for comparison and reference are those by Siegmund, the Franken Arbeitsgruppe and LPV. In addition, links are explored with glassware-specific typologies by Evison for England, Feyeux for northeast France and Maul for Germany.

## GL-1: GLOBULAR BEAKERS

Globular beakers are found on a relatively small scale in France, Germany, England and the Low Countries. In the Netherlands, this type of beaker is mainly found in the far south, in the hinterland of the river Meuse near the border with Belgium. The most commonly found type of globular beaker is undecorated. Vessels with decoration are very rare in the Netherlands, but specimens are known from bordering regions of Germany and Belgium.

### **Undecorated globular beakers**

Undecorated globular beakers are relatively rare in the parts of Germany covered by Siegmund and the Franken Arbeitsgruppe. Siegmund lists nine vessels and the Franken Arbeitsgruppe another six<sup>532</sup>. For France, the type is not recognised by LPV whilst Feyeux lists the vessel as type 90.0<sup>533</sup>. LPV does list a 'flacon piriforme' which bears some similarities to the globular beaker. The shape of the vessel, however, is more like Anglo-Saxon pouch bottles as found in England<sup>534</sup>.

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<sup>532</sup> Siegmund 1998, 166. Müssemeier *et al.* 2003, 70.

<sup>533</sup> Feyeux 2003, 178.

<sup>534</sup> Legoux *et al.* 2016, 21,50,55.

The undecorated globular beakers are found in two places in the Netherlands which feature in this sample. The Bergeijk cemetery contains one vessel whilst the Vrijthof cemetery in Maastricht contains six vessels. The Pandhof cemetery, also in Maastricht (not in this sample), contains a further eight specimens. In comparison to Germany, the Netherlands is home to a very high number of undecorated globular beakers<sup>535</sup>. The type, however, is absent in the central and northern Netherlands and distribution focusses on the border region with Belgium.

Another place where undecorated globular beakers are numerous is England<sup>536</sup>. Evison groups beakers which are similar to the vessel from Bergeijk grave 113 in her type 61. Twenty-two vessels listed by Evison originate from the Faversham cemetery in Kent.

It is striking that brown or amber-coloured glass is a commonly found colour in southeast England's Anglo-Saxon cemeteries whilst in the Netherlands and surrounding countries blue or green glass prevails. The exception to this, however, is the Bergeijk cemetery where a large number of brown or amber coloured vessels are found, including an undecorated globular beaker.

### **Decorated globular beakers**

Decorated globular beakers are a rarity in the Netherlands and surrounding countries. Theuws previously compiled an inventory of decorated globular vessels which is included here for the purpose of reference (*table 11*).<sup>537</sup>

*Table 11: Decorated globular beakers in Europe (after: Theuws et al. 2012, 288 table 6.3).*

<b>No</b>	<b>Country</b>	<b>Province/Region/County/Département</b>	<b>Find location</b>
1	Belgium	Oost Vlaanderen (Flandre-Orientale)	Beerlegem
2	Belgium	Liège (Luik)	Avernas-le-Bauduin
3	Belgium	Luxembourg (Luxemburg)	Resteigne
4	England	Somerset	Chew Stoke
5	England	Lincolnshire	Lovenden
6	France	Saône et Loire	Charnay-lès-Mâcon
7	France	Meuse	Nixéville-Blercourt
8	Germany	Nordrhein-Westfalen	Krefeld-Gellep
9	Germany	Rheinland-Pfalz	Freimersheim
10	Netherlands	Gelderland	Putten

<sup>535</sup> Theuws et al. 2012, 98.

<sup>536</sup> Evison 2008, group 61: 16-19, 60-62, 77-78.

<sup>537</sup> Theuws et al. 2012, 288, appendix 6.3.

Evidence for the dating of decorated globular vessels is only available to a limited extent. The beaker from Krefeld-Gellep in Germany was dated by the excavator to Böhner's Stufe 3 (general sixth century date)<sup>538</sup>. A biconical vessel from the same context, however, can be identified as belonging to pottery group PO-3b (Phase 5-7 (565 – 640/50)). This means that a date for the globular beaker in the second half of the sixth century is quite possible, whilst a date in the first half of the seventh century cannot be ruled out<sup>539</sup>. The beaker from the Beerlegem cemetery in Belgium was dated on the basis of dendrochronology of the associated container to 587±10<sup>540</sup>.

### **GL-1a Globular beaker with dented base - undecorated**

Glass beakers with a dented base. The vessels have a rounded, often pouch-like shape and the walls of the neck are vertical or slightly everted. The examples from Bergeijk grave 113 and Maastricht grave 407 are made of brown coloured glass whilst the remaining vessels from Maastricht are all made of blue or green coloured glass. The example from Maastricht grave 105 stands out because of its long cylindrical neck which is relatively broad in comparison to the vessel's body.

#### **Occurrence in the Netherlands:**

*Bergeijk: 113.*

*Maastricht: 21, 39, 85, 88, 99, 105, 116 (2x), 235, 407.*

#### **Identification in other typologies:**

Franken AG: **S-Gla 3.2** – (phase 4b-8 > approx. 535/40 – 670/80).

Siegmund: **Gla 3.2** – (phase 7 > 585 – 610, possibly somewhat earlier and later).

LPV: -

Hines: -

Feyeux: **type 90.0** – (500 – 700).

Evison: **group 61** – (late sixth – seventh century).

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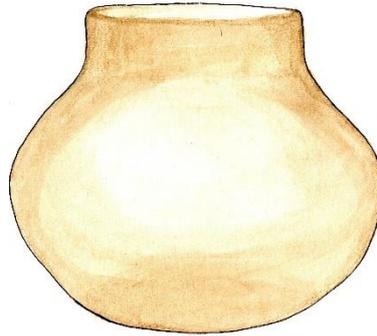
<sup>538</sup> Pirling 1979, (1) 81-82 (2) 74 + tafel 73,15.

<sup>539</sup> Theuws *et al.* 2012, 98.

<sup>540</sup> Roosens *et al.* 1975, (1) 9, Plate B. (2) 30-31, plate 26. For dating information: Roosens 1977a 143-144.

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).



*GL-1a*

**GL-1b Globular beaker with horizontal and vertical trail decoration**

Glass beakers consisting of a clearly distinguished top and bottom part. The bottom part has a rounded, often pouch-like shape, decorated with vertical glass trails in the same colour as the vessel's main body. The glass trails often show a regular pattern of indentation. In some cases there is an alternation between plain trails and trails decorated with indentations. The upper walls of the vessel are conical or concave. The top part is decorated with horizontal glass trails which are applied in a spiral. The trails have the same colour as the vessel's body<sup>541</sup>. The decoration of vessels in this group is in many cases nearly identical to that of the bag beakers with horizontal and vertical trail decoration grouped in GL-2a.

Vessels in this group are rare in the Netherlands and indeed in Europe. The only known example from the Netherlands originates from the Putten cemetery in the province of Gelderland. Graves from this cemetery do not feature in the sample used for this research. A choice was made, however, to include the type because of its typological positioning between the undecorated globular beakers (GL-1a) and the bag beakers of type GL-2a.

**Occurrence in the Netherlands:**

*Putten (not in this sample).*

**Identification in other typologies:**

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<sup>541</sup> Theuws *et al.* 2012, 100.

Franken AG: -

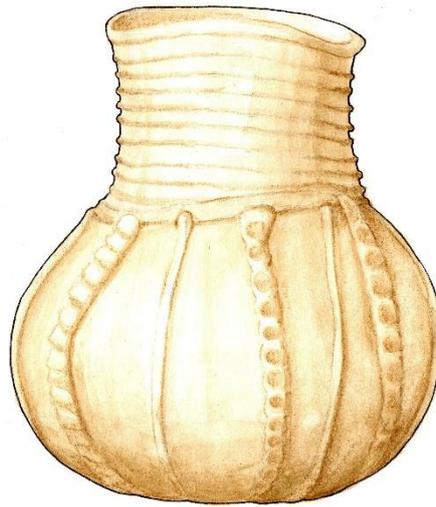
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).



*GL-1b*

## GL-2: BAG BEAKERS

**Bag beaker with horizontal and vertical trail decoration**

Bag beakers are a rarity in early Medieval archaeology in the Netherlands and north western Europe. In his publication of the Bergeijk beaker, Ypey lists seven specimens from England and Sweden<sup>542</sup>.

Some fifty years later, Evison presents a renewed inventory of bag beakers including eighteen specimens from England and five from outside of the United Kingdom<sup>543</sup>. The vessels in this

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<sup>542</sup> Ypey 1957/58a.

<sup>543</sup> Evison 2008, 20.

list, however, are not homogenous. It is especially Evison's group 73, distinguished by its decoration, which is most like the Bergeijk vessel, the only one of this type found in the Netherlands. Evison's group 73 contains thirteen vessels from England and three from mainland Europe. In his publication of the Bergeijk cemetery, Theuws presents an inventory of these vessels which is included here for reference purposes (table 12). The mention of a vessel from Helgö in Sweden is with reservation as only one sherd was found. Although Evison places the sherd in her group 73, Theuws and colleagues, as well as the author, are of the opinion that this classification may be considered preliminary<sup>544</sup>.

Table 12: Bag beakers in Europe (after: Theuws et al. 2012, 287 table 6.2)

No	Country	Province/Region/County	Find location
1	Belgium	Hainaut (Henegouwen)	Hantes-Wéheries
2	England	Kent	Faversham
3	England	Kent	Faversham
4	England	Kent	Faversham
5	England	Kent	Faversham
6	England	Kent	Faversham
7	England	Kent	Faversham
8	England	Kent	Faversham
9	England	Kent	Faversham
10	England	Kent	Gilton
11	England	Kent	Finglesham
12	England	Lincolnshire	Tattershall Thorpe
13	England	Unknown	Unknown
14	England	Unknown	Unknown
15	Netherlands	Noord-Brabant	Bergeijk
16	Sweden	Gotland	Hogrän
17	Sweden	Stockholm	Helgö

As a result of the relatively large numbers of bag beakers found in Kent, Evison postulates this county, and especially the Faversham parish, as the location of production<sup>545</sup>. In addition to the discovery of bag beakers similar to the example from Bergeijk, Faversham is the location where twenty-two undecorated globular beakers were found which are similar to the example from Bergeijk grave 113 (see GL-1). The prevailing colour of the Faversham glass, amber or brown, is also the prevailing colour in Bergeijk whilst in general green- or blue coloured glass prevails on the European continent, including in the Netherlands. This similarity of colour may indicate the same production site, regardless of whether this is Faversham or indeed Kent in general.

<sup>544</sup> Theuws *et al.* 2012, 97., Holmquist 1961, 173 – no 488., Evison 1988, 237-238 and fig. 2.

<sup>545</sup> Evison 2008, 20., Harden 1956, 141.

Evison's theory of origin is overshadowed by the fact that excavations at Faversham have not resulted in the discovery of a decorated globular beaker of type GL-1b<sup>546</sup>. As the decoration on most of these globular beakers is almost similar to the decoration of the Bergeijk and Faversham bag beakers, the same production centre would be expected.

Assuming the location of production solely on the basis of artefact distribution is uncertain at best. For this typology, the production location is not directly relevant. The great similarities between glassware from the Bergeijk and Faversham cemeteries, however, is worth further exploration.

### **Bag beakers with a decoration of a glass trellis pattern.**

A second type discussed in this category is the bag beaker with a glass trellis pattern of decoration. An example of this type was only found once in the cemeteries included in this sample and the nearest parallel originates from southwestern Germany. The vessel from Germany has the extra rarity of being blue coloured, something hardly found on the European continent. It is striking, however, that the trellis pattern closely relates to that found on various globular beakers from southeast England. Two blue examples were found in Broomfield (Essex), one blue beaker in Deal (Kent) and one yellow-green specimen in Faversham (Kent). The latter has a similar colour to the bag beaker with trellis pattern found in Rhenen<sup>547</sup>. Globular beakers with a trellis pattern have not been found in the Netherlands and do therefore not feature in this typology.

### **GL-2a Bag beaker with horizontal and vertical trail decoration**

Glass beakers consisting of a clearly distinguished top and bottom part. The bottom part has a characteristic bag-like shape whilst the top part is cylindrical or slightly conical.

As discussed previously, the decoration of bag beakers is not homogenous throughout Europe. The vessels listed in table 12 are all decorated in a similar style as the vessel from Bergeijk, albeit with slightly different details. This type of decoration includes the following characteristics: The top section of the beakers is usually decorated with horizontal glass trails

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<sup>546</sup> Theuws *et al.* 2012, 98.

<sup>547</sup> Evison 2008, 20, 65-66, 118-119., Nawroth 2001, 5.

in the same colour as the main body. The lower section of the vessel is decorated with vertical glass trails in the same colour as the main body. The upper and lower section are separated by a thick horizontal trail which is often decorated with regular indentations.

To illustrate the fact that not all vessels are similarly decorated with the same detail, it can be noted that the indentations are missing on the thick horizontal trail of the Bergeijk beaker. A vessel from Gotland in Sweden has no horizontal trails along the upper section but shows small arch-shaped trails instead. Unlike the other beakers mentioned in table 12, the Bergeijk vessel has vertical trails on its lower section which are alternately plain and decorated with regular indentations. The Bergeijk vessel further distinguishes itself by the fact that it is the only specimen with a pointed base<sup>548</sup>.

The only example of this type in the Netherlands was found in the same context as an undecorated biconical vessel of type PO-2a. This vessel can be dated between phases 5-7 (565 – 640/50). The rounded carination of the vessel makes a date in phases 6 or 7 most likely (580/90 – 640/50). A further find in the same context is a small copper-alloy plate buckle of type BU-4k which dates in the Netherlands to phase 6 (580/90 – 610/20). A similar type is identified in the German Rhineland (Sna 2.2) and dates to Siegmund's phases 5-8 (555 – 640). LPV identified a similar type (131) in northern France which is dated to phases MA3-MR2 (560/70-660/70). A third accompanying artefact is a large pottery vessel of type PO-4I. Like the bag beaker, this type of vessel is rare in the Netherlands and indeed in Europe, but some parallels are known from Belgium and Germany. In the light of a possible relationship between the Bergeijk cemetery and various cemeteries in Kent, most prominently Faversham, it is useful to notice that pottery vessel PO-4I also has parallels in England (see PO-4I for more information). The vessel can be dated, with relative certainty between phases 5 and 7 (565 – 640/50).

The artefact assemblage found in Bergeijk grave 30 suggests a date for vessels in this group of between 565 and 640/50 (phases 5 to 7). This date is supported by the chronological information available for decorated globular vessels of type GL-1b, which have very similar decoration. Bag beakers from Faversham, which are most like the Bergeijk example, are dated by Evison to the late sixth or seventh century<sup>549</sup>. A bag beaker with a similar shape to the example from Bergeijk, but with different decoration, was found in the Junkersdorf cemetery

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<sup>548</sup> Theuws *et al.* 2012, 97.

<sup>549</sup> Theuws *et al.* 2012, 97., Evison 2008, 67.

near Köln in Germany (Nordrhein-Westfalen)<sup>550</sup>. The context of this vessel was dated by Siegmund to his phase 4 (530-555) and by the Franken AG to phase 4 (510/25 – 565)<sup>551</sup>.

**Occurrence in the Netherlands:**

*Bergeijk: 30.*

**Identification in other typologies:**

Franken AG: **related to S-Gla 4.3** – (phase 4 > 510/25 – 565).

Siegmund: **related to Gla 4.3** – (phase 4 > 530 - 555).

LPV: -

Hines: -

Evison: **group 73** - (late sixth – seventh century).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).



*GL-2a*

**GL-2b Bag beakers with a glass trellis pattern decoration**

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<sup>550</sup> Theuws *et al.* 2012, 97.

<sup>551</sup> Siegmund 1998, 167 (Gla 4.3)., Müssemeier *et al.* 2003, 70.

Glass beakers consisting of a clearly distinguished top and bottom part. The bottom part has a characteristic bag-like shape whilst the top part is conical. The top section is decorated with horizontal glass trails in the same colour as the vessel's main body. The bottom section is decorated with glass trails which are applied in such a way as to form a trellis or netting pattern.

The sole vessel included in this group, originating from Rhenen grave 89, is found incomplete. On one side, a large part of the body and rim is missing as well as all of its base. With the available elements, however, it is possible to reconstruct the vessel's profile as that of a bag beaker or possible bell beaker. Based on the clear separation in terms of decorative style of the vessel's top and bottom part as well as on a parallel found in Germany (see below) the Rhenen vessel is classified as a bag beaker.

The vessel from Rhenen grave 89 is made of pale-yellowish green glass and the horizontal trails are applied as a spiral which goes around thirteen times. The trails on the lower part, forming the netting, are much thicker than the trails on the top section.

When viewing the net-like decoration, the bag beaker from Rhenen shows close similarities to a bag beaker from grave 4 of the Pfahlheim cemetery in Germany (Baden-Württemberg)<sup>552</sup>. Also in this case the vessel was found damaged, with the complete upper section missing. It is therefore impossible to establish if the shape and decoration of the upper part is similar to the vessel from Rhenen. The lower part of the Pfahlheim vessel, however, shows a similar net-like pattern of applied glass trails<sup>553</sup>. The meshes of the 'net' on the Dutch vessel can be described as standing diamonds whilst those of the 'net' on the German vessel are more horizontally elongated. Unlike the vessel from the Netherlands, the German beaker is made of dark blue glass. This colour is exceptionally rare in the early Medieval glassware assemblage of continental north-western Europe<sup>554</sup>.

The beaker from Pfahlheim was given a general seventh century date, which is probably too late to be applicable to the vessel from Rhenen<sup>555</sup>. In grave 89 of the Rhenen cemetery, the vessel was found in combination with a shield boss of type Sbu 3 which is dated by Siegmund to his phase 4 (530-555). The Franken Arbeitsgruppe dates this shield boss type more broadly

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<sup>552</sup> Fremersdorf 1955a.

<sup>553</sup> Nawroth 2001, 5.

<sup>554</sup> Nawroth 2001, 5.

<sup>555</sup> Nawroth 2001., Fremersdorf 1955a.

to between phases 3 and 6 (460/80 – 610/20) with a most frequent occurrence between phases 4 and 6 (510/25 – 610/20). Another artefact in the same context is a spear head of type Lan 1.4. Siegmund places this spear head in his phase 7 (585-610) whilst the Franken Arbeitsgruppe place it in phases 5 and 6 (565 – 610/20).

Admitting that the evidence is limited, the available data indicates a date for this group in phases 5 or 6, based on one grave only.

**Occurrence in the Netherlands:**

*Rhenen: 89.*

**Identification in other typologies:**

Franken AG: **related to S-Gla 4.3** – (phase 4 > 510/25 – 565).

Siegmund: **related to Gla 4.3** – (phase 4 > 530 - 555).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (580/90 – 610/20).



*GL-2b*

## GL-3: CLAW BEAKERS

The claw beaker, probably the most characteristic beaker type, was used in the Roman- as well as the early Medieval period. The type can be found in large parts of Europe including France, Germany, Britain, Belgium and the Netherlands.

Throughout its long period of existence the appearance of the claw beaker has changed gradually. The general consensus regarding this change is that squat forms are earlier than elongated forms and that a single row of 'claws' is younger than a double row. The older vessels are often decorated with glass trails on the claws whilst the younger beakers are normally equipped with a spiralling glass trail along the vessel's top half<sup>556</sup>.

Evison divides the claw beakers from Anglo-Saxon England in four main types, based on chronological characteristics. The Anglo-Saxon vessels distinguish themselves mainly from their Roman counterparts by the smooth rim, the horizontal- instead of zigzag trails and the fact that both foot and body are formed in one piece. Also in England it is possible to notice the shift from squat to elongated or cone shapes. Evison further notes that the claws of later examples are applied to the lower two-thirds of the vessel's body. Strikingly, Evison does not list any examples which have a single row of claws<sup>557</sup>. Even the youngest types found in Anglo-Saxon England, dating to the sixth and seventh century, still have two rows, in contrast to vessels from the same period on the Continent.

Claw beakers, especially the specimens with a single row of claws are relatively rare in the German Rhineland. Siegmund acknowledges the existence of the type but does not provide any detailed information or a date. Instead he refers to the more detailed specifications noted by Pirling and Hinz as well as to the distribution map by Evison<sup>558</sup>. The Franken Arbeitsgruppe duplicates the general group created by Siegmund but adds a date, roughly between phases 3 and 7 (460/80 – 640/50).

LPV list claw beakers as sporadically occurring in northern France in phases PM to MA3 (440/50 – 600/10). Feyeux, who focusses on glassware from north-eastern France, makes a typological distinction between Roman and Merovingian claw beakers. He also notes that

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<sup>556</sup> Kars *et al.* 2016, 179., Ypey 1957/58, 92-95.

<sup>557</sup> Evison 2008, 13-15.

<sup>558</sup> Pirling 1966, 149., Pirling 1974, 104., Pirling 1979, 79., Hinz 1969, 21., Evison 1982, 43-76.

vessels dating to the late sixth and seventh centuries are more elongated than earlier vessels and adds that the claws cover the spiral trails on the vessel's lower body in the later examples. Like Evison, Feyeux only lists examples with two rows of claws and states that claw beakers in general occur more often between 450 and 550 than between 550 and the early seventh century<sup>559</sup>.

The two claw beakers featuring in the Dutch sample both have a single row of claws and horizontal spiralling decoration on the upper and lower part of the vessel. The combination of these elements can be considered 'late characteristics'. Due to the absence of vessels with earlier characteristics in the sample (e.g. a double row of claws), a group for early claw beakers is omitted in this typology.

### **GL-3a Claw beakers with late characteristics**

Beakers with a wide opening and a generally elongated conical body. The claw beakers have a long conical top part and a slightly rounded conical lower part. The beakers are equipped with a foot which has a relatively small diameter in comparison to the vessel's opening. The foot and body are made in one piece. The most eye-catching characteristic of the claw beaker is the presence of thick glass bands which are placed along the vessel's lower body. These so called 'claws' have the appearance of handles, as they are attached to the vessel's base on one side and to the centre of the vessel on the other side.

The vessel from Rhenen grave 413 is equipped with six claws whilst the Obbicht vessel has four. In both cases the claws are placed in a single row around the lower body of the vessel. Both beakers have a glass trail decoration which spirals along the conical upper body as well as a second glass trail which spirals along the vessel's lower part. The glass trails are the same colour as the vessel's main bodies.

The specimen from Rhenen has a height of approximately 15 centimetres and can be dated in phase 4 on the basis of brooches of types BR-2i and BR-4c in combination with bead types B6-A1-G19 and B6-A1-O1. Further evidence for this date is provided by the presence of a pin of type PI-1e and a bracelet of type BT-1b. It cannot be ruled out that the beaker dates as early as phase 3 and is placed in this grave as an heirloom piece. The specimen from Obbicht grave 20 has a height of between 17.5 and 18.5 centimetres and has a somewhat slimmer

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<sup>559</sup> Feyeux 2003, 77-78.

appearance. It is found in combination with a pottery vessel of type PO-3a and a shield boss, axe and seax of types SH-2c, AX-2b and SE-1b/SE-2e respectively. These accompanying items can be placed in phase 5 to 7, with some items occurring as early as phase 4.

**Occurrence in the Netherlands:**

*Obbicht:* 20.

*Rhenen:* 413.

**Identification in other typologies:**

Franken AG: **related to S-Gla 5** – (phase 3-7 > 460/80 – 640/50).

Siegmund: **related to Gla 5** – (No date provided).

LPV: **related to 444** – (phase PM-MA3 > 440/50 – 600/10).

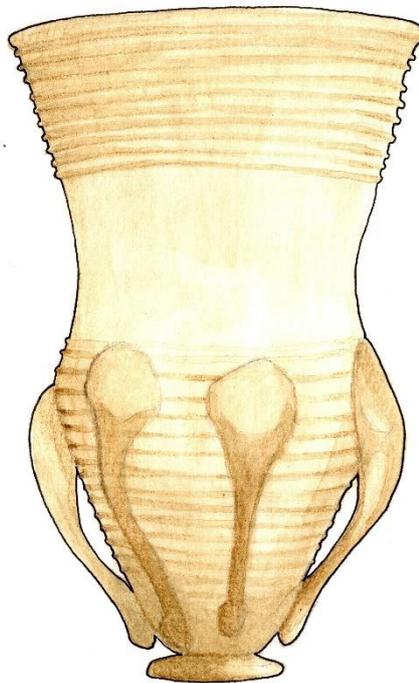
Hines: -

Evison: **most closely related to groups 34-35** – (fifth and early sixth centuries) and **groups 51-52** – (late sixth – seventh century).

Feyeux: **type T.42.22i** (550-600, sporadically 450-550).

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20). Possibly as early as phase 3 (460/80 – 510/25).



GL-3a

## GL-4: CONE BEAKERS

Cone beakers can be found in large parts of north western Europe including the Low Countries. The shape is instantly recognisable, and the decorative style is fairly constant across the area of distribution. Within the Netherlands, a distinction can be made between short and long conical beakers with rib decoration. The short specimen can be defined by a length of less than 15 centimetres. In addition, the relative ratio between the middle diameter of the vessel and its height is less than 0.4 ( $Dm/H$ ). The same ratio goes for the large vessels. The length, however, is over 15 centimetres.

A third type of Frankish cone beaker has a length of 18 centimetres or more and is characterised by its arch-shaped glass trail decoration.

Chronologically, it can be seen that cone beakers get larger over time and that decoration gets more elaborate in the youngest phases.

### GL-4a Short cone beaker with rib decoration

Beakers with a steep conical shape and a height of less than 15.0 centimetres. The relative ratio between the middle diameter of the vessel and the total height is less than 0.4 ( $Dm/H$ ). Vessels in this group have a horizontal spiralling trail decoration just below the rim. The body of the beaker is further decorated with steep diagonal ribs which start some distance below the rim. The ribs terminate a few centimetres above the base and sometimes form a herringbone pattern. The base of the vessel is flat, with its centre sometimes slightly dented. The rim is usually non-thickened and straight but can be slightly everted (e.g. Zweeloo grave 88).

#### Occurrence in the Netherlands:

*Rhenen: 820.*

*Zweeloo: 88.*

**Identification in other typologies:**

Franken AG: **S-Gla 7.1** – (phase 2 > 430/35 – 460/80).

Siegmund: **Gla 7.1** – (phase 3 > 485 - 530).

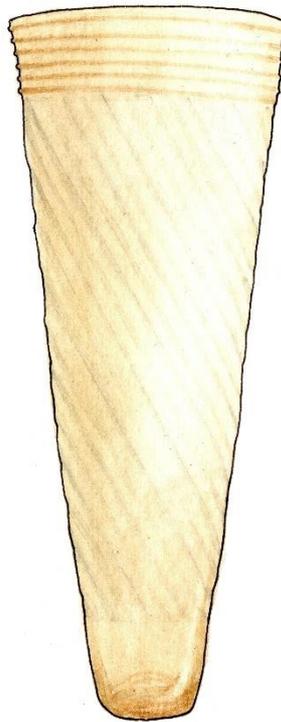
LPV: **446** – (phase PM-MA1 > 440/50 – 520/30).

Hines: -

Evison: **related to group 17** – (fifth – sixth century), **related to group 44** – (sixth – seventh century).

**Dating in the Netherlands:**

Phase 2 - 3 (430/35 – 510/25).



GL-4a

**GL-4b Long cone beaker with rib decoration**

Beakers with a steep conical shape and a height of more than 15.0 centimetres. The relative ratio between the middle diameter of the vessel and the total height is less than 0.4 (Dm/H).

Vessels in this group have a horizontal spiralling trail decoration just below the rim. The body of the beaker is further decorated with steep diagonal ribs which start some distance below

the rim. The ribs terminate a few centimetres above the base. The base of the vessel is flat, with its centre sometimes slightly dented. In most cases, vessels in this group have a slightly everted rim.

**Occurrence in the Netherlands:**

*Rhenen: 675*

**Identification in other typologies:**

Franken AG: **S-Gla 7.2** – (No date provided, one example from phase 3 > 460/80 – 510/25).

Siegmund: **Gla 7.2** – (No date provided, examples from phases 2 and 6 > 440 - 585).

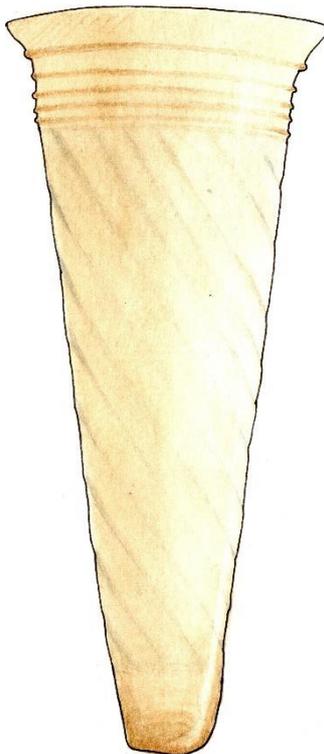
LPV: **447** – (phase MA1 > 470/80 – 520/30).

Hines: -

Evison: **related to group 17** – (fifth – sixth century), **related to group 44** – (sixth – seventh century).

**Dating in the Netherlands:**

Phase 4 (510/25 - 565).



*GL-4b*

### **GL-4c Large cone beaker with arch-shaped trail decoration**

Beakers with a steep conical shape and a height of more than 18.0 centimetres. The relative ratio between the middle diameter of the vessel and the total height is less than 0.4 (Dm/H).

The rim diameter is more than 8.0 centimetres.

Vessels in this group have a horizontal spiralling trail decoration on the upper part of the body. The body's lower part is decorated with arch-shaped glass trails which are applied parallel to the vessel's walls. The base of the vessel is flat.

#### **Occurrence in the Netherlands:**

*Obbicht*: 11.

#### **Identification in other typologies:**

Franken AG: **S-Gla 7.3** – (phase 4-6 > 510/25 – 610/20).

Siegmund: **Gla 7.3** – (phase 4-7 > 530 - 610).

LPV: -

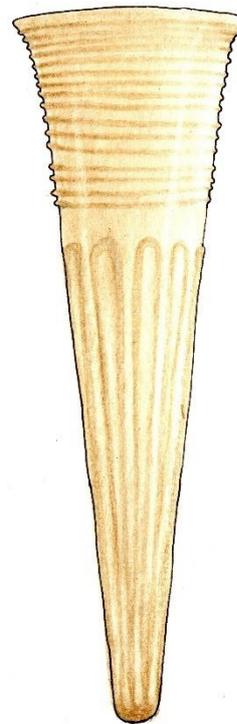
Hines: -

Evison: **group 26** (fifth – sixth century).

Feyeux: **type T.51.2hf/2hi** (450 – 550 (600)).

#### **Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).



GL-4c

## GL-5: BELL BEAKERS

One of the largest beaker categories in this typology is formed by the so-called bell beakers. In the English language, the term 'bell beaker' refers as a collective name to a non-homogeneous group of vessels. In the German tradition, this non-homogeneous group is divided into 'Glockenbecher', with an actual bell shape, and 'Sturzbecher' which are tubular vessels, but with concave walls. In France, the name 'Gobelet Campaniforme' is used to indicate the latter type. Most vessels belonging to the German 'Glockenbecher' group are in France indicated with a simple 'Gobelet'. The terminology in the Dutch jargon is derived from the German division and naming. This results in a group of 'Klokbekers' and a group of 'Stortbekers'. For the various groups below, it is indicated whether the shape of the vessel belongs to the German Glockenbecher- or Sturzbecher family.

Bell beakers belonging to the Glockenbecher family have a characteristic bell or goblet-shape. Two identified types are equipped with a foot whilst one type has a convex base. Further classification depends on the nature of the decoration.

Bell beakers belonging to the Sturzbecher group come in different sizes and have concave walls. The youngest type identified is an exception to this as it has a more cylindrical shape. Bell beakers belonging to the Sturzbecher family can be divided into three main types according to their base shape. A distinction can be made between a peak-shaped, drop-shaped or convex base. The three types are all related to a specific geographical area of distribution. Vessels with a peak-shaped base are mainly found in the French Meuse region, those with a drop-shaped base are most commonly found in the Belgian Meuse region and the distribution of vessels with a convex base is generally limited to the Rhineland<sup>560</sup>.

It is previously argued that the differentiation between a peak-shaped and drop-shaped base is ambiguous<sup>561</sup>. Besides the difference in geographical distribution, it can be argued that both forms are a variation of the same design. As for distribution, both groups are related to the basin of the river Meuse and surrounding areas. In glassware typologies by, amongst others, Maul and Cabart the distinction between a peak and drop shaped base is not made. The 'Sturzbechers' are divided into a Rhineland group with a convex base and a Meuse group with a peak or drop<sup>562</sup>. As is the case with other artefact types, the Netherlands forms a meeting

place for bell beakers made in the Franco-Belgian tradition and vessels made in the German tradition. The classification in two different main types is therefore also applied to this typology.

For vessels belonging to the Sturzbecher family it follows that larger and slimmer vessels are younger than those which are smaller and squatter. In order to group the vessels according to their ratios in the most objective way possible, Siegmund postulates a series of arithmetic formulas<sup>563</sup>. The Franken Arbeitsgruppe subsequently attempts to simplify classification by using solely the beaker's ratio between height and width<sup>564</sup>. When applying both approaches to the sample from the Netherlands, it can be concluded that Siegmund's method, whilst more complex and time consuming, is most accurate. The method is applicable to the vessels from the Netherlands and provides satisfying results. For this reason, Siegmund's method of calculation is applied in this typology.

For Siegmund's formulas to be used, it is necessary to first calculate the vessel's angle of inclination. It should be noted that the group division in this typology is based on the ratio between the vessel's height and narrowest diameter. The degree of inclination can be obtained by calculating the angle between the vertical axis of the vessel and a line connecting the vessel's rim with the place on the wall on the same side where the vessel is narrowest. The formulae differ per group and are provided individually below.

### **GL-5a Bell beaker with foot and horizontal glass trail decoration**

Goblet or bell-shaped beakers belonging to the German *Glockenbecher* family. The vessels are decorated with horizontally spiralling glass trails. Most commonly, a spiral can be found just under the rim, sometimes accompanied by more spirals further down the body. The vessel is equipped with a pedestal which is relatively small in comparison to the overall vessel.

The example from Rhenen grave 438 is equipped with two horizontal spirals in the same colour as the main body. The rim is slightly thickened and everted. The pedestal is flat with a dent in the centre.

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<sup>560</sup> Maul 2002, 45-46., Koch 1998, 160. Cabart *et al.* 1995, 58.

<sup>561</sup> Theuws *et al.* 2017, 314.

<sup>562</sup> Maul 2002, 44-45., Cabart *et al.* 1995, 58.

<sup>563</sup> Siegmund 1998, 170-172.

<sup>564</sup> Müssemeier *et al.* 2003, 71-72.

Koch and the Franken Arbeitsgruppe postulate a different dating for the more squat and the more slender vessel within this group<sup>565</sup>. Siegmund and LPV do not mention such a differentiation. On the basis of this sample, it is impossible to validate or invalidate a chronological difference between more squat and more slender vessels in the Netherlands. The beaker from Rhenen grave 438 can be assumed a slender example.

**Occurrence in the Netherlands:**

*Rhenen: 438.*

**Identification in other typologies:**

Franken AG: **S-Gla 4.1** – (squat shapes phase 2 > 435 – 460/80, slender shapes phase 3 > 460/80 – 510/25) .

Siegmund: **Gla 4.1** – (phase 2 > 440 - 485).

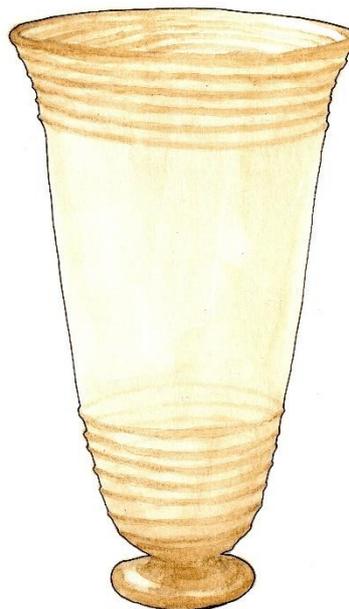
LPV: **443** – (phase PM-MA1 > 440/50 – 520/30, most frequently in MA1 > 470/80 – 520/30).

Hines: -

Evison: **Group 27** – (fifth – early sixth century).

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).



*GL-5a*

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<sup>565</sup> Koch 1987, (1) 155.

### **GL-5b Bell beaker with foot - undecorated**

Goblet or bell-shaped beakers belonging to the German *Glockenbecher* family. The vessels are equipped with a pedestal which is relatively small in comparison to the overall vessel. The beakers in this group are undecorated.

#### **Occurrence in the Netherlands:**

*Rhenen: 433.*

#### **Identification in other typologies:**

Franken AG: **S-Gla 4.2** – phase 4 > 510/25 - 565).

Siegmund: **Gla 4.2** – (phase 5 > 555 - 570).

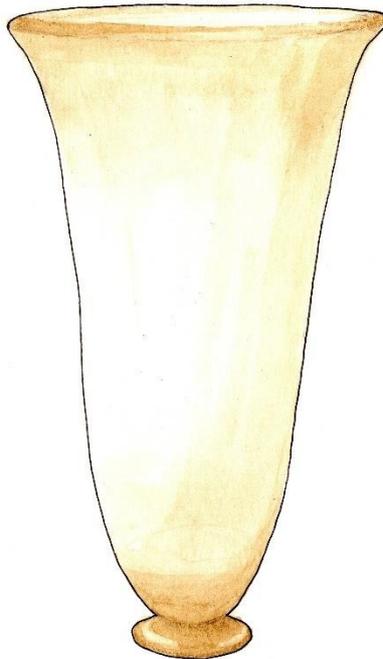
LPV: **443** – (phase PM-MA1 > 440/50 – 520/30, most frequently in MA1 > 470/80 – 520/30).

Hines: -

Evison: **related to group 27** – (fifth – early sixth century).

#### **Dating in the Netherlands:**

Phase 4 (510/25 - 565).



*GL-5b*

### **GL-5c Bell beaker with a broad opening and a convex base**

Bell-shaped beakers belonging to the German *Glockenbecher* family. The vessels have concave walls and a relatively large mouth diameter. The smallest diameter can be found around or above the middle of the vessel.

The vessel from Rhenen grave 152 is decorated with a horizontal spiral trail underneath the rim and ribs which start at approximately one third of the vessel's height from the top. The ribs end just above the rounded base.

#### **Occurrence in the Netherlands:**

*Rhenen: 152.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

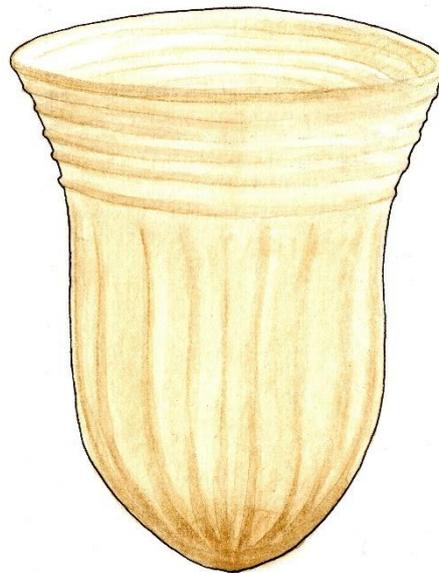
LPV: -

Hines: -

Evison: **related to group 28** – (fifth – sixth century).

#### **Dating in the Netherlands:**

Phase 4 (510/25 - 565).



GL-5c

### **GL-5d Bell beaker with concave walls, glass trail decoration and a peak or drop shaped base**

Bell beakers belonging to the *Sturzbecher* family. The vessels have a roughly s-shaped profile with concave walls. The smallest diameter of the body can be found around the middle of the vessel and the base is peak or drop shaped.

The beaker is decorated with glass trails, applied horizontally around the smallest diameter of the body and around the pointy base.

The vessels in this category are relatively short and squat. They have a relative diameter of the belly ( $Db/H$ ) which is larger than the outcome of the following formula:  $(0.03 \times \text{angle of inclination} - 1.88)$ . For calculation of the relative diameter of the belly, the smallest diameter is used.

#### **Occurrence in the Netherlands:**

*Elst: 112.*

#### **Identification in other typologies:**

Franken AG: **related to Gla 8A** (phase 4 > 510/25 – 565). **related to Gla 8B** (phase 4b-6 > c. 535/40 – 610/20, most frequently in phase 5 > 565 – 580/90).

Siegmund: **related to Gla 8.1** (phase 4-5 > 530 – 570).

LPV: **448** (phase MA1-MA2 > 470/80 – 560/70).

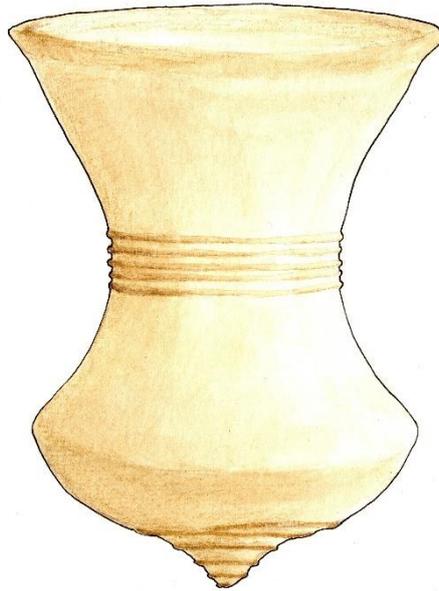
Hines: -

Feyeux: **general type 52** (500 – 600, most frequently 530-570).

Evison: **related to group 30** – (sixth century).

#### **Dating in the Netherlands:**

Phase 4 (510/25 - 565).



GL-5d

#### **GL-5e Bell beaker with concave walls and a peak or drop shaped base - small**

Bell beakers belonging to the *Sturzbecher* family. The vessels have a roughly s-shaped profile with concave walls. The smallest diameter of the body can be found around or below the middle of the vessel and the base is peak or drop shaped. The beakers are either undecorated or decorated with vertical or diagonal ribs, sometimes forming a herringbone pattern.

The vessels in this category are relatively short and squat. They have a relative diameter of the belly ( $Db/H$ ) which is larger than the outcome of the following formula:  $(0.03 \times \text{angle of inclination} - 1.88)$ . For calculation of the relative diameter of the belly, the smallest diameter is used.

The beaker in Maastricht grave 126 was found with a buckle of type BU-5i which dates to phases 6 or 7 (580/90 – 640/50). It is unlikely, however, that the glass beaker can be assigned such a late date. It is likely that the glass beaker in this case should be considered an heirloom piece.

**Occurrence in the Netherlands:**

*Maastricht: 126.*

**Identification in other typologies:**

Franken AG: **related to Gla 8B** (phase 4b-6 > c. 535/40 – 610/20, most frequently in phase 5 > 565 – 580/90).

Siegmund: **related to Gla 8.1** (phase 4-5 > 530 – 570).

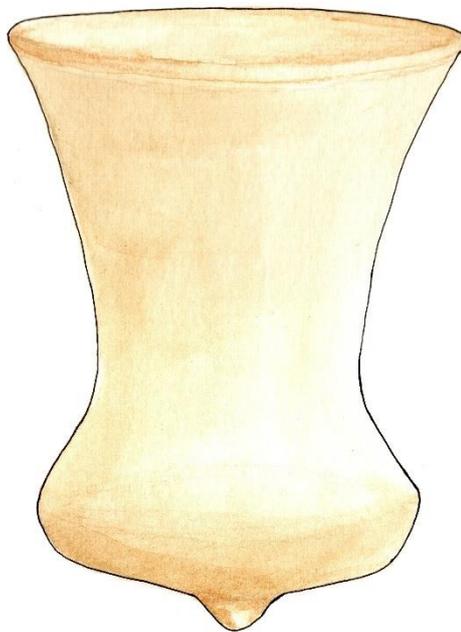
LPV: **448** (phase MA1-MA2 > 470/80 – 560/70).

Hines: -

Feyeux: **general type 52** (500 – 600, most frequently 530-570).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*GL-5e*

**GL-5f Bell beaker with concave walls and a peak or drop shaped base - medium**

Bell beakers belonging to the *Sturzbecher* family. The vessels have a roughly s-shaped profile with concave walls. The smallest diameter of the body can be found around or below the middle of the vessel and the base is peak or drop-shaped.

The beakers are either undecorated or decorated with vertical or diagonal ribs, sometimes forming a herringbone pattern.

The typology for northern France postulates the presence of glass trails around the narrowest part of the vessel in some cases<sup>566</sup>. In this sample, such decoration has not been observed within group GL-5f.

The vessels in this category are short to medium in length and slenderer than those in group GL-5e. They have a relative diameter of the belly ( $Db/H$ ) which is smaller than the outcome of the following formula:  $(0.03 \times \text{angle of inclination} - 1.88)$  but larger than the outcome of the formula  $(0.03 \times \text{angle of inclination} - 2.055)$ . For calculation of the relative diameter of the belly, the smallest diameter is used.

**Occurrence in the Netherlands:**

*Rhenen*: 758.

**Identification in other typologies:**

Franken AG: **related to Gla 8C** (phase 4b-6 > c. 535/40 – 610/20, most frequently in phase 5 > 565 – 580/90).

Siegmund: **related to Gla 8.2** (phase 6-8a > 570 – 625).

LPV: **449** (phase MA2b-MA3 > 540/50 – 600/10).

Hines: -

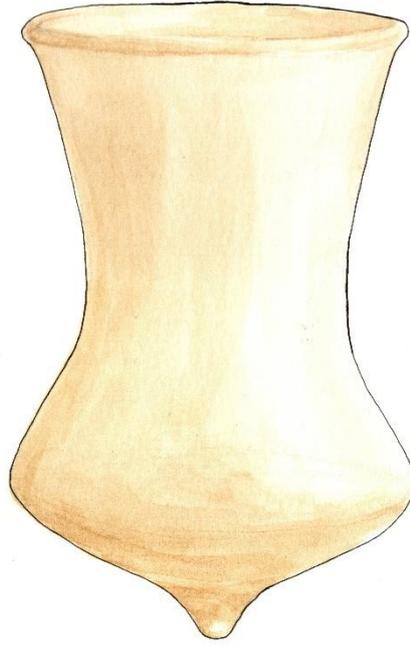
Feyeux: **general type 52** (500 – 600, most frequently 530-570).

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

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<sup>566</sup> Legoux *et al.* 2016, 58.



GL-5f

**GL-5g Bell beaker with slightly concave walls and a peak or drop shaped base - large**

Bell beakers belonging to the *Sturzbecher* family. The vessels have concave walls, but the concavity is less pronounced than in types GL-5e and GL-5f. The smallest diameter of the body can be found around or below the middle of the vessel and the base is peak or drop-shaped. The beakers are either undecorated or decorated with vertical or diagonal ribs, sometimes forming a herringbone pattern.

The typology for northern France postulates the presence of glass trails around the narrowest part of the vessel in some cases<sup>567</sup>. In this sample, such decoration has not been observed within group GL-5g.

The vessels in this category are long and slender. They have a relative diameter of the belly ( $D_b/H$ ) which is smaller than the outcome of the following formula:  $(0.03 \times \text{angle of inclination} - 2.055)$  but larger than the outcome of the formula  $(0.03 \times \text{angle of inclination} - 2.155)$ . For calculation of the relative diameter of the belly, the smallest diameter is used.

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<sup>567</sup> Legoux *et al.* 2016, 58

**Occurrence in the Netherlands:**

*Rhenen: 628*

**Identification in other typologies:**

Franken AG: **related to Gla 8D** (phase 5-7a > 565 – c. 625/30, most frequently in phase 5-6 > 565 – 610/20).

Siegmund: **related to Gla 8.3** (phase 7-8a > 585 – 625).

LPV: **449** (phase MA2b-MA3 > 540/50 – 600/10).

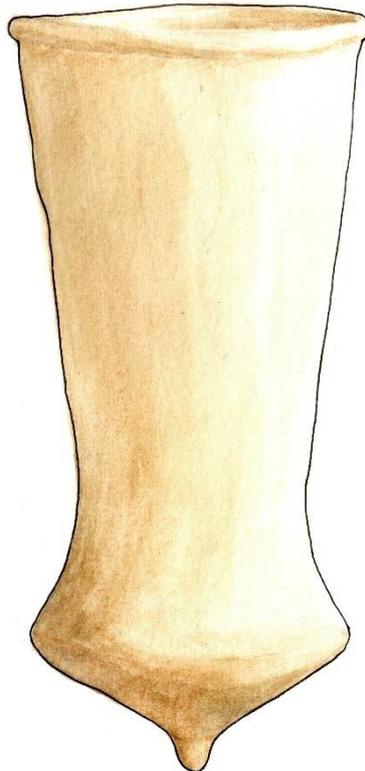
Hines: -

Feyeux: **general type 52** (500 – 600, most frequently 530-570)

Evison: **group 48** – (late sixth – seventh century).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*GL-5g*

## **GL-5h Bell beaker with concave walls and an elongated pointy base – type**

### **‘Rosmeer’**

Bell beakers belonging to the *Sturzbecher* family. The vessels have a roughly s-shaped profile and concave walls. The smallest diameter of the body can be found around or below the middle of the vessel.

The base of the vessel consists of an elongated point which sometimes terminates in a peak or drop. The elongated pointy base shape distinguishes type Rosmeer from other vessels in the *Sturzbecher* family.

The beaker from Sittard grave 34 is decorated with vertical ribs and is heavily fragmented. It is unclear whether this specimen was equipped with a peak or drop.

The Rosmeer type is not specifically mentioned as part of the German and French assemblages by the Franken Arbeitsgruppe, Siegmund and LPV.

Koch, in her typology for southern Germany and northern Switzerland considers the Rosmeer type as part of her group 5. Koch provides bell-beakers with a general phase 6 date (555 – 580)<sup>568</sup>.

In the glassware typology by Maul, type Rosmeer can be classified as part of the general type B2. The Rosmeer variant is dated between 550 and approximately 620<sup>569</sup>.

### **Occurrence in the Netherlands:**

*Sittard: 34.*

### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

Maul: **Sturzbecher B2** (500/10 – 560/600), **Rosmeer variant** (540/50 – 610/650).

Koch: **Group 5** (phase SD 6 > 555 – 580).

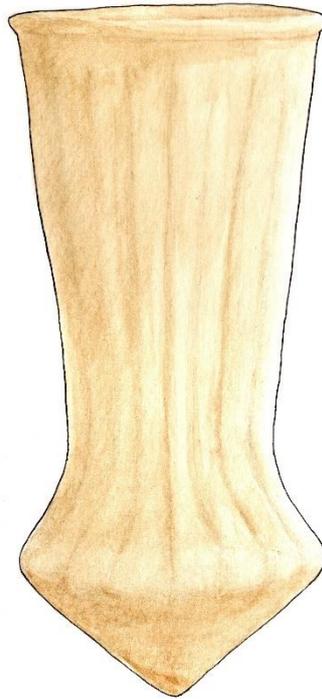
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<sup>568</sup> Koch 2001, 248 and fig. 103.

<sup>569</sup> Maul 2002, (2) 252.

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



GL-5h

**GL-5i Bell beaker with concave walls and a convex base - small**

Bell beakers belonging to the *Sturzbecher* family. The vessels have a roughly s-shaped profile with concave walls. The smallest diameter of the body can be found around or below the middle of the vessel and the base is convex. The beakers are either undecorated or decorated with vertical ribs. In some cases, for instance Elst grave 155, horizontal glass trail decoration is present on the vessel.

The vessels in this category are relatively short and squat. They have a relative diameter of the belly ( $D_b/H$ ) which is larger than the outcome of the following formula:  $(0.03 \times \text{angle of inclination} - 1.88)$ . For calculation of the relative diameter of the belly, the smallest diameter is used.

The Franken Arbeitsgruppe separates this category into decorated and undecorated vessels, with the latter dating earlier. The sample from the Netherlands does not show evidence to support this chronological difference.

**Occurrence in the Netherlands:**

*Elst: 118, 155.*

*Rhenen: 269, 324, 325, 639, 796, 801.*

**Identification in other typologies:**

Franken AG: **Gla 8A** (phase 4 > 510/25 – 565), **Gla 8B** (phase 4b-6 > c. 535/40 – 610/20, most frequently in phase 5 > 565 – 580/90).

Siegmund: **Gla 8.1** (phase 4-5 > 530 – 570).

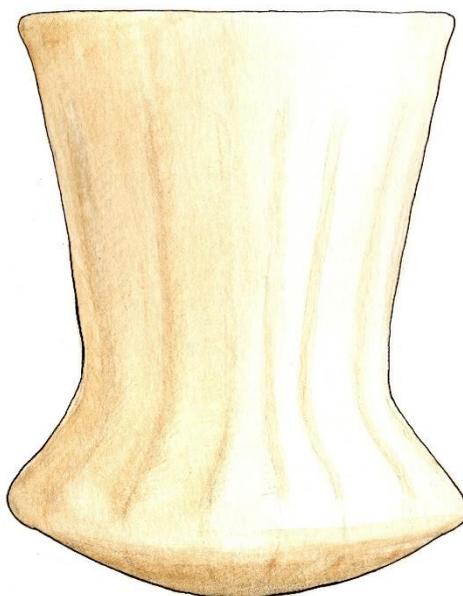
LPV: **related to 448** (phase MA1-MA2 > 470/80 – 560/70).

Hines: -

Feyeux: **general type 53** (500 – 625).

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90). Occasionally in phase 6 (580/90 – 610/20).



*GL-5i*

### **GL-5j Bell beaker with concave walls and a convex base - medium**

Bell beakers belonging to the *Sturzbecher* family. The vessels have a roughly s-shaped profile with concave walls. The smallest diameter of the body can be found around or below the middle of the vessel and the base is convex. All beakers belonging to this group in the sample from the Netherlands are decorated with vertical ribs. One specimen, from Rhenen grave 338, is equipped with horizontal glass trail decoration just below the rim.

The vessels in this category are short to medium in length and slenderer than those in group GL-5i. They have a relative diameter of the belly ( $D_b/H$ ) which is smaller than the outcome of the following formula:  $(0.03 \times \text{angle of inclination} - 1.88)$  but larger than the outcome of the formula  $(0.03 \times \text{angle of inclination} - 2.055)$ . For calculation of the relative diameter of the belly, the smallest diameter is used.

The beakers from Veldhoven grave 15 and Rhenen grave 11 can be dated to phase 5 or 6. The vessel with horizontal glass trail decoration from Rhenen grave 338 can be dated to phase 4 or 5, based on other finds in the same context. This difference leads to the suggestion that horizontal glass trail decoration may be a feature which occurs in the earlier vessels within the group. For the chronological significance of the glass trails to be confirmed or rejected, a larger sample is required.

#### **Occurrence in the Netherlands:**

*Rhenen: 11, 338.*

*Veldhoven: 15.*

#### **Identification in other typologies:**

Franken AG: **Gla 8C** (phase 4b-6 > c. 535/40 – 610/20, most frequently in phase 5 > 565 – 580/90).

Siegmund: **Gla 8.2** (phase 6-8a > 570 – 625).

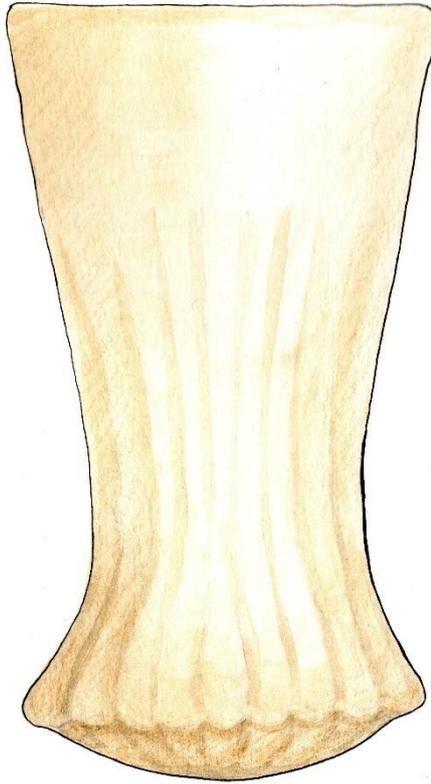
LPV: **related to 449** (phase MA2b-MA3 > 540/50 – 600/10).

Hines: -

Feyeux: **general type 53** (500 – 625).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20). Possibly occasionally as early as phase 4 (510/25 – 565).



GL-5j

**GL-5k Bell beaker with slightly concave walls and a convex base - large**

Bell beakers belonging to the *Sturzbecher* family. The vessels have concave walls, but the concavity is less pronounced than in types GL-5i and GL-5j. The smallest diameter of the body can be found below the middle of the vessel and the base is convex.

The vessel from Rhenen grave 329 is undecorated but ribbed decoration occurs in specimens from Germany.

The vessels in this category are long and slender. They have a relative diameter of the belly ( $D_b/H$ ) which is smaller than the outcome of the following formula:  $(0.03 \times \text{angle of inclination} - 2.055)$  but larger than the outcome of the formula  $(0.03 \times \text{angle of inclination} - 2.155)$ . For calculation of the relative diameter of the belly, the smallest diameter is used.

**Occurrence in the Netherlands:**

*Rhenen: 329.*

**Identification in other typologies:**

Franken AG: **Gla 8D** (phase 5-7a > 565 – c. 625/30, most frequently in phase 5-6 > 565 – 610/20).

Siegmund: **Gla 8.3** (phase 7-8a > 585 – 625).

LPV: **related to 449** (phase MA2b-MA3 > 540/50 – 600/10).

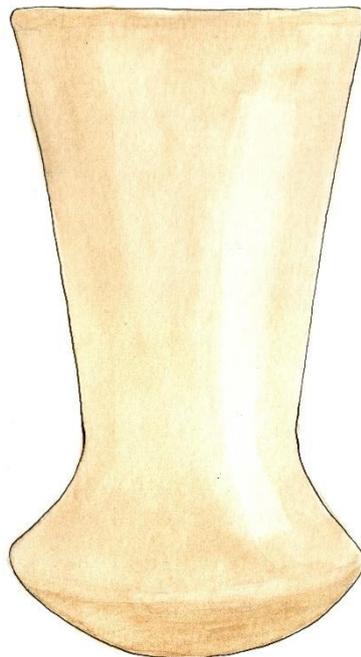
Hines: -

Feyeux: **general type 53** (500 – 625).

Evison: **related to group 49** – (seventh century).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*GL-5k*

## **GL-5i Bell beaker with concave walls, a convex base and arch-shaped glass trail decoration**

Bell beakers belonging to the *Sturzbecher* family. The vessels have a roughly s-shaped profile with concave walls. The smallest diameter of the body can be found around or below the middle of the vessel and the base is convex.

Beakers in this group distinguish themselves from other vessels in the *Sturzbecher* family through their unique decoration of glass trails in the same colour as the vessel's main body. The decoration consists of a horizontal spiralling trail along the upper part of the body, just underneath the rim. Below this horizontal spiral, vertical arch-shaped trails are applied which span the remainder of the vessel's body.

This specific pattern of decoration is rare in the German Rhineland as well as in France<sup>570</sup>. Maul discusses three examples found in Junkersdorf (Nordrhein-Westfalen, Germany), Fluy (Somme, France) and Coulommies-et-Marqueny (Ardennes, France)<sup>571</sup>

Beakers in this group can be classified within Maul's *Sturzbecher* group A1. This group is generally dated to the sixth century, with the squat vessels (comparable to shapes from group GL-5i) dating earlier than the more elongated specimen (comparable to shapes from groups GL-5j and GL-5k).

The vessel from Sittard grave 76 can be considered belonging to the elongated category, which occurs infrequently before 550 and more often between approximately 550 and 600<sup>572</sup>. Based on shape only, the Sittard vessel can be placed in Koch's type 6 which dates to her phase 7 for southern Germany (580-600)<sup>573</sup>.

In Feyeux's glassware typology for north-eastern France, bell beakers of this type can be placed in the general group 53. Vessels with decoration similar to the Sittard specimen can be classified as subtype 53.2fh<sup>574</sup>. The type was produced from approximately AD 525 and occurs most often between AD 550 and 600. It is less frequently found in contexts dating to the early seventh century<sup>575</sup>.

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<sup>570</sup> Kars *et al.* 2016, 136., Maul 2002, 59.

<sup>571</sup> Maul 2002, 61., La Baume 1967 (Junkersdorf).

<sup>572</sup> Maul 2002, 124-127.

<sup>573</sup> Koch 2001, 248 and fig. 103.

<sup>574</sup> Feyeux 2003, 36 + fig. 12

<sup>575</sup> Feyeux 2003, 119-120.

**Occurrence in the Netherlands:**

*Sittard: 76.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

Maul: **Sturzbecher A1** (500-600, most frequently between 550-600).

Feyeux: **T53.2fh** (525-610/20, most frequently between 550-600).

Koch: **Group 6** (phase SD 7 > 580-600).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*GL-51*

### **GL-5m Cylindrical bell beaker with convex base**

Bell beakers belonging to the *Sturzbecher* family. The body is roughly cylindrical in shape and narrows slightly towards the base. From the narrowest point, the body expands into a carination. Beakers in this group have a convex base.

The specimen from both Bergeijk and Rhenen have diagonal or herringbone rib decoration.

The vessels in this category are long and slender. They have a relative diameter of the belly ( $Db/H$ ) which is smaller than the outcome of the following formula:  $(0.03 \times \text{angle of inclination} - 2.155)$ . For calculation of the relative diameter of the belly, the smallest diameter is used.

Bergeijk grave 64 stands out as it held a pair of beakers belonging to this group. The presence of beaker pairs of any kind in the early Medieval period is rare in the Netherlands and indeed in north western Europe. Research into the occurrence of glass beaker pairs in early medieval graves in Germany has resulted in an inventory of only fifteen cases<sup>576</sup>.

From Anglo-Saxon cemeteries in England, beaker pairs are known from Broomfield (Essex), Prittlewell (Essex), Gilton (Kent) and Saint Peter's Tip (Kent)<sup>577</sup>. Most striking, however, is the beaker pair found in the Dover Buckland cemetery (Kent) grave 250. The beakers in this context are almost identical to those found in Bergeijk grave 64, except for the fact that the English examples have a drop-shaped base<sup>578</sup>. The glassware assemblage from the Bergeijk cemetery shows several striking similarities with glassware found in Kent. Please refer to glassware types GL-1 and GL-2 for more details.

#### **Occurrence in the Netherlands:**

*Bergeijk: 64 (2x).*

*Rhenen: 235.*

#### **Identification in other typologies:**

Franken AG: **S-Gla 8.4** (phase 5 > 565 – 580/90, possibly phase 6 > 580/90 – 610/20).

Siegmund: **Gla 8.4** (phase 6-7 > 570 - 610).

LPV: **450** (phase MA2b-MR1 > 540/50 – 630/40).

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<sup>576</sup> Schulze-Dörrlamm 1990, 358-359 and figure 19 and finds list XI.

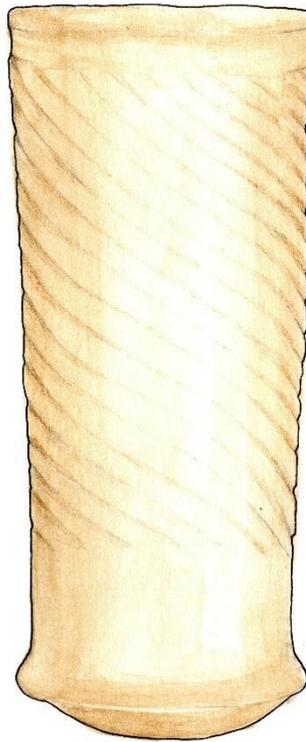
<sup>577</sup> Evison 2008, 65-66 (Broomfield), Theuws *et al.* 2012, 96 (Prittlewell), Evison 2008, 66 (St. Peter's Tip), Evison 2008, 78 (Gilton).

<sup>578</sup> Parfitt *et al.* 2012, 467.

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



GL-5m

## GL-6: CUPS

Cups are one of the most common types of glassware found in Dutch early medieval graves. The most iconic type is the palm cup, whose chronological development is most clearly visible in the rim shape. The German typologies present two types of palm cups and a bell-shaped cup which emerged towards the transition to the Carolingian period<sup>579</sup>. The palm cups from

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<sup>579</sup> Siegmund 1998, 166., Müssemeier *et al.* 2003, 69-70.

Germany are divided into a group with a simple straight rim and a group with an outwardly folded rim.

In the Netherlands, the latter group is not homogenous and includes vessels with a short-folded rim and a long-folded rim. A short-folded rim could be best defined as a rim which is only just turned over, creating a rounded edge. The long-folded rim is turned over more prominently, creating a rounded edge with a clearly visible thickened zone underneath.

Although the difference is minimal and sometimes difficult to define, it is possible to make a chronological distinction between the two forms. This has led to the choice of grouping them separately in this typology.

The cups with a band of indentations are typologically not related to the palm cups. They are grouped separately and seem to be linked to a bowl type with similar decoration identified in both Germany and France<sup>580</sup>. Interestingly, this type of bowl does not feature in the current sample from the Netherlands.

### **GL-6a Palm cup with a simple rim**

Palm cup with a simple and non-folded rim. The rim can be slightly thickened and/or rounded. The cup has a general tumbler shape and its opening is somewhat wider than the base. The walls of the cup can be straight (e.g. Sittard grave 16) or curved to create an s-shaped profile (e.g. Bergeijk grave 53). The base is rounded.

The colour of the glass and the decoration of the vessels in this group varies but does not seem chronologically relevant. The most common type of decoration is a pattern of several ribs which start on the lower half of the body. Some of the ribs terminate at the edge of the rounded base whilst others run across the base to the opposite side. This way, a cross is formed over the base. The specimen from Stein grave 30 has five additional glass bosses which are distributed over the base like the five on a dice.

The palm cup from Bergeijk grave 53 is the only one in this sample without decoration. The cup from Bergeijk grave 78 is decorated with a horizontal glass trail, just below the rim. Between this horizontal trail and the vessel's base, a vertical trail of arches is applied. Both glass trails have the same amber colour as the main body of the vessel. This type of decoration

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<sup>580</sup> Siegmund 1998, 164., Müssemeier *et al.* 2003, 69., Legoux *et al.* 2016, 28, 57.

was found previously on a palm cup in grave 90 of the Rosmeer cemetery in Belgium (province of Limburg), which is approximately 65 kilometres south of Bergeijk as the crow flies<sup>581</sup>.

**Occurrence in the Netherlands:**

*Bergeijk: 53, 78.*

*Borgharen: 2.*

*Maastricht: 87.*

*Meerveldhoven: 24.*

*Sittard: 16, 26.*

*Stein: 30.*

**Identification in other typologies:**

Franken AG: **S-Gla 2.1** (phase 6-7 > 580/90 – 640/50).

Siegmund: **Gla 2.1** (phase 7 > 585 - 610).

LPV: **451** (phase MA2b-MA3 > 540/50 – 600/10).

Hines: -

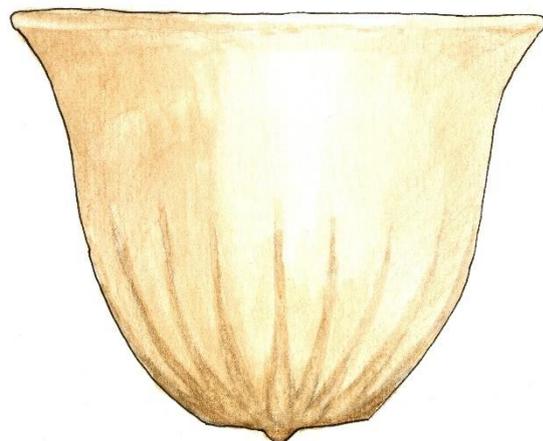
Evison: **Group 54** (late sixth – seventh century).

Feyeux: **55.0** (550 – 625).

Maul: **A1B** (560/70 – 630/40).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*GL-6a*

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<sup>581</sup> Roosens *et al.* 1976, (I) 29 + plate XX., Theuws *et al.* 2012, 99-101.

## **GL-6b Palm cup with a short-folded rim**

Palm cup with a short-folded rim and a slightly dented base. A short-folded rim can be defined as a rim which is only just turned over, creating a rounded edge. The cup is low and has a broad conical shape. The walls of the cup can be straight (e.g. Stein grave 8) or slightly curved (e.g. Meerveldhoven grave 45). The cups in this group are not decorated.

### **Occurrence in the Netherlands:**

*Meerveldhoven: 45.*

*Obbicht: 32.*

*Sittard: 8.*

*Stein: 8.*

### **Identification in other typologies:**

Franken AG: **related to S-Gla 2.1** (phase 6-7 > 580/90 – 640/50). **related to S-Gla 2.2** (phase 7-8 > 610/20 – 670/80).

Siegmund: **related to Gla 2.1** (phase 7 > 585 - 610). **related to Gla 2.2** (phase 9 > 640 - 670).

LPV: **453** (phase MR1-MR2 > 600/10 – 660/70).

Hines: -

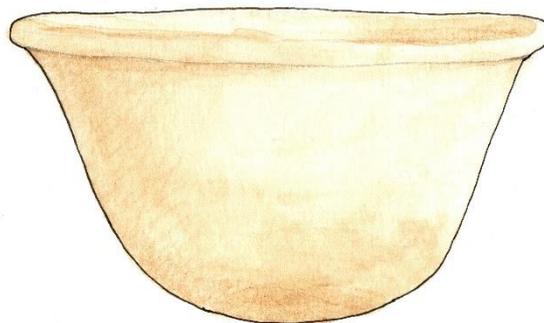
Evison: **related to group 57 (cat. no. 93-97)** – (seventh century).

Feyeux: **type 55.0** (550-620).

Maul: **type B1a** (570 – 680).

### **Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).



GL-6b

### **GL-6c Palm cup with a long-folded rim**

Palm cup with a long-folded rim. The long-folded rim is turned over more prominently than the short-folded rim (GL-6b), creating a rounded edge with a clearly visible thickened zone underneath. Cups in this group have a general conical shape but proportions vary. The vessel from Maastricht grave 36 is broad and low whilst the cup from Katwijk grave 30 is higher and slimmer. The walls of the cup are somewhat curved to create an s-shaped profile and the base is slightly dented. The cups in this group are not decorated.

Typologically and chronologically, type GL-6c is succeeded by type GL-6d, which comprises cups with a bell shape. The taller and slimmer shape of the cup from Katwijk grave 30 approaches the general shape of the vessels classified in group GL-6d. Its rim, however, places the cup in group GL-6c. This variation in shape and proportions indicates the possibility of a typological development from lower wider cups to higher narrower ones within group GL-6c, in preparation for the transition to the use of type GL-6d. From the limited evidence in this sample, a chronological development along this line cannot be proven with certainty. On the basis of the available data, it is possible to place the cups from both Katwijk and Maastricht in phase 7. A later date, however, is unlikely for the Maastricht specimen whilst a phase 8 date is possible for the cup from Katwijk.

#### **Occurrence in the Netherlands:**

*Katwijk: 30.*

*Maastricht: 36.*

#### **Identification in other typologies:**

Franken AG: **S-Gla 2.2** (phase 7-8 > 610/20 – 670/80).

Siegmund: **Gla 2.2** (phase 9 > 640 - 670).

LPV: **453** (phase MR1-MR2 > 600/10 – 660/70).

Hines: -

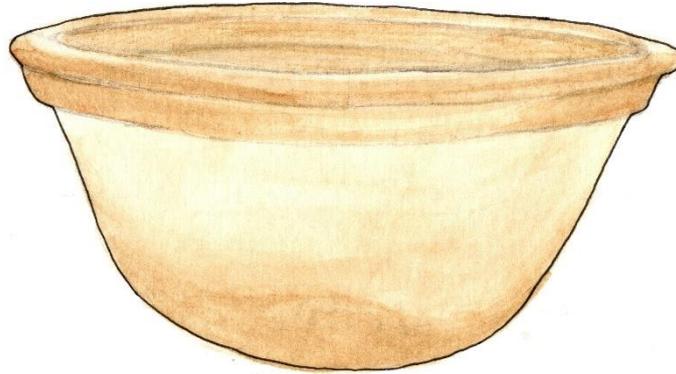
Evison: **related to group 57 (cat. no. 98-100)** – (seventh century).

Feyeux: **type 60.0** (650-725) .

Maul: **type B2a** (630/40 – 670/80).

### Dating in the Netherlands:

Phase 7-8 (610/20 – 670/80).



GL-5c

### GL-6d Bell shaped cup

Cups with a general conical or bell shape. The cups are higher than the palm cups listed in groups GL-6a to GL-6c and have a thickened and rounded rim. The base of vessels in this group is much narrower than the opening and is equipped with two ribs which form a cross shape. Sometimes dots in relief are visible in the corners of the cross. The cross on the base is somewhat reminiscent of the decoration of most vessels in group GL-6a.

The body of the cups is decorated with ribs which run either vertically or diagonally.

The dating of vessels in this group in the German and French typologies shows large differences. The Franken Arbeitsgruppe postulates a start date in the final quarter of the seventh century and Siegmund places the cups no earlier than the first quarter of the eighth century. For France, LPV describe an early seventh century start for this type.

In Katwijk grave 32, the cup is accompanied by a so called *Langsax* of type Sax 3 (phase 8b-10 – 660/70 – 750) and two spear heads of types Lan 2.2 (phase 5-7 – 565 – 640/50) and Lan 8.2 (phase 9-10 – 670/80 – 750). Further finds in this grave include a shield buckle of type Sbu 8 (phase 10 – 710 – 750) and a pair of tweezers of type Ger 2.8 (phase 9-10 – 670/80 – 750). This find assemblages provides sufficiently strong evidence to place the context

chronologically in phase 9 or 10 (670/80 – 750). In this case, spearhead Lan 2.2 can be considered an heirloom piece.

In Katwijk grave 33, the cup is accompanied by a spearhead of type Lan 2.1 (phase 5b-6 – 575 – 610/20). In the French typology, this spearhead is classified as type 38 (phase MA 3 – 560/70 – 600/10). A further artefact in this context is an axe which has no exact parallels in the German and French typologies. Hübener, however, describes similar axes as his 'shape K' which date between 550 and 600<sup>582</sup>. The axe from Katwijk belongs to the group of the so called *Bartachsen* or 'beard axes' based on its shape. The Franken Arbeitsgruppe places such axes (types FBA 4.1 and 4.2) in phases 5 and 6 (565 – 610/20). In the typology by LPV, similar axes are described as *haches dissymétriques* or asymmetrical axes (types 12 and 13) and are dated to phase MA2, MA3 (520/30 – 600/10 and sometimes MR1 (600/10 – 630/40). The inventory of grave 33 further includes a spatha which is severely damaged, possibly pre deposition<sup>583</sup>. The absence of the pommel as well as the guard makes it impossible to generate a precise date for this weapon.

Whilst providing a date for grave 32 is relatively straightforward based on the grave assemblage, the dating of grave 33 is less obvious. There is the possibility that the grave is of a similar age as grave 32, which requires both the spearhead, axe and possibly the spatha to be heirlooms. In such a case, only the cup and possibly the sword can be considered contemporary with the period of interment.

A second possibility is that the cup was indeed in use prior to phase 9, in line with the French typology. As LPV postulate a start date for the cup from approximately 600/10, this would mean that the spearhead of type Lan 2.1 is still relatively early to be found combined with the glass cup.

As noted in the description of type GL-6c, the palm cup found in Katwijk grave 30 has a similar shape to the vessels grouped in GL-6d. The cup, however, is placed in GL-6c on the basis of its folded rim and lack of decoration. The similarities in shape indicate that a development of bell-shaped cups was possibly already ongoing as early as phase 7. Although it is possible that the vessel from Katwijk grave 30 represents a transitional type, it cannot be ruled out that

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<sup>582</sup> Hübener 1980, 84.

<sup>583</sup> Dijkstra 2011, 242-243.

both bell-shaped cups with and without decoration and with different rim types coexisted during phase 8 and possibly already as early as phase 7.<sup>584</sup>

As the number of grave goods per inhumation is generally higher in seventh century graves than in contexts from the eighth century, an earlier date for the bell-shaped cup prompts the question why type GL-6d is not found more frequently. However, within the data used for this study, cup type GL-6c also occurs only twice. Because of this, a decrease in popularity of the glass cup in general from phase 7 should be considered. The three Katwijk graves containing the cups are all relatively rich weapon graves. This prompts the hypothesis that whilst palm cups of types GL-6a and GL-6b were more widely available in phases 5 and 6, the cups of types GL-6c and especially GL-6d are considered luxury items only available to certain socioeconomic groups.

In this typology, it has been decided to date type GL-6d quite broadly, based on the hypothesis set out above. Future research will undoubtedly reveal more data regarding this type, providing confirmation or a growing need for adjustment.

**Occurrence in the Netherlands:**

*Katwijk: 32, 33.*

**Identification in other typologies:**

Franken AG: **S-Gla 2.3** (phase 9-10 > 670/80 - 750).

Siegmund: **Gla 2.3** (phase 11 > 705 - 740).

LPV: **454** (phase MR1-MR2 > 600/10 – 660/70).

Hines: -

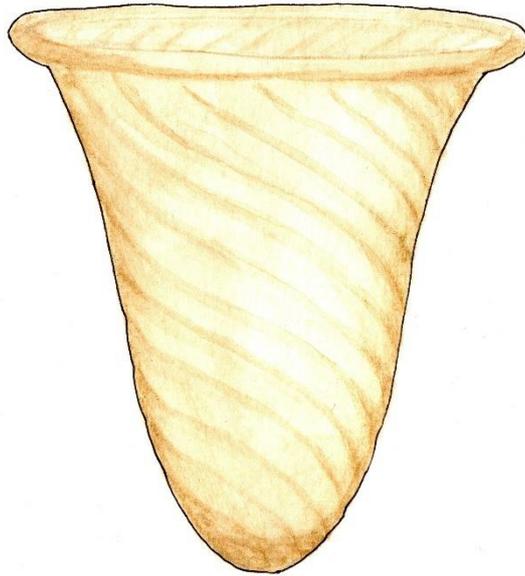
Evison: **group 58** – (seventh - eighth century).

**Dating in the Netherlands:**

Phase 7-10 (610/20 - 750).

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<sup>584</sup> Dijkstra 2011, 242 (footnote 736).



GL-6d

### **GL-6e Cup with a horizontal band of dents**

Early Frankish cup made of thick glass with many bubbles. The rim is thickened, rounded and slightly everted. The base is slightly dented. The body of the cup has a general biconical shape with a rounded carination. The walls are straight below and above the carination. The lower part of the body is decorated with a horizontal row of ovoid dents. This type of decoration is known from the so-called '*Faltenschale*' which are found in the German Rhineland and northern France<sup>585</sup>.

#### **Occurrence in the Netherlands:**

*Rhenen: 838.*

#### **Identification in other typologies:**

Franken AG: **related to S-Gla 1.2** (phase 1-2 > 400 – 460/80).

Siegmund: **related to Gla 1.2** (phase 1 > 400 - 440). **related to Gla 1.1** (Late Roman period).

LPV: **related to 436** (phase PM-MA1 > 440/50 – 520/30, most frequently in PM > 440/50 - 470/80).

Hines: -

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<sup>585</sup> Siegmund 1998, 164., Müssemeier *et al.* 2003, 69., Legoux *et al.* 2016, 28, 57.

Evison: **related to group 2** – (late fourth – early fifth century).

**Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).



*GL-6e*

## GL-7: BOWLS

Bowls are regularly found in inhumation contexts from the Netherlands dating to the fifth and sixth centuries. In seventh century graves, bowls are much less common. Early bowls (phases 1 and 2) can be characterised as having an open shape. One identified type is equipped with a foot ring. Further classification is made on the basis of decorative elements.

From phase 3 onwards, the prevailing bowl shape is conical. Decoration during this phase and onwards requires a more detailed classification.

### **GL-7a Undecorated bowl with an everted rim**

Simple undecorated bowl usually made of thick glass with many air bubbles. The bowl has an open shape with an opening which is as wide as the rounded carination. The base of the vessel

is flat or slightly dented. The walls curve upwards to the low carination after which they form a body with a slight conical shape. The rim is slightly everted yet not thickened.

**Occurrence in the Netherlands:**

*Rhenen: 842, 846.*

**Identification in other typologies:**

Franken AG: **S-Gla 3.1** – (phase 1 > 400 – 430/40).

Siegmund: **Gla 3.1** – (phase 1 > 400 - 440).

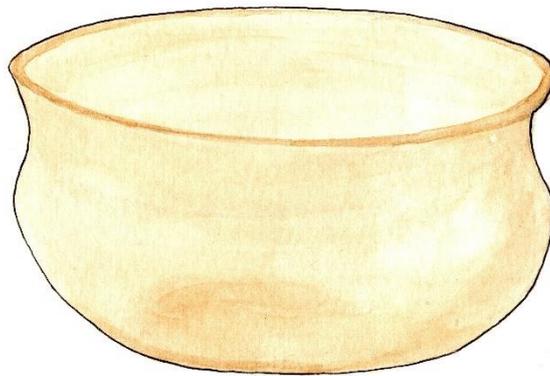
LPV: **related to 439** – (phase PM-MA2 > 440/50 – 560/70).

Hines: -

Evison: **related to group 1** – (late fourth – early fifth century).

**Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).



*GL-7a*

**GL-7b Open bowl with straight or concave walls and glass trail decoration**

Bowls with an open shape and a dented base. The vessels found in this sample which belong to group GL-7b have slightly different shapes. The common factor is the presence of a horizontal spiral trail just below the rim. In the case of the vessel from Rhenen grave 839, this

trail is predominantly white. In the case of the bowl from Rhenen grave 844, the trail has the same colour as the vessel's main body.

The bowl from Rhenen grave 839 has a wide and dented base which is a similar size to the vessel's opening. The walls are concave, creating the everted rim shape. The rim itself is rounded.

The vessel from Rhenen grave 844 has a narrower, dented base and walls which go outwards towards a low carination. The carination is as wide as the vessel's rim. From the carination onwards, the walls are straight and form a slight cone shape. The rim is rounded and slightly thickened.

Rhenen 839 can be considered the oldest of the two graves, with a date as early as phase 1 or possibly phase 2 (400 – 460/80). Grave 844 can be dated to phase 2 (430/35 – 460/80). Based on these dates, it is possible to suggest that the combination of white trail decoration and concave walls may be a predecessor of the style with straight walls. When considering group GL-7d too, this typological change can be followed through to the development of a more conical shape with a wide opening and narrow base from phase 3 (460/80 – 510/20) onwards.

**Occurrence in the Netherlands:**

*Rhenen: 839, 844.*

**Identification in other typologies:**

Franken AG: **Gla 11** – (phase 2-3 > 430/35 – 510/25).

Siegmund: -

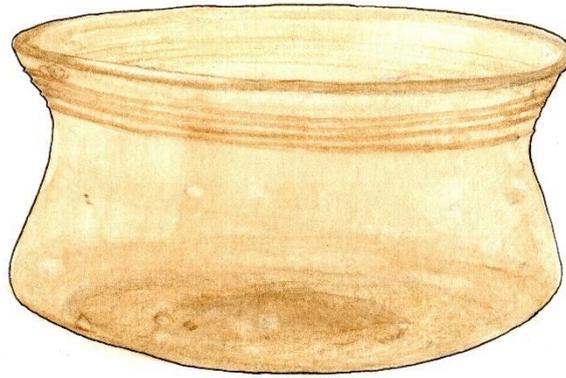
LPV: **related to 439** – (phase PM-MA2 > 440/50 – 560/70).

Hines: -

Evison: **related to group 11** – (fifth – early sixth century).

**Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).



GL-7b

### **GL-7c High bowl with foot ring and everted rim**

Bowls which have a relatively high shape in comparison to other vessels in the glass bowl category. Vessels of this type are characterised by the presence of a foot ring and a somewhat s-shaped profile. From the foot ring, the walls curve outwards to form the widest part of the vessel. From there, the walls run straight but slightly inwards. Just before the rim, the walls curve outwards again to form an everted rim. The rim is rounded and slightly thickened.

The bowl from Rhenen grave 832 is undecorated.

#### **Occurrence in the Netherlands:**

*Rhenen: 832.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **438** – (phase PM > 440/50 – 470/80).

Hines: -

Evison: **related to group 10 (but without decoration and with a foot ring)** – (fifth - sixth century).

**Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).



*GL-7c*

**GL-7d Conical bowl with white trail decoration under the rim**

Conical bowls with a dented or slightly dented base and a slightly thickened and/or rounded rim. The opening of the vessel is significantly larger than the base.

This group includes vessels with a variety of decorative styles. The common factor, however, is the presence of white glass trails, applied in a horizontal spiral below the rim.

The decoration of the vessels from Wageningen grave 153, Maastricht grave 309 and Rhenen grave 181 is limited to a white spiralling trail below the rim. The bowl in Rhenen grave 31 has additional white trail decoration on and above its base. The trails form a flower or trefoil shape on the base, as known from GhG 1.2. The vessel found in Elst grave 175 also has white glass trails along the base and on the lower part of the body. These trails, however, are less elaborate than those on the bowl from Rhenen. In Elst grave 178, the bowl is decorated with white trails under the rim as well as vertical ribs running from underneath the white trails to the base. The bowl in Elst grave 201 is decorated with bundles of white trails, apparently placed randomly all over the vessel including across the horizontal white trail.

The different styles of decoration do not seem to have a chronological relevance.

**Occurrence in the Netherlands:**

*Elst: 175, 178, 201*

*Maastricht: 309*

*Rhenen: 31, 181*

*Wageningen: 153*

**Identification in other typologies:**

Franken AG: **related to S-Gla 1.3** – (phase 2-3 > 430/35 – 510/25)

Siegmund: **related to Gla 1.3** – (phase 2 > 440 – 485)

LPV: **related to 437** – (phase PM-MA1 > 440/50 – 520/30)

Hines: -

Evison: **related to group 7** – (fifth – sixth century) **related to group 8** – (late fifth – early sixth century).

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).



*GL-7d*

**GL-7e Conical bowl with glass trail decoration and a dented base**

Conical bowls with a dented or slightly dented base and a slightly thickened and/or rounded rim. The opening of the vessel is larger than the base.

Based on the shape and decoration of vessels in this group, a strong link can be seen with GL-7d. It may even be that a distinction between the two groups appears unnecessary when more evidence is found. The vessel from Rhenen grave 807 has horizontal glass trail decoration. In contrast to the vessels from group GL-7d, however, this trail decoration is not white but has a similar colour as the main body of the vessel. The glass trail is applied approximately 1.7 centimetre below the rim and therefore more centrally on the vessel than the white trails from group GL-7d.

**Occurrence in the Netherlands:**

*Rhenen: 807.*

**Identification in other typologies:**

Franken AG: **related to S-Gla 1.3** – (phase 2-3 > 430/35 – 510/25). **related to S-Gla 1.4** – (phase 3-4 > 460/80 – 565).

Siegmund: **related to Gla 1.3** – (phase 2 > 440 – 485), **related to Gla 1.4** – (phase 3-4a > 485 – 540).

LPV: **related to 437** – (phase PM-MA1 > 440/50 – 520/30).

Hines: -

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).



*GL-7e*

## GL-7f Bowl with vertical rib decoration

Bowls with a conical shape and a dented base. The walls of the bowl are decorated with vertical ribs. The vessel from Maastricht has a relatively broad and flat rim which is horizontally everted. The rim of the bowl from Rhenen is only slightly everted and rounded.

Bowls with vertical rib decoration are a rare find in the Low Countries and beyond. An example similar to the bowl from Maastricht was found in the Aulnizeux – La Vignette cemetery (*département* Marne, France)<sup>586</sup>. The bowl from Aulnizeux is classified by Feyeux as a subtype of group 81. The group can be dated to the sixth century or sporadically somewhat later<sup>587</sup>. A second vessel which resembles the bowl from Maastricht was found in the Saint Peter's Tip cemetery in Broadstairs (Kent, England). This bowl, currently located in the British Museum, is given a general seventh century date<sup>588</sup>.

The vessel from Maastricht is a stray find which could not be linked to other artefacts. The bowl from Rhenen is also a stray find but was discovered stratigraphically above grave 89. Context 89 can be dated to phase 5 on the basis of a glass vessel of type GL-2b, a spearhead of type Lan 1.4 and a shield boss of type Sbu 3. This suggests that the ribbed bowl can be placed in phase 5 or 6.

### Occurrence in the Netherlands:

*Maastricht: stray find*

*Rhenen: 62 (stray find)*

### Identification in other typologies:

Franken AG: -

Siegmund: -

LPV: -

Hines: -

Evison: **group 42** – (seventh century).

Feyeux: **type 81** – (sixth century, sporadically somewhat later).

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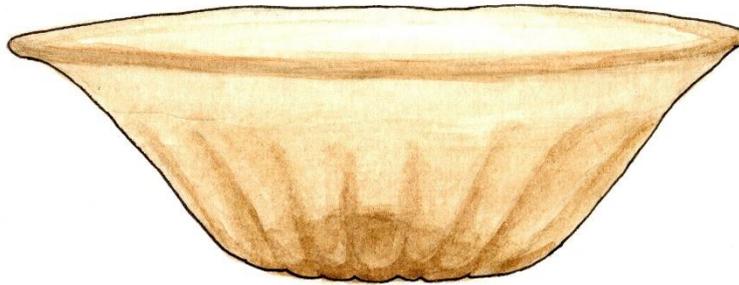
<sup>586</sup> Cabart *et al.* 1995, 29f, no. 54, fig. 14., Feyeux 2003, 28, fig. 3.

<sup>587</sup> Feyeux 2003, 39-40.

<sup>588</sup> Evison 2008, 48, 94, 129.

### Dating in the Netherlands:

Phase 5-6 > 565 – 610/20. Date is uncertain.



*GL-7f*

## GL-8: BOTTLES

Glass bottles are not commonly found in early medieval funerary contexts in the Netherlands. Within this sample, the specimens found all originate from the Vrijthof cemetery in Maastricht. In Elst, a sherd was found which probably belongs to a glass bottle. The date, however, could be either Roman or early Medieval.

### Unguent bottles

Most bottles found belong to the so called 'unguent' group. This group consists of small bottles with a round, conical or pear-shaped body and a relatively thin neck with everted rim. Unguent bottles come in various sub-forms of which some have a long lifespan<sup>589</sup>. The general shape originates around the start of the first century AD and continues well into the early medieval period.

The Vrijthof cemetery contains a total of six unguent bottles of which four can be considered Merovingian with relative certainty. The remaining two bottles cannot be assigned with certainty to either the Roman or Merovingian period.

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<sup>589</sup> Isings 1957, 22-27, 40-43, 97-100.

### **Suspected Roman unguent bottles**

The two suspected Roman unguent bottles distinguish themselves from the other four vessels through their somewhat angular conical body, long cylindrical neck, flat base and thickened and horizontally everted rim. This shape existed during the Roman period and is one of those with a long lifespan<sup>590</sup>. The two Maastricht bottles have parallels in the Krefeld-Gellep cemetery (Nordrhein-Westfalen, Germany) where Pirling dates them between the first century AD and approximately 350 (types 202 and 804)<sup>591</sup>. Both Maastricht bottles can be further identified in Isings's typology as late variants of type 82B2. This type is dated from the first to the third century AD<sup>592</sup>.

Feyeux confirms the long lifespan of the general shape of the unguent bottle for northeast France. He notes that Roman bottles can be distinguished from their Merovingian counterparts by the more cylindrical shape of the neck and the constriction at the neck's base<sup>593</sup>.

The general shape, with a longer and more cylindrical neck as well as the parallels in Germany with a clear Roman date place the two Maastricht bottles in the Roman period. The quality of the glass, however, is lower than usual in Roman vessels and seems more Merovingian in nature<sup>594</sup>.

The vessels are found in Merovingian contexts, grave 99 and stray find context 69. The former of these contexts also contains a globular beaker of type GL-1a (phase 5-7 > 565 – 640/50) and other finds including a strap-end, key and buckle, all indicating a phase 5 or 6 date<sup>595</sup>. Context 69, being a stray find, cannot be dated in relation to other artefacts. The context in which the bottle was found, however, dates as late as phase 9 or 10a (670/80 – 725)<sup>596</sup>. These circumstances cast doubt on the Roman period dating. To be Roman, the vessel in grave 99 must have been very antique indeed at the moment of interment.

### **Merovingian unguent bottles**

Consensus in the Low Countries regarding early medieval unguent bottles includes the idea that there are two basic shapes, namely the vessels with a spherical- and those with a sagging-

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<sup>590</sup> Isings 1957, 22-27, 40-43, 97-100.

<sup>591</sup> Pirling *et al.* 2000, 127-128 (type 804)., Pirling 1966, 104 (type 202).

<sup>592</sup> Isings 1957, 97-99.

<sup>593</sup> Feyeux 2003, 51.

<sup>594</sup> Theuws *et al.* 2017, 316.

<sup>595</sup> Theuws *et al.* 2017, 316.

<sup>596</sup> Theuws *et al.* 2017, 439.

or pear-shaped body. It is further believed that those vessels with a pear-shaped body typologically develop from those with a spherical body<sup>597</sup>. These findings, however, are mainly based on evidence from Belgium and the value of this consensus for the situation in the Netherlands is insufficiently considered due to lack of evidence. The German typologies by the Franken Arbeitsgruppe and Siegmund, as well as the typologies for France by LPV and Feyeux do not distinguish between the two shapes, either typologically or chronologically<sup>598</sup>. The four typologies present a single group of unguent bottles, which is consequently too broad to be useful.

Alénius-Lecerf described the unguent bottles which originate in the Belgian Meuse region and concludes that those with a spherical body can be dated in the fifth century whilst those with a pear-shaped body are a product of the sixth century<sup>599</sup>.

The four bottles from Maastricht with a suspected Merovingian date all have a pear-shaped body, although some are more angular than others. The absence of spherical bottles in this sample from the Netherlands unfortunately removes the opportunity to test the value of Alénius-Lecerf's findings for the situation in the Netherlands.

### **Typological parallels?**

Although impossible to prove on the basis of the vessels in this sample, it seems as if the two bottles which are possibly Roman and the four bottles which are regarded Merovingian have a typological relationship which excludes spherical bottles. The 'Roman' bottles have a more cylindrical neck and a more horizontal rim, but the cone shape of the body is closely related to the pear shape of their suspected later counterparts. This is especially evident in the body shape of the vessel from grave 250 (considered Merovingian) and grave 99 (possibly Roman). Based on the closeness of the cone shape and the pear shape, it seems unlikely that the cone turned spherical and then pear shaped over time. It is much more likely that the spherical bottle belongs to its own typological pathway which descends from Roman vessels which also had a more spherical shape. This would mean that both typological pathways existed simultaneously rather than consecutively, with either cone-shaped or pear-shaped vessels on one side and spherical vessels on the other.

As evidence is limited within the sample, in this typology it has been decided to include only a group for pear-shaped unguent bottles. The absence of spherical vessels in the sample

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<sup>597</sup> Alénius-Lecerf 1995, 61., Cabart *et al.* 1995, 14. Theuws *et al.* 2017, 315

<sup>598</sup> Siegmund 1998, 172., Müssemeier *et al.* 2003, 72., Legoux *et al.* 2016, 20, 49, 54., Feyeux 2003, 27.

<sup>599</sup> Alénius-Lecerf 1995, 61.

means that there is no ground to include them at this moment in time. It also questions the value of the previously described consensus for the situation in the Netherlands. Future findings, however, may change the need for an extra group. The choice to only include pear-shaped vessel leaves a 'gap' in the typology between the late Roman period and phase 4. It is possible that spherical bottles belong in this 'gap', but on the basis of the hypothesis set out above it cannot be ruled out that the assumed Roman type had a longer life span than currently thought.

It has been chosen to include the 'Roman' vessels as a separate group in this typology. Future research will hopefully shed a decisive light on the validity of this choice. The group is dated to phases 1-3 on the basis of a combination of factors including the shape, which is very much like known Roman vessels. Also important are the Merovingian-like quality of the glass and the discovery of the vessels in a Merovingian context, in combination with an artefact assemblage with a clear date between approximately 565 and 610/20. Even if the 'Roman' bottles are dated to phases 1-3, the occurrence of one of the bottles in combination with the assemblage from phases 5 or 6 still points towards the vessel being an heirloom piece. The period between production and interment of the fragile artefact, however, becomes significantly shorter and therefore more comprehensible.

### **Large cylindrical bottles**

A second type of glass bottle found, also only in the Vrijthof cemetery in Maastricht, is the large cylindrical bottle. Examples of this type are not included in the samples from Germany, used by the Franken Arbeitsgruppe and Siegmund to create their general glass bottle group. Koch, however, lists this type of bottle for southwestern Germany<sup>600</sup>. Not many large cylindrical bottles are known from Belgium whilst they occur relatively frequently in the Meuse valley in France. LPV list a larger and a smaller type and include undecorated as well as decorated specimen<sup>601</sup>. Feyeux opts to include the cylindrical bottles as one type<sup>602</sup>.

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<sup>600</sup> Koch 1987, 39-42.

<sup>601</sup> Legoux *et al.* 2016, 20, 49, 55

<sup>602</sup> Feyeux 2003, 32.

## **GL-8a Unguent bottles with a cylindrical neck and flat rim – Conical shaped**

Unguent bottles with a relatively angular, conical body. The vessels in this sample have a flat base. The vessel from Maastricht grave 99 has a longer and thinner neck than the bottle from context 69. In both cases, the neck has a cylindrical shape. The bottles in this group have a flat rim which is everted under an angle of 90 degrees.

As discussed above, it is uncertain whether vessels in this category should be dated to the late Roman or early medieval period. If a date in the early Medieval period is correct, it suggests a typological sequence including GL-8a and GL-8b. This sequence sees the neck developing from cylindrical to tapered and the body from somewhat angular conical to more rounded pear shaped. In addition, the rim develops from flat to funnel shaped. It is especially the bottle from grave 99 which is typologically close to the vessels in group GL-8b. It could therefore be suggested that this vessel is the youngest in this group.

### **Occurrence in the Netherlands:**

*Maastricht: 69 (stray find), 99.*

### **Identification in other typologies:**

Franken AG: **related to S-Gla 9** – (phase 1-4 > 400 – 565, sporadically up to phase 6 > 565 – 610/20).

Siegmund: **related to Gla 9** – (phase 3 > 485 – 530, sporadically in phases 4 and 5 > 530 – 570).

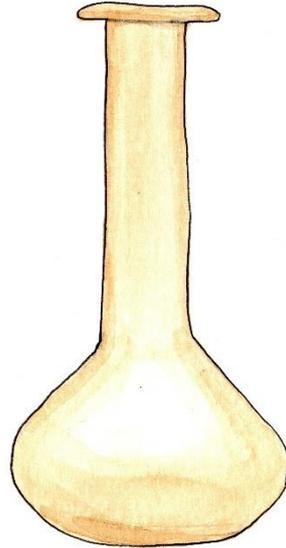
LPV: **440** – (phase PM-MA1 > 440/50 – 520/30, less frequently in MA2-MA3 > 520/30 – 600/10).

Hines: -

Feyeux: **related to type 20.0** (400-600).

### **Dating in the Netherlands:**

Roman period to phase 3 (Pre 400 – 510/25).



*GL-8a*

### **GL-8b Unguent bottles with a tapered neck and funnel shaped rim – Pear shaped**

Unguent bottles with a so called sagging or pear-shaped body. The vessels in this sample have a slightly dented base. Two specimens are fragmentary which makes it impossible to establish the length of the neck with certainty. The vessel from Maastricht grave 250 has a longer and thinner neck than the bottle from Maastricht grave 294. In both cases, the neck is slightly tapered and becomes narrower towards the opening. This is also visible in the two fragmentary vessels. The rim is flat but everted under an angle of approximately 45 degrees, creating a funnel shape with the opening being broader than the neck.

The bodies of the vessels from Maastricht graves 178 and 250 have a pear shape which approaches the conical shape (see discussion above and GL-8a). The remaining two vessels have a less angular pear shape. If GL-8b is considered the typological successor of GL-8a, this would indicate that the more angular vessels are older than the more rounded specimens.

#### **Occurrence in the Netherlands:**

*Maastricht: 178, 250, 294, 408.*

**Identification in other typologies:**

Franken AG: **related to S-Gla 9** – (phase 1-4 > 400 – 565, sporadically up to phase 6 > 565 – 610/20).

Siegmund: **related to Gla 9** – (phase 3 > 485 – 530, sporadically in phases 4 and 5 > 530 – 570).

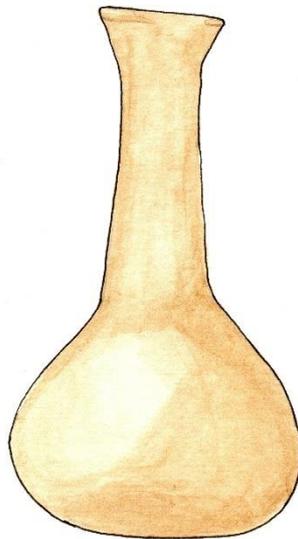
LPV: **440** – (phase PM-MA1 > 440/50 – 520/30, less frequently in MA2-MA3 > 520/30 – 600/10).

Hines: -

Feyeux: **type 20.0** (400-600).

**Dating in the Netherlands:**

Phase 4-5 (510/20 – 580/90).



*GL-8b*

**GL-8c Large cylindrical bottle with a narrow neck and a funnel-shaped rim**

Large cylindrical bottle with a dented or strongly dented base, straight walls and a rounded shoulder. The neck is relatively long, and narrow compared to the vessel's main body. The rim is not thickened but developed under an angle of approximately 45 degrees, creating a

funnel shape with the opening being broader than the neck. The vessel from Maastricht grave 66 is undecorated.

Large cylindrical bottles are not known from the samples used by both Siegmund and the Franken Arbeitsgruppe and are therefore not listed as part of the glass bottle group in their typologies. A mention is made, however, of two bottles of this type which were found in graves in the cathedral of Cologne<sup>603</sup>. Koch also describes vessels of this group for the Rhine region in central to southern Germany<sup>604</sup>. Bottles belonging to this group occur much more frequently in the Meuse valley, especially in France and in lesser numbers in Belgium. Most vessels found are undecorated but also decorated examples are recorded in, amongst other places, Haillot and Pry (province of Namur, Belgium) and Mezières (*département* Ardennes, France)<sup>605</sup>.

#### **Occurrence in the Netherlands:**

*Maastricht: 66.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **441** – (phase PM-MA2 > 440/50 – 560/70, most frequently in PM-MA1 > 440/50 – 520/30).

Hines: -

Feyeux: **type 10.0** (450-550).

Koch: **type 1F** (450-550).

#### **Dating in the Netherlands:**

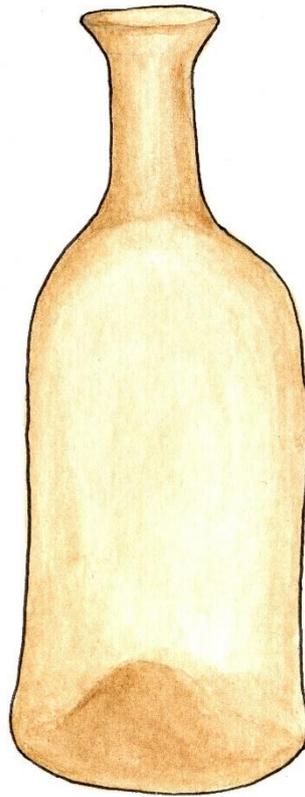
Phase 3-4 (460/80 - 565).

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<sup>603</sup> Doppelfeld 1960., Doppelfeld *et al.* 1980, 289-290.

<sup>604</sup> Koch 1987, 39-42.

<sup>605</sup> Alénus-Lecerf 1995, 61., Koch 1987, 42-43.



*GL-8c*

## GL-9: JUGS

Glass jugs are rare in the early medieval artefact record of north-western Europe and only one specimen was found in this sample from the Netherlands. The category does not feature in the German typologies by Siegmund and the Franken Arbeitsgruppe and neither is it recorded by LPV for northern France.

Feyeux, in his typology of glassware from north-eastern France lists two types of jugs which both have a single handle and a spouted rim. The first type (type 30) is undecorated and does not have a foot ring or pedestal. The second type (type 32) is equipped with a foot but is decorated with enamel rather than glass trails<sup>606</sup>. Although type 32 is most similar to the specimen from the Netherlands, the design of the foot as well as the decoration cannot be considered a match.

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<sup>606</sup> Feyeux 2003, 33 + Fig. 9.

Besides the two types listed, Feyeux indicates that jugs with glass trail decoration are direct descendants from the Roman tradition of glassware production. They should therefore be dated no later than the beginning of the fifth century<sup>607</sup>. In an overview of glassware from the former Champagne-Ardennes region of France (now part of the Grand Est region), jugs which are made in a similar tradition to the specimen from the Netherlands are placed in the middle of the fifth century<sup>608</sup>.

### **GL-9a Trefoil jug with foot ring and glass trail decoration**

Glass jug with a trefoil shaped opening and rim/lip. The jug has a sagging conical shape with a relatively slim neck. The broadest part of the body is situated in the lower half, just below the base. The base itself is formed by a foot ring. The jug has a single handle which is attached to the underside of the rim. The handle broadens lower down and is attached just above the widest part of the body.

Jugs of this type are decorated with glass trails.

The jug from Obbicht grave 65 is decorated with three zones of horizontal spiralling glass trails. The first trail is located on and just below the rim. The second trail is applied centrally on the body, just above the attachment of the handle. The third spiral can be found between the vessel's broadest part and the foot ring. The glass trails are a similar colour to the vessel's main body.

#### **Occurrence in the Netherlands:**

*Obbicht: 65.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

Feyeux: **related to type T32** (late fifth century and early sixth century).

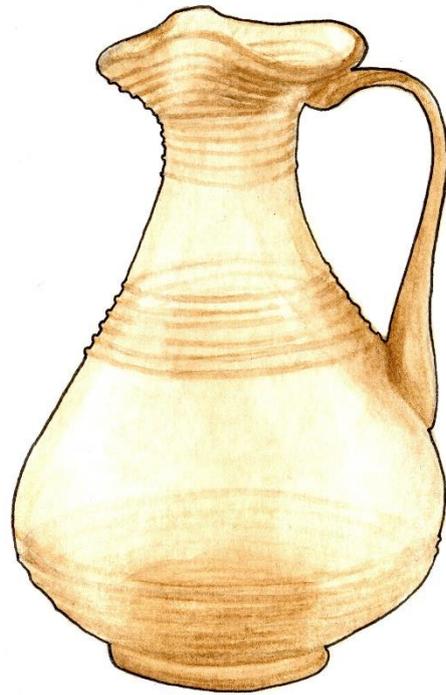
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<sup>607</sup> Feyeux 2003, 71

<sup>608</sup> Cabart *et al.* 1995, 172

**Dating in the Netherlands:**

Phase 1-3 (400 – 510/25), possibly as late as phase 4 (510/25 – 565).



*GL-9a*

# SPEARHEADS

Spearheads are an important part of the weaponry found in male-gender inhumations from the early medieval period. Most spearheads found have a round socket which is either split on one side or closed. A split or closed socket forms the criterium for typological division into categories one and two. Within each of these categories, a division into groups is made on the basis of the ratio between the total length of the spear and/or the relative length of the blade. The length of the blade is measured from its tip to the narrowest point of the spearhead, which is considered the transition point between blade and socket. The relative blade length is calculated through dividing the blade length by the total length of the spearhead ( $\text{blade length} / \text{total length} = \text{relative blade length}$ ). For spearheads with a long blade, the middle point is usually located on- or very near the blade. For spearheads with a short blade, the middle point is located on the socket.

In addition to the typological division on the basis of socket type and size ratio, the shape of the blade sometimes plays a role. The most common blade is ovoid or lanceolate in shape whilst others are diamond-shaped or rhomboidal. Few spearheads have an elongated blade with more or less parallel or slightly tapered sides. A separate group is created for spearheads with a central rib running lengthwise across the blade.

Besides two categories for spearheads with a round closed- or split socket, categories are created for spearheads with a faceted socket, hooked and winged spearheads, javelins and hunting spears.

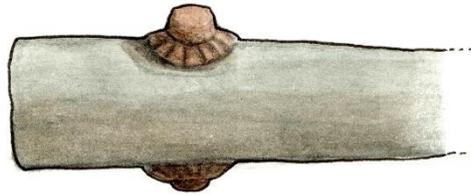
## **Copper-alloy rivets with linear incised decoration**

During the classification and dating of spearheads it became clear that some specimens are equipped with one or two usually domed copper-alloy rivets. In some cases the edge of the rivets is decorated with linear incisions (*figure 16*). The rivets are used to attach the spearhead to the wooden shaft and are situated near the terminal of the socket. This type of decorated rivet is relatively rare in the Netherlands but occurs across types with a split- and a closed socket as well as in combination with various blade shapes. Regardless of the type of spearhead in which the rivet is found, its presence indicates a date in phase 5 or 6 (565 – 610/20) in the Netherlands. Rivets of this type are not unique to the Netherlands. For the German Rhineland, the Franken Arbeitsgruppe dates them to phases 5-6 (565 – 610/20)<sup>609</sup>.

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<sup>609</sup> Müssemeier *et al.* 2003, 50.

For northern France, Legoux and his colleagues classify the rivet as type 44 which dates to phases MA2-MR1 (520/30 – 630/40) with a most common occurrence in phases MA3-MR1 (560/70 – 630/40)<sup>610</sup>. Spearheads with domed copper-alloy rivets are present in, amongst other graves, Rhenen 724, Obbicht 4 and 20 and Sittard 29.



*Figure 16: Example of a rivet with incised edge which can be dated to phase 5 or 6.*

### **Spearhead or arrowhead?**

From an in-depth analysis of the measurements of arrowheads and spearheads in this research becomes clear that arrowheads usually have a total length of between 7 and 15 centimetres whilst spearheads are 20 centimetres or longer. For specimens with a total length of between 15 and 20 centimetre goes that the diameter of the socket is leading. Arrowheads have a socket diameter of between 1.0 and 1.6 centimetres and spearheads have a socket diameter of 1.7 centimetres or more.

These measurements are very much in accordance with those from the German Rhineland, as previously researched and presented by Siegmund<sup>611</sup>.

## **SP-1: SPEARHEADS WITH A ROUND SPLIT SOCKET**

The most commonly found spearhead type in the Netherlands has a split- or open socket. In such cases, the socket is round and split on one side. Spearheads with split sockets are divided according to total length as well as relative blade length. In some cases, the shape of the blade provides extra guidance for typological classification and dating.

Long spearheads with an open socket and a long blade are divided by Siegmund into a category with a lanceolate blade and a category with a rhomboidal or elongated blade (types

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<sup>610</sup> Legoux *et al.* 2016, 22, 34, 60.

<sup>611</sup> Siegmund 1998, 95, table 14.

LAN 1.3a and 1.3b)<sup>612</sup>. The Franken Arbeitsgruppe does only list type LAN 1.3a (lanceolate blade). Also amongst the sample from the Netherlands, specimens with a rhomboidal or elongated blade were not identified and the category is therefore omitted.

### **SP-1a Spearhead with a long straight or slightly tapered blade**

Spearhead with a round and split socket. The total length of the spearhead is less than 42 centimetres. The relative length of the blade (BL/TL) is more than 0.46.

The blade is long and can be broad or narrow. Its sides are parallel or very slightly tapered, with the largest width in the fourth quarter of the blade.

In case of a slightly tapered blade, the shoulder (widest part of the blade) is sometimes fairly angular (e.g. Rhenen grave 553) whilst in other cases more rounded (e.g. Rhenen grave 30).

#### **Occurrence in the Netherlands:**

*Rhenen: 30, 553, 726.*

*Wageningen: 156.*

#### **Identification in other typologies:**

Franken AG: **S-Lan 1.5** – (phase 2-4a > 430/35 – 530/35).

Siegmund: **Lan 1.5** – (phase 3 > 485 - 530).

LPV: **part of 32** – (phase PM-MA3 > 440/50 – 600/10, most frequently in MA1-MA3 > 470/80 – 600/10).

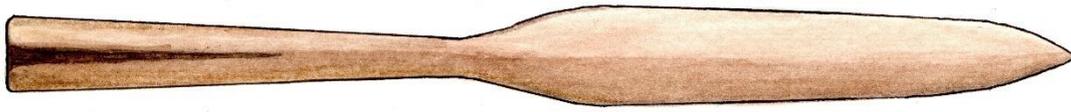
Hines: **SP2-a1a1** - (phase AS-Mo – AS-Mp > pre 525/50 – 550/70), **SP2-a2b1** - (phase AS-Mo > pre 525/50), **SP2-a3** - (phase AS-Mp – AS-Ms > 525/50 – 610/45), **SP3-a** – (phase AS-Mp – AS-Ms > 525/50 – 610/45), **related to SP2-a1b1** - (phase AS-Ms – AS-Mt > 585/615 – 660/80), **related to SP2-a1b2** (phase AS-Mp – AS-Mr > 525/50 – 585/615), **related to SP2-a2c** - (phase AS-Mp – AS-Mq > 525/50 – 565/95).

#### **Dating in the Netherlands:**

Phase 3-4 (460/80 – 565) Occasionally in phase 5 (565 – 580/90).

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<sup>612</sup> Siegmund 1998, 100.



SP-1a

### **SP-1b Small spearhead with a long lanceolate or rhomboidal blade**

Spearhead with a round and split socket. The total length of the spearhead is less than 42 centimetres. The relative length of the blade (BL/TL) is more than 0.46. The blade is relatively long in comparison to the shaft and the blade has a lanceolate or rhomboidal shape. The blade can be broad or narrow and the split in the socket sometimes reaches up to just underneath the blade. The lanceolate shape is by far the most common. Rhomboidal shapes can be found, amongst other graves in Elst 40, Rhenen 329 and Sittard 24.

This is a large and non-homogenous group of spearheads containing items of various shapes and sizes. Spearheads belonging to this group occur in early medieval graves in the Netherlands during a long period of time. Detailed analysis of the twenty-five specimens in this sample did not result in an opportunity to subdivide the spearheads typologically or chronologically on the basis of physical characteristics. Different blade shapes, sizes and split lengths occur throughout the entire lifespan of the type.

The cross-section of the blade is diamond-shaped or ovoid in most cases. In some cases, however, the cross section is zigzag-shaped or 'stepped'. This specific shape of cross-section is generally rare amongst the spearheads in this sample. In this group, it occurs twice in a spearhead belonging to phase 2 (Rhenen graves 819 and 829 (and once in a spearhead belonging to phase 5 or 6 (Rhenen grave 630). No mention of such a cross section is made in the typologies for France and Germany.

Hines and his colleagues created a separate category for specimens with a stepped cross-section in their typology for England (SP5). The Hines date is roughly in accordance with the placement of the Dutch specimens in phases 2 to 5 (435/40 – 580/90)<sup>613</sup>. The stepped cross-

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<sup>613</sup> Hines *et al.* 2013, 180.

section can also be seen in some early arrowheads (e.g. Rhenen grave 841) which makes it a characteristic most closely linked to early specimens, dating to the fifth century. The sixth century specimens are likely to be heirloom pieces. In his 1974 typology, Böhme notes that stepped cross sections in arrowhead blades are already occurring from the early fourth century<sup>614</sup>.

A relative blade length of more than 0.46 in combination with a lanceolate or rhomboidal blade also often occurs amongst arrowheads. Specimens with a total length of less than 15 centimetres are classified as an arrowhead whilst specimens with a length of more than 20 centimetres are classified as a spearhead. For items with a total length between 15 and 20 centimetres, classification depends on the diameter of the end of the socket. Specimens with a socket diameter of up to and including 16 millimetres are classified as arrowheads whilst those with a socket diameter of 17 millimetres or more are classified as spearheads. Please refer to the introduction for category SP-1 for more information.

#### **Occurrence in the Netherlands:**

*Bergeijk: 42.*

*Elst: 40, 89, 178.*

*Hoogeloon: 10.*

*Katwijk: 39.*

*Rhenen: 76, 89, 104, 121, 137, 189, 192, 262, 264, 265, 329, 443, 476, 501, 523, 524, 544, 572, 596, 630, 675, 678, 697, 709, 738, 800, 806, 819, 829.*

*Sittard: 24, 81.*

*Wageningen: 76, 91, 155.*

#### **Identification in other typologies:**

Franken AG: **S-Lan 1.4** – (phase 5-6 > 565 – 610/20).

Siegmund: **Lan 1.4** – (phase 7 > 585 – 610, sporadically in phase 6 > 570 – 585 and phase 8a > 610 - 625).

LPV: **part of 30** – (phase PM-MA3 > 440/50 – 600/10). **part of 32** – (phase PM-MA3 > 440/50 – 600/10, most commonly in MA1-MA3 > 470/80 – 600/10).

Hines: **SP1-a1** – (phase AS-Mp > 525/50 – 550/70). **SP1-a2** – (phase AS-Mp – AS-Ms > 525/50 – 610/45, no examples known from AS-Mq > 550/70 – 565/95). **SP1-a3** – (phase AS-Mp –

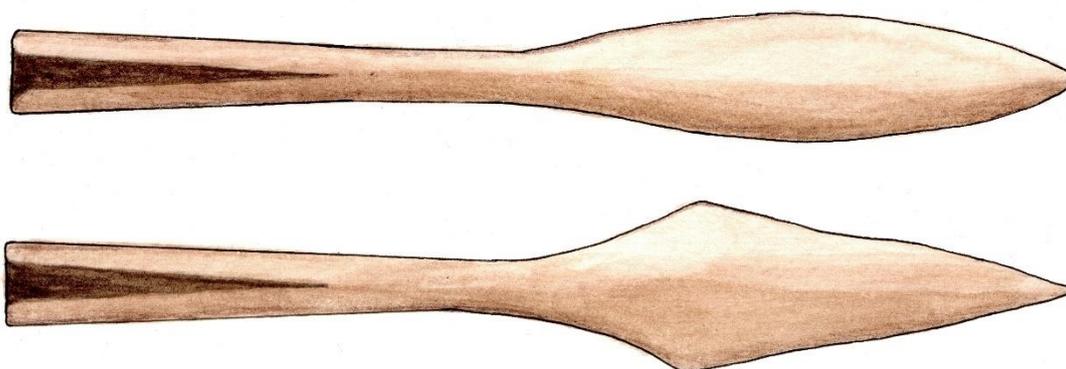
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<sup>614</sup> Böhme 1974, 210.

AS-Ms > 525/50 – 610/45). **SP1-b** – (no date provided). **SP2-a1a1** – (phase AS-Mo – AS-Mp > pre 525/50 – 550/70). **SP2-a1a2** – (phase AS-Mp – AS-Mq > 525/50 – 565/95). **SP2-a2a** – (phase AS-Mp – AS-Mq > 525/50 – 565/95). **SP2-a2b2** – (phase AS-Mp > 525/50 – 550/70). **SP2-b1a1** – (phase AS-Mo – AS-Mp > pre 525/50 – 550/70). **SP5** – (phase AS-Mo – AS-Mp > pre 525/50 – 550/70). **Part of SP1-a4** – (phase AS-Mp – AS-Mr > 525/50 – 585/615). **Part of SP2-a1b1** – (phase AS-Ms – AS-Mt > 585/615 – 660/80). **Part of SP2-b1a2** – (phase AS-Mo – AS-Mp > pre 525/50 – 550/70). **Part of SP2-b1a3** – (phase AS-Mp > 525/50 – 550/70). **Part of SP2-b1a4** – (phase AS-Mo > pre 525/50). **Part of SP2-b1b** – (phase AS-Mo – AS-Mp > pre 525/50 – 550/70).

#### Dating in the Netherlands:

Phase 2-6 (435/40 – 610/20).



*SP-1b*

#### **SP-1c** Large spearhead with a long lanceolate blade

Spearhead with a round and split socket. The total length of the spearhead is more than 42 centimetres. The relative length of the blade (**BL/TL**) is more than 0.46. The blade is long in comparison to the shaft and has a lanceolate shape.

Most specimens belonging to this type can be dated to phase 5. Two examples from this sample could be placed in phase 6.

#### Occurrence in the Netherlands:

*Bergeijk: 35, 79.*

Den Haag: 483.

Elst: 96, 146.

Oosterbeintum: 335.

Rhenen: 85, 190, 221, 271, 432, 509, 559, 609, 639, 668, 711, 714, 785.

Veldhoven: 17.

Wageningen: 157.

#### Identification in other typologies:

Franken AG: **S-Lan 1.3a** – (phase 5-6a > 565 – 590/600).

Siegmund: **Lan 1.3** – (phase 6 > 570 – 585).

LPV: **part of 32** – (phase PM-MA3 > 440/50 – 600/10, most commonly in MA1-MA3 > 470/80 – 600/10).

Hines: **SP1-a4** – (phase AS-Mp – AS-Mr > 525/50 – 585/615). **Related to SP1-a5** – (phase AS-Mt > 610/45 – 660/80). **Related to SP2-a1b1** – (phase AS-Ms – AS-Mt > 585/615 – 660/80).

#### Dating in the Netherlands:

Phase 5 (565 – 580/90). Occasionally in phase 6 (580/90 – 610/20).



SP-1c

#### **SP-1d** Small spearhead with a small blade

Spearhead with a round and split socket. The total length of the spearhead is less than 30 centimetres. The relative length of the blade (BL/TL) is less than 0.46.

The blade is short in comparison to the shaft and usually has a lanceolate shape. A more angular or rhomboidal blade, however, occurs occasionally. This short type of spearhead is relatively rare in the Netherlands.

Elst graves 179 and 240 can both be dated to phase 4 whilst the context in which the Meerveldhoven spearhead was found can only be dated to phase 6 at the earliest on the basis of a seax of type SE-1c and a shield boss of type SH-2b. It is likely that the Meerveldhoven

spearhead is an heirloom piece in this weapon grave. For the German Rhineland a date of phase 4-5 for spearheads belonging to SP-1b is given, but within the current sample, there is no evidence to suggest such continuation for the Netherlands.

**Occurrence in the Netherlands:**

*Elst: 179, 240.*

*Meerveldhoven: 36.*

**Identification in other typologies:**

Franken AG: **S-Lan 1.1a** – (phase 4-5 > 510/25 – 580/90).

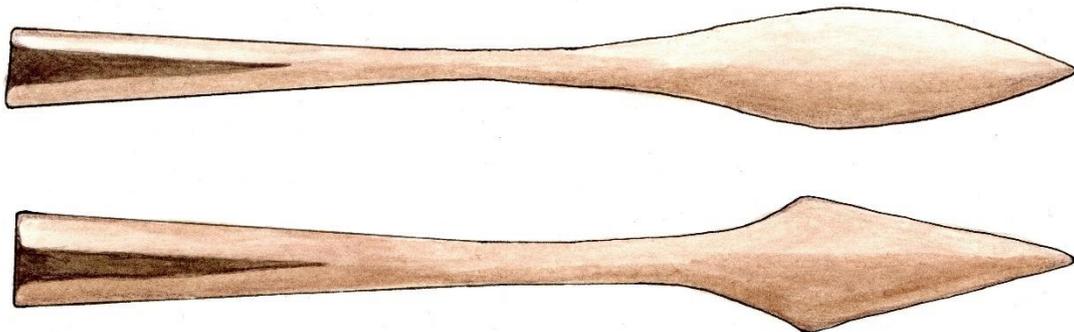
Siegmund: **Lan 1.1a** – (phase 4-6 > 530 – 585).

LPV: **part of 31** – (phase PM-MA3 > 440/50 – 600/10).

Hines: **part of SP4** – (phase AS-Mp – AS-Ms > 525/50 – 610/45).

**Dating in the Netherlands:**

Phase 4- 6 (510/25 – 610/20).



*SP-1d*

**SP-1e Large spearhead with a small blade**

Spearhead with a round and split socket. The total length of the spearhead is more than 30 centimetres. The relative length of the blade (BL/TL) is less than 0.46.

The blade is short in comparison to the shaft and usually has a lanceolate shape. A more angular or rhomboidal blade, however, occurs occasionally (e.g. Rhenen grave 80).

**Occurrence in the Netherlands:**

*Elst:* 132.

*Obbicht:* 29, 37b.

*Rhenen:* 29, 65, 80, 333, 405, 593, 695, 758, 763, 766, 779.

**Identification in other typologies:**

Franken AG: **S-Lan 1.1b** – (phase 3b-4 > 490/500 – 565). **S-Lan 1.2** – (phase 4-5 > 510/25 – 580/90).

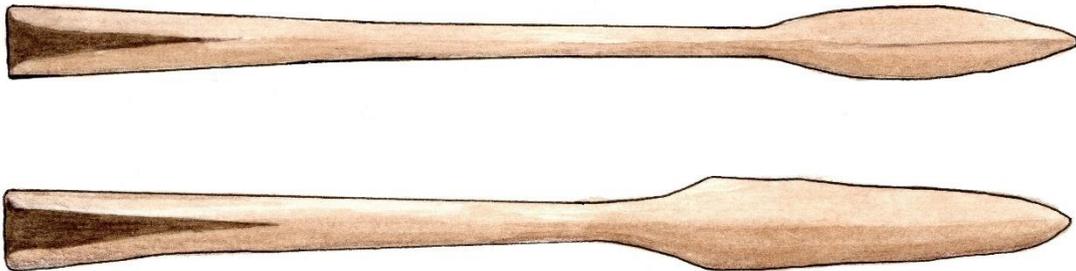
Siegmund: **Lan 1.1b** – (phase 4 > 530 – 555). **Lan 1.2** – (phase 5 > 555 – 570, sometimes in phase 6a > 570 - 580).

LPV: **part of 31** – (phase PM-MA3 > 440/50 – 600/10). **part of 33** – (phase MA1-MA3 > 470/80 – 600/10).

Hines: **part of SP4** – (phase AS-Mp – AS-Ms > 525/50 – 610/45).

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).



*SP-1e*

**SP-2: SPEARHEADS WITH A ROUND CLOSED SOCKET**

Spearheads with a round and closed socket form the second largest category of spearheads found in the Netherlands. Similar to the spearheads with an open socket, they are divided into groups on the basis of total length, relative blade length and sometimes blade shape. A separate group is created for spearheads with a central rib on the blade.

### **SP-2a Spearhead with a lanceolate blade with central rib**

Spearhead with a round and closed socket. This type is characterised by the central rib running lengthwise across the blade. The blade usually has a lanceolate shape.

In addition to the early Medieval period, spearheads with a lanceolate blade and central rib are also known from the Roman period. Occasionally, examples of these early specimens occur in Dutch early Medieval graves (e.g. Rhenen 833). As the late antique spearheads are very similar to their younger counterparts, there is decided not to create a separate group. The main way to distinguish between an early or a later specimen is by analysing the context. In case of the spearhead from Rhenen grave 833, the socket goes from round at the opening to square closer to the blade. Due to the square shape higher up the socket, the middle rib is more pronounced than in some of the early Medieval counterparts. It can be suggested that a more pronounced rib and a clearly square top of the socket are indicators for an early type. Further research into these characteristics on a larger scale, however, is necessary to confirm if this suggestion is valid. The late antique examples are indicated in bold below.

#### **Occurrence in the Netherlands:**

*Elst: 241.*

*Katwijk: 33.*

*Obbicht: 23, 31, 46.*

*Posterholt: stray find (33 or 34).*

*Rhenen: 11, 27, 516, 724, **833**.*

*Sittard: 5, 26, 34, 77.*

#### **Identification in other typologies:**

Franken AG: **S-Lan 2.1** – (phase 5b-6 > 575/80 – 610/20).

Siegmund: **Lan 2.1** – (phase 7-8a > 585 - 625).

LPV: **38** – (phase MA3 > 560/70 – 600/10, sporadically in MA2 > 520/30 – 560/70). **39** - (phase MA3 > 560/70 – 600/10, sporadically in MA2 > 520/30 – 560/70).

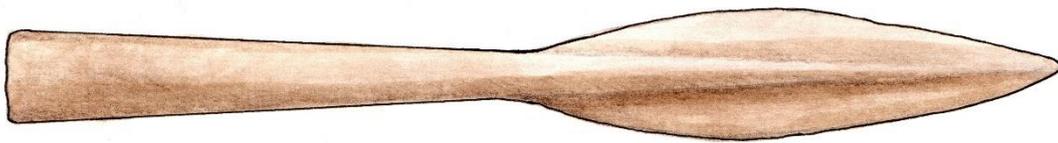
Hines: -

Koch: **transition between Stufe 3** (565 – 590/600) **and Stufe 4** (590/600 – 620/30).<sup>615</sup>

#### **Dating in the Netherlands:**

Early Medieval: Phase 5-6 (565 – 610/20).

Late Antique: Phase 1-2 (400 – 510/25).



*SP-2a*

#### **SP-2b Small spearhead with a long lanceolate blade.**

Spearhead with a round and closed socket. The total length of the spearhead is 38 centimetres or less. The relative length of the blade (BL/TL) is more than 0.52.

Spearheads of this type do not have a rib running centrally across the blade. The blade has a lanceolate shape and is relatively large in comparison to the total length of the spearhead.

The spearhead from Bergeijk grave 33 was found corroded and incomplete. It likely belongs to this group on the basis of a combined occurrence with Buckle type BU-5a and pottery type PO-2f. It is possible, however, that the original dimensions once dictated placement in group SP-2c.

#### **Occurrence in the Netherlands:**

*Bergeijk: (33).*

*Lent: 7215.*

*Maastricht: 125.*

*Meerveldhoven: 9, 24, 52.*

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<sup>615</sup> Koch 1977, 111f and plate 250.

Rhenen: 425.

Rijnsburg: 4.

Sittard: 40, 49.

Stein: 55.

Wageningen: 71, (129).

Wijster: 147.

**Identification in other typologies:**

Franken AG: **S-Lan 2.4** – (phase 4-9 > 510/25 - 710).

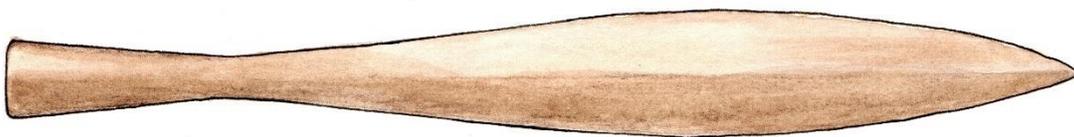
Siegmund: **Lan 2.4** – (phase 8b-10 > 625 - 705).

LPV: **34** – (phase MA3-MR3a > 560/70 – 680/90, most frequently in MA3-MR1 > 560/70 – 630/40. Possibly during phases PM-MA2 > 440/50 – 560/70 in very rich/aristocratic graves only). **Part of 36** - (phase MA3-MR2 > 560/70 – 660/670, most frequently in in MR2 > 630/40 – 660/70).

Hines: *No typological distinction is made between split- and closed sockets.* **related to SP1-a1** – (phase AS-Mp > 525/50 – 550/70). **related to SP1-a2** – (phase AS-Mp – AS-Ms > 525/50 – 610/45, no occurrence in AS-Mq > 550/70 – 565/95). **related to SP1-a3** – (phase AS-Mp – AS-Ms > 525/50 – 610/45). **related to SP1-a4** – (phase AS-Mp – AS-M > 525/50 – 585/615). **related to SP2-a1b1** – (phase AS-Ms – AS-Mt > 585/615 – 660/80).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50). Most commonly in phase 6 (580/90 – 610/20). Possibly occasionally in phase 8 (640/50 – 670/80).



SP-2b

**SP-2c** Large spearhead with a long lanceolate blade.

Spearhead with a round and closed socket. The total length of the spearhead is more than 38 centimetres. The relative length of the blade (BL/TL) is more than 0.52.

Spearheads of this type do not have a rib running centrally across the blade. The blade has a lanceolate shape and is relatively large in comparison to the total length of the spearhead.

**Occurrence in the Netherlands:**

*Elst: 215.*

*Meerveldhoven: 15, 16, 49, 53.*

*Rhenen: 725.*

**Identification in other typologies:**

Franken AG: **S-Lan 2.3** – (phase 5-10 > 565 - 750).

Siegmund: **Lan 2.3** – (phase 7 > 585 - 610).

LPV: **36** – (phase MA3-MR2 > 560/70 – 660/670, most frequently in in MR2 > 630/40 – 660/70).

Hines: *No typological distinction is made between split- and closed sockets. related to SP1-a4* – (phase AS-Mp – AS-M > 525/50 – 585/615). **related to SP2-a1b1** – (phase AS-Ms – AS-Mt > 585/615 – 660/80).

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50). Possibly continuing in phase 8 (640/50 – 670/80).



SP-2c

**SP-2d** Spearhead with a short lanceolate or rhomboidal blade.

Spearhead with a round and closed socket and of any length. The relative length of the blade (BL/TL) is 0.52 or less.

Spearheads of this type do not have a rib running centrally across the blade. The blade has a lanceolate or rhomboidal shape and is relatively short in comparison to the total length of the spearhead.

In the case of the spearhead from Obbicht grave 40b the blade is elongated and has two parallel sides. The shape of this blade is reminiscent of spearheads from group SP-1a, but with a closed socket. The spearhead from Sittard grave 14 is equipped with a metal band around the end of the socket.

The spearhead from Katwijk, in a grave dating to phase 8 or possibly even later is the youngest of the group and may be an heirloom piece. The other spearheads can all be placed in phases 5 or 6.

**Occurrence in the Netherlands:**

*Katwijk: 32.*

*Meerveldhoven: 51.*

*Obbicht: 40b.*

*Rhenen: 503, 730.*

*Sittard: 14, 28, 29, 30, 78.*

*Stein: 8.*

**Identification in other typologies:**

Franken AG: **S-Lan 2.2** – (phase 5-7 > 565 – 640/50, most commonly in phase 6-7a > 580/90 – 625/30).

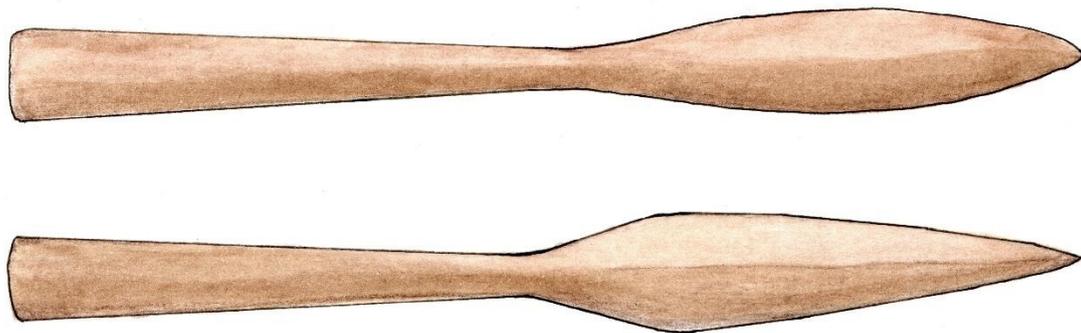
Siegmund: **Lan 2.2** – (phase 7b-8a > 595 - 625).

LPV: **35** – (phase MA3-MR2 > 560/70 – 660/670, Possibly during phases PM-MA2 > 440/50 – 560/70 in very rich/aristocratic graves only). **37** – (phase MA3-MR2 > 560/70 – 660/670, most frequently in in MR1 > 600/10 – 630/40).

Hines: *No typological distinction is made between split- and closed sockets. related to SP4* – (phase AS-Mp – AS-Ms > 525/50 – 610/45).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



SP-2d

### SP-2e Spearhead with a long rhomboidal blade

Spearhead with a round and closed socket and of any length. The relative length of the blade (BL/TL) is more than 0.52.

Spearheads of this type do not have a rib running centrally across the blade. The blade has a rhomboidal shape and is relatively long in comparison to the total length of the spearhead. The stray find from Lent has blade with a decoration of incised lines which cross each other partially. Horizontal incised lines are present around the top of the shaft too.

#### Occurrence in the Netherlands:

*Lent: stray find.*

*Maastricht: 310.*

*Meerveldhoven: 45.*

*Obbicht: 51a.*

*Posterholt: 70, 90.*

*Sittard: 86.*

#### Identification in other typologies:

Franken AG: **S-Lan 2.5** – (phase 7-9 > 610/20 – 710).

Siegmund: **Lan 2.2** – (phase 8b-9 > 625 – 670).

LPV: **part of 34** – (phase MA3-MR3a > 560/70 – 680/90, most frequently in MA3-MR1 > 560/70 – 630/40. Possibly during phases PM-MA2 > 440/50 – 560/70 in very

rich/aristocratic graves only). **Part of 36** - (phase MA3-MR2 > 560/70 – 660/670, most frequently in in MR2 > 630/40 – 660/70).

Hines: *No typological distinction is made between split- and closed sockets. related to SP1-b* – (no date provided). **related to SP2-a1a2** – (phase AS-Mp – AS-Mq > 525/50 – 565/95).

#### **Dating in the Netherlands:**

Phase 6-8 (580/90 – 670/80).



SP-2e

## **SP-3: SPEARHEADS WITH A FACETTED SOCKET**

Spearheads with a non-round socket are a rare find in the Netherlands. The typologies for the German Rhineland by Siegmund and the Franken Arbeitsgruppe list types with a four-, six- or eight-sided socket while LPV and Hines make no mention of faceted sockets in northern France and England<sup>616</sup>. As part of this sample from the Netherlands, two spearheads were found which have an eight-sided socket. Sockets with four or six facets have not been found and groups for these are therefore not included.

### **SP-3a Spearhead with an open five-sided socket and a concave blade**

Spearhead with a five-sided open socket. The specimen from Rhenen grave 445 has a blade with slightly concave sides. This blade shape is not specifically mentioned in the typologies from Germany and France but features in the typology for England by Hines<sup>617</sup>. The five-sided socket, however, does not seem part of the Anglo-Saxon assemblage.

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<sup>616</sup> Siegmund 1998, 103-4; Müssemeier *et al.* 2003, 50.

<sup>617</sup> Hines *et al.* 2013, 166, 171-78.

**Occurrence in the Netherlands:**

*Rhenen: 445.*

**Identification in other typologies:**

Franken AG: -

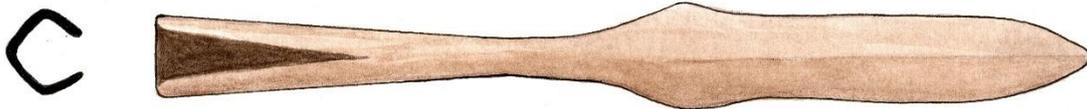
Siegmund: -

LPV: -

Hines: **related to SP2-a2b2** – (phase AS-Mp > 525/50 – 550/70). **related to SP2-b1a1** – (phase AS-Mo – AS-Mp > pre 525/50 – 550/70). **related to SP2-b1a2** – (phase AS-Mo – AS-Mp > pre 525/50 – 550/70). **related to SP2-b1a3** – (phase AS-Mp > 525/50 – 550/70). **related to SP2-b1a4** – (phase AS-Mo > pre 525/50).

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).



*SP-3a*

**SP-3b Spearhead with a double split eight-sided socket and a rhomboidal blade**

Late antique spearhead with a long socket which is split on two opposite sides. The splitting in two places results in two 'tail-like' strips of metal which were once attached to the shaft with nails and clamped with metal rings or organic material. The blade is rhomboidal in shape with a diamond-shaped cross section. The upper part of the socket, above the splits, is eight-sided.

**Occurrence in the Netherlands:**

*Rhenen: 818.*

**Identification in other typologies:**

Franken AG: -

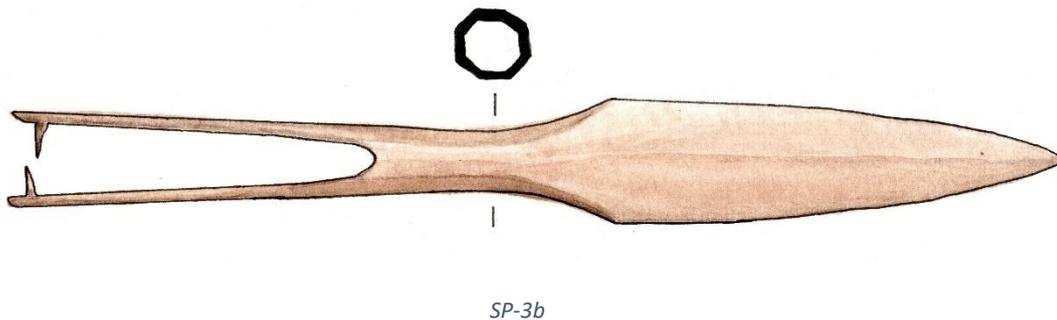
Siegmund: -

LPV: **related to 42** – (phase MA3-MR2 > 560/70 – 660/70, most frequently in MR1 > 600/10 – 630/40).

Hines: -

**Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).



**SP-3c Spearhead with a closed eight-sided socket**

Spearhead with an eight-sided closed socket. The blade can be lanceolate or rhomboidal in shape. In some cases, a slight rib is present running lengthwise along the blade.

Siegmund and the Franken Arbeitsgruppe divide spearheads of this type into two groups based on the total length. The cut-off point is 33 centimetres. Both spearheads from the sample are longer than 33 centimetres. A division as seen relevant for the German Rhineland could therefore not be made for the Netherlands on the basis of the current sample.

**Occurrence in the Netherlands:**

*Katwijk: 30, 32.*

**Identification in other typologies:**

Franken AG: **S-Lan 8.1 (short)** – (phase 10 > 710 - 750). **S-Lan 8.2 (long)** – (phase 9-10 > 670/80 - 750).

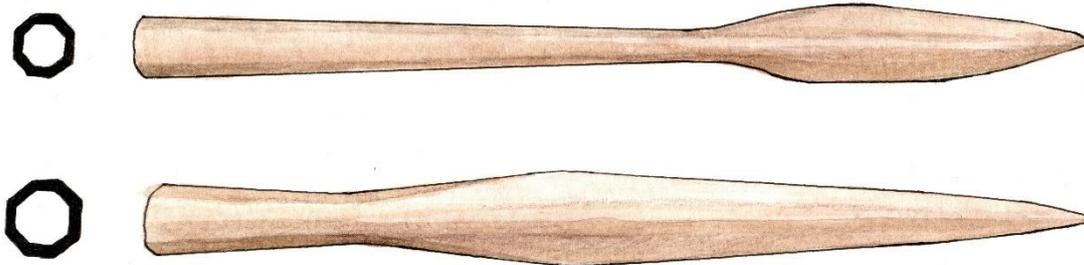
Siegmund: **Lan 8.1 (short)** – (phase 10-11 > 670 - 740). **Lan 8.2 (long)** – (phase 11 > 705 - 740).

LPV: -

Hines: -

#### **Dating in the Netherlands:**

Phase 8-9 (640/50 - 710).



*SP-3c*

## **SP-4: HOOKED AND WINGED SPEARHEADS**

Like spearheads with a non-round socket, winged or hooked spearheads are rare in the Netherlands during the early medieval period. Wings and hooks refer to protrusions or barbs which can be found on both sides of the socket of the spearhead. In some cases, the barbs are situated just below the blade while in most cases they are attached lower, near the base of the socket. In order to distinguish correctly between the two types, it is important to define what 'wings' and 'hooks' are in this context.

Wings are barbs which usually have a knife-like cross section with one sharp and one blunt side. The blunt side faces the blade while the sharp side faces the shaft. Wings are always placed with the blunt side perpendicular to the socket.

Hooks are protrusions or barbs which have a rectangular or circular cross-section. Although they can be perpendicular to the socket, they are sometimes placed at an angle creating a kind of V-shape.

In this sample from the Netherlands no winged spearheads were found, and a group is therefore not included. Siegmund dates winged spearheads to phase 11 (705-740) for the German Rhineland, making them almost fully contemporary with their hooked counterparts.

### **SP-4a Hooked spearheads**

Spearheads with so-called hooks. The 'hooks' are formed by two symmetrical protrusions at the base of the socket. The protrusions can have a round or rectangular cross-section and do not resemble an actual hook shape. Spearheads of this type can have round or faceted sockets and the blade is usually elongated with sides that are slightly tapered towards the tip. Other blade-shapes, however, do occur.

#### **Occurrence in the Netherlands:**

*Elst: 248.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: **Lan 9.1** – (phase 10b-11 > 700 - 740).

LPV: **related to 43** – (phase MR1-MR2 > 600/10 – 660/70). **related to 45** – (phase MR1 > 600/10 – 630/40).

Hines: -

#### **Dating in the Netherlands:**

Phase 9-10 (670/80 - 750).



*SP-4a*

### **SP-5: ANGONS (JAVELINS)**

Javelins or throwing spears form a separate category amongst the spearheads and are especially known from the Roman period. The angon is a specific type of javelin which is associated with the Franks, Anglo-Saxons, Goths and other Germanic peoples of the early medieval period<sup>618</sup>. Angons can be easily distinguished from more common spearheads through their very long and split socket and a small blade which is often equipped with barbs. The angon is a rare find in the Netherlands.

### **SP-5a Angon**

Angon with a lanceolate or rhomboidal blade with barbs. The small blade is attached to a long socket with a split end. The socket can be round or faceted and the blade is sometimes decorated with linear incisions.

LPV divide javelins in three different types on the basis of the socket terminal. Type 75 has a socket which is split on two or four opposite sides, creating two or four metal strips (or 'tails') which are clamped to the wooden stick with metal rings. Type 76 has a socket which is split on one side. Also in this case the javelin is clamped to the wooden stick using metal rings. Type 77 has a socket which is split on one side and attached to the wooden stick with a nail. The javelin from Rhenen graves 501 belongs to LPV's type 75, the specimen from grave 503 to type 76 and the angon from grave 763 belongs to type 77. The socket terminal of the Wageningen angon is not fully preserved but the presence of nails suggests that it is a LPV type 77. The socket type of the Elst specimen is unknown. The chronological differences between the three types as postulated by LPV cannot be recognised in the Netherlands on the basis of this sample. The German typologies by Siegmund and the Franken AG place all javelins in a single category.

#### **Occurrence in the Netherlands:**

*Elst: 178.*

*Rhenen: 501, 503, 763.*

*Wageningen: 144.*

#### **Identification in other typologies:**

Franken AG: **S-Lan 10** – (phase 3-6 > 460/80 – 610/20).

Siegmund: **Lan 10** – (phase 4-5 > 530 – 570).

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<sup>618</sup> Halsall 2003, 164.

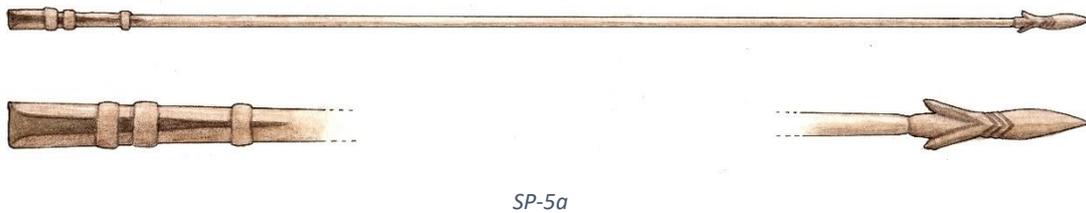
LPV: **75** – (phase PM-MA1 > 440/50 – 520/30, most frequently in MA1 > 470/80 – 520/30).

**76** - (phase MA1-MA2 > 470/80 – 560/70). **77** – (phase MA2-MA3 > 520/30 – 600/10, most frequently in MA2 > 520/30 – 560/70).

Hines: -

#### **Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).



## **SP-6: HUNTING SPEARS**

While the other spearheads in this typology are related to armoury and warfare, SP-6 includes spears used for the hunting of animals. Hunting spears or 'Saufeder', as they are called in German typologies, are very rare in the Netherlands. The spears normally have a closed socket with a diameter of more than 4 centimetres. This is exceptionally large in comparison to regular spearheads.

The only specimen found in this sample is elaborately shaped and extensively decorated. The date of the grave in which the hunting spear was found suggests a late antique rather than an early medieval origin.

For the German Rhineland, Siegmund lists a group of 'Saufeder' which includes four examples and can be dated between phases 4 and 8 (530 – 640). The examples mentioned are less elaborately shaped and decorated than the Dutch specimen. The grave in which the Dutch hunting spear was found can be dated some hundred-thirty to seventy years prior to the group identified in Germany.

#### **SP-6a Late antique hunting spear**

Late antique hunting spear with a long socket which is split on two opposite sides. The splitting in two places results in two 'tail-like' strips of metal which were once attached to the shaft with nails and clamped with metal rings. A general characteristic which distinguishes a hunting spear from a more commonly found counterpart is the exceptionally large socket diameter at the opening of 4 centimetres or more.

The specimen from Rhenen grave 839 has a rhomboidal blade with a central rib running lengthwise across. The spear features two barbs in the shape of stylised animal heads on either side of the spearhead, a few centimetres below the blade. The cross section of the sockets is roughly square as a result of the central rib starting at the base of the socket and continuing to the tip of the blade. The rib is more pronounced on the blade than on the socket. The bottom half of the blade as well as the socket and the 'tails' are decorated with polychrome inlay of copper and brass in spiral motifs. The stylised animal heads, which are cast as one piece with the rest of the spearhead also show traces of polychrome inlay in a now no longer identifiable motif.

**Occurrence in the Netherlands:**

*Rhenen: 839.*

**Identification in other typologies:**

Franken AG: -

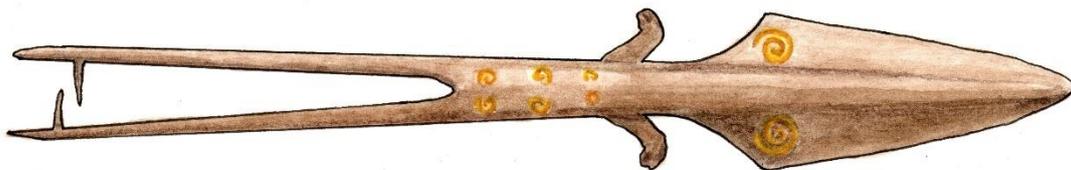
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).



*SP-6a*

# SEAXES

Seaxes are often found in the Netherlands in early medieval graves from phase 4 onwards (post AD 510/25). The seax is easily distinguished from a sword by means of a one-sided blade and a usually shorter length. Although the blade of a seax is similar to that of a knife, it is clear that the former were weapons, and the latter were mainly used for domestic purposes.

In some cases, it can be challenging to distinguish correctly between a seax and a knife when found in a grave context. The first and most clear indication is the fact that seaxes only occur in male-gender graves whilst knives are accompanying individuals of male and female gender. For the German Rhineland, Siegmund compared blade lengths of knives and seaxes and concluded that blades with a length of 10 centimetres or less are found very frequently in male and female gender graves and should be regarded knives. Blades with a length of more than 20 centimetres were found in much smaller numbers and only in male-gender graves. They should therefore be regarded a seax. Pieces with a blade length between 10 and 20 centimetres are harder to classify but a steep drop in the total number of blades from approximately 15 centimetres onwards suggests that the dividing line should be drawn there. In addition can be seen that blades with a length of 14.5 centimetres or less only occur together with larger blades, which are clearly seaxes. Blades with a length of 16.5 centimetres or more only occur together with smaller blades, of 15.0 centimetres or less. This reinforces the above assumption of a dividing line between knives and seaxes of around 15 centimetres, as it is very rare for a grave to contain either two knives or two seaxes<sup>619</sup>.

Similar to the situation in the German Rhineland, also in the Netherlands it is very rare for a grave to contain two small seaxes or two knives. The blade lengths of the seaxes found in the Netherlands are similar to those in Germany and the same goes for the ratio between the number of knives and seaxes. On the basis of these clear similarities, there is decided to classify any knife with a blade longer than 15 centimetres as a seax in this research. The seax with the shortest blade in this sample has a blade length of 17.4 centimetres.

All seax types in the research have a relatively long lifespan which makes them less suitable for precision dating. In general can be stated that seaxes evolve from short and narrow to

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<sup>619</sup> Siegmund 1998, 87.

broader and longer over time. In order to increase the potential for using the seax as a means of dating a grave context, it has been chosen to add typologies and chronological data for seax pommels (SE-2) as well as for fitting and rivets (SE-3).

## SE-1: SEAXES

In typologies of early medieval weapons from north western Europe, seaxes are often divided into four basic classes, namely short, light and broad, heavy and broad and long. In addition, the Franken AG adds a category for short and broad seaxes while LPV distinguish long and narrow types as well as some specific forms of incised decoration<sup>620</sup>. Hines and colleagues largely follow the same division for England as seen for the German Rhineland but add some subcategories to the smaller seax types on the basis of the blade length<sup>621</sup>.

In depth study of seaxes from the Netherlands shows that the classic division into four different groups on the basis of blade length and blade width is the most suitable and efficient way. Types such as the French early long and narrow seaxes as well as the German short and broad seaxes could not be identified in the Netherlands. A decoration of incised lines in a knotwork or plait pattern, as identified in northern France, can also be seen in the Netherlands on two occasions in this sample. Whilst LPV provide this type of decoration with a separate group and a date in phases MA3-MR1 (560/70 – 630/40), in the Netherlands both seaxes are part of the 'small' group SE-1a<sup>622</sup>. The specific seaxes with the decoration cannot be dated more precisely than to phases 4-6 (510/25 – 610/20). Although this shows an overlap with the French dating, it was decided not to create a separate group for this type of decoration. This is unnecessary as it seems clear that seaxes with this particular decoration are just a variation within the wider range of decorative forms and shapes of group SE-1a, albeit a relatively rare one. Similar decoration was not found on seaxes belonging to any other group.

The seaxes found as part of this sample are divided into four groups on the basis of their dimensions. The combination between the **length of the blade** and the **width of the blade** is

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<sup>620</sup> Müssemeier *et al.* 2003, 46; Legoux *et al.* 2016, 22-23, 35-36.

<sup>621</sup> Hines *et al.* 2013, 190-94.

<sup>622</sup> Legoux *et al.* 2016, 23, 36, 61.

hereby important. The width of the blade is always measured at the widest point. The division into four groups is made as follows:

**Small seaxes with a narrow blade** (SE-1a): Blade length of less than 35 cm and a maximum blade width of 4 cm.

**Small seaxes with a wide blade** (SE-1b): Blade length between 29 and 35 cm and a blade width of 4.1 cm or more.

**Medium seaxes with a wide blade** (SE-1c): Blade length between 35 and 41 cm and a blade width of 4.1 cm or more.

**Long seaxes** (SE-1d): Blade length of 41 cm or more and any blade width.

### **SE-1a Small seaxes with a narrow blade**

Small seaxes with a blade length of less than 35 centimetres and a maximum blade width of 4 centimetres or less.

Seaxes of this type can have a straight or a curved back and usually have a grip made of wood or another organic material.

In few cases, a pommel is present, which is usually a bar shaped piece of iron on top of a thin ovoid plate or upper guard (SE-2b, in e.g. Rhenen 524). This pommel type is similar to type SX4-d as identified by Hines and his colleagues for England (*bar pommel*, no date provided)<sup>623</sup>.

The pommel of the seax from Rhenen grave 233 is bar-shaped but placed on a double upper guard or a plate and an upper guard. The seaxes from Elst graves 85 and 215 are both equipped with an upper guard or disc-shaped pommel only (SE-2a). The seax from Den Haag grave 483 is the only one in this group which is equipped with a so called '*tall boat-shaped pommel*' (SE-2d), which is identified by Hines as type SX4-b. Pommels are not specified in the typologies by Siegmund, the Franken AG or LPV.

In about half the cases, a lower guard is present between the grip and the blade. The lower guard is usually a simple iron disc. In case of Maastricht grave 115, an iron band is preserved which once sat around the hilt.

As most seaxes found in the Netherlands are made of iron, the metal is usually corroded, and decoration of the blade is not always recognisable. In some cases, for example the seax from Rhenen grave 262, the blade is decorated with one or more grooves which run parallel to the back of the blade. The grooves are usually present on both sides of the blade. The seaxes from

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<sup>623</sup> Hines *et al.* 2013, 200.

Rhenen graves 233 and 796 have a more elaborately decorated blade. On both sides, the blades are equipped with a geometric braid pattern of incised lines, as well as the more commonly found lengthwise grooves.

Unlike what is postulated by LPV for northern France, the presence or absence of a pommel, lower guard and/or decoration is not chronologically relevant in the Netherlands.

The blade length of seaxes from the sample in this group varies between 17.4 and 33.4 centimetres and the blade width varies between 2.4 and 4.0 centimetres. The total length of the seaxes varies between 25.0 and 50.0 centimetres. Due to corrosion and damage, the total length cannot be established fully in all cases.

#### **Occurrence in the Netherlands:**

*Den Haag:* 483.

*Elst:* 85, 96, 133, 173, 215, (241), 250.

*Lent:* 7514.

*Maastricht:* 16, 86, 115, 168, 173, 194, 205, *stray find*.

*Meerveldhoven:* 49.

*Obbicht:* 5, 33.

*Oosterbeintum:* 335.

*Posterholt:* 58.

*Rhenen:* 65, 143, 182, 183, 221, 233, 262, 321, 454, 524, 553, 594, 638, 652, 697, 730, 782, 796, 798.

*Rijnsburg:* 4.

*Sittard:* 26, 27 (*stray find*), 39, 41.

*Stein:* (40).

*Wijster:* 70.

#### **Identification in other typologies:**

Franken AG: **Sax 1** – (phase 3b-7 > 485/90 – 640/50, most commonly in phase 4-5 > 510/25 – 580/90).

Siegmund: **Sax 1** – (phase 4-7 > 530 - 610).

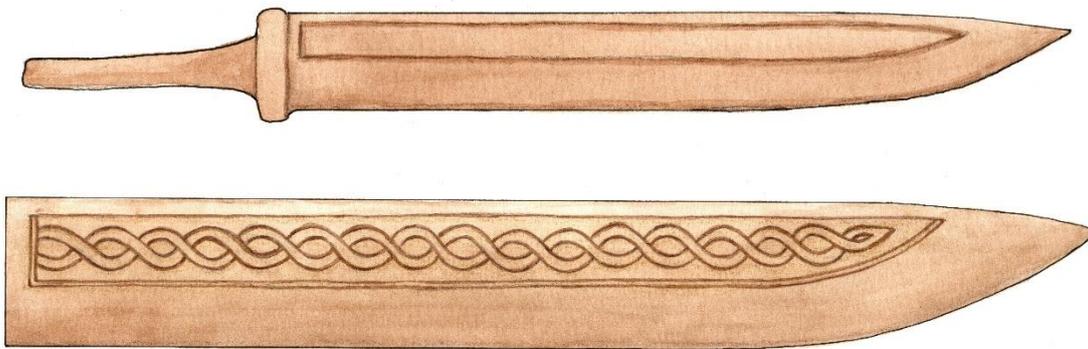
LPV: **55** – (phase PM-MA1 > 440/50 – 520/30). **57** – (phase MA1-MR1 > 470/80 – 630/40, most commonly in MA2-MA3 > 520/30 – 600/10). **58** – (phase MA2-MR1 > 520/30 – 630/40, most commonly in MA3 > 560/70 – 600/10). **59** – (phase MA2b-MR1 > 540/50 – 630/40,

most commonly in MA3 > 560/70 – 600/10). **60** – (phase MR1-MR3 > 600/10 – 700/10).

Hines: **SX1-a** - (phase AS-Mp > 525/50 – 550/70). **SX1-b** - (phase AS-Mq – AS-Mr > 550/70 – 585/615). **SX-1c** - (phase AS-Mp > 525/50 – 550/70).

#### Dating in the Netherlands:

Phase 4-6 (510/25 – 610/20) Possibly as early as phase 3 (460/80 – 510/25).



SE-1a

#### SE-1b Small seaxes with a wide blade

Small seaxes with a maximum blade length of 35 centimetres. Most seaxes belonging to this group have a minimum blade length of 29 centimetres, but shorter blades occur occasionally (e.g. Veldhoven grave 6). The blade width is 4.1 centimetres or more.

Seaxes of this type can have a straight or a curved back and usually have a grip made of wood or another organic material.

Three seaxes from the sample which belong to this group are equipped with a pommel. The seax from Sittard grave 14 is made of iron but has a copper-alloy pommel. The pommel is flat boat-shaped (SE-2c) and similar to type SX4-a as identified for Anglo-Saxon England by Hines and his colleagues<sup>624</sup>. Both pommels of the seaxes from Obbicht grave 20 and Rhenen grave 609 are reminiscent of the tall boat-shaped pommel (SE-2d) but have straighter sides. The pommels are built-up of three stacked metal discs with a flat boat shaped piece of metal on top. The layering of the pommels is clearly visible despite severe corrosion in the case of the Obbicht seax. The layering is not present in the tall boat-shaped pommel as identified by Hines

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<sup>624</sup> Hines *et al.* 2013, 199.

and is also absent in the one identified pommel of this type in the Netherlands (Den Haag grave 483, see group SE-1a)<sup>625</sup>. Because of this difference, two independent types can be assumed (see SE-2d and SE-2e).

In about half the cases, a lower guard is present between the grip and the blade. The lower guard is usually a simple iron disc.

About a third of the seaxes in this group have incised lines on the blade. The incision usually consists of one or more grooves running parallel to the back of the blade. In the case of the seax from Meerveldhoven grave 12, the incised lines are placed near the sharp edge of the blade. The seax from Rhenen grave 609 is equipped with two incised grooves, creating a field along the back of the blade. The field is filled-in with pattern of incised x-es.

Unlike what is postulated by LPV for northern France, the presence or absence of a pommel, lower guard and/or decoration is not chronologically relevant in the Netherlands. Hines and his colleagues recognise a chronological relevance related to the width of the blade. Also this cannot be seen in the Netherlands.

The blade length of seaxes from the sample in this group varies between 23.0 and 34.8 centimetres and the blade width varies between 4.2 and 5.2 centimetres. The total length of the seaxes varies between 34.4 and 56.0 centimetres, whilst most examples are longer than 42 centimetres. Due to corrosion and damage, the total length cannot be established fully in all cases.

#### **Occurrence in the Netherlands:**

*Lent: 7520, stray find.*

*Maastricht: 15, 58, stray find.*

*Meerveldhoven: 12, 36, 53.*

*Obbicht: 4, 20, 33, 40b, 46.*

*Rhenen: 276, 310, 333, 609, 662, 727.*

*Rijnsburg: (13).*

*Sittard: 14, 30.*

*Stein: 54, 72.*

*Veldhoven: 6.*

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<sup>625</sup> Hines *et al.* 2013, 199.

### Identification in other typologies:

Franken AG: **Sax 2.1** – (phase 5-8 > 565 – 670/80, most commonly in phase 6-7 > 580/90 – 640/50).

Siegmund: **Sax 2.1** – (phase 8-9 > 610 – 670, sporadically in phase 7 > 585 – 610).

LPV: **55** – (phase PM-MA1 > 440/50 – 520/30. **58** – (phase MA2-MR1 > 520/30 – 630/40, most commonly in MA3 > 560/70 – 600/10). **59** – (phase MA2b-MR1 > 540/50 – 630/40, most commonly in MA3 > 560/70 – 600/10). **60** – (phase MR1-MR3 > 600/10 – 700/10).

Hines: **SX2-a** - (phase AS-Mt > 610/45 – 660/80).

### Dating in the Netherlands:

Phase 5-7 (565 – 640/50) Occasionally in phase 8 (640/50- 670/80).



*SE-1b*

### **SE-1c** Medium seaxes with a wide blade

Medium seaxes with a minimum blade length of 35.0 centimetres and a maximum blade length of 41.0 centimetres. The blade width is 4.1 centimetres or more.

Seaxes of this type can have a straight or a curved back and usually have a grip made of wood or another organic material.

Pommels and lower guards occur but are in this sample less common amongst larger seaxes.

About a third of the seaxes in this group have incised lines on the blade. The incision usually consists of one or more grooves running parallel to the back of the blade. In all but one case (Maastricht grave 11), the incised lines are present on both sides of the blade.

The blade length of seaxes from the sample in this group varies between 35.0 and 40.0 centimetres and the blade width varies between 4.1 and 5.6 centimetres. The total length of the seaxes varies between 46.5 and 54.1 centimetres. Due to corrosion and damage, the total length cannot be established fully in all cases.

### Occurrence in the Netherlands:

*Lent: 7224, 7508, stray find.*

*Maastricht: 11, 292, 297.*

*Meerveldhoven: 15, 16, 37.*

*Obbicht: 33.*

*Rhenen: 814.*

*Sittard: 20, 31, 84, 86.*

*Stein: 8, 49.*

### Identification in other typologies:

Franken AG: **Sax 2.2** – (phase 6-9 > 580/90 – 710, most commonly in phase 7b-8 > 625/30 – 670/80).

Siegmund: **Sax 2.2** – (phase 9-10a > 640 – 685/90).

LPV: **61** – (phase MR1-MR3 > 600/10 – 700/10, most commonly in MR2-MR3 > 630/40 – 700/10).

Hines: **SX2-b** – (phase AS-Mt > 610/45 – 660/80).

### Dating in the Netherlands:

Phase 6-8 (580/90 – 670/80).



SE-1c

### SE-1d Long seaxes

Long seaxes with a minimum blade length of 41.0 centimetres.

Seaxes of this type can have a straight or a curved back and usually have a grip made of wood or another organic material.

Pommels and lower guards occur but are in this sample less common amongst larger seaxes.

Incised lines on the blade occur in this group but less frequently than amongst seaxes of groups SE-1a to SE-1c. The incision usually consists of one or more grooves running parallel to the back of the blade.

The blade length of seaxes from the sample in this group varies between 42.3 and 70.4 centimetres and the blade width varies between 4.8 and 5.6 centimetres. The total length of the seaxes varies between 55.6 and 78 centimetres. Due to corrosion and damage, the total length cannot be established fully in all cases.

**Occurrence in the Netherlands:**

*Katwijk: 32.*

*Lent: 7215, 7220.*

*Maastricht: 70, 125, 278.*

*Meerveldhoven: 14.*

*Obbicht: 33, 51a.*

*Valkenburg: 1.*

*Wijster: 147.*

*Zweeloo: 18, 76.*

**Identification in other typologies:**

Franken AG: **Sax 3** – (phase 8-10 > 8b-10 > 655/60 - 750).

Siegmund: **Sax 3** – (phase 10b-11 > 685 – 740).

LPV: **part of 61** – (phase MR1-MR3 > 600/10 – 700/10, most commonly in MR2-MR3 > 630/40 – 700/10). **62** – (phase MR2-MR3 > 630/40 – 700/10, most commonly in MR2-MR3 > 630/40 – 700/10).

Hines: **SX3-a** – (phase AS-Ms-AS-Mt > 585/615 – 660/80). **SX3-b** – (phase AS-Mt > 610/45 – 660/80).

**Dating in the Netherlands:**

Phase 7-10 (610/20 - 750).



*SE-1d*

## SE-2: SEAX POMMELS

Pommels on seaxes are relatively rare in the Netherlands and all specimens in this sample belong to seaxes of types SE-1a or SE-1b. This indicates that the pommel is a relatively early typological phenomenon which disappears around the start of the seventh century. As part of this sample, five different pommel types are identified which have a largely similar dating. On this basis, the presence of a pommel can help to identify a seax as early, but the feature does not add significantly to the more precise dating of seaxes within their typological group. Despite this problem, it was decided to include the pommels as they could be interesting for future comparative research. For England, Hines and his colleagues list various pommel types of which only one is dated. The English date is largely consistent with Dutch findings. Siegmund, the Franken AG and LPV chose to not list pommels in their typologies for the German Rhineland and northern France.

Most interesting is the tall boat shaped pommel from Den Haag grave 483 (SE-2d) which seems to be similar to type SX4-b as identified by Hines and his colleagues. Hines notes that no pommels of this type are known to him from Continental Europe, which would make the Den Haag example a rare specimen<sup>626</sup>. The suspected rarity coincides with the fact that the pommel was found in a boat-shaped grave which, in itself, is a very unusual find from the early Medieval period in the Netherlands. This particular nature of the grave, with a nod to seafaring and its location close to the North Sea coast in combination with the possibly Anglo-Saxon pommel may indicate that the occupant was somehow related to England, through a visit or otherwise.

### **SE-2a Flat disc-shaped pommel or upper guard**

Flat disc-shaped pommel which shows great similarities to the lower guard often seen in seaxes of types SE-1a and SE-1b. In case of the specimen from Elst grave 85, the disc can be either interpreted as a pommel or an upper guard. In case of the latter, it is possible that a

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<sup>626</sup> Hines *et al.* 2013, 199.

small pommel was placed on top of the disc. In case of the specimen from Elst grave 215, the disc seems to be the pommel, likely with a double function as an upper guard.

**Occurrence in the Netherlands:**

*Elst 85, 215'*

**Identification in other typologies:**

Franken AG: -

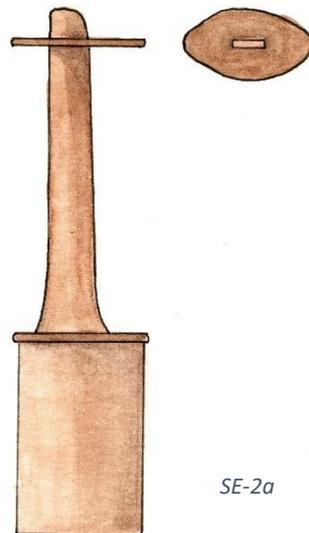
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).



**SE-2b Bar-shaped pommel**

Iron pommel in the shape of a rectangular bar. The bar sometimes has rounded edges and/or corners and is placed on top of a metal disc. The diameter of the disc is larger than the diameter of the bar. Sometimes a second metal disc is present below the first, possibly functioning as an upper guard.

**Occurrence in the Netherlands:**

*Rhenen: 233, 524, 638, 702, 796.*

**Identification in other typologies:**

Franken AG: -

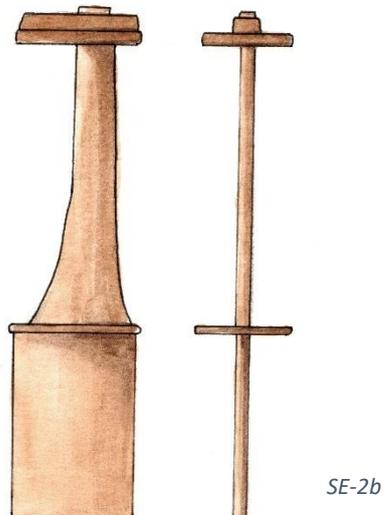
Siegmund: -

LPV: -

Hines: **SX4-d** – (No date provided).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



**SE-2c Flat boat-shaped pommel**

Pommel in the shape of a low boat. The pommel is either made of iron or copper-alloy.

**Occurrence in the Netherlands:**

*Rhenen: (727).*

*Sittard: 14.*

**Identification in other typologies:**

Franken AG: -

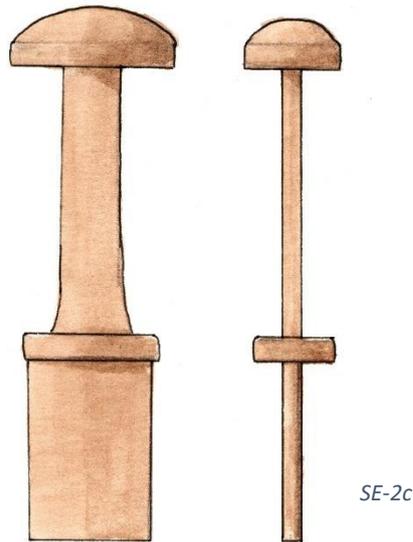
Siegmund: -

LPV: -

Hines: **SX4-a** – (phase AS-Mp > 525/50 – 550/70).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



**SE-2d Tall boat-shaped pommel**

Pommel in the shape of a tall boat, made of iron or copper-alloy. Although pommels of this type often have a similar shape to those in group SE-2e, tall boat-shaped pommels are created as one piece and are not composed of loose elements. The sides of this pommel are usually curved into the boat shape directly from the base. In some cases, however, a straight base is present, of approximately 10 millimetres or less height on top of which the boat-shape follows. In such a case, the straight base and boat shape are cast as one element. The pommel can be solid or hollow.

Hines and his colleagues note that their research has not returned any tall boat-shaped pommels from Continental Europe<sup>627</sup>. This would indicate that group SE-2d is rare, and it cannot be ruled out that there is a connection between the pommel in Den Haag and Anglo-Saxon England.

**Occurrence in the Netherlands:**

*Den Haag: 483.*

**Identification in other typologies:**

Franken AG: -

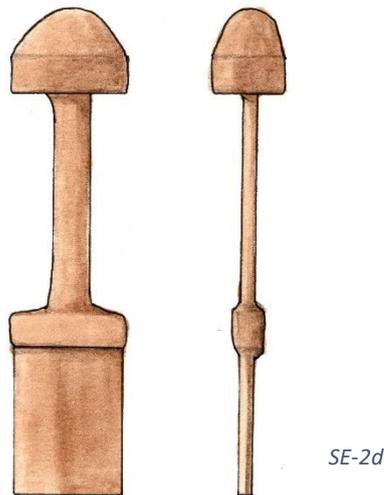
Siegmund: -

LPV: -

Hines: **SX4-b** – (No date provided).

**Dating in the Netherlands:**

Phase 5 (565 – 580/90)



**SE-2e Composed boat-shaped pommel**

Large pommels consisting of two or more stacked metal discs, topped by a flat boat-shaped cap. The discs are of equal size, creating a chunky pommel with straight sides. The pommels

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<sup>627</sup> Hines *et al.* 2013, 199.

are made of iron or copper alloy. Shape-wise, pommels of this type can look somewhat similar to those in group SE-2d. The build-up out of loose components, however, distinguishes SE-2e as a separate type. The sides of this type are normally straighter than those of type SE-2d.

**Occurrence in the Netherlands:**

*Obbicht: 20.*

*Rhenen: 609.*

**Identification in other typologies:**

Franken AG: -

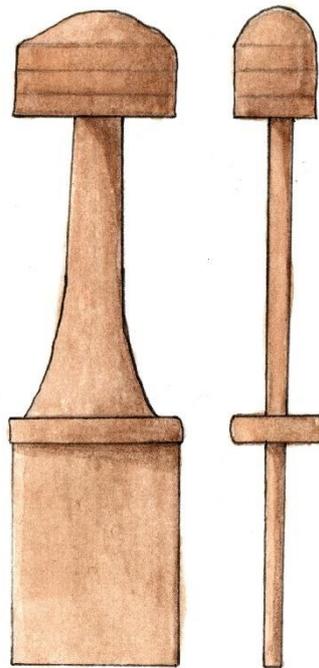
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



SE-2e

## SE-3: SEAX FITTINGS AND RIVETS

All four seax types occur over a period of at least three phases. This makes it difficult to precisely date a grave on the basis of a seax. To enhance the suitability of the seax for the purpose of dating, it can be helpful to consider the typology of rivets and fittings associated with the seax sheath. Remains of seax sheaths are easily recognisable and appear relatively often in graves. In addition, it was possible to identify six different rivet types which occur between phases 6 and 8 in the Netherlands.

### SE-3a Angled sheath mount

Copper-alloy or silver-plated sheath mount with a U-shaped profile. The mount is angled (L-shaped). In some cases, the support is only partly preserved with the short part of the 'L' missing. The mount can be plain or decorated with ribs, incised lines and/or dot-in-circle motifs.

Katwijk grave 32 contains the only silver-plated specimen in the sample. The mount was found including ten remaining rivets. The rivets are small, domed and equipped with a carved or beaded edge. The Franken AG notes that silver examples exist which are found in graves dating as early as phase 5 (565 – 580/90). Mounts with animal-style decoration, as listed by LPV for northern France are no part of the Dutch sample.

#### Occurrence in the Netherlands:

*Borgharen: 7.*

*Katwijk: 32, (44).*

*Lent: 7520.*

*Maastricht: 11, 15, 39, 86, 284, 297.*

*Rhenen: 556.*

#### Identification in other typologies:

Franken AG: **Sax 4.5** – (phase 7-8 > 610/20 – 670/80).

Siegmund: **Sax 4.5** – (phase 9 > 640 – 670).

LPV: **65** (phase MA3-MR2 > 560/70 – 660/70, most commonly in MR1 > 600/10 – 630/40). **related to 66** (phase MR1-MR2 > 600/10 – 660/70). **related to 67** (phase MR2 > 630/40 – 660/70).

Hines: **SX5** - (No date provided).

#### Dating in the Netherlands:

Phase 6-8 (580/90 – 670/80).



SE-3a

#### SE-3b Rivets with animal style decoration

Rivets made of copper alloy. The top plate is flat with sometimes an overhanging edge and is decorated with a cast animal style motif. The exact pattern varies per rivet. In some cases, the pattern is engraved rather than cast.

#### Occurrence in the Netherlands:

*Bergeijk: 78.*

*Borgharen: 7.*

*Maastricht: 39.*

*Meerveldhoven: 12.*

#### Identification in other typologies:

Franken AG: **S-Sax 4.2** - (phase 7-8 > 610/20 – 670/80). **Sax 4.3b** – (phase 7-8 > 610/20 – 670/80).

Siegmund: **Sax 4.2** – (phase 8b-9 > 625 – 670). **Part of Sax 4.3** – (phase 9 > 640 – 670)

LPV: **related to 70** (phase MR1-MR2 > 600/10 – 660/70, most commonly in MR3 > 660/70 – 700/10). **related to 71** (phase MR2 > 630/40 – 660/70).

Hines: **part of SX5-c** - (phase AS-Mt > 610/45 – 660/80).

### Dating in the Netherlands:

Phase 6-7 (580/90 - 640/50).



SE-3b

### SE-3c Rivets with 'feather' decoration

Rivets made of copper alloy. The top plate is flat with sometimes an overhanging edge and is decorated with a cast motif. The decoration consists of three lines originating from the edge of the rivet and terminating in various small transverse lines. The main line with various small side lines creates the image of a comb with teeth or a feather. In some cases, the pattern is engraved rather than cast.

### Occurrence in the Netherlands:

*Lent: 7520.*

*Meerveldhoven: 36.*

*Rhenen: 727.*

### Identification in other typologies:

Franken AG: -

Siegmund: -

LPV: **related to 70** (phase MR1-MR2 > 600/10 – 660/70, most commonly in MR3 > 660/70 – 700/10). **related to 71** (phase MR2 > 630/40 – 660/70).

Hines: **part of SX5-c** - (phase AS-Mt > 610/45 – 660/80).

### Dating in the Netherlands:

Phase 6-7 (580/90 – 640/50).



SE-3c

### SE-3d Rivets with 'dreiwirbel' decoration

Rivets made of copper alloy. The top plate is flat with sometimes an overhanging edge and is decorated with a cast motif. This type is closely related to SE-3c and the decoration consists of a three-armed 'swirl' centrally on the rivet. The 'swirl' is somewhat reminiscent of the Trinacria in the coat of arms of Sicily and is surrounded by linear and/or triangular impressions. In some cases, the pattern is engraved rather than cast.

### Occurrence in the Netherlands:

*Maastricht: 11.*

*Posterholt: 46, 58.*

### Identification in other typologies:

Franken AG: -

Siegmund: -

LPV: **related to 70** (phase MR1-MR2 > 600/10 – 660/70, most commonly in MR3 > 660/70 – 700/10). **related to 71** (phase MR2 > 630/40 – 660/70).

Hines: **part of SX5-c** - (phase AS-Mt > 610/45 – 660/80).

### Dating in the Netherlands:

Phase 6-7 (580/90 – 640/50).



*SE-3d*

### **SE-3e** Plain rivets with three circular perforations

Rivets made of copper alloy with a flat top plate. The rivets sometimes have an overhanging edge and are characterised by three circular perforations near the edge. The central space on the top plate is plain. The specimens from Maastricht grave 86 have small punch marks around the edge, in between the perforations. The Franken Arbeitsgruppe and Siegmund mention that the three perforations are sometimes replaced by three dot-in-circles in Germany. This is only the case for rivets without an overhanging edge<sup>628</sup>. Specimens with three dot-in-circles were not found as part of this sample.

### Occurrence in the Netherlands:

*Lent: 7514.*

*Maastricht: 30, 86, 92.*

*Sittard: 84.*

### Identification in other typologies:

Franken AG: **S-Sax 4.1** – (phase 7-8 > 610/20 – 670/80). **Sax 4.3A** – (phase 7-8 > 610/20 – 670/80).

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<sup>628</sup> Siegmund 1998, 94-95; Müssemeier *et al.* 2003, 46-47.

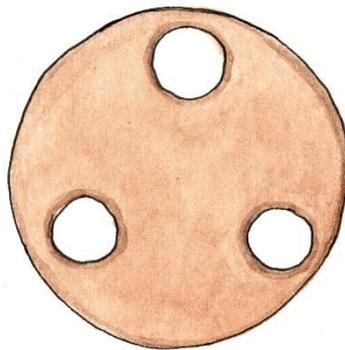
Siegmund: **Sax 4.1** – (phase 8-9 > 610 – 670, most commonly in phase 8 > 610 - 640). **Part of Sax 4.3** (phase 9 > 640 – 670).

LPV: **69** (phase MR1-MR2 > 600/10 – 660/70).

Hines: **part of SX5-c** - (phase AS-Mt > 610/45 – 660/80).

#### **Dating in the Netherlands:**

Phase 6-8 (580/90 – 670/80). Most commonly in phase 6-7 (580/90 – 640/50).



SE-3e

#### **SE-3f Rivets with geometric decoration**

Rivets made of copper alloy. The top plate is flat with sometimes an overhanging edge and is decorated with a cast geometric motif. The exact pattern varies per rivet and is reminiscent of Celtic knotwork. In some cases, the pattern is engraved rather than cast and in the case of the specimens from Lent grave 7224, the top plate is covered with a layer of silver.

#### **Occurrence in the Netherlands:**

*Lent: 7224.*

*Maastricht: 16.*

*Sittard: 86.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **related to 70** (phase MR1-MR2 > 600/10 – 660/70, most commonly in MR3 > 660/70 – 700/10). **related to 71** (phase MR2 > 630/40 – 660/70).

Hines: **part of SX5-c** - (phase AS-Mt > 610/45 – 660/80).

**Dating in the Netherlands:**

Phase 6-8 (580/90 – 670/80).



SE-3f

**SE-3g Rivets with a carved or beaded edge**

Rivets made of copper alloy with a flat or somewhat convex top plate. The rivets sometimes have an overhanging edge and are characterised by a carved or beaded rim. The central space on the top plate is usually plain, with the exception of the rivets from Veldhoven grave 8 which are somewhat more domed and feature a centrally incised cross motif. The rivets from Bergeijk grave 52 are also an exception with a somewhat domed centre with a cross and four dot-in-circles.

**Occurrence in the Netherlands:**

*Bergeijk: 24, 52.*

*Lent: 7215, 7220.*

*Maastricht: 278, 284.*

*Rhenen: 229.*

*Veldhoven: 8.*

**Identification in other typologies:**

Franken AG: **S-Sax 4.4** – (phase 7b-8 > 625/35 – 670/80, most commonly in phase 8 > 640/50 – 670/80).

Siegmund: **Sax 4.4** – (phase 9 > 640 – 670).

LPV: **part of 71** (phase MR2 > 630/40 – 660/70).

Hines: **part of SX5-c** - (phase AS-Mt > 610/45 – 660/80).

**Dating in the Netherlands:**

Phase 6-8 (580/90 – 670/80).



*SE-3g*

# SHIELD BOSSES

Shield bosses, together with other weaponry are characteristic finds from male-gender graves. In the Netherlands, it is a common find category during the early Medieval period. Shield bosses can be divided into two main categories, namely those with an apex and those without. Shield bosses with an apex have a chronologically earlier start than those without an apex but the occurrence of both main types overlaps around the turn from the sixth to the seventh century.

A shield boss is made up of different parts. They have bottom rim through which the rivets are attached. This bottom rim or edge is called 'the flange'. The flange can either be horizontal or (slightly) sloping downwards and comes in various widths. Immediately above the flange is the 'wall' of the shield boss, which varies in height. Walls can be concave, sloping or vertical. Constricted walls, as seen in Anglo-Saxon England, do not occur in the Netherlands during the early Medieval period<sup>629</sup>. In the youngest shield boss types (SH-1f and SH-2c) no wall is present. Above the wall, the cone of the shield boss is situated, which can be high or low. The most common cone shapes in the Netherlands are convex and slightly convex, whilst straight cones occur too. In group SH-2a, the so-called plateaued cones are included which have straight sides and a more or less horizontal centre. The concave cone, as seen in Anglo-Saxon England does not occur in the Netherlands<sup>630</sup>. The point of transition from wall to cone is called the 'carination'. In most cases, the carination is overhanging, which means that the wall is slightly set backwards underneath the cone. In case of an angled carination, the wall directly connects to the cone without an overhang. As mentioned, specimens from groups SH-1f and SH-2c do not have a wall and the cone runs smoothly upwards from the rim. In case of the shield bosses from category 1, the cone is topped with an apex. A typology of apexes is included in the subcategory description of SH-1.

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<sup>629</sup> Hines *et al.* 2013, 150.

<sup>630</sup> Hines *et al.* 2013, 149.

## SH-1: SHIELD BOSSES WITH AN APEX

Shield bosses with an apex are in various ways divided into typological classes by researcher from Germany, France and the United Kingdom. In the publications by Siegmund, the Franken Arbeitsgruppe and Hines there is a particular focus on different shapes of the cone and wall and the presence or absence of an overhanging carination<sup>631</sup>. LPV created a more concise typology of shield bosses, focussing on total height and to a lesser extent on shape<sup>632</sup>.

Analysis of the shield bosses from the Netherlands reveals various cone- and wall shapes which occur in different combinations and which do not seem to bear the same chronological relevance as they do in Germany or England. What is striking, however, is the variation in wall height and its apparent link to artefact chronology.

It becomes clear that shield bosses with an apex from the Netherlands can be divided into three typological groups on the basis of the height of their wall. The group with a low wall (group 1) includes few shield bosses from the sample. Their wall height lies between 1.5 and 2.0 centimetres. The group with a medium high wall (group 2) is by far the largest and the wall height for this group varies between 2.0 and 2.8 centimetres. Most specimens, however, have a wall height of between 2.3 and 2.6 centimetres. The group with a high wall (group 3) includes three specimens, with a wall height varying between 3.1 and 3.5 centimetres. Setting the exact boundaries between the three groups is difficult and can be subject to debate. Based on the current data, one could suggest that the boundary between groups 1 and 2 is 2.0 centimetres and the boundary between groups 2 and 3 is 2.9 centimetres. Said boundaries are used in this publication, but future discoveries may lead to further finetuning.

In case of the first group, the low wall coincides with a relatively low and therefore flat cone. The wall of one specimen found is sloping and two other shield bosses have a concave wall. The concave wall is a feature also presented in German and English typologies and is an indicator for an early date in these countries<sup>633</sup>. It can be suggested that also in the Netherlands the concave wall predates the straight or sloping wall. On the basis of two examples, however, it is impossible to sufficiently substantiate this suggestion.

The second group includes a variety of shapes. The walls are usually straight, and an overhanging carination is present in most cases. The cones have varying heights but are higher

and more steeply pitched than those from group 1. The cones are normally convex or slightly convex whilst straight cones are much more rare.

The third group includes specimens with straight walls and convex or slightly convex cones. Very straight cones, as included in the German typologies were not found amongst the sample from the Netherlands<sup>634</sup>.

Besides wall height, the type of rivets used to mount the shield boss onto the wooden board are indicative for the chronological positioning of the artefact. A shield boss with apex is usually mounted using five rivets with either a discoid or domed head. The rivet-heads rest on the flange of the shield boss. Unfortunately, the rivets are not always present when a shield boss is found in an archaeological context. Hines and his colleagues are familiar with this problem and established a relationship between the rivet type used and the width of the flange for shield bosses from Anglo-Saxon England<sup>635</sup>. A study of similar data from the Netherlands, however, did not reveal a significant correlation between both variables.

The shield bosses belonging in group 1 have mainly discoid rivets made of copper-alloy or made of iron and covered with copper-alloy. In one case, semi-domed rivets made of copper alloy were found. Chronologically, there does not seem to be a difference between discoid and domed rivets for shield bosses from group 1.

For Germany, the type most closely related to group 1 is Sbu 2/S-Sbu 2<sup>636</sup>. Siegmund subdivides shield bosses from Sbu 2 into subtypes on the basis of the rivets. Subtype Sbu 2a is equipped with discoid rivets made of iron which are covered with a thin layer of silver<sup>637</sup>. This subtype is dated relatively early, to the second half of the fifth century and the earliest years of the sixth century, based on findings from northern Switzerland and former Pannonia (roughly current western Hungary, eastern Austria and northern Croatia)<sup>638</sup>. The Franken AG states that this early date cannot be substantiated for the Rhineland on the basis of only two specimens found (Zülpich and Oberlörick), but that the shield boss from Oberlörick can be

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<sup>631</sup> Siegmund 1998, 108-109; Müssemeier *et al* 2003, 52; Hines *et al.* 2013, 148-62.

<sup>632</sup> Legoux *et al.* 2016, 23, 37.

<sup>633</sup> Siegmund 1998, 108 (Sbu 2); Müssemeier *et al.* 2003, 52 (S-Sbu 2); Hines *et al.* 2013, 153-54 (group SB1).

<sup>634</sup> Siegmund 1998, 108 (Sbu 4); Müssemeier *et al.* 2003, 52 (S-Sbu 4).

<sup>635</sup> Hines *et al.* 2013, 149-51.

<sup>636</sup> Siegmund 1998, 108 (Sbu 2); Müssemeier *et al.* 2003, 52 (S-Sbu 2).

<sup>637</sup> Siegmund 1998, 108.

<sup>638</sup> Werner 1966, 161-64 and Finds list 1, table 68.1; Martin 1976, 54.

placed in phase 2 (430/35 – 460/80)<sup>639</sup>. For France, LPV created a general group for rivets covered with silver, regardless of what type of shield boss they are linked to. This type 82 is dated to MA1 (470/80 – 520/30), with sporadic occurrence in PM (440/50 – 470/80)<sup>640</sup>.

Siegmund's subtype Sbu 2b has discoid iron rivets covered by a layer of copper-alloy. The date of these rivets differs from those belonging subtype Sbu 2a<sup>641</sup>. A clear date is not provided, but it is assumed that the general date for type Sbu 2 applies here. The variant with copper-alloy covered rivets is not specifically mentioned by the Franken AG, which could mean this is the default. LPV created a general group for discoid rivets covered with copper-alloy, regardless of what type of shield boss they are linked to. This type 83 is dated to MA1-MA2 (470/80 – 560/70)<sup>642</sup>.

Siegmund further mentions a unique piece from the princely grave 1782 in Krefeld-Gellep. This specimen is exceptional due to its gilded rivets which are domed. Whilst gilded rivets are very rare in Germany and not found in the Netherlands as part of the current sample, domed rivets are more common. They are usually, albeit not always, a sign of a later date<sup>643</sup>. Domed rivets made of copper-alloy are classified by LPV as group 84 and dated to MA3 (560/70 – 600/10)<sup>644</sup>.

Groups 2 and 3 both include shield bosses with discoid and domed rivets. Siegmund subdivides shield bosses from his group Sbu 3 (corresponding with Dutch group 2) in those with discoid rivets made of iron and covered with a layer of copper-alloy (Sbu 3a) and those with domed rivets made of iron and covered with a layer of copper-alloy (Sbu 3b). The former is said to be more rare and chronologically earlier than the latter<sup>645</sup>. The Franken AG makes the same distinction and states that the domed rivets continue up to and including phase 6, whilst the discoid rivets no longer occur after phase 5<sup>646</sup>.

Amongst the shield bosses from this sample in groups 2 and 3, four types of rivet were identified. The first type are discoid rivets made of iron, without a copper-alloy top layer. They occur at least once, in Rhenen grave 796 (group 2). It is unclear whether a top layer has ever been present, but no trace of it is left. The second type are discoid rivets made of iron and equipped with a copper-alloy top layer. This type occurs approximately ten times. For the two

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<sup>639</sup> Müssemeier *et al.* 2003, 52.

<sup>640</sup> Legoux *et al.* 2016, 23, 37, 60.

<sup>641</sup> Siegmund 1998, 108.

<sup>642</sup> Legoux *et al.* 2016, 23, 37, 60.

<sup>643</sup> Siegmund 1998, 108.

<sup>644</sup> Legoux *et al.* 2016, 23, 37, 60.

<sup>645</sup> Siegmund 1998, 108.

<sup>646</sup> Müssemeier *et al.* 2003, 52.

shield bosses from Elst (group 2), it is not indicated whether a copper-alloy top layer is present. There is chosen to group them with those that have a copper-alloy layer on the basis of greatest probability.

The third type are domed rivets made of iron and covered with a copper-alloy top layer. This type occurs approximately five times, of which one is covered with brass (Rhenen 476 – group 2). The fourth group consists of domed rivets made of copper-alloy. This type also occurs a total of approximately five times.

Based on the information from the sample, it can be concluded that discoid and domed rivets are about equally common in the Netherlands. A chronological difference, however, can be seen. For shield bosses from group 2 goes that discoid rivets occur in phases 3 to 5 (460/80 – 580/90) whilst domed rivets occur in phases 5 and 6 (565 – 610/20). For shield bosses from group 3, it can be seen that domed rivets occur in phases 5 and 6 (565 – 610/20) whilst discoid rivets occur in phase 5 (565 – 580/90). No shield boss from group 3 is found to date before phase 5.

As a result of combining wall height with rivet type, the shield bosses with an apex are divided into six groups. There is chosen to create only one group (SH-1a) for shield bosses with a low wall, as only a single specimen with domed rivets was found amongst the sample and no chronological difference could be established. Shield bosses of group 2 (medium high wall) are divided into groups SH-1b (discoid rivets) and SH-1c (domed rivets). Shield bosses of group 3 (high wall) are divided into groups SH-1d (discoid rivets) and SH-1e (domed rivets). In addition to the above mentioned three categories, the shield bosses in group SH-1f take in a special place as they have no clearly indicated wall. Shape wise, the type is similar to those in group SH-2c, albeit with an apex.

The shape of the apex itself is not chronologically relevant. Siegmund, the Franken AG and LPV barely mention the existence of various shapes or ignore it completely. Hines and his colleagues distinguish between six different apex-shapes for England, of which only three feature in the Netherlands<sup>647</sup>. In addition, one shield boss from the Netherlands was found to have an apex-shape not listed for England. The Dutch apexes are identified as follows: Type A > a T-shaped apex. Type B > a T-shaped apex with rounded 'armpits'. Type C > a T-shaped apex with rounded 'armpits' and a domed top which is covered in a layer of copper alloy. Type D > an I-shaped apex (*figure 17*).

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<sup>647</sup> Hines *et al.* 2013, 149.



Figure 17: Apex shapes which feature in the sample, corresponding from left to right with shapes A, B, C and D as described above.

### **SH-1a Shield boss with an apex, a low and slightly convex cone and a low wall**

Shield bosses with a wall height of 1.9 centimetres or less. In case of a wall height of 2.0 centimetres, the degree of steepness of the cone should be considered in order to place the shield boss in SH-1a or SH-1b. The wall of shield bosses in this group is sloping or slightly concave, creating an overhanging carination. The cone is low, slopes gently and is convex or slightly convex. Shield bosses of this type have an apex and usually five rivets. The total height is relatively low, in accordance with the low wall and gently sloping cone.

All specimens found have an apex of type B. The shield bosses from Rhenen graves 422 and 750 have five discoid rivets made of copper-alloy or copper-alloy coated iron. The shield boss from Rhenen grave 426 has somewhat domed rivets made of copper-alloy.

The shield bosses in this sample have a total height of between 6.2 and 8.5 centimetres and a largest diameter of between 17.0 and 17.5 centimetres. The width of the flange varies between 2.3 and 2.5 centimetres and the wall height between 1.5 and 2.0 centimetres.

#### **Occurrence in the Netherlands:**

*Rhenen: 422, 426, 750.*

#### **Identification in other typologies:**

Franken AG: **Part of S-Sbu 2** – (phase 2-3 > 430/35 – 510/25, most commonly in phase 3 > 460/80 – 510/25, sporadically in phase 4 > 510/25 - 565).

Siegmund: **Part of Sbu 2** – (phase 2b-4a > 465 - 540).

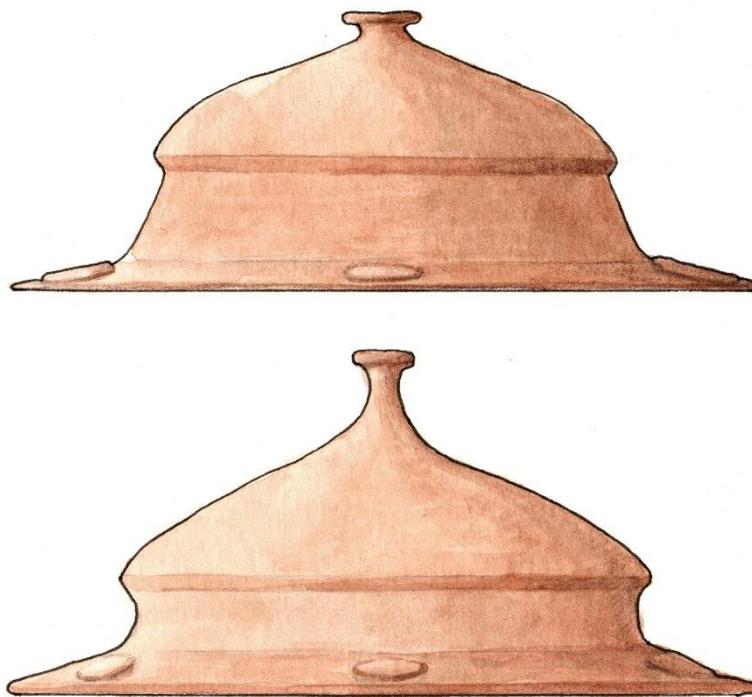
LPV: **part of 78** – (phase MA1-MA3 > 470/80 – 600/10, most frequently in MA1-MA2 > 470/80 – 560/70, sporadically in PM > 440/50 – 470/80). **83 (copper-alloy discoid rivets)** –

(phase MA1-MA2 > 470/80 – 560/70).

Hines: **part of SB1-a** – (phase AS-Mo- AS-Mp > pre 525/50 – 550/70). **part of SB3-a** – (phase AS-Mp > 525/50 – 550/70). **part of SB3-b3** – (phase AS-Mp > 525/50 – 550/70). **Part of SB4-a1** - (phase AS-Mr- AS-Mt > 565/95 – 660/80). **Part of SB4-b1** - (phase AS-Mp – AS-Mt- > 525/50 – 660/80).

#### **Dating in the Netherlands:**

Phase 3 - 4 (460/80 – 565).



*SH-1a*

#### **SH-1b** Shield boss with an apex, a medium high wall and discoid rivets

Shield bosses with a wall height of between 2.1 and 2.9 centimetres. In case of a wall height of 2.0 centimetres, the degree of steepness of the cone should be considered in order to place the shield boss in SH-1a or SH-1b. The shield bosses have an apex and usually five discoid rivets (for domed rivets, see SH-1c). The rivets are made of iron and usually covered with a

layer of copper-alloy. In some cases, however, the rivets are not covered or made of solid copper-alloy.

The wall is usually somewhat sloping, creating a slightly overhanging carination. The cone is medium high and usually convex or slightly convex. Straight cones, however, do occur occasionally.

The shield bosses in this sample have a total height of between 7.5 and 9.0 centimetres and a largest diameter of between 16.5 and 19.4 centimetres. The width of the flange varies between 2.1 and 2.8 centimetres. Within this group, apex types A, B and C are represented. Type SH-1b distinguishes itself most clearly from type SH-1a through its higher wall and higher, more steeply sloping cone.

#### **Occurrence in the Netherlands:**

*Elst: 174, 178.*

*Rhenen: 97a, 130, 445, 520, 678, 758, 775, 796.*

#### **Identification in other typologies:**

Franken AG: **part of S-Sbu 3** – (phase 4-6 > 510/25 – 610/20, sporadically in phase 3 > 460/80 – 510/25), **Discoïd rivets** no later than phase 5 > up to 580/90).

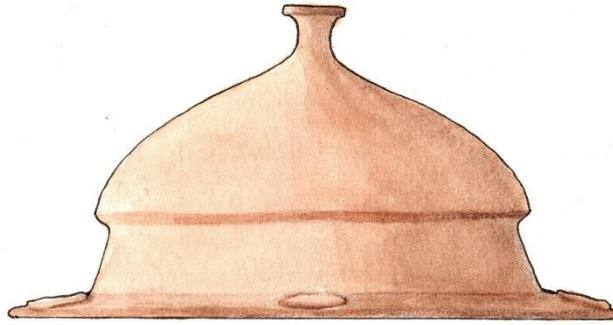
Siegmund: **part of Sbu 3** – (phase 4-7 > 530 - 610), **Sbu 3a (discoïd rivets)** – (early form, no specific date provided).

LPV: **79** – (phase MA1-MA3 > 470/80 – 600/10, most frequently in MA1-MA2 > 470/80 – 560/70, sporadically in PM > 440/50 – 470/80). **part of 78** – (phase MA1-MA3 > 470/80 – 600/10, most frequently in MA1-MA2 > 470/80 – 560/70, sporadically in PM > 440/50 – 470/80). **83 (copper-alloy discoïd rivets)** – (phase MA1-MA2 > 470/80 – 560/70).

Hines: **part of SB3-a** – (phase AS-Mp > 525/50 – 550/70). **part of SB3-b2** - (phase AS-Mp > 525/50 – 550/70). **part of SB3-b3** - (phase AS-Mp > 525/50 – 550/70). **SB3-b4** - (phase AS-Mp > 525/50 – 550/70). **SB3-c** - (phase AS-Mp - AS-Mq > 525/50 – 565/95). **Part of SB4-a1** - (phase AS-Mr- AS-Mt > 565/95 – 660/80). **Part of SB4-a2** - (phase AS-Mr- AS-Mt > 565/95 – 660/80) **Part of SB4-b1** - (phase AS-Mp – AS-Mt- > 525/50 – 660/80).

#### **Dating in the Netherlands:**

Phase 3 - 5 (460/80 – 580/90).



SH-1b

### **SH-1c Shield boss with an apex, a medium high wall and domed rivets**

Shield bosses with a wall height of between 2.1 and 2.9 centimetres. In case of a wall height of 2.0 centimetres, the degree of steepness of the cone should be considered in order to place the shield boss in SH-1a or SH-1c. The shield bosses have an apex and usually five domed rivets (for discoid rivets, see SH-1b). The rivets are made of iron, covered with a layer of copper-alloy or brass, or of solid copper-alloy.

The wall is usually somewhat sloping, creating a slightly overhanging carination. The cone is medium high and usually convex or slightly convex. Straight cones, however, do occur occasionally.

The shield bosses in this sample have a total height of between 7.4 and 9.0 centimetres and a largest diameter of between 16.6 and 17.5 centimetres. The width of the flange varies between 2.1 and 2.8 centimetres.

Type SH-1c distinguishes itself most clearly from type SH-1a through its higher wall and higher, more steeply sloping cone.

Within this sample, apex types A and B both occur on two occasions. In five cases, the shape of the apex can no longer be determined.

#### **Occurrence in the Netherlands:**

*Den Haag: 483.*

*Obbicht: 29, 30.*

*Rhenen: 89, 329, 476, 714, 724, 763.*

### Identification in other typologies:

Franken AG: **S-Sbu 3** – (phase 4-6 > 510/25 – 610/20, sporadically in phase 3 > 460/80 – 510/25).

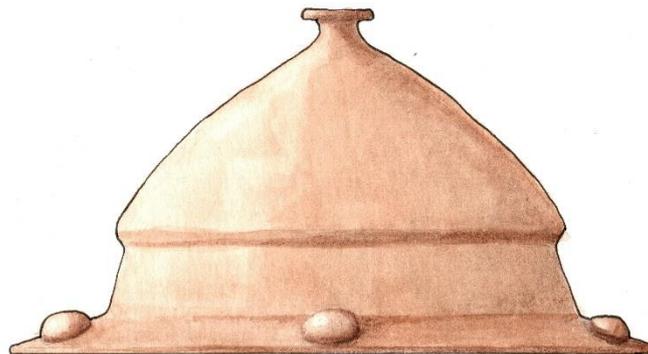
Siegmund: **Sbu 3** – (phase 4-7 > 530 - 610).

LPV: **79** – (phase MA1-MA3 > 470/80 – 600/10, most frequently in MA1-MA2 > 470/80 – 560/70, sporadically in PM > 440/50 – 470/80). **part of 78** – (phase MA1-MA3 > 470/80 – 600/10, most frequently in MA1-MA2 > 470/80 – 560/70, sporadically in PM > 440/50 – 470/80). **84 (copper-alloy domed rivets)** – (phase MA3 > 560/70 – 600/10).

Hines: **related to part of SB3-a** – (phase AS-Mp > 525/50 – 550/70). **Related to part of SB3-b2** – (phase AS-Mp > 525/50 – 550/70). **Related to part of SB3-b3** – (phase AS-Mp > 525/50 – 550/70). **Related to SB3-b4** – (phase AS-Mp > 525/50 – 550/70). **Related to SB3-c** – (phase AS-Mp - AS-Mq > 525/50 – 565/95). **Part of SB4-a1** – (phase AS-Mr- AS-Mt > 565/95 – 660/80). **Related to SB4-a2** – (phase AS-Mr- AS-Mt > 565/95 – 660/80), **Related to part of SB4-b1** – (phase AS-Mp – AS-Mt- > 525/50 – 660/80).

### Dating in the Netherlands:

Phase 5-6 (565 – 610/20).



SH-1c

### **SH-1d** Shield boss with an apex, a high wall and discoid rivets

Shield bosses with a wall height of 3.0 centimetres or more. The shield bosses have an apex and usually five discoid rivets (for domed rivets, see SH-1e). The rivets are made of iron and

usually covered with a layer of copper-alloy. In some cases, however, the rivets are not covered or made of solid copper-alloy.

The wall can be sloping, somewhat sloping or straight and the shield boss usually has an overhanging carination. The cone is medium high and convex, slightly convex or straight. Especially the shield bosses with a straight or somewhat sloping wall and a straight or slightly convex cone give a very angular impression.

The shield boss in this sample has a total height of between 8.5 centimetres and a largest diameter of 16.9 centimetres. The width of the flange is 2.4 centimetres. The specimen is equipped with an apex of type B

#### **Occurrence in the Netherlands:**

*Rhenen: 324.*

#### **Identification in other typologies:**

Franken AG: **related to S-Sbu 4** – (phase 5-6 > 565 – 610/20).

Siegmund: **related to Sbu 4** – (phase 6-7 > 570 – 610).

LPV: **Part of 79** – (phase MA1-MA3 > 470/80 – 600/10, most frequently in MA1-MA2 > 470/80 – 560/70, sporadically in PM > 440/50 – 470/80). **83 (copper-alloy discoid rivets)** – (phase MA1-MA2 > 470/80 – 560/70).

Hines: **Part of SB3-a** – (phase AS-Mp > 525/50 – 550/70). **Part of SB3-b2** - (phase AS-Mp > 525/50 – 550/70). **Related to SB2-b** – (phase AS-Mp > 525/50 – 550/70).

#### **Dating in the Netherlands:**

Phase 5 (565 – 580/90).



*SH-1d*

### **SH-1e Shield boss with an apex, a high wall and domed rivets**

Shield bosses with a wall height of 3.0 centimetres or more. The shield bosses have an apex and usually five domed rivets (for discoid rivets, see SH-1d). The rivets are made of iron, covered with a layer of copper-alloy or brass, or of solid copper-alloy.

The wall can be sloping, somewhat sloping or straight and the shield boss usually has an overhanging carination. The cone is medium high and convex, slightly convex or straight. Especially the shield bosses with a straight or somewhat sloping wall and a straight or slightly convex cone give a very angular impression.

The shield bosses in this sample have a total height of between 8.6 and 10.0 centimetres and a largest diameter of between 18.1 and 18.7 centimetres. The width of the flange varies between 2.5 and 3.2 centimetres. One specimen is equipped with an apex of type B and in the case of another shield boss, the shape of the apex can no longer be determined.

#### **Occurrence in the Netherlands:**

*Rhenen: 221, 697.*

#### **Identification in other typologies:**

Franken AG: **related to S-Sbu 4** – (phase 5-6 > 565 – 610/20).

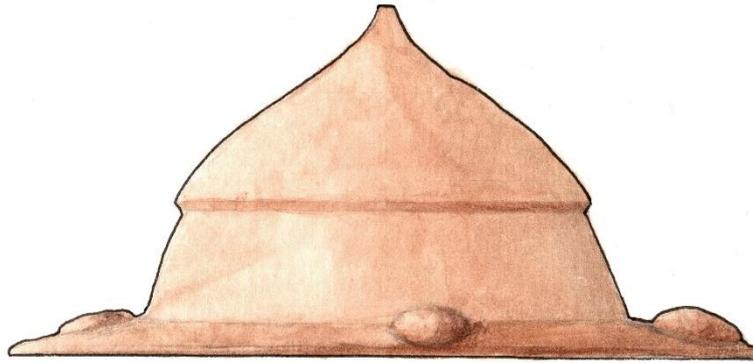
Siegmund: **related to Sbu 4** – (phase 6-7 > 570 – 610).

LPV: **Part of 79** – (phase MA1-MA3 > 470/80 – 600/10, most frequently in MA1-MA2 > 470/80 – 560/70, sporadically in PM > 440/50 – 470/80). **84 (copper-alloy domed rivets)** – (phase MA3 > 560/70 – 600/10).

Hines: **Related to part of SB3-a** – (phase AS-Mp > 525/50 – 550/70). **Related to part of SB3-b2** - (phase AS-Mp > 525/50 – 550/70). **Related to SB2-b** – (phase AS-Mp > 525/50 – 550/70).

#### **Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



SH-1e

### **SH-1f Shield boss with an apex, no wall and a high cone**

Shield bosses with a narrow flange which is usually equipped with a large number of rivets. The shield bosses do not have a clear wall and carination but instead show a high and convex cone which terminates in an apex. Shape wise, shield bosses of this type are very similar to those from type SH-2c, albeit with an apex.

The specimen from Zweeloo was found in a horse grave and is decorated with a copper-alloy band around the flange and the base of the cone. The shape and material of the rivets could not be identified. The apex is just a vertical pin (type D), however, it is not clear whether this was its original shape.

No parallels of this shield boss type are recorded by either Siegmund, the Franken AG, LPV or Hines and Bayliss. Stein identified the type as 'typ Galgenberg', which is typical for the northern Netherlands and northern Germany. She dates the type to the whole of the eighth century<sup>648</sup>. Some twenty-five years later, Kleemann dates the type more precisely to his phases 2 and 3 (730/40 – 760/70)<sup>649</sup>.

The Zweeloo specimen was found unaccompanied by other artefacts which makes it impossible at this instance to provide a date.

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<sup>648</sup> Stein 1967, 92, 110, table 100.

<sup>649</sup> Kleemann 1991, 76–77, 242–243.

**Occurrence in the Netherlands:**

*Zweeloo: P7.*

**Identification in other typologies:**

Franken AG: -

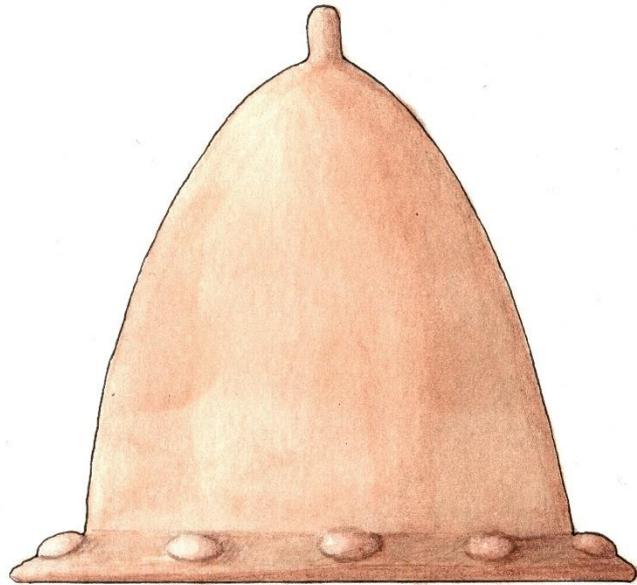
Siegmund: -

LPV: -

Hines: **SB7** – (no date provided).

**Dating in the Netherlands:**

Unknown.



*SH-1f*

## SH-2: SHIELD BOSSES WITHOUT AN APEX

Shield bosses without an apex are less common in the Netherlands during the early medieval period than those with an apex. The shield bosses without an apex can be divided into four main types on the basis of the shape of the cone. Across groups SH-2b and SH-2c a development can be seen of an increasingly higher and more convex cone. Group SH-2c is

quite different from any other shield boss from the period in the Netherlands and is often richly decorated. This type also has many more rivets than the other two types. Type Sh-2a has a very pointy cone and has a late antique date.

### **SH-2a Late antique shield boss with a pointy cone, a very low wall and no apex**

Shield bosses of this type have a very pointy cone with somewhat concave sides and a blunt top. The wall is very low, giving the impression of a very tall cone in comparison. The flange is narrow and slightly sloping.

The specimen from Rhenen grave 833 was attached to the board with six discoid rivets made of iron. Its total height is 11.4 centimetres. The wall has a height of 1.0 centimetres and the maximum diameter is 16.8 centimetres.

#### **Occurrence in the Netherlands:**

*Rhenen: 833.*

#### **Identification in other typologies:**

Franken AG: -

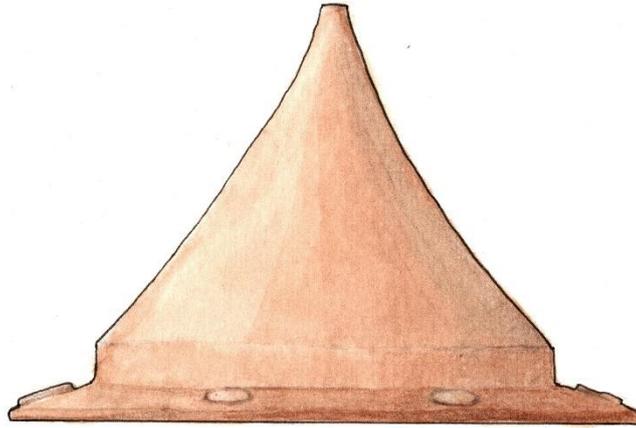
Siegmund: -

LPV: -

Hines: **Related to part of SB1-c** – (phase AS-Mp > 525/50 – 550/70). **Related to part of SB2-a** – (phase AS-Mp > 525/50 – 550/70). **Related to part of SB2-b** – (phase AS-Mp > 525/50 – 550/70).

#### **Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).



SH-2a

### **SH-2b Shield boss with no apex and a plateaued, slightly convex or convex cone**

This is a non-homogenous group of shield bosses consisting of generally low specimens without an apex and with a relatively high wall.

The cone can be convex or slightly convex, whilst in some cases it has a fully flat top (e.g. Meerveldhoven grave 14). Due to the generally low overall height and the often relatively high wall, the cone slopes gently.

The wall is usually sloping or slightly sloping, creating an overhanging carination. In some cases, however, the overhang of the carination is minimal and badly visible due to corrosion.

This group contains specimens with a wall height equal to or greater than the height of the cone (e.g. Elst grave 215 (equal) and Meerveldhoven grave 15 (greater)). Also included are examples with a cone height which is greater than the height of the wall (e.g. Bergeijk grave 64). The flange of shield bosses in this group is usually slightly sloping or straight.

In contrast to shield bosses with an apex, the specimens in this group usually only have four rivets. In seven cases, the rivets are discoid and made of iron, without a copper-alloy covering. In one case, the rivets are domed, made of iron and covered with copper-alloy. In another single case, the domed rivets are made of copper-alloy. In five cases, the type of rivet is unknown. Unlike for the shield bosses with an apex, a chronological distinction cannot be made on the basis of the rivet type.

The shield bosses in this sample have a total height of between 4.6 and 7.6 centimetres and a largest diameter of between 12.4 and 17.8 centimetres. The width of the flange varies

between 1.6 and 3.2 centimetres, the height of the wall varies between 2.0 and 3.2 centimetres and the height of the cone varies between 1.2 and 4.4 centimetres.

For the German Rhineland, The Franken Arbeitsgruppe distinguishes chronologically between specimens with a higher and steeply sloping cone (Sbu5B – phase 5) and those with a low and relatively flat cone (Sbu5A – phase 6-9)<sup>650</sup>. Unfortunately, no definition of high and low is provided. Siegmund does not make this distinction and presents a single group Sbu 5<sup>651</sup>. As part of this sample, three shield bosses were found with a potential date in phase 5, although a placement in phase 6 is equally possible (Bergeijk graves 64, 79 and Rhenen grave 774). These three specimens all have a cone height of 3.4 centimetres or more. Other shield bosses with a similarly high cone (e.g. Meerveldhoven graves 12, 16 and 49), however, date with certainty to phase 6 or 7. On the basis of this information, it can be suggested that specimens dating to phase 5 tend to have a higher cone, but that cone height is not necessarily indicative of a phase 5 date. Although a typological progression can be expected from a higher to a lower cone, phase 6 includes shield bosses with cone heights ranging between 2.0 and 4.4 centimetres. A clear chronological distinction as postulated by the Franken AG is thus impossible to make on the basis of the current sample from the Netherlands.

#### **Occurrence in the Netherlands:**

*Bergeijk: 42, 64, 79.*

*Elst: 215.*

*Lent: stray find.*

*Meerveldhoven: 12, 14, 15, 16, 36, 37, 49.*

*Obbicht: 53.*

*Rhenen: 261, 487a, 527, 529, 774, 777.*

*Sittard: 49, stray find.*

*Stein: 8.*

#### **Identification in other typologies:**

Franken AG: **Sbu 5a** – (phase 6-9 > 580/90 – 710), **Sbu 5b** – (phase 5 > 565 – 580/90).

Siegmund: **Sbu 5** – (phase 8 > 610 – 640).

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<sup>650</sup> Müssemeier *et al.* 2003, 52-53.

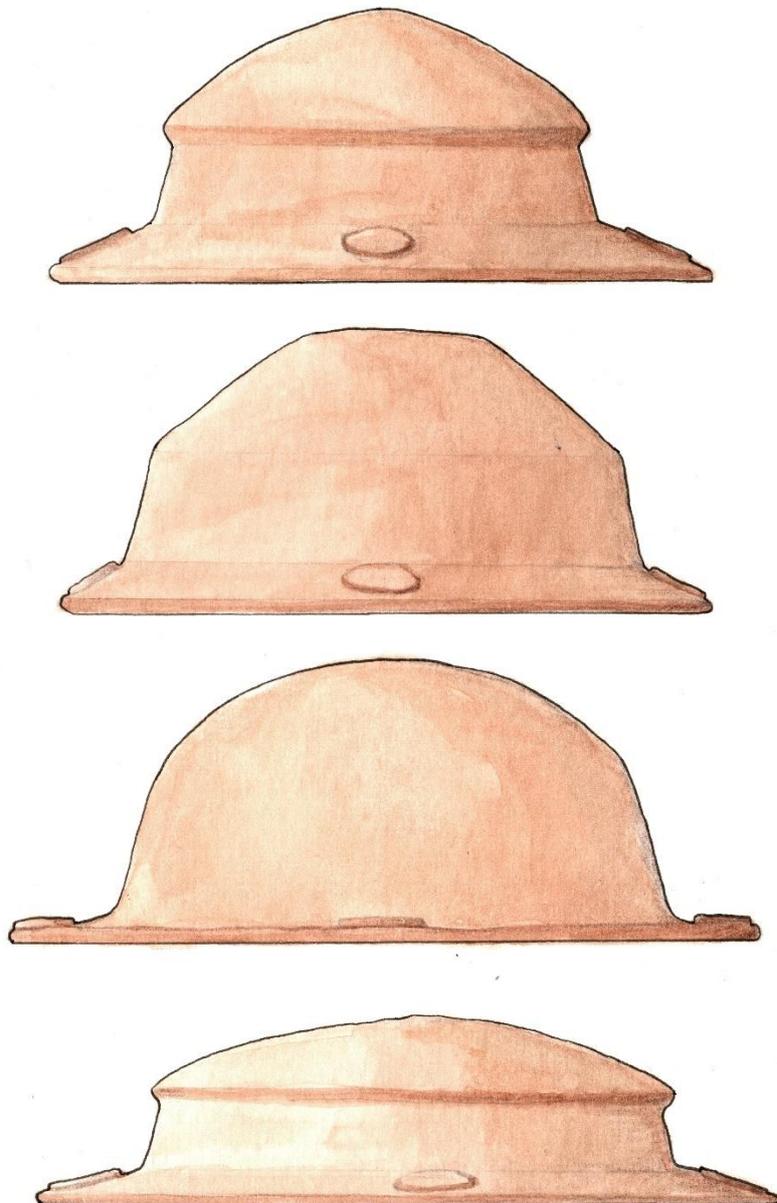
<sup>651</sup> Siegmund 1998, 109.

LPV: **related to 80** – (phase MR1-MR2 > 600/10 – 660/70). **84 (copper-alloy domed rivets)** – (phase MA3 > 560/70 – 600/10).

Hines: **SB7** – (no date provided).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50). Most commonly in phases 6-7 (580/90 – 640/50).



SH-2b

### **SH-2c Shield boss with no apex and a very convex cone**

Shield bosses with a very rounded cone and a flat or slightly sloping flange. The walls are minimally sloping, creating a very slightly overhanging carination. Due to corrosion, this overhang is in some cases easily missed. The shield bosses are generally higher than those from group SH-2a and have a more rounded cone.

One shield boss was found with four flat iron rivets. For another, six rivets are mentioned but without further specification. In case of one shield boss, no mention regarding rivets is made at all.

The shield bosses in this sample have a total height of between 5.6 and 8.2 centimetres and a largest diameter of between 15.0 and 19.2 centimetres. The width of the flange varies between 3.2 and 3.6 centimetres, the height of the wall varies between 2.6 and 3.0 centimetres and the height of the cone varies between 3.0 and 5.2 centimetres.

#### **Occurrence in the Netherlands:**

*Maastricht: 125.*

*Obbicht: 20.*

*Wageningen: 76.*

#### **Identification in other typologies:**

Franken AG: **S-Sbu6** – (phase 7-9 > 610/20 - 710).

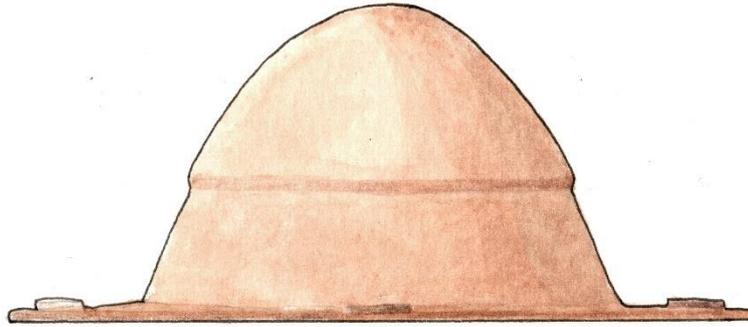
Siegmund: **Sbu 5** – (phase 9-10 > 640 – 705).

LPV: **80** – (phase MR1-MR2 > 600/10 – 660/70).

Hines: **SB7** – (no date provided).

#### **Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50). Occasionally in phase 5 and 8 (565 – 580/90 and 640/50 – 670/80).



SH-2c

### **SH-2d Shield boss with no apex, a narrow flange and no wall**

Shield bosses which are characterised by a very narrow flange which holds many flat rivets. The cone shape usually starts straight from the flange, with no defined wall present. In some cases, a decorative metal band, often made of (plated) silver, is placed around the shield boss just above the flange.

The total height varies greatly and therefore also the shape of the cone. Cones of high specimens are steep and almost pointed whilst the cones of the lower shield bosses are steep, but with a more rounded top. Shape wise, shield bosses of this type are very similar to those from type SH-1f, albeit without an apex.

Shield bosses of this type are often richly decorated. The flange of the specimen from Elst is trimmed with silver bands and is equipped with sixteen flat silver rivets. The shield boss from Katwijk is decorated with a silver-plated band just above the flange. For the Valkenburg specimen, it is unclear whether the shield boss was decorated and of what metal the rivets were made.

Siegmund and the Franken Arbeitsgruppe recognise similar types of shield bosses in the German Rhineland and list them as two separate groups on the basis of total height. Type Sbu7 (FAG phase 9) includes specimens with a total height of less than 10.5 centimetres and type Sbu8 (FAG phase 10) includes shield bosses with a total height of 10.5 centimetres or more<sup>652</sup>. Within the sample from the Netherlands, this type is rare and only three specimens were included. The first (Valkenburg) has a total height of approximately 5 centimetres, the

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<sup>652</sup> Siegmund 1998, 110; Müssemeier *et al.* 2003, 53.

second (Katwijk) has a height of 12.4 centimetres and the third (Elst) is the highest with 15.8 centimetres.

On the basis of the three specimens, it is not possible to distinguish chronologically between a smaller and a greater height. For both high shield bosses a date in phase 9 is most likely while for one of them a date in phase 8 is also possible. The lower shield boss was found in combination with a seax of type SE-1d (Phase 7-10 > 610/20 – 750) and a sword of type SW-1d. A phase 9 date for the lower specimen is thus a possibility, although an earlier date, in phase 7 or 8, cannot be ruled out. On this basis, there is chosen to group specimens of different heights together in one group. Future discoveries, however, may call for a separation.

#### **Occurrence in the Netherlands:**

*Elst: 248.*

*Katwijk: 32.*

*Valkenburg: 1.*

#### **Identification in other typologies:**

Franken AG: **S-Sbu7 (low)** – (phase 9 > 670/80 – 710). **S-Sbu8 (high)** – (phase 10 > 710 – 750).

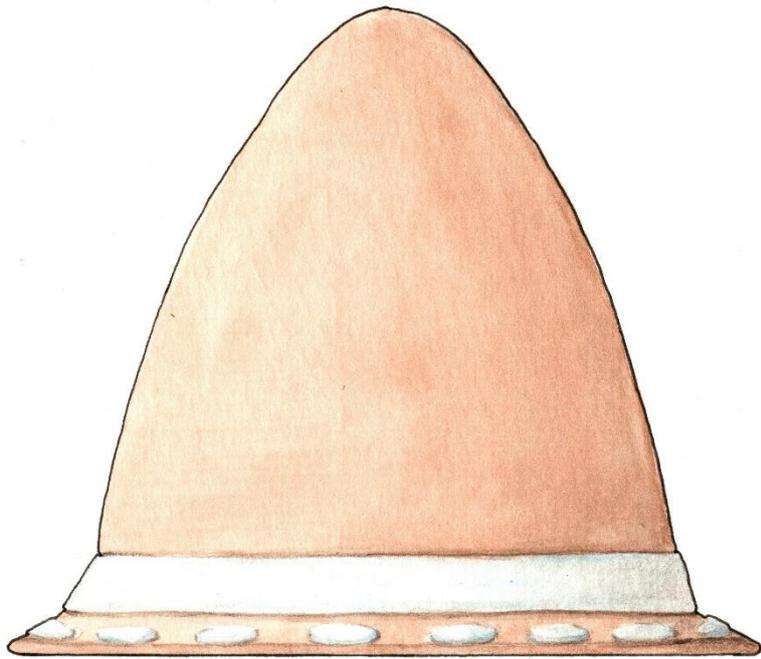
Siegmund: **Sbu 7 (low)** – (phase 10 > 670 – 705). **Sbu 8 (high)** – (phase 11 > 705 – 740).

LPV: -

Hines: **SB7** – (no date provided).

#### **Dating in the Netherlands:**

Phase 8-10 (640/50 – 750).



*SH-2d*

# AXES

Axes are part of the early medieval weaponry of the fifth and sixth centuries in the Netherlands. After approximately AD 610/20, the axe disappears from the arsenal of weapons as it is reflected in male-gender inhumations.

The axes found in the early medieval Netherlands can be divided into four main types, of which the first are the late antique axes. These axes appear in the oldest graves and date to the fifth- or first quarter of the sixth century. The late antique axes are typologically followed by the Frankish axes, which in northwestern Europe are better known as Franciscas. Franciscas can be recognised by their smoothly curved s-shaped- or straight backs. At the same time as the Franciscas, axes with a symmetrical blade and the so-called bearded axes with a characteristic L-shape are also in circulation.

An axe traditionally consists of a handle and a blade. The blade is normally preserved, sometimes showing remains of the usually wooden handle. The hole that holds the handle is called 'the eye'. The cutting edge of the blade is named 'the bit' whilst the opposite site of the blade is called 'the butt'. The top edge of the blade is usually indicated as 'the back'.

## AX-1: LATE ANTIQUE AXES

Within the sample from the Netherlands, three late antique axe types could be identified based on their different shape. The oldest types have a straight or a curved back (AX-1a and 1b respectively) which is followed typologically by a slight s-shaped back (AX-1c). In this transitional form between the late antique axe and the Francisca, the axe's back is kinked rather than smoothly curved, and the s-shape is minimal.

Late antique axes often occur in combination with artefacts such as buckles of types BU-1a, b and c and bowls of type PO-6a and date to the fifth or very early sixth century.

### **AX-1a Late antique axe with a straight back**

Axes with a straight or nearly straight back and usually a relatively short bit.

The axes from this sample have a total length of up to 17 centimetres and a bit length of between 8.1 and 9.5 centimetres. The total length is measured perpendicular to the eye of the axe.

Axes of this type are not listed by Siegmund or the Franken AG. LPV list axe type 4 which contains specimens with a similar shape to the axes from AX-1a. The date given LPV group 4, however, is not in accordance with the late antique nature of the grave contents from Rhenen graves 818 and 829.

#### **Occurrence in the Netherlands:**

*Rhenen: 818, 829.*

#### **Identification in other typologies:**

Franken AG: -

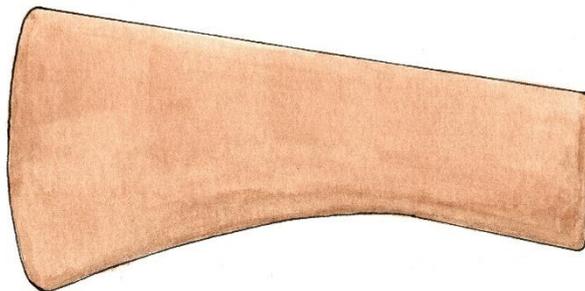
Siegmund: -

LPV: **related to 4** – (phase MA2-MA3 > 520/30 – 600/10).

Hines: -

#### **Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).



*AX-1a*

### **AX-1b Late antique axe with a curved back**

Axes with a curved back and a relatively short bit. The curve in the back is smooth and the bit is not drawn out.

The axe from this sample has a total length of approximately 15 centimetres and a bit length of around 7.5 centimetres. The total length is measured perpendicular to the eye of the axe.

Siegmund and the Franken AG list axes with a similar shape and early date but note the presence of a triangular recess cut out of the metal below the eye. A similar feature is not mentioned for early axes from northern France, and neither was it discovered in any of the early axes in this sample.

#### **Occurrence in the Netherlands:**

*Rhemen: 846.*

#### **Identification in other typologies:**

Franken AG: **related to S-FBA 2.3** – (phase 2 > 430/35 – 460/80).

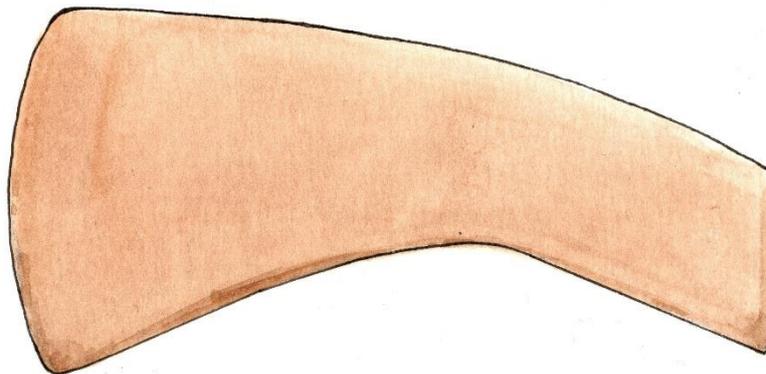
Siegmund: **related to FBA 2.3** – (phase 1 > 400 – 440).

LPV: **part of 1** (phase PM > 440/50 – 470/80).

Hines: -

#### **Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).



*AX-1b*

### **AX-1c Late antique axe with a curved or minimally s-shaped back and a strongly curved underside**

Axes with a curved or slightly s-shaped back. In most cases the kink in the back is quite sharp. The bit is not or only slightly drawn out, creating a curve or minimal s-shape respectively. The butt, however, is clearly drawn downwards, creating a strongly curved underside. The shape of the underside marks the clearest difference with axes from group AX-1b.

The axes from this sample have a total length of between 11.0 and 18.0 centimetres and a bit length between 6.4 and 9.2 centimetres. The total length is measured perpendicular to the eye of the axe.

The slightly s-shaped back makes that axes of this type look somewhat similar to those from group AX-2b. The shape of the curved back, however, can be helpful in distinguishing between the two types. Axes of type AX-1c often have a back which is more kinked rather than curved whilst in case of an axe from group AX-2b the curve is usually smooth. The difference in dating is so great that the context is often also a means of distinction.

#### **Occurrence in the Netherlands:**

*Maastricht: 305.*

*Rhenen: 102, 807, 819, 833.*

*Wijster: 116.*

#### **Identification in other typologies:**

Franken AG: **S-FBA 1.1** – (phase 2 > 430/35 – 460/80).

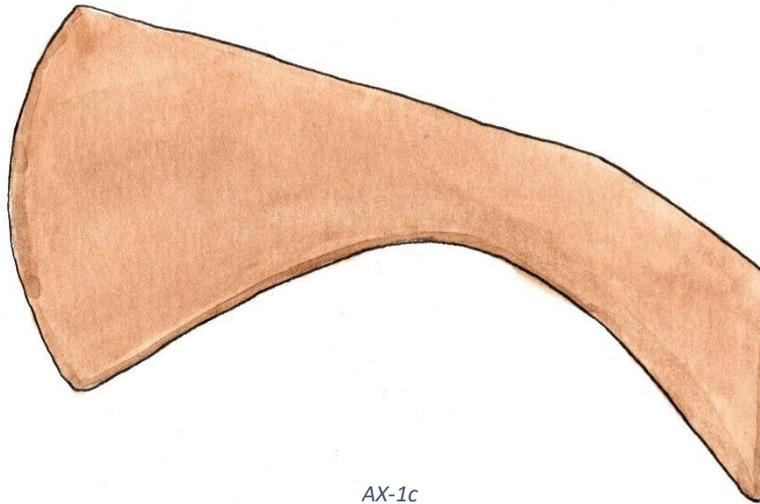
Siegmund: **FBA 1.1** – (phase 2 > 440 – 485).

LPV: **part of 1** (phase PM > 440/50 – 470/80).

Hines: -

#### **Dating in the Netherlands:**

Phase 2-3 (430/35 – 510/25).



AX-1c

## AX-2: FRANCISCAS

Frankish axes or Franciscas have an asymmetrical blade and a straight or s-shaped back. The degree in which the back is curved decreases as time progresses. The axes are divided into three groups on the basis of the degree of curve.

The typologies by the Franken Arbeitsgruppe and Siegmund postulate a similar classification but do not provide a clear dividing line between the groups<sup>653</sup>. LPV divides the sample from northern France again similar but provide mathematical perimeters for the groups<sup>654</sup>. The suggested division is based on the calculation of the angle formed by the imaginary longitudinal axis of the blade and the line that passes through the top of the bit from the same starting point.

For the Dutch Franciscas, a calculation of the blade angle was made after French example, resulting in a clear typological and chronological division into two groups. The divide between groups AX-2a and AX-2b lies at 20°. LPV also recognise 20° as the dividing line between their first and second group, but further divide the latter into a group between 10° and 20° with a double curve (s-shape) and a group of less than 15° with a single curve. For axes from the Netherlands, there can be distinguished between the double curve (AX-2b) and the single curve or straight back (AX-2c), but the latter group cannot be placed in a significantly different

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<sup>653</sup> Siegmund 1998, 106-7. Müssemeier *et al.* 2003, 50-1.

<sup>654</sup> Legoux *et al.* 2016, 22, 31, 60.

chronological bracket. It was decided to create a separate typological group for the Franciscas with a single curve or straight back, but there is no fixed number of degrees associated with it, as no clear dividing line emerged from the calculations.

The blade angle is the angle formed by:

- 1) The line which runs from the top of the butt longitudinally through the blade towards the bit, perpendicular to the eye.

And:

- 2) The line which runs from the top of the butt to the top of the bit.

### **AX-2a Francisca with a strongly s-shaped back**

Axes with a moderate to strongly drawn-out bit and a smoothly curved back. Together, these features create a strongly s-shaped profile of the back. Axes in this group have a blade angle of 20° or more.

The axes from this sample have a total length of between 13 and 18.4 centimetres and a bit length of between 6.8 and 10.0 centimetres. The total length is measured perpendicular to the eye of the axe.

The axe from Maastricht grave 310 has a blade angle of 21° but can be dated to phase 5 at the earliest, on the basis of other artefacts in the grave (e.g. spearhead type SP-2e and buckle type BU-4a). A date for this grave in phase 6 or 7, however, is most likely. As the blade angle is close to 20°, it can be assumed that the axe is a relatively late example within this group. The general typological development of early medieval axes shows a decreasing angle over time. The axe is possibly made in late phase 4 or early phase 5 and should be regarded an heirloom piece in this context. Spearhead SP-2e is most commonly found in graves dating to phases 7 and 8. The example from Maastricht grave 310 would be the only specimen with a phase 6 date if the dating of buckle type BU-4a is followed. It is more likely, however, that both the buckle and the axe are heirlooms in a phase 7 grave.

#### **Occurrence in the Netherlands:**

*Elst: 178.*

*Maastricht: 305, 310.*

Rhenen: 30, 76, 80, 97a, 162, 302, 376, 410, 418, 443, 475, 593, 606, 809.

Wageningen: 156.

**Identification in other typologies:**

Franken AG: **S-FBA 1.2** – (phase 2-4 > 430/35 – 565).

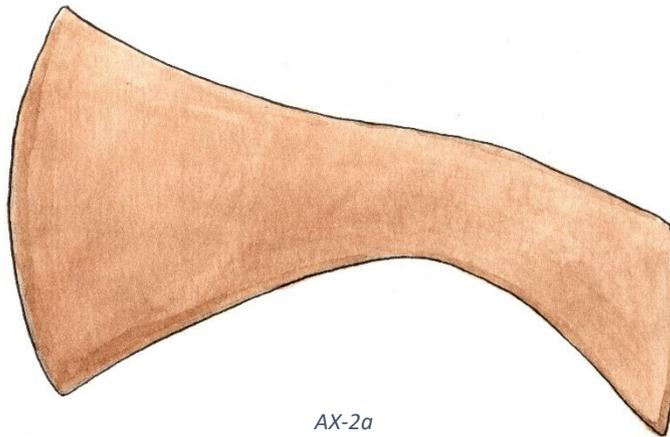
Siegmund: **FBA 1.2** – (phase 3-4a > 485 - 545).

LPV: **2** (phase PM-MA2 > 440/50 – 560/70, most commonly in MA1 > 470/80 – 520/30).

Hines: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).



**AX-2b Francisca with a moderately s-shaped back**

Axes with a moderate to lightly drawn-out bit and a smoothly curved back. The butt is sometimes only slightly bent downwards (e.g. Rhenen graves 592 and 596) Together, these features create a slightly s-shaped profile of the back. Axes in this group have a blade angle of less than 20°.

The axes from this sample have a total length of between 18.8 and 20.2 centimetres and a bit length of between 8.0 and 9.5 centimetres. The total length is measured perpendicular to the eye of the axe.

Considering the potential pitfalls of a relatively small number of axes of this type in the sample, it can be suggested that the total length of axes in this group is generally longer than seen for late antique axes and those from group AX-2a. The slightly s-shaped back makes that axes of this type look somewhat similar to those from group AX-1c. The shape of the curved back, however, can be helpful in distinguishing between the two types. Axes of type AX-1c often have a back which is more kinked rather than curved whilst in case of an axe from group AX-2b the curve is usually smooth. The difference in dating is so great that the context is often also a means of distinction.

#### **Occurrence in the Netherlands:**

*Maastricht: 288.*

*Obbicht: 20.*

*Rhenen: 592, 596.*

*Wageningen: 131.*

#### **Identification in other typologies:**

Franken AG: **S-FBA 1.3** – (phase 3-5 > 460/80 – 580/90, most commonly in phase 4 > 510/25 - 565).

Siegmund: **FBA 1.3** – (phase 4-5 > 530 – 570).

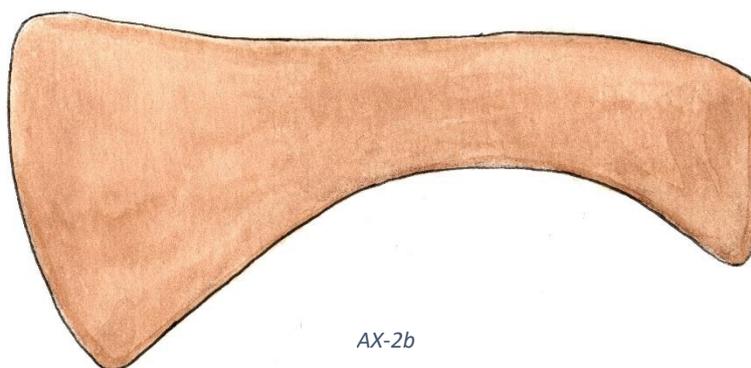
LPV: **3** (phase MA1-MA3 > 470/80 – 600/10, most commonly in MA2 > 520/30 – 560/70).

**Part of 4** (phase MA2-MA3 > 520/30 – 600/10).

Hines: -

#### **Dating in the Netherlands:**

Phase 5 - 6 (565 – 610/20).



### **AX-2c Francisca with a straight or slightly curved back.**

Axes with a more or less straight back. In some cases, a single curve is present as the back bends very slightly downwards towards the bit (e.g. Obbicht graves 30 and 31). The butt is straight or very slightly bended downwards. In case of the latter, an overall arch shape is formed.

In most cases, the shape of axe heads in this group is elongated and slim with a relatively short bit. The total length of the axes in this sample varies between 17.3 and 23.6 centimetres and the bit length lies between 6.4 and 9.4 centimetres. The total length is measured perpendicular to the eye of the axe.

While the axes from Obbicht, Sittard and Stein can all be dated in phase 5 and/or 6, the specimen from Maastricht seems to date to phase 7. This date is supported by the discovery of seax sheath fitting of type SE-3a and a buckle of type BU-5f. The length of this axe head is with 23.6 centimetres also the longest in the group (all others are 20.7 centimetres or shorter). It may be that the axe from Maastricht genuinely is a late example of type AX-2c whilst it is also possible that the axe should be regarded an heirloom. For the German Rhineland, The Franken AG also notes one example which dates to phase 7<sup>655</sup>.

#### **Occurrence in the Netherlands:**

*Elst: 173*

*Maastricht: 15*

*Obbicht: 30, 31*

*Sittard: 5, 20, 37*

*Stein: 60*

#### **Identification in other typologies:**

Franken AG: **S-FBA 2.1** – (phase 5-6 > 565 – 610/20, sporadically in phase 7 > 610/20 – 640/50).

Siegmund: **FBA 2.1** – (phase 6-7 > 570 – 610).

LPV: **4** (phase MA2-MA3 > 520/30 – 600/10).

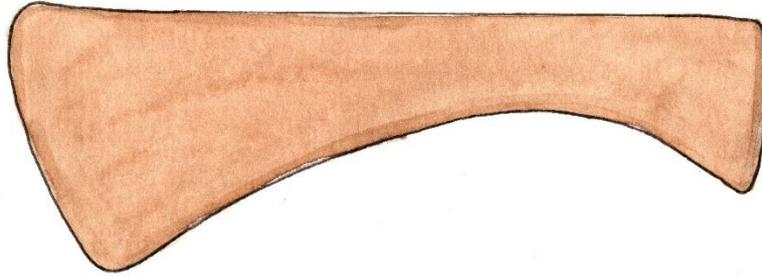
Hines: -

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<sup>655</sup> Müssemeier *et al.* 2003, 51.

### Dating in the Netherlands:

Phase 5 - 6 (565 – 610/20). Occasionally in phase 7 (610/20 – 640/50).



AX-2c

### AX-3: SYMMETRIC AXES

Axes with a symmetric blade are in circulation at the same time as Francisca's but are fewer in number in the Netherlands. The symmetric axe with a gradually widening blade is most closely related to the Francisca and is followed typologically by specimens with a blade that widens under a much sharper angle. The division into groups is based on observation. The shapes are so different and recognisable that a division on an arithmetic basis is not necessary.

#### **AX-3a Symmetrical axe with a gradually widening blade and a short bit**

Axes of which the blade widens evenly and thus symmetrically in the direction of the bit. The narrowest point of the blade is situated just besides the butt, which itself is also symmetrical in shape. The widening blade can have a shape which approaches elongated triangular (e.g. Elst grave 163) or somewhat elongated rectangular. In all cases the widening of the blade is gradual rather than sharp, resulting in a relatively short bit. The bit of the axe from Elst grave 163 is approximately 7.6 centimetres.

This type distinguishes itself from AX-3b through the gradual widening of the blade, resulting in a more elongated shape and a short bit. Due to the more elongated shape, the blade angle

of a type AX-3a is smaller than of a type AX-3b. The blade angle of the axe in Elst grave 163 is approximately 10°.

The axe from Elst grave 163 is the only specimen in this sample which can be placed in this group with certainty. The axe from Elst grave 131 was missing when the cemetery was published. From information in the field archive, however, it is thought that this axe also belongs to AX-3a.

**Occurrence in the Netherlands:**

*Elst: (131), 163.*

**Identification in other typologies:**

Franken AG: **S-FBA 2.2** – (phase 3-4 > 460/80 – 565).

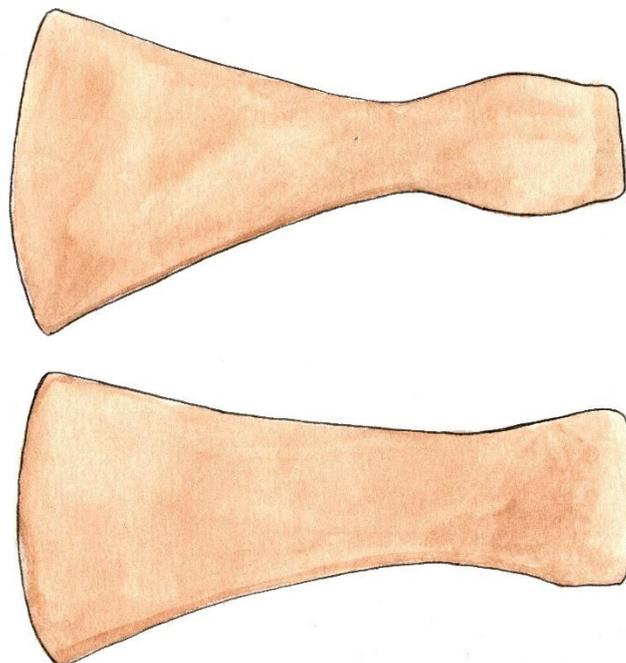
Siegmund: **FBA 2.2** – (phase 4 > 530 – 555).

LPV: **related to 5** (phase PM-MA1 > 440/50 – 520/30).

Hines: -

**Dating in the Netherlands:**

Phase 3 - 4 (460/80 – 565).



AX-3a

### **AX-3b Symmetrical axe with a sharply widening blade, a long bit and a simple butt**

Axes of which the blade widens evenly and thus symmetrically in the direction of the bit. The narrowest point of the blade is situated just besides the butt. The butt itself is either symmetrical or slightly drawn-out downwards and does not have a profiled outline (for a profiled outline, see AX-3c).

The shape of the blade can be triangular with sharp corners (e.g. Elst 160), triangular with rounded corners (e.g. Elst 181), roughly triangular with straight sides (e.g. Rhenen 445) or T-shaped (e.g. Rhenen 553 and 609). In all cases, the widening of the blade is sharp rather than gradual, resulting in an overall broad shape and a long bit. The bit length of the axes from this sample varies between 10.0 and 13.8 centimetres.

Especially the specimens in this group which have a triangular-shaped blade are somewhat reminiscent of the axes in group AX-3a. The blades, however, widen much sharper, resulting in a longer bit and a more broad overall appearance.

All axes from the sample which belong to this group can be dated in phase 4 and/or 5. Based on the available artefacts, no chronological distinction can be made between the different blade shapes. Given the fact that the triangular shape is most closely related to the general shape of axes from group AX-3a (phases 3 and 4), it is possible that this should be regarded the oldest shape. The axes of group AX-3b are typologically and chronologically followed by axes with a profiled outline of the butt (AX-3c). These profiled axes are only found with a T-shaped blade, suggesting that this shape should be regarded young within the chronological perimeters of the group. As mentioned, this theory is not decisively supported by the evidence from this sample. LPV created separate groups for the various blade shapes (group 5: triangular with sharp and rounded corners, group 6: roughly triangular with straight sides and T-shaped, group 7: T-shaped with a profiled blade edge) and recognise some chronological difference (see below)<sup>656</sup>. T-shaped blades with a profiled edge were not found as part of the Dutch sample.

In addition to the early Medieval period, axes of this type are also known from the Roman era. Sometimes, one of those early examples is found in an early Medieval cemetery. The specimen from Rhenen grave 839, for example, is triangular with sharp corners. The main way

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<sup>656</sup> Legoux *et al.* 2016, 22, 31, 60.

to distinguish between an early and later type is through analysis of the context. The late antique specimens are indicated in bold below.

**Occurrence in the Netherlands:**

*Elst: 160, 181.*

*Rhenen: 445, 553, 609, 752, **839**.*

**Identification in other typologies:**

Franken AG: **S-FBA 3.1** – (phase 4-5 > 510/25 – 580/90).

Siegmund: **FBA 3.1** – (phase 5 > 555 – 570).

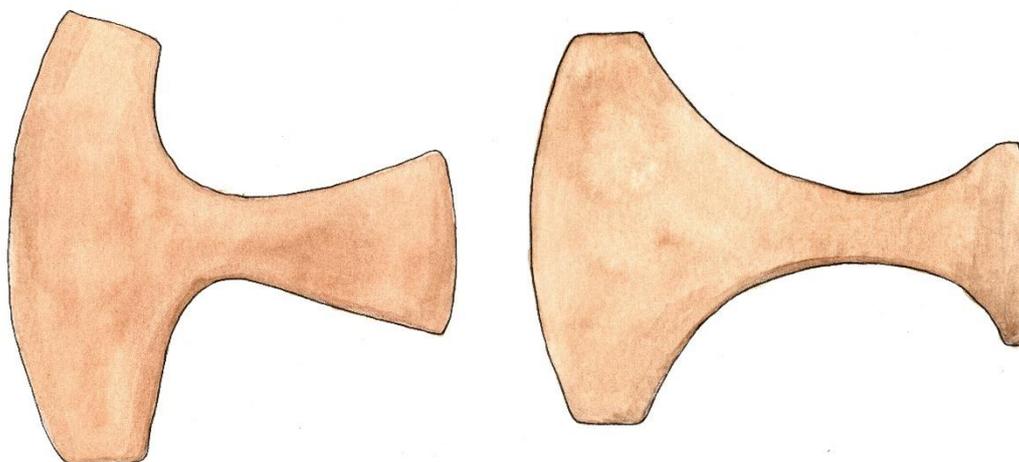
LPV: **5** (phase PM-MA1 > 440/50 – 520/30). **6** (phase MA1-MA2 > 470/80 – 560/70). **Related to 7** (phase MA1-MA2 > 470/80 – 560/70, most commonly in phase MA2 > 520/30 – 560/70).

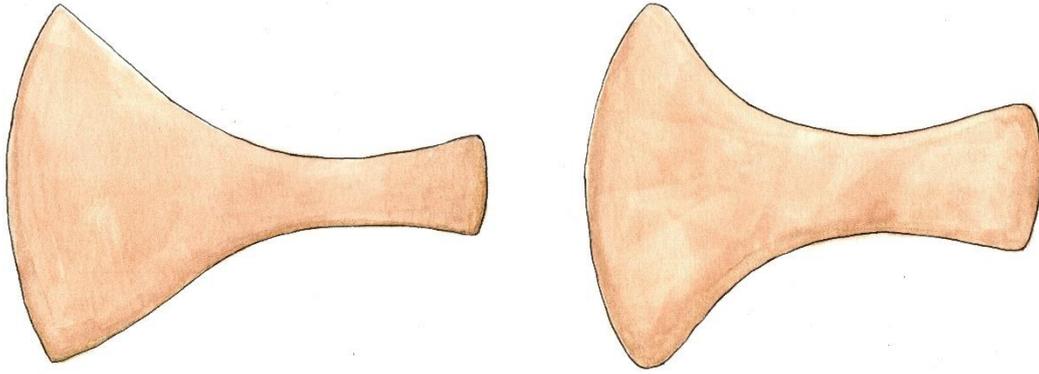
Hines: -

**Dating in the Netherlands:**

Early Medieval specimens: Phase 4 - 5 (510/25 – 580/90).

Late Antique specimens: Phase 1-2 (400 – 460/80).





AX-3b

### **AX-3c Symmetrical axe with a T-shaped blade and a profiled butt**

Axes of which the blade widens evenly and thus symmetrically in the direction of the bit. The narrowest point of the blade is situated just besides the butt. The butt itself is symmetrical and has a profiled outline (for a simple outline, see AX-3b). The outline is usually stepped. Blades belonging to this group are T-shaped, resulting in the presence of a long bit. The bit length of the axe from Meerveldhoven grave 53 is 14.0 centimetres. For the Wageningen specimen, the bit length cannot be fully established but lies between 10.0 and 11.0 centimetres.

#### **Occurrence in the Netherlands:**

*Meerveldhoven: 53.*

*Wageningen: 180.*

#### **Identification in other typologies:**

Franken AG: **S-FBA 3.2** – (phase 5-6 > 565 – 610/20).

Siegmund: **FBA 3.1** – (phase 7b-8a > 600 – 625).

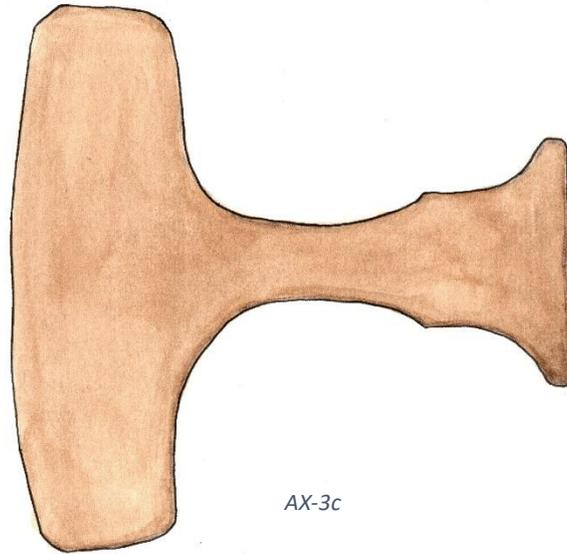
LPV: **8** (phase MA1-MA2 > 470/80 – 560/70, most commonly in phase MA2 > 520/30 – 560/70, sporadically in phase PMb > 455/65 – 470/80 and phase MR2 > 630/40 – 660/70).

**Related to 9** (phase MA1-MA3 > 470/80 – 600/10, most commonly in phases MA2-MA3 > 520/30 – 600/10).

Hines: -

### Dating in the Netherlands:

Phase 6 (580/90 – 610/20).



### AX-4: BEARDED AXES

*The bearded axe is a relatively late type with a recognisable blade in the shape of an L which is turned sideways. The bearded axe is relatively rare in the Netherlands and is classified in a single group in this typology.*

#### **AX-4a Bearded axes with a strongly profiled top edge**

Bearded axes of this group have an asymmetrical blade, with the cheek joining the bit nearer the top or nearer the bottom, rather than in the centre. The overall shape of the axe reminds of a rotated letter 'L'. The cheek and butt are narrow, have the eye and sometimes have a profiled underside. The blade (beard) is generally broader than the cheek and butt and is strongly drawn-out upwards. The blade's lower profile can be sharp (approaching 90°) but usually has a more rounded or flowing shape.

Bearded axes with a strong top profile do not occur as a separate group in the typologies by Siegmund and the Franken AG. LPV on the other hand separates bearded axes into two groups based on the degree to which the upper edge is profiled (12, strongly profiled; 13, slightly profiled)<sup>657</sup>. The profile strength of the axe from Katwijk, however, is greater than any example provided in the French typology. In addition, in the French examples, the cheek meets the blade nearer the top whilst in the Katwijk specimen the cheek and blade meet nearer the bottom. The profiled lower edge of the butt occurs most commonly in combination with a strong top profile according to the French typology.

**Occurrence in the Netherlands:**

*Katwijk: 33.*

**Identification in other typologies:**

Franken AG: **related to S-FBA 4.1** – (phase 5 > 565 – 580/90, sporadically in phase 6 > 580/90 – 610/20). **related to S-FBA 4.2** – (phase 5-6 > 565 – 610/20).

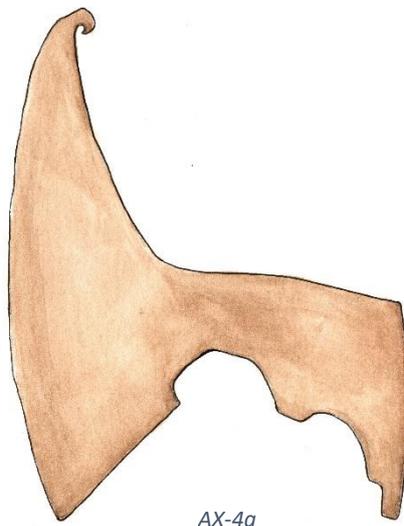
Siegmund: **related to FBA 4.1** – (phase 6 > 570 – 585). **related to FBA 4.2** – (phase 7 > 585 – 610).

LPV: **12** (phase MA2-MR1 > 520/30 – 630/40, most commonly in MA3 > 560/70 – 600/10).

Hines: -

**Dating in the Netherlands:**

Phase 5 (565 – 580/90). Possibly also in phase 6 (580/90 – 610/20).



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<sup>657</sup> Legoux *et al.* 2016, 22, 32, 60.

## **AX-4b Bearded axes with a slightly profiled top edge**

Bearded axes of this group have an asymmetrical blade, with the cheek joining the bit nearer the top rather than in the centre. The overall shape of the axe reminds of a rotated letter 'L'. The cheek and butt are narrow, house the eye and sometimes have a profiled underside. The blade (beard) is broader than the cheek and butt and is slightly drawn-out upwards. The part that is drawn-out is usually pointed. The angle of the blade's lower profile can be sharp (approaching 90°) or have a more rounded or flowing shape.

Both Siegmund and the Franken AG divide bearded axes into two different types. The first and oldest type has a more rounded angle in the blade's lower profile (FBA 4.1). The somewhat younger second type has a sharp angle which approaches 90° (FBA 4.2)<sup>658</sup>. For northern France, LPV does not recognise this typological difference as chronologically significant. Instead, the bearded axes are separated into two groups based on the degree to which the upper edge is profiled (12, strongly profiled; 13, slightly profiled)<sup>659</sup>.

When comparing the bearded axe from Veldhoven with the German schemes, it becomes clear that the angle in the blade's lower profile is a borderline case between both types. Following the Franken AG typology to the letter, however, would result in placing the axe in FBA 4.1.

### **Occurrence in the Netherlands:**

*Veldhoven: 17*

### **Identification in other typologies:**

Franken AG: **S-FBA 4.1** – (phase 5 > 565 – 580/90, sporadically in phase 6 > 580/90 – 610/20). **S-FBA 4.2** – (phase 5-6 > 565 – 610/20).

Siegmund: **FBA 4.1** – (phase 6 > 570 – 585). **FBA 4.2** – (phase 7 > 585 – 610).

LPV: **12** (phase MA2-MR1 > 520/30 – 630/40, most commonly in MA3 > 560/70 – 600/10).

**13** (phase MA2-MA3 > 520/30 – 600/10).

Hines: -

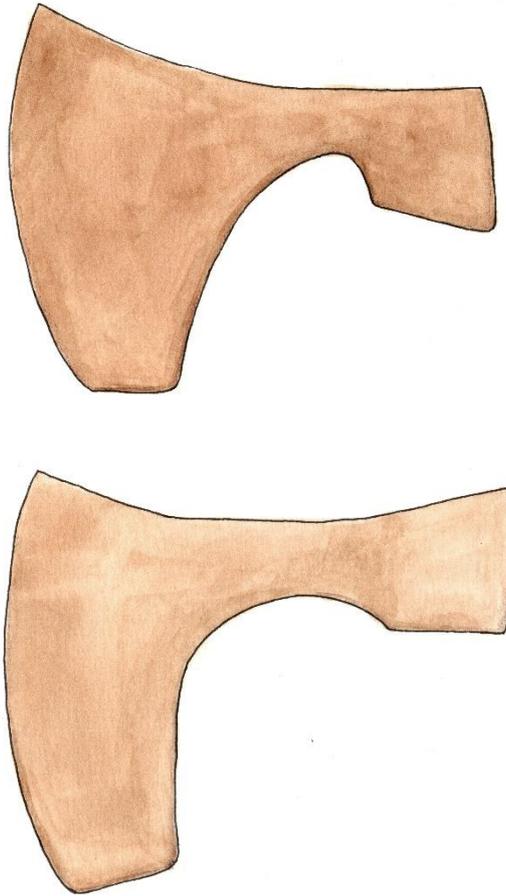
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<sup>658</sup> Siegmund 1998, 107-8. Müssemeier *et al.* 2003, 51-52.

<sup>659</sup> Legoux *et al.* 2016, 22, 32, 60.

**Dating in the Netherlands:**

Phase 5 - 6 (565 – 610/20).



*AX-4b*

# SWORDS

In comparison to other types of weaponry, swords are relatively rare in the early Medieval Netherlands. Across the sample, traces of a sword are found in only thirty-two contexts. In the vast majority of cases, the often-iron swords are in a very bad condition. In such cases it is usually only possible to determine whether the blade has parallel or tapered sides. Sometimes, a best estimate can be given of total length, blade length and blade width.

In some cases, the sword is made using the pattern-welding technique, resulting in patterning across the blade. The patterning usually consists of two or three ladder-like strips which run parallel to each other and lengthwise over the blade, creating a herringbone effect. Pattern-welding decoration can be identified depending on the state of preservation but has no specific chronological significance.

In few cases, other elements of the sword, such as the pommel, are preserved. Pommels and hilts are the only parts of the sword itself that offer an insight into typological and chronological placement. Early Medieval swords from the Netherlands do not usually feature a lower guard, except for the youngest types. In some instances, remains of the scabbard or other accessories are recovered, including metal binding strips, mouth pieces and beads.

## SW-1: SWORD HILTS AND POMMELS

*Sword pommels are a rare find in the cemeteries which are part of this sample. For the completeness of the typology, however, there is chosen to incorporate groups for those types that were discovered.*

### **SW-1a Long pommel with animal-style decoration**

A long (approximately 6 cm.), slightly ovoid pommel made of copper-alloy. The pommel is convex and therefore reminiscent of the 'low boat-shape' as seen for seax pommels (SE-2c). The pommels are decorated in animal style.

The specimen from Wageningen grave 144 shows two outward looking animal heads on either terminal of the pommel. The centre is decorated with a combination of incised lines, stamped dots and dots-in-circles.

The Franken Arbeitsgruppe and Hines both list long pommels, of which the German examples are identified as type '*Donzdorf-Wallerstädten*' (Spa7C – phase 6-7 > 580/90 – 640/50). Hines and colleagues mention that the long pommels are made of iron and that type '*Donzdorf-Wallerstädten*' is likely one of the variations that occur in Anglo-Saxon England (SW3-b – AS-Mq-AS-Mt > 550/70 – 660/80). They further mention that specimen from the Rhineland often have silver inlay whilst this is less common in England<sup>660</sup>. LPV list long pommels specifically with inlay (94 – phase MA3b-MR2 > 580/90 – 660/70, most commonly in MA3b-MR1 > 580/90 – 630/40)<sup>661</sup>.

Long pommels with inlay, as defined in the typologies from Germany, England and France were not found as part of this sample in the Netherlands. A pommel similar to the one from Wageningen does not appear in any of the typologies mentioned. The presence of an angon in Wageningen grave 144 (SP-5a) indicates a date in phases 4 or 5, which is earlier than any of the dates presented for the inlaid specimen in northwestern Europe. Group SW-1a should therefore be regarded a predecessor of the later and more elaborate long pommels with inlay.

#### **Occurrence in the Netherlands:**

*Wageningen: 144.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

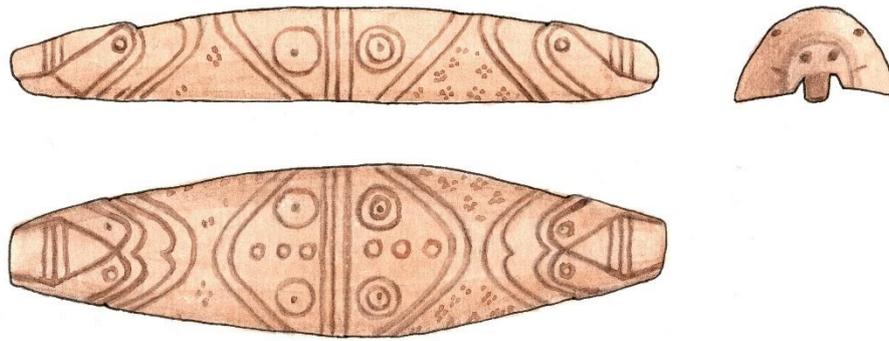
#### **Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

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<sup>660</sup> Hines *et al.* 2013, 185; Müssemeier *et al.* 2003, 43.

<sup>661</sup> Legoux *et al.* 2016, 23, 37, 60.



SW-1a

### SW-1b Bar-shaped copper-alloy pommel

Sword pommel made of copper-alloy. The pommel consists of a thin ovoid disc with a bar-shaped raised centre. The pommel strongly reminds of those seen on seaxes (SE-2b). This pommel does not occur in combination with a lower guard (see SW-1d).

#### Occurrence in the Netherlands:

*Obbicht*: 5.

#### Identification in other typologies:

Franken AG: -

Siegmund: -

LPV: -

Hines: -

#### Dating in the Netherlands:

Phase 5-6 (565 – 610/20).



SW-1b

### SW-1c Trapezoid copper-alloy pommel

Sword pommel made of copper-alloy in a trapezoid shape.

This type does not usually occur in combination with a lower guard. In the case of the sword from Zweeloo grave 47, however, it seems as if a lower guard was once present. The poor state of conservation of the sword prevents the exact classification of the pommel. It is possible that the suspected trapezoid pommel is in fact a bar-shaped specimen, sometimes found in combination with a lower guard (SW-1d). For this reason, the sword is placed with reservation in both groups. The context of grave 47 unfortunately does not add to a specific dating or typological classification<sup>662</sup>.

#### Occurrence in the Netherlands:

*Meerveldhoven*: 53.

*Sittard*: 26.

*Zweeloo*: (47).

#### Identification in other typologies:

Franken AG: **Spa7E** – (phase 5-6 > 565 – 610/20).

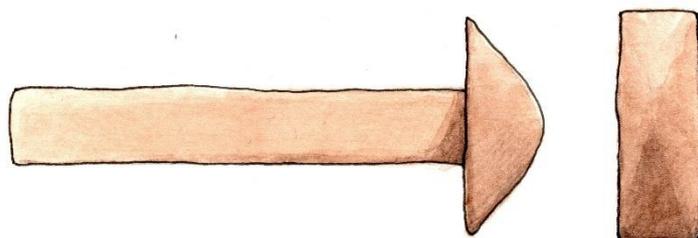
Siegmund: -

LPV: -

Hines: **SW1** – (phase AS-Mp- AS-Mq > pre 525/50 – 565/95, possibly as early as AS-Mo > pre 525/50).

#### Dating in the Netherlands:

Phase 6 (580/90 – 610/20).



SW-1c

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<sup>662</sup> Van Es *et al.* 2007, 869, 892.

### **SW-1d Sword with lower guard, slim hilt and a bar-shaped pommel.**

Sword made of copper alloy with a narrow hilt, sometimes with concave sides. Unlike most swords from the early medieval period, this type has a lower guard. The pommel is disc shaped with an elevated bar-shaped centre.

In the German typology by the Franken Arbeitsgruppe, swords of this type are identified as '*typ Schlingen*' (Spa7A)<sup>663</sup>. A second type identified '*typ Niederramstadt-Dettingen-Schwabmühlhausen*' (Spa7B) shows great similarities but is generally more coarse. The blade and hilt are wider, and the lower guard and pommel are thicker.<sup>664</sup> The Franken AG date type Spa7A to phase 9 (670/80 – 710) and type Spa7B to phase 9-10 (670/80 – 750). It is suggested that type Spa7B has a blade with parallel sides whilst the sides of type Spa7A are somewhat tapered. In addition, decoration as a result of the pattern-welding technique occurs occasionally in type Spa7A but not in type Spa7B<sup>665</sup>.

For the sword in Zweeloo grave 47, it is unclear whether a lower guard was once present. The poor state of conservation of the sword prevents the exact classification of the pommel. It is possible that the suspected trapezoid pommel (SW-1c) is in fact a bar-shaped specimen. For this reason, the sword is placed with reservation in both groups. The context of grave 47 unfortunately does not add to a specific dating or typological classification<sup>666</sup>.

#### **Occurrence in the Netherlands:**

*Katwijk: 30.*

*Valkenburg: 1.*

*Zweeloo: (47).*

#### **Identification in other typologies:**

Franken AG: **Spa7A** – (phase 9 > 670/80 - 710).

Siegmund: -

LPV: -

Hines: -

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<sup>663</sup> Mússemeier *et al.* 2003, 43,109.

<sup>664</sup> Mússemeier *et al.* 2003, 43,109; Stein 1967, 410, lists 4 and 5 and table 102.

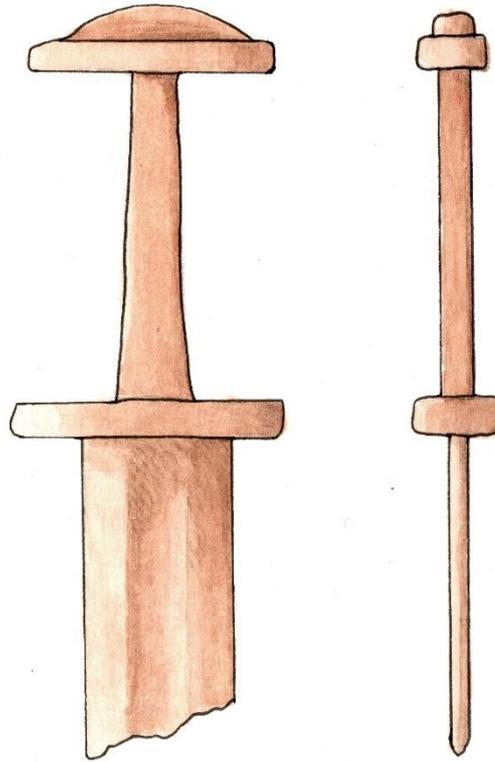
<sup>665</sup> Van Es *et al.* 2007, 806.

<sup>666</sup> Van Es *et al.* 2007, 869, 892.

**Dating in the Netherlands:**

Phase 8-9 (640/50 - 710).

*SW-1d*



## SW-2: SCABBARD-FITTINGS, SWORD BUTTONS AND ACCESSORIES

This category consists of various elements belonging to sword scabbards and related fittings. Like with pommels, the discovery of these items in graves from the early Medieval period in the Netherlands is rare. Also in this case, there is chosen to create groups for the available types for the purpose of completeness of the typology.

### **SW-2a** Pyramidal sword-button with flat bridge

Sword button made of copper-alloy, in the shape of a pyramid. The base of the button is square and shows a flat bridge which connects two sides.

In the Zweeloo cemetery publication, a similar pommel made of copper-alloy is mentioned originating from the Wijnaldum terp excavation in the province of Friesland. A further specimen, made of gilded copper-alloy, is known from the Ezinge excavation in the province of Groningen<sup>667</sup>. A small number of copper-alloy pyramidal sword-buttons are known from the German Rhineland as well as from the states of Niedersachsen in the north and Baden-Württemberg in the southwest<sup>668</sup>. LPV list a similar button type as group 97 and Hines identifies similar types in Anglo-Saxon England<sup>669</sup>. In England, plain examples were found as well as specimens decorated with stone or glass inlay.

#### Occurrence in the Netherlands:

*Meerveldhoven (38).*

*Zweeloo: 74.*

#### Identification in other typologies:

Franken AG: **Spa2B** – (phase 5-7 > 565 – 640/50, in southern Germany up to 670/80).

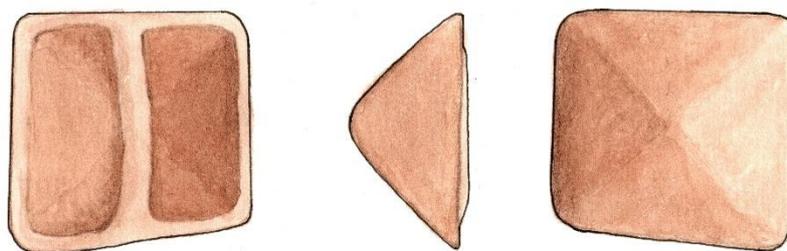
Siegmund: -

LPV: **97** – (phase MA2b-MR2 > 540/50 – 660/70).

Hines: **SW5-b** - (no date provided).

#### Dating in the Netherlands:

Cannot be dated based on the available information. Occurs in phase 8 in Meerveldhoven (640/50 – 670/80).



SW-2a

<sup>667</sup> Mensonides 1958; Zijlstra 1992, fig. 12 + 13.

<sup>668</sup> Müssemeier *et al.* 2003, 42 (Rhineland); Stein 1967, 245 + footnote 65 (Baden-Württemberg); Falk 1971, 280 + fig. 1:4 (Niedersachsen)

<sup>669</sup> Legoux *et al.* 2016, 23, 37; Hines *et al.* 2013, 186.

## SW-2b Simple copper-alloy scabbard-mouthpieces

Simple copper-alloy mouthpieces of a sword scabbard. The mouthpiece sits like a band around the opening of the scabbard.

Hines and his colleagues list a wide variety of decorated scabbard-mouthpieces for Anglo-Saxon England whilst the Franken Arbeitsgruppe lists only one<sup>670</sup>. LPV is the only typology listing a type (65) which can be decorated or plain. They further recognise mouthpieces with animal-style decoration<sup>671</sup>. In the current sample from the Netherlands, only plain copper-alloy mouthpieces were found. It is clear that they existed in phases 4 and 5, but it cannot be excluded that they also occur earlier or later.

### Occurrence in the Netherlands:

*Rhemen*: 503.

### Identification in other typologies:

Franken AG: -

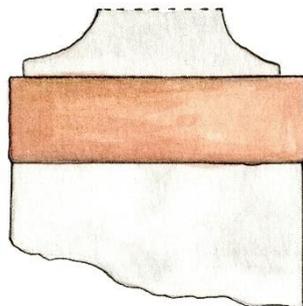
Siegmund: -

LPV: **65** – (phase MA3-MR2 > 560/70 – 660/70, most commonly in MR1 > 600/10 – 630/40).

Hines: -

### Dating in the Netherlands:

Phase 4-5 (510/25 – 580/90), possibly also earlier or later.



SW-2b

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<sup>670</sup> Hines *et al.* 2013, 186-187; Müssemeier *et al.* 2003, 43.

<sup>671</sup> Legoux *et al.* 2016, 23, 36.

## SW-2c Scabbard binding-strips

Binding strips of a sword scabbard are straight metal strips with a u-shaped profile. They can be plain or decorated with incised lines. The example from Wageningen grave 91 is plain.

The Franken Arbeitsgruppe lists two types of scabbard binding-strips which are both decorated, namely '*typ Alton-Envermeu-Morken*' and '*typ Donzdorf-Mindelheim*'. Hines and colleagues also list type '*Alton-Envermeu-Morken*' as well as decorated type '*Brighthampton-Högom*', which is also known from Scandinavia<sup>672</sup>. None of these decorated types were found as part of the sample and are therefore omitted in this typology.

### Occurrence in the Netherlands:

*Wageningen: 91.*

### Identification in other typologies:

Franken AG: -

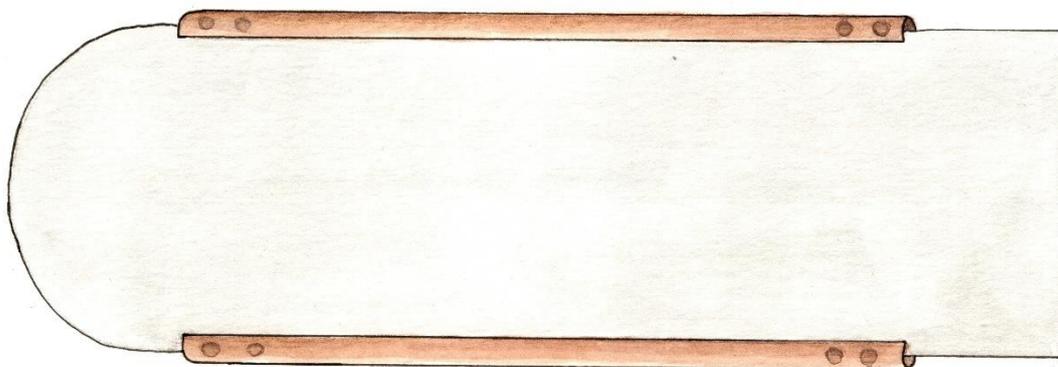
Siegmund: -

LPV: -

Hines: -

### Dating in the Netherlands:

Cannot be dated based on the available information.



SW-2c

<sup>672</sup> Hines *et al.* 2013, 188-189; Müssemeier *et al.* 2003, 43; Menghin 1983, 121, 347, 118f, 345f, map 16.

## SW-2d Scabbard-chape with dot-in-circle decoration

Scabbard-chape decorated with a pattern of dot-in-circles. The example from Katwijk grave 33 has dots-in-circles on one side and a band of geometric decoration on the other side. The profile of the scabbard-chape is u-shaped.

### Occurrence in the Netherlands:

*Katwijk: 33.*

### Identification in other typologies:

Franken AG: -

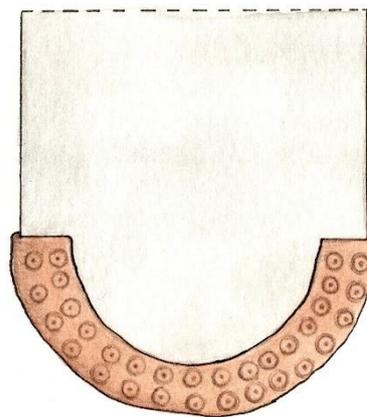
Siegmund: -

LPV: -

Hines: -

### Dating in the Netherlands:

Phase 5 (565 – 580/90).



SW-2d

## SW-2e Reinforced scabbard-chape with geometric or animal style decoration

Scabbard-chape with a knob-shaped reinforcement in the centre to rest the sword upon. The knob-shaped part is profiled and sits over the scabbard-chape like a sliding clothes-peg with a 'leg' on each side of the scabbard. The knob is faceted but undecorated on one side whilst the other side shows a decoration of incised lines and dots, creating a geometric or animal style decor.

Reinforced scabbard-chapes such as the example from Wageningen grave 91 are not mentioned in the typologies from Germany and England. LPV, however, list three German types which were also found in France as well as a French type. This concerns the types Krefeld-Gellep 43/Samson 11-12 (LPV 89), Flonheim (LPV 90), Gültlingen (LPV 91) and

Mézières 68/Haillot XVI (LPV 92)<sup>673</sup>. Based on a visual comparison, it becomes clear that the specimen from Wageningen is most closely associated with the types Gültlingen and Krefeld-Gellep. In the Wageningen cemetery publication, which dated to 1964, Van Es too mentions the similarity between the Wageningen specimen and those found in Krefeld-Gellep, Samson, Eprave and Abingdon. It is suggested, however, that these examples show a human face between two bird heads instead of a purely animal-style decor<sup>674</sup>. LPV does not mention this specific identification of the decoration and the illustration is supportive of an animal-style motif. Van Es further mentions a likeness between the Wageningen scabbard-chape and those found as part of the so called *Goldgriffspathen* (Böhner's types II and III)<sup>675</sup>. These richly decorated swords are found in northern France, central and southwest Germany as well as occasionally in Switzerland and the Czech Republic. The Gültlingen type, as identified by LPV is part of the *Goldgriffspathen* and is indeed visually the closest relative to the Wageningen specimen. The *Goldgriffspathen* however, are much more luxurious and elaborately decorated, suggesting that the Wageningen example may be a local copy. In sense of richness of the Wageningen sword, a closest link exists with those from Krefeld-Gellep and Mézières/Haillot. It is previously suggested that such swords may originate from the Meuse valley, possibly around the Belgian city of Namur (*Namen*)<sup>676</sup>.

#### **Occurrence in the Netherlands:**

*Wageningen: 91.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **related to 89** – (phase PM > 440/50 – 470/80). **90** – (phase MA1 > 470/80 – 520/30). **91** – (phase MA1 > 470/80 – 520/30). **92** – (phase MA1 > 470/80 – 520/30).

Hines: -

#### **Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

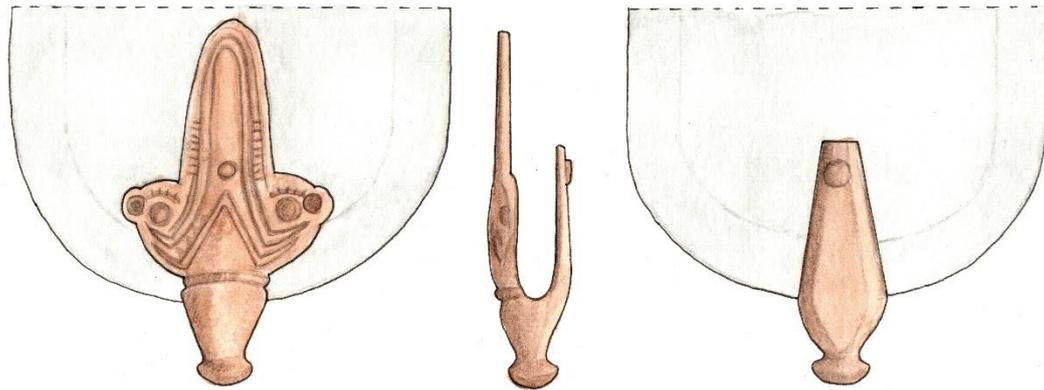
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<sup>673</sup> Legoux *et al.* 2016, 23, 37.

<sup>674</sup> Van Es 1964, 109; Werner 1953a.

<sup>675</sup> Van Es 1964, 110; Böhner 1948, 236.

<sup>676</sup> Van Es 1964, 109-110; Werner 1953a.



SW-2e

### **SW-2f** Sword bead made of kaolin clay

Large cylindrical bead made of (baked) clay. The clay largely consists of the kaolinite mineral.

A sword bead made of this material is not mentioned in any of the typologies used for comparison. LPV has a general category for a sword bead (98) and the Franken Arbeitsgruppe lists the so called 'Meerschaumperle' which is made of the mineral sepiolite. The German type is inlaid with garnet in cloisonne style<sup>677</sup>. This type was not found as part of the current sample from the Netherlands.

#### **Occurrence in the Netherlands:**

*Rhenen: 503.*

#### **Identification in other typologies:**

Franken AG: **related to Spa4** – (phase 5-6 > 565 – 610/20).

Siegmund: -

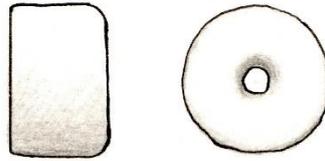
LPV: **98** – (phase MA1-MA2 > 470/80 – 560/70, occasionally in PM > 440/50 – 470/80 and MA3 > 560/70 – 600/10).

Hines: -

<sup>677</sup> Müssemeier *et al.* 2003, 43; Legoux *et al.* 2016, 23, 37.

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).



SW-2f

**SW-2g Sword bead made of amber**

Large beads made of amber which are found in male gender inhumations, usually in combination with weaponry. In some cases, the beads are decorated with incised lines.

**Occurrence in the Netherlands:**

*Rijnsburg: 214*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).



SW-2g (Catalogue National Museum of Antiquities of the Netherlands)

# ARROW HEADS

Arrowheads are numerous in early Medieval graves from the Netherlands. Their usefulness for dating, however, is unfortunately limited as most types span at least three phases. It is probably for this reason that the Franken AG and Siegmund do not include arrowheads in their typologies. Also Hines and his colleagues do not list arrowheads for Anglo-Saxon England. The exception is LPV who list nine types found in northern France<sup>678</sup>.

In his 1974 typology for the Rhine and Meuse region, Böhme discusses three main arrowhead types, namely 1) the simple arrowhead with a lanceolate blade, 2) the arrowhead with a stepped or zigzag cross section of the blade and 3) the arrowheads with barbs. He adds that type one occurs with and without a split socket and that the blade is occasionally rhomboidal rather than lanceolate<sup>679</sup>. Also in the Netherlands, this is indeed the most common type of arrowhead. For type 2, Böhme notes that the stepped cross section of the blade is an early characteristic which occurs from as early as the first half of the fourth century and into the fifth century<sup>680</sup>. The characteristic is also sometimes found amongst spear heads (see SP-1b) where it occurs mainly in the fifth century phases but occasionally as late as phase 5 (565 – 580/90). It is possible, however, that the rare sixth century examples should be regarded heirloom pieces. In relation to type 3, Böhme notes that blades with barbs usually occur in combination with a twisted socket<sup>681</sup>. As part of the sample, however, this combination is only seen once, whilst blades with barbs occur more frequently with normal split- or closed sockets.

In this typology, there is chosen to split the arrowheads into two subcategories on the basis of an either split- or closed socket. The subcategories are further divided according to the blade shape. In addition to lanceolate and rhomboidal blades and those with barbs, some types are added which are not known from any of the European typologies used.

## **Spearhead or arrowhead?**

From an in-depth analysis of the measurements of arrowheads and spearheads in this research becomes clear that arrowheads usually have a total length of between 7 and 15

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<sup>678</sup> Legoux *et al.* 2016, 22, 32.

<sup>679</sup> Böhme 1974, 110.

<sup>680</sup> Böhme 1974, 110.

<sup>681</sup> Böhme 1974, 110-111

centimetres whilst spearheads are 20 centimetres or longer. For specimens with a total length of between 15 and 20 centimetre goes that the diameter of the socket is leading. Arrowheads have a socket diameter of between 1.0 and 1.6 centimetres and spearheads have a socket diameter of 1.7 centimetres or more. These measurements are very much in accordance with those from the German Rhineland, as previously researched and presented by Siegmund<sup>682</sup>.

## AR-1: ARROWHEADS WITH A SPLIT SOCKET

This subcategory contains arrowheads with a split socket. The subcategory is further divided into groups on the basis of the blade shape.

### **AR-1a Late antique arrowheads with a split socket and a long lanceolate blade**

Iron arrowhead with a split socket and a stretched lanceolate blade. The specimen from Rhenen grave 841 has a stepped (zigzag) section of the blade, which is often a characteristic of an early piece (see introduction to the find category).

#### **Occurrence in the Netherlands:**

*Rhenen*: 841.

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **part of 24** – (phase PM-MA3 > 440/50 – 600/10).

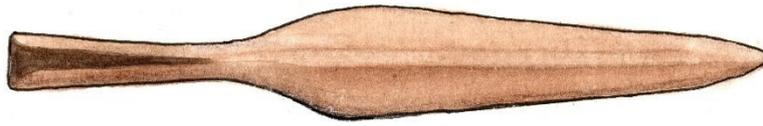
Hines: -

#### **Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).

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<sup>682</sup> Siegmund 1998, 95, table 14.



AR-1a

### **AR-1b Arrowheads with a short, ill-defined blade**

Iron arrowhead with a split socket and a narrow blade. The blade is only slightly thicker than the shaft which makes it difficult to distinguish the transition between the two elements, especially when the arrowhead is corroded. The blade can be lanceolate or rhomboidal but the shape ill-defined. The blade is often very short in comparison to the socket, but different dimensions occur occasionally.

#### **Occurrence in the Netherlands:**

*Rhemen: 133, 137, 355, 621, 807.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

#### **Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).



AR-1b

### **AR-1c Arrowheads with a split socket and a rhomboidal blade**

Iron arrowhead with a split socket and a rhomboidal blade. The shape of the blade is not uniform across all specimens, with broader and slimmer variants existing.

#### **Occurrence in the Netherlands:**

*Elst: 181.*

*Lent: 7220.*

*Rhenen: 162, 712, 824, 843.*

#### **Identification in other typologies:**

Franken AG: -

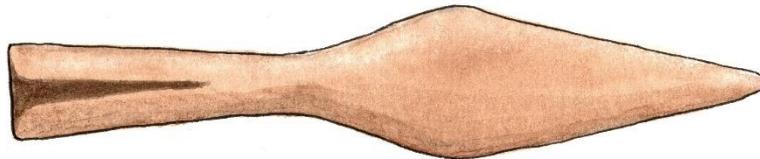
Siegmund: -

LPV: **23** – (phase PM-MA3 > 440/50 – 600/10).

Hines: -

#### **Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90). Occasionally in phases 6-8 (580/90 – 670/80).



*AR-1c*

### **AR-1d Arrow heads with a split socket and triangular blade**

Iron arrow heads with a split socket and a triangular blade. The shape of the blade is not uniform across all specimens, with broader and slimmer variants existing.

#### **Occurrence in the Netherlands:**

*Elst: 128.*

**Identification in other typologies:**

Franken AG: -

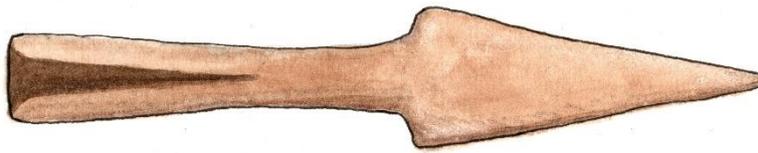
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90). Possibly in phase 6 (580/90 – 610/20)



AR-1d

**AR-1e Arrow heads with a split socket and a lanceolate blade**

Iron arrow heads with a split socket and a lanceolate blade. The shape of the blade is not uniform across all specimens, with broader and slimmer variants existing.

**Occurrence in the Netherlands:**

*Elst:* 133, (160), 163, 215, 240, 250.

*Meerveldhoven:* (14).

*Obbicht:* 4, 23.

*Posterholt:* 88, 90.

*Rhenen:* 11, (96), 133, 136, 137, 149, 162, 182, 184, 269, 271, 321, 340, 341, 349, 353, 355, 376, 442, 445, 450, 454, 460, 475, 511, 513, 548, 582, 606, 609, 611, 612a, 621, 666, 703b, 709, 712, 723, 752, 806, 807, 809, 824.

*Veldhoven:* 8.

*Wageningen:* (131).

**Identification in other typologies:**

Franken AG: -

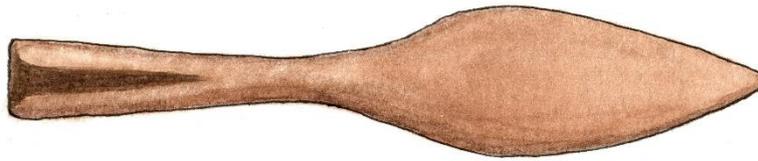
Siegmund: -

LPV: **24** – (phase PM-MA3 > 440/50 – 600/10).

Hines: -

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).



AR-1e

**AR-1f Arrowheads with a split socket and barbs**

Iron arrowhead with a split socket and a blade with barbs, shaped like a classical arrow. The shape of the blade is not uniform across all specimens, with broader and slimmer variants existing.

The specimen from Rhenen grave 774 is equipped with a twisted socket. Arrowheads with these sockets are classified separately by LPV, but none are listed with this particular blade shape (LPV group 28)<sup>683</sup>. Böhme, in his 1974 typology, does note the twisted sockets in combination with a barbed blade and mentions that this is a common combination in Germany, Belgium and northern France. He specifically mentions the Belgian cemeteries of Haillot and Furfooz (Namur), the French cemetery of Nouvion-sur-Meuse (Ardennes) and the German cemeteries of Krefeld-Gellep (Nordrhein-Westfalen), Bremen (HB), Mainz (Rheinland-Pfalz), Hammelburg (Bayern), Reuden (Sachsen-Anhalt) and Hemmingen (Baden-

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<sup>683</sup> Legoux *et al.* 2016, 22, 32.

Württemberg)<sup>684</sup>. A specific date for the type is not mentioned but Böhme places them no later than AD 600.

In the Netherlands, the twisted socket is a rarity rather than a common feature of arrowheads with barbs. For this reason, there is chosen to classify the arrowhead based on the blade shape rather than the twisted socket. The presence of a pottery vessel of type PO-3a and a shield boss of type SH-2b in grave 774 place the context in phases 6-7 (580/90 – 640/50) or possibly phase 5 (565 – 580/90).

#### **Occurrence in the Netherlands:**

*Posterholt: 90.*

*Rhenen: 376, 475, 774, 806.*

#### **Identification in other typologies:**

Franken AG: -

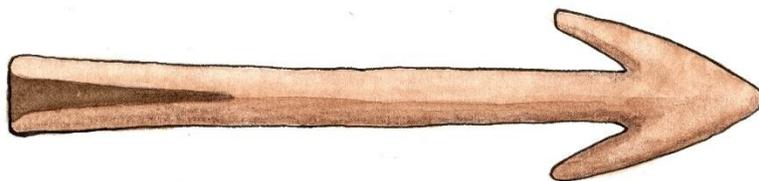
Siegmund: -

LPV: **27** – (phase MA1-MA3 > 470/80 – 600/10). (**related to 28** – (phase MA2-MA3 > 520/30 – 600/10).

Hines: -

#### **Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).



*AR-1f*

#### **AR-1g Catapult striker**

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<sup>684</sup> Böhme 1974, 110-111; Grohne 1953, 228 + fig 73 (Bremen); Breuer *et al.* 1957, 209 + fig 8-9 (Haillot); Nenquin 1953, 83 + fig 18, J8 (Furfooz); Koch 1967, table 25, 9-10 (Hammelburg); Werner 1958, 395, fig 19 (Mainz).

Iron catapult striker with a split socket. The example from Rhenen grave 678 has a pointy tip and a neck with slightly concave sides. The shaft is somewhat narrower than the neck. The overall shape is reminiscent of a firework rocket.

**Occurrence in the Netherlands:**

*Rhenen: 678.*

**Identification in other typologies:**

Franken AG: -

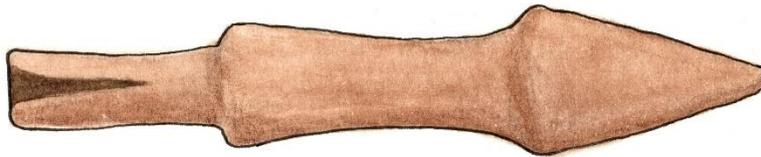
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*AR-1g*

## AR-2: ARROWHEADS WITH A CLOSED SOCKET

This subcategory contains arrowheads with a closed socket. The subcategory is further divided into groups on the basis of the blade shape.

### **AR-2a Arrowheads with a closed socket and a lanceolate blade**

Iron arrowhead with a closed socket and lanceolate blade. The shape of the blade is not uniform across all specimens, with broader and slimmer variants existing.

**Occurrence in the Netherlands:**

*Elst: 163, 240.*

*Lent: 7220.*

*Maastricht: 13.*

*Posterholt: 30, 68, 90.*

*Stein: 64.*

*Veldhoven: 6, 8.*

*Wijster: 116.*

**Identification in other typologies:**

Franken AG: -

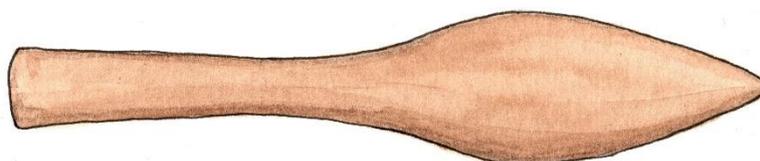
Siegmund: -

LPV: **26** – (phase MA1-MR1 > 470/80 – 630/40).

Hines: -

**Dating in the Netherlands:**

Phase 2-7 (435/40 – 640/50).



AR-2a

**AR-2b Arrowheads with a closed socket and a rhomboidal blade**

Iron arrowhead with a closed socket and rhomboidal blade. The shape of the blade is not uniform across all specimens, with broader and slimmer variants existing.

**Occurrence in the Netherlands:**

*Bergeijk: 79.*

*Lent: 7217, 7220.*

*Meerveldhoven: 38.*

*Obbicht: 11.*

*Rhenen: (697).*

**Identification in other typologies:**

Franken AG: -

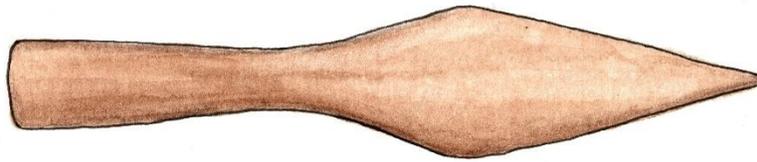
Siegmund: -

LPV: **25** – (phase MA1-MR1 > 470/80 – 630/40).

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20). Occasionally in phase 7 (610/20 – 640/50).



AR-2b

**AR-2c Arrowheads with a closed socket and barbs**

Iron arrowhead with a closed socket and a blade with barbs, shaped like a classical arrow. The shape of the blade is not uniform across all specimens, with broader and slimmer variants existing.

**Occurrence in the Netherlands:**

*Obbicht: 6.*

**Identification in other typologies:**

Franken AG: -

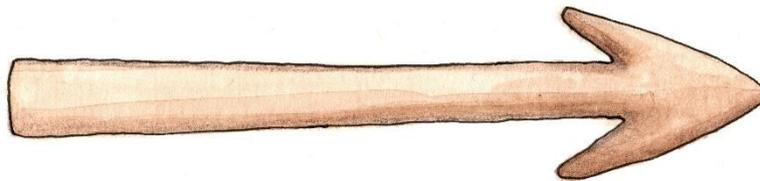
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).



AR-2c

**AR-2d Arrowheads with a closed socket and a triangular blade**

Iron arrowhead with a closed socket and triangular blade. The shape of the blade is not uniform across all specimens, with broader and slimmer variants existing.

**Occurrence in the Netherlands:**

*Elst: 129, 215.*

*Obbicht: 6.*

**Identification in other typologies:**

Franken AG: -

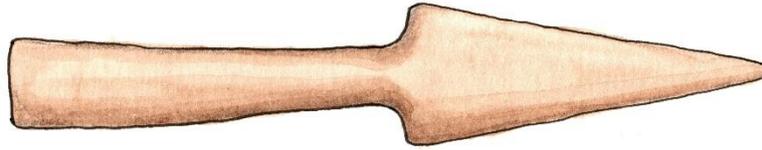
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).



AR-2d

### **AR-2e Cone-shaped arrowhead**

Iron cone which was mounted on a stick. There is no clearly defined blade or socket.

#### **Occurrence in the Netherlands:**

*Stein: 64.*

#### **Identification in other typologies:**

Franken AG: -

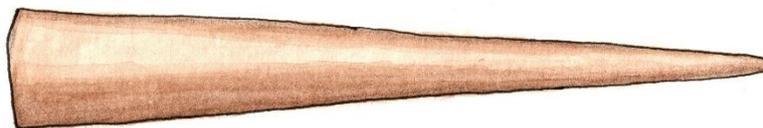
Siegmund: -

LPV: -

Hines: -

#### **Dating in the Netherlands:**

Phase 7-8 (610/20 – 670/80).



AR-2e

# BROOCHES

The artefact category of brooches is related to female-gender graves during the early medieval period. Brooches occur relatively often in the graves studied for this research and a division is made into six main categories: bow brooches, radiate-headed brooches, annular and penannular brooches, garnet disc brooches, disc and saucer brooches and zoomorphic brooches.

The typological schemes by Siegmund, the Franken Arbeitsgruppe, LPV and Hines are used for reference and comparison of brooches in a European context. Recently, Heeren and Van Der Feijst published a comprehensive volume on brooch types found in the Netherlands from Prehistory up to the Middle Ages. On many occasions, this valuable volume is referenced. In addition to that, some type specific schemes are used whenever necessary (e.g. Graenert's research on disc brooches with filigree decoration).

## BR-1: BOW BROOCHES

'Bow brooches' is an umbrella term for a variety of types. Due to its simple but versatile design, the bow brooch is a long-lasting type which occurs in the Roman- as well as the early medieval period. The basic shape of the bow brooch is a rectangular strip of metal, the centre of which is bent in an arch-like shape. The bended part is known as the bow. The flat metal on both sides of the bow is indicated with the terms footplate and headplate. Although the basic shape is always more or less the same, many different decorations, foot- and head plate shapes as well as sizes exist.

### **BR-1a Supporting-arm brooches with two supports**

The supporting-arm brooch is a multi-part bow brooch which is characterised by the two-piece spring mechanism which is held in place by two or three supports. The supports are mounted to the arms, which are cast in one piece with the bow. In the German and Dutch terminology, the supporting-arm brooch is known as the so-called *Stützarmfibel* and

*Steunarmfibula* respectively. Group BR-1a only includes supporting-arm brooches with two supports whilst group BR-1b includes those with three supports.

The supporting-arm brooch with two supports is characterised by a bow with a flat cross section and a foot which is slightly widened towards the end. The general type can be divided into two subtypes which are defined by Böhme as the Perlberg type and the Mahndorf type. The main difference between the two subtypes is the fact that the Perlberg type is equipped with relatively narrow arms whilst the arms of the Mahndorf type are wider. Supporting-arm brooches with two supports usually appear in pairs in female gender graves<sup>685</sup>.

The pair of brooches from Zweeloo grave 86 can be identified as supporting-arm brooches with two supports belonging to the Perlberg subtype. They were found in combination with various beads and with what seems to be the burned remains of a specific type of crossbow brooch which is characterised by broad arms and three knobs<sup>686</sup>. This type of crossbow brooch is known in Germany and the Netherlands as a *Zwiebelknopffibel* and *Drieknoppenfibula* respectively (Heeren's type 68)<sup>687</sup>.

#### **A note on the *Drieknoppenfibula***

The *Drieknoppenfibula* was used between the late third century and late fifth century AD, with various subtypes having different dates within this rather broad range.

The combination of a suspected *Drieknoppenfibula* and a pair of supporting-arm brooches is striking in the light of Böhme's suggestion that the former was reserved for male soldiers or civilian officers during the Roman period, whilst the latter found in pairs indicates a female gender context<sup>688</sup>. The certainty surrounding the female gender context is strengthened by the presence of various beads in the same grave. The fact that the *Drieknoppenfibula* appears in a female gender context as well as its burned condition amongst various non-burned artefacts raises the question whether this brooch should be considered a genuine part of this context.

In this typology, it has been decided not to include a separate group for the *Drieknoppenfibula* as the only possible specimens found in this sample are fragmentary and/or the contextual relations are uncertain (e.g. Rhenen grave 195).

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<sup>685</sup> Heeren *et al.* 2017, 201-203

<sup>686</sup> Van Es *et al.* 2007, 874, 897

<sup>687</sup> Heeren *et al.* 2017, 178-182

<sup>688</sup> Heeren *et al.* 2017, 203.

**Occurrence in the Netherlands:**

*Zweeloo: 86.*

**Identification in other typologies:**

Franken AG: **related to S-Fib 13** – (phase 2-3 > 430/35 – 510/25).

Siegmund: **related to Fib 13** – (phase 2 > 440-485).

LPV: -

Hines: -

Heeren: **Group 78b1 and 78b2** – (approx. AD 380 – 420).

**Dating in the Netherlands:**

Pre-AD 400 and phases 1 to 3 (400 – 510/25)



*BR-1a*

**BR-1b Supporting-arm brooches with three supports**

The supporting-arm brooch is a multi-part bow brooch which is characterised by a two-piece spring mechanism which is held in place by two or three supports. The supports are mounted to the arms which are cast in one piece with the bow. In the German and Dutch terminology, the supporting-arm brooch is known as the so-called *Stützarmfibel* and *Steunarmfibula*

respectively. Group BR-1b only includes supporting-arm brooches with three supports whilst group BR-1a includes those with two supports.

Heeren and colleagues define the supporting-arm brooch in group 78. Within the group, a distinction is made between various subtypes of which most were previously defined by Böhme<sup>689</sup>.

Subtype A, with three supports, a bow with a flat cross section and a trapezium-shaped foot does not feature in this sample.

Subtype B has two supports and is classified in this typology as group BR-1a

Subtype C is most commonly found in the Netherlands and is characterised by its relatively short foot and triangular- or trapezium shaped cross section of the bow. In Heeren's typology, subtype C is further divided into four groups on the basis of the decoration. Group C1 is characterised by the sole presence of incised decoration. The sides and/or front of the bow of brooches from group C2 are decorated with dot-in-circle motives. Group C3 includes brooches decorated with niello inlay and specimens belonging to group C4 are made of solid gold<sup>690</sup>. The latter type, however, is extremely rare<sup>691</sup>.

Subtype D was initially identified by Brieske and includes brooches with a triangular- or trapezium shaped cross section of the bow and a short trapezium-shaped foot<sup>692</sup>.

The brooches found in Rhenen graves 842 and 846 and in Wijster grave 211 all belong to subtype C and group C1. Besides predominant incised decorations, the brooch from Rhenen grave 842 also has dot-in-circle motives. A placement in group C2 is therefore also a possibility. The brooch from Oosterbeintum grave 460 can be placed in subtype C2.

The brooches from Rhenen graves 842 and 846 are both equipped with a small ring, placed centrally on the arms, in line with the bow. In the case of grave 842, the ring is attached to a small metal fragment which belongs to a late Roman military belt fitting found in the same context. Grave 846 also contains a military belt set but direct evidence of attachment to the brooch is absent<sup>693</sup>. The combination of a supporting-arm brooch from subtype C and a military belt was also found in the Wijchen - Tienakker Roman villa excavation<sup>694</sup>.

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<sup>689</sup> Heeren *et al.* 2017, 201-203

<sup>690</sup> Heeren *et al.* 2017, 202

<sup>691</sup> Heeren *et al.* 2017, 202., Willems 1981, 159.

<sup>692</sup> Brieske 2010.

<sup>693</sup> Wagner *et al.* 2011, 615-617, 626-630.

<sup>694</sup> Heirbaut *et al.* 2011, 77.

Whilst brooches are usually an indicator for a grave containing a person of female gender, the combination of the supporting-arm brooch and the military belt set as well as further finds of weapons in Rhenen graves 842 and 846 all point towards a male individual. Whilst supporting-arm brooches of subtypes A, B and D are often found in pairs (an indicator of female dress), the brooches of subtype C are normally found alone<sup>695</sup>. Böhme indicates that the brooches belonging to subtype C do occur in pairs in female gender graves, but only in the regions of Germany east of the river Weser<sup>696</sup>.

Similar to Rhenen, Wijster grave 211 contained a single brooch of subtype C. Unlike in Rhenen, however, this brooch was not found in combination with weaponry but with a hairpin, two silver bracelets and thirty-nine beads<sup>697</sup>. Apart from the fact that there is only one brooch, this artefact assemblage clearly indicates a female gender context.

#### **Occurrence in the Netherlands:**

*Oosterbeintum: 460 (possibly belonging to a disturbed cremation in the inhumation).*

*Rhenen: 842, 846.*

*Wijster: 211.*

#### **Identification in other typologies:**

Franken AG: **related to S-Fib 13** – (phase 2-3 > 430/35 – 510/25).

Siegmund: **related to Fib 13** – (phase 2 > 440-485).

LPV: -

Hines: -

Heeren: **Group 78c1 and 78c2** – (AD 430 – 470).

#### **Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).

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<sup>695</sup> Heeren *et al.* 2017, 203.

<sup>696</sup> Böhme 1974.

<sup>697</sup> van Es 1967, 482.



BR-1b (National Museum of Antiquities of the Netherlands)

### **BR-1c Simple multi-piece crossbow brooches**

The simple multi-piece crossbow brooch is characterised by its often relatively high bow, which has a flat or semi-circular cross section. The bow often merges into the foot with a sharp kink. The foot of the brooch is simple and straight and usually short, although somewhat longer feet are found occasionally. Brooches of this type have a spring construction, with the spiral normally wound eight or ten times around the arms. The brooch from Rhenen grave 825, however, displays a smaller number of turns.

The simple multi-piece crossbow brooch is a commonly found type in north-western Europe. Schulze classifies the brooches in detail and identifies no less than 255 different subtypes based on various criteria<sup>698</sup>. The differences between many of these subtypes, however, are minimal and it is questionable whether such a strict division adds value to a typological and/or chronological sequence.

Heeren and Van Der feijst divide the simple multi-piece crossbow brooches in three main types based on the typology of the foot<sup>699</sup>.

Type A has a short foot which is hammered or cut.

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<sup>698</sup> Schulze 1977, 3

<sup>699</sup> Heeren *et al.* 2017, 189-190.

Type B has a short foot which is cast in one piece with the catch-plate.

Type C has a longer foot which is hammered.

Type A can be further divided into subtype A1 with a catch-plate which is open at the back and subtype A2 with a catch-plate which is closed at the back, creating a box shape. Across these subtypes, a distinction can be made between decoration type A, a decoration of linear incisions and rectangular depressions and decoration type B, which can include dot-in-circle motifs, longitudinal incised lines and zigzag patterns.

Type B is not further divided.

Type C can be divided into subtype C1 with a flat foot and subtype C2 with a long and thin hammered foot.

The brooch from Elst grave 249 is poorly described but is likely to belong to subtype A. The two specimens from Rhenen grave 825 belong to subtype A but have each a slightly different catch-plate. One brooch can therefore be categorised as subtype A1 and the other brooch as belonging to subtype A2. Both brooches have a decoration of type A. The brooch belonging to subtype A2 has a slightly tapered foot.

From the brooch in Rhenen grave 195, only the slightly tapered bow was found, which shows a simple foot with decoration of type A. The foot is longer than is the case for the brooches from grave 825 which would place this specimen in subtype C1. As the arms and mechanism are absent, it is unclear whether this brooch actually belongs in group BR-1c. It has been decided, however, to place the brooch in this group on the basis of the specific decoration and the fact that not only the mechanism but also the arms are absent. In the cemetery publication, the brooch is catalogued as a *Zwiebelknopffibel* (see BR-1a). As the arms are absent, this classification is unsafe. The exact classification, however, makes no difference for the dating of this brooch (phase 3).

The three brooches from Wageningen grave 67 probably belong to Heeren's group 72a1b.

#### **Occurrence in the Netherlands:**

*Elst: 249.*

*Rhenen: (195), 810 (stray find), 825, 836.*

*Wageningen: 67, 74, 93.*

**Identification in other typologies:**

Franken AG: **related to S-Fib 13** – (phase 2-3 > 430/35 – 510/25).

Siegmund: **related to Fib 13** – (phase 2 > 440-485).

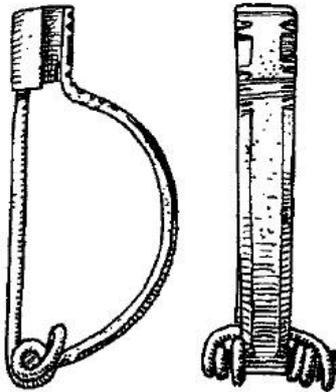
LPV: -

Hines: -

Heeren: **Group 72a1 and 72c1** – (AD 390 – 470/500).

**Dating in the Netherlands:**

Phase 2-3 (430/35 – 510/25).



*BR-1c (Wagner et al. 2011, 590)*

**BR-1d Multi-piece crossbow brooches with an ornamental foot**

The multi-piece crossbow brooch with ornamental foot is characterised by its often relatively high bow which has a flat or semi-circular cross section. The bow often merges into the foot with a sharp kink. The foot of the brooch is widened and often richly decorated, which distinguishes this type from BR-1c. Brooches in this group have a spring construction, with the spiral normally wound eight or ten times around the arms.

Heeren and Van Der Feijst divide the multi-piece crossbow brooch with ornamental foot into three main types based on the typology of the foot<sup>700</sup>.

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<sup>700</sup> Heeren *et al.* 2017, 191-192.

Type A has a trapezium-shaped foot which is cast in one piece with the bow.

Type B has a composite foot which is attached to the terminal of the bow. The foot comprises of a hollow base and a decorative insert, often made of pressed metal sheet.

Type C has a longer foot which has an ovoid or diamond shape.

Type A can be further divided into three subtypes. Subtype A1 has a foot of similar width as the arms/spring mechanism and is sometimes decorated with niello inlay. Subtype A2 has a foot which is slightly less wide than the foot of A1 and often decorated with dot-in-circle motifs. Subtype 3 has only a slightly widened foot. The bow of this subtype is broad, hollow and decorated with wound bands of small metal pearls. This type is also known as the Rohrbeck *Armbrustfibel*<sup>701</sup>.

Type B can be further divided into two subtypes. Subtype B1 has a triangular foot and is often described as the so-called Vert-la-Gravelle brooch<sup>702</sup>. Subtype B2 is characterised by a round foot.

Type C can be divided into brooches with an ovoid and a diamond-shaped foot. These brooches are also known as Elbe brooches, after their origin in the Elbe region of Germany. Those examples with an oval foot are often indicated as shield-shaped Elbe brooches<sup>703</sup>.

The specimen from Rhenen grave 82 is a relatively simple brooch but with a foot which is too conspicuous to justify placement in group BR-1c. The foot of the brooch is slightly widened and shows linear incisions as well as an incised chevron pattern. The bow is tapered and narrows towards the transition to the foot. Although not entirely consistent with the description given by Heeren, it is likely that this brooch is a variation of type C.

#### **Occurrence in the Netherlands:**

*Rhenen: 82.*

#### **Identification in other typologies:**

Franken AG: **related to S-Fib 13** – (phase 2-3 > 430/35 – 510/25).

Siegmund: **related to Fib 13** – (phase 2 > 440-485).

LPV: -

Hines: -

Heeren: **Group 73c** – (AD 350 – 470/500). **Group 73a and 73b** – (390-430).

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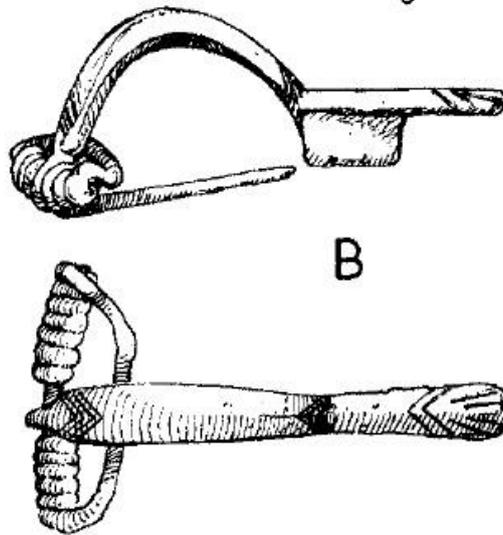
<sup>701</sup> Schulze-Dörlamm 1986, 621-623., Heeren *et al.* 2017, 192.

<sup>702</sup> Böhme 1974, 9., Heeren *et al.* 2017, 192.

<sup>703</sup> Voss 1998b, 502.

### Dating in the Netherlands:

Phase 2 (430/35 – 460/80).



*BR-1d (Wagner et al. 2011, 95)*

### **BR-1e** Small long brooches with rectangular head plate

This group contains bow brooches with a square or rectangular head plate, a relatively low bow and an elongated foot plate which are more commonly known as small-long brooches. The brooches have a two-piece spring mechanism which is held between two widely spaced lugs.

Heeren and Van Der Feijst created separate large and non-homogeneous typological groups for bow brooches with a semi-circular head plate and those with a more or less rectangular head plate (groups 81 and 82 respectively)<sup>704</sup>. These groups include, for instance, radiate-headed brooches which are classified separately in category BR-2 of this typology, as well as small-long brooches.

The small-long brooch in Oosterbeintum grave A is partially preserved. The head plate is rectangular, and the bow is simple and thin. A foot plate is missing, and no decoration can be identified. The brooch is found in combination with a cruciform brooch of type BR-1I and a triangular comb of type CO-1b. Both these artefacts signal an early date.

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<sup>704</sup> Heeren *et al.* 2017, 207-214.

One of the brooches from Oosterbeintum grave 360 has a rectangular head plate, a simple bow and the remains of a lobed foot plate. All three parts of the brooch are decorated with a dot-in-circle motif. The second small-long brooch in the grave has a more elongated rectangular head plate and a foot plate which could be described as elongated triangular with rounded corners. No decoration is visible on this brooch. The shape of the decorated brooch is very similar to that of brooches placed by Heeren and Van Der Feijst in group 82f1 (450-550). The shape of the second brooch is closer to that of the brooches placed by Heeren and Van Der Feijst in group 82e (550-620), albeit without the characteristic triangular cross section of the bow<sup>705</sup>.

The brooch in Oosterbeintum grave 398 has a rectangular head plate and a simple bow and foot plate. No decoration could be identified.

Small long brooches with a square or rectangular head plate are rare in the Netherlands and the only specimens within this sample are found in Oosterbeintum. The type, however, is much more commonly found in England. In Germany, small-long brooches of this type are sporadically found in the river basins of the Rhine, Elbe and Weser<sup>706</sup>.

#### **Occurrence in the Netherlands:**

*Oosterbeintum: A, 360, 398.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **part of 255** – (phase PM-MA1a > 440/50 – 495/500).

Hines: -

Heeren: **82f** – (450 – 550). **Related to Group 82e** – (550 – 620).

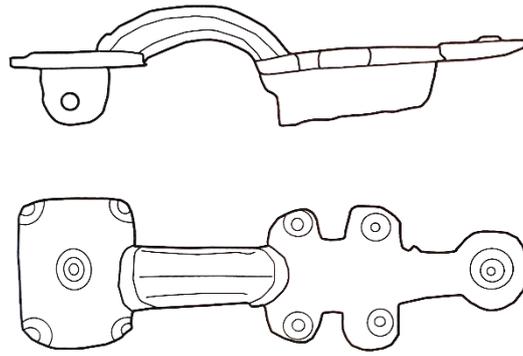
#### **Dating in the Netherlands:**

Phase 1-3 (400 – 510/25).

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<sup>705</sup> Heeren *et al.* 2017, 212-215.

<sup>706</sup> De Leeuw 2002, fig. 4.18 to 4.34.



*BR-1e (Heeren et al. 2017, 212)*

### **BR-1f Domburg brooches**

The 'Domburg brooch' can be regarded a local Dutch variant of the small long brooch as grouped in BR-1e and is possibly derived from Thuringian, Saxon and/or Scandinavian types<sup>707</sup>. The main difference between the traditional small long brooch and the Domburg brooch is the fact that the latter has a lobed head plate. The brooches are often decorated with dot-in-circle motifs or a combination of incised lines and punched dots. In case of the latter, the lines are often shaped as semi-circles around the dots, forming a face-like motif on the headplate, footplate and/or bow. The bow is usually relatively low, and the footplate elongated triangular or trapezoidal. In some cases, the footplate is also lobed. The brooches have a two-piece spring mechanism which is held between two widely spaced lugs. The brooches are sometimes made of copper-alloy plate whilst others are cast.

Heeren and Van Der Feijst have created separate large and non-homogeneous typological groups for bow brooches with a semi-circular head plate and those with a more or less rectangular head plate (groups 81 and 82 respectively)<sup>708</sup>. These groups include, for instance, radiate-headed brooches which are classified separately in category BR-2 of this typology, as well as small long brooches. Although the lobed head plate is reminiscent of a semi-circle, Heeren and Van Der Feijst list Domburg brooches as type 82H amongst bow brooches with a rectangular head plate.

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<sup>707</sup> Van Es 2007, 831.

<sup>708</sup> Heeren *et al.* 2017, 207-214.

The brooch from Den Haag Solleveld was found in a fragmented condition during prospective research, many years prior to the excavation of the graves which are part of this sample. The brooch was located inside a pot. Through the characteristic lobed head plate, the brooch could be identified as a Domburg brooch<sup>709</sup>.

The head plates of the brooches from Wijster grave 10 and Zweeloo graves 49 and 50 are damaged, and the shape is therefore no longer directly recognisable. Van Es, however, indicates that the shape is likely to be similar to the head plate of the brooch from Wijster grave 19<sup>710</sup>.

The brooch from Wijster grave 19 has a low bow and a trapezoid foot plate which ends in a circular terminal. The foot of the Zweeloo brooches and the specimen from Wijster grave 10 is damaged. The brooches, however, have a low bow and the remaining parts of the foot plates are trapezoidal.

The brooches from Wijster grave 10 and Zweeloo grave 49 are cast examples whilst those from Wijster grave 19 and Zweeloo grave 50 are copper-alloy plate<sup>711</sup>.

Hardly any decoration is preserved on the surface of the Zweeloo brooch from grave 49, except for a straight incised line on the headplate and an incised curly line on the foot. The bow and footplate of the Wijster brooch from grave 19 are decorated with rows of roughly round impressions. The impressions are placed along the borders and across the surfaces. Traces of a grooved ornament can be seen on the headplate. The rows of roughly round impressions are also present on the brooch from Zweeloo grave 50, whilst no decoration can be recognised on the specimen from Wijster grave 10. The nature of the incised lines on the Zweeloo brooch from grave 49 makes it possible that the specimen had the so-called face decoration, as described above. The decoration of the Wijster brooch cannot be classified exactly but is somewhat reminiscent of type 81a3a, from the group of brooches with a semi-circular head plate, as listed by Heeren and Van Der Feijst<sup>712</sup>.

The Domburg brooch has a relatively long period of circulation which is studied in detail by Botman<sup>713</sup>. She divides the cast examples across types 1 to 4. The specimens from Zweeloo

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<sup>709</sup> Braat 1956, 86

<sup>710</sup> Van Es *et al.* 2007, 831, 870.

<sup>711</sup> Van Es *et al.* 2007, 831.

<sup>712</sup> Heeren *et al.* 2017, 208.

<sup>713</sup> Botman 1994.

grave 49 and Wijster grave 10 can be placed in type 1a, which circulates roughly between 550 and 625. In Zweeloo grave 49, however, the brooch is found in combination with beads from category B4-B1 which start in phase 8 (640/50 – 670/80) as well as a so-called wasp bead (B3-D2-A4) which can be dated to phase 9 at the earliest. In this case, it is possible that the brooch should be considered an heirloom piece. The specimen from Oosterbeintum grave 428 was found in combination with an annular brooch of type BR-3a which dates to phase 3 to 5 (460/80 – 580/90) in the northern Netherlands. The copper-alloy plate examples from Wijster grave 19 and Zweeloo grave 50 are classified by Botman as type 5 which dates later than the cast examples, between AD 650 and 700<sup>714</sup>. As far as known, the plate examples are only found in Drenthe and are likely a locally made copy of the original cast brooches<sup>715</sup>. This would also explain the late date in comparison to the original Domburg brooches. The plate example from Zweeloo grave 50 occurs with checkerboard beads as well as millefiori beads with swirls. Both these types date between phases 8 and 10 with a possibly continuation into the first decades of the Carolingian period.

#### **Occurrence in the Netherlands:**

*Den Haag: Grave number unknown.*

*Oosterbeintum: 428.*

*Rijnsburg: Grave number unknown.*

*Wijster: 10, 19.*

*Zweeloo: 49, 50.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

Heeren: **Group 82h** – (late sixth – early seventh century, related types as early as the late fifth century<sup>716</sup>).

#### **Dating in the Netherlands:**

Phase 4 - 6 (460/80 – 610/20) for cast specimens.

Phase 8 – 10 (640/50 – 750) for copper alloy plate specimens.

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<sup>714</sup> Botman 1994.

<sup>715</sup> Van Es 2007, 831.

<sup>716</sup> Botman 1993., Verhelst *et al.* 2007, 105.



BR-1f (National Museum of Antiquities of the Netherlands)

### **BR-1g Equal-armed brooches – zoomorphic or short with incised plates**

The equal-armed brooch is a type of bow brooch which is characterised by a short and low bow, flanked by a symmetrical plate (or arm) on both sides. Most equal-armed brooches are fastened with a two-piece spring mechanism.

This group includes two distinct types of equal-armed brooches of which the first is characterised by its zoomorphic plates. In most cases, the plate resembles a snake's head, but other animals are known. The decoration of the bow varies but often includes incised lines or dot-in-circles.

The second type belonging to this group is relatively short and has a bow which is often wider than both plates. The profile of the bow is usually semi-circular and both plates are decorated with incised lines transverse across the brooch. The five brooches which are part of this sample are all found as single objects, in contrast to the equal-armed brooches of type BR-1h of which most are found in pairs.

Equal-arm brooches are relatively common in the Netherlands, with the largest find clusters in the Rhine basin and along the Frisian coast. Different variations of the type are found in Normandy, central and northern France, the basins of the rivers Seine, Rhine and Mosel, Scandinavia and parts of England including Kent and East Anglia<sup>717</sup>.

Current consensus involves the existence of three different style groups with a relatively clear geographical distribution pattern. Group 1 is the Scandinavian group, to which most Dutch brooches from the province of Friesland belong<sup>718</sup>. Group 2 is known as the English group and

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<sup>717</sup> Heeren *et al.* 2017, 236.

<sup>718</sup> Bos 2006.

includes most Dutch brooches from the province of Zeeland<sup>719</sup>. Group 3 consists of brooches mostly found in France and Germany which are researched in detail by Thörle<sup>720</sup>.

Heeren and Van Der Feijst place equal-arm brooches in their large and non-homogenous group 90. The brooches belonging to this group are identified as their subtypes 90a1 (zoomorphic) and 90a2 (short with incised plates)<sup>721</sup>.

Dating of this type is subject to debate, with Heeren and Van Der Feijst postulating a date between AD 575 and 850. This date applies to most brooches in their subgroup 90a, which is far from homogenous. The binding factor is the presence of a two-piece spring mechanism with a catch-plate which is placed lengthways on the brooch<sup>722</sup>.

Bos classifies short equal-armed brooches with incised terminals as type 1.3.1, with a start date in the sixth century<sup>723</sup>. Knol postulates a start date for the same type in the seventh century, on the basis of the older Van Bellingen typology<sup>724</sup>.

The brooch from Den Haag was found in the boat-shaped grave together with a knife and various beads. Also in the grave was part of a belt fitting made of copper-alloy. The material and shape place this belt fitting roughly in category BU-4. The presence of a loop for fastening at the back of the plate signals the presence of fake rivets (now missing). This would classify the belt fitting more precisely as belonging to group BU-4c (phases 6 and 7 > 580/90 – 640/50). Nieveler and Siegmund mark a similarly shaped belt fitting as part of a sword set and this classification is copied by the Franken AG (Spa1D, phase 7-8 > 610/20 – 640/50). However, such a classification is inconsistent with the otherwise female-gender specific grave goods in the Den Haag grave and the absence of any other evidence regarding a sword or other weaponry<sup>725</sup>.

In Oosterbeintum grave 501, the brooch was found together with a small number of beads. The exact location of the brooch, however, was amongst the remains of a cremation burial (grave 115) which was mixed into the disturbed infill of grave 501. Knol assumes that the

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<sup>719</sup> Capelle 1976.

<sup>720</sup> Thörle 2001.

<sup>721</sup> Heeren *et al.* 2017, 234.

<sup>722</sup> Heeren *et al.* 2017, 234-37.

<sup>723</sup> Bos 2006, 459-60.

<sup>724</sup> Knol *et al.* 1995/96, 331; Van Bellingen 1988, pl. 21.112.

<sup>725</sup> Nieveler *et al.* 1999, 17 and fig. 1.11; Müssemeier *et al.* 2003, 42.

brooch was part of the inhumation rather than the cremation and dates the inhumation on the basis of the brooch to between AD 625 and 750. Assuming that the cremation burial is older, he postulates a date between AD 400 and 650 for context 115<sup>726</sup>.

In Oosterbeintum grave 342, the brooch is found alongside sixty-one glass beads. Unfortunately no other artefacts were found which could aid the dating.

Besides the equal-armed brooch, Oosterbeintum grave 393 contained a buckle which is described as kidney-shaped. The kidney-shape does not become evident from the accompanying illustration but given the fact that the buckle is made of copper-alloy and that the tongue is straight, it is likely that the description should be followed rather than the illustration. In such a case, the buckle belongs to group BU-3a which dates as early as phase 3 (460/80 – 510/25). Furthermore, the brooch is accompanied by a sherd of Anglo-Saxon style pottery. Most Anglo-Saxon pottery occurs in the Netherlands in phases 3 and 4 (460/80 – 565). A sixth century date for this brooch is, based on the evidence, more likely than a seventh century date.

The brooch from Wijster grave 32 is the only one in the sample featuring zoomorphic plates. The bow is decorated with horizontal and vertical incised lines. The mechanism of the brooch is missing. The brooch is found accompanied by so called checkerboard beads (category B4-B1) which can be dated from approximately 650 onwards.

#### **Occurrence in the Netherlands:**

*Den Haag: 479*

*Oosterbeintum: 342, 393, 501*

*Wijster: 32*

#### **Identification in other typologies:**

Franken AG: **related to S-Fib 10** – (phase 8 > 640/50 – 670/80).

Siegmund: **related to Fib 10** – (phase 10 > 670-705).

LPV: **related to 292** (phases MR2-MR3 > 630/40 – 700/10).

Hines: -

Heeren: **Group 90 – general date** – (550 – 1025). **Group 90 – subtype A** – (570 – 730).

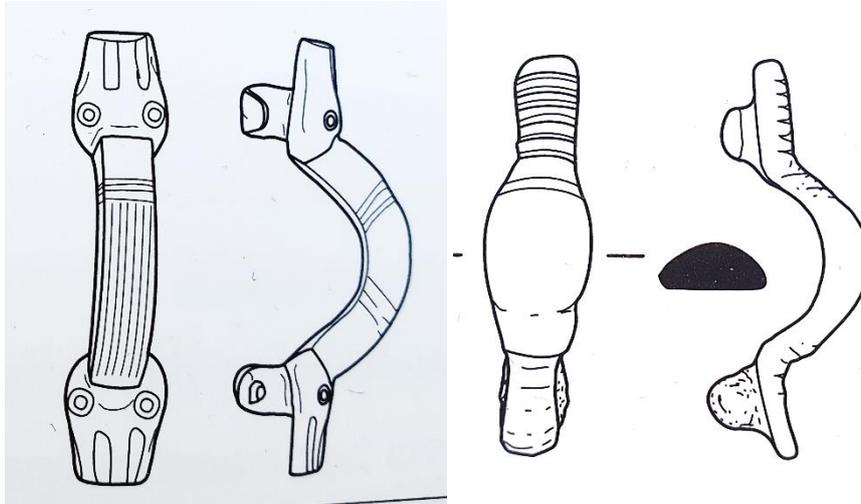
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<sup>726</sup> Knol *et al.* 1995/96, 405.

### Dating in the Netherlands:

Incised plates: Phase 4 - 7 (510/25 – 640/50).

Zoomorphic design: Phase 8-10 (640/50 – 750) Possibly continuing up to AD 800.



BR-1e (Heeren et al. 2017, 235)

### BR-1h Equal-armed brooches – band shaped

The equal-armed brooch is a type of bow brooch which is characterised by a short and low bow, flanked by a symmetrical plate (or arm) on both sides. Most equal-armed brooches are fastened with a two-piece spring mechanism, although eye-hook fastenings occur too. Brooches belonging to this group have a rectangular or a profiled outline. The width of the arms is equal to the width of the bow, creating a band shape. In both Zweeloo graves 11 and 29, brooches of this type were found in pairs whilst in Wijster grave 186 the brooch was found as a single item.

Equal-arm brooches are relatively common in the Netherlands, with the largest find clusters in the Rhine basin and along the Frisian coast. Different variations of the type are found in Normandy, central and northern France, the basins of the rivers Seine, Rhine and Mosel, Scandinavia and parts of England including Kent and East Anglia<sup>727</sup>.

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<sup>727</sup> Heeren et al. 2017, 236.

Current consensus involves the existence of three different style groups with a relatively clear geographical distribution pattern. Group 1 is the Scandinavian group, to which most Dutch brooches from the province of Friesland belong<sup>728</sup>. Group 2 is known as the English group and includes most Dutch brooches from the province of Zeeland<sup>729</sup>. Group 3 consists of brooches mostly found in France and Germany which are researched in detail by Thörle<sup>730</sup>.

Heeren and Van Der Feijst place equal-arm brooches in their large and non-homogenous group 90. Three main types are distinguished on the basis of a chronologically relevant differences in the closing mechanism.

Type A has a two-piece spring mechanism with a catch-plate which is attached lengthways on the brooch.

Type B has a two-piece spring mechanism with a catch-plate which is attached in a transverse direction.

Type C is characterised by an eye-hook mechanism.

Type A is subsequently divided into seven subtypes on the basis of the shape of the arms. The same criteria led to the subdivision of type B into six subtypes and type C into two subtypes<sup>731</sup>.

The two brooches from Zweeloo grave 11 are made of silver and have rectangular arms. The arms have the same width as the bow, creating the overall appearance of a centrally bent silver strip. Along the edges, the brooches are decorated with a border of two lines of rectangular impressions. The pin and catch-plate are missing which complicates exact classification in accordance with the typology by Heeren and Van Der Feijst. Purely based on the shape of the Zweeloo grave 11 brooches, they can be considered closely related to Heeren subtype C1. However, the absence of a catch-plate or other closing mechanism means that this classification is little more than a best guess. The decoration is reminiscent of subtype A5.

The two brooches from Zweeloo grave 29 are made of copper-alloy and have rectangular arms which terminate in two slight lobes. The edges of both arms and bows are slightly scalloped. The bows are equally wide as the arms and decorative pattern continues across arms and bow. The brooches in this grave have a transversely placed two-piece spring mechanism and therefore belong to Heeren's type B.

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<sup>728</sup> Bos 2006.

<sup>729</sup> Capelle 1976.

<sup>730</sup> Thörle 2001.

<sup>731</sup> Heeren *et al.* 2017, 234.

A pattern of semi-circular incised lines is present along the edges, four on each side of the brooch. The central fields are decorated with four small circular impressions each. The brooches from Zweeloo grave 29 belong to subtype B on the basis of the placement of the catch-plate and are, shape-wise, most related to subtype B2. This subtype, however, is described as decorated with glass bead inlay which is not recognised in the Zweeloo brooches.

Van Es postulates that band-shaped equal-armed brooches, as found in Zweeloo grave 11, are rarer than those with a profiled outline. Parallels of non-profiled band-shaped examples are known from Domburg and Schouwen (Zeeland) and various places in Germany including Ketzendorf, Anderten (Niedersachsen) and Goddelsheim (Hessen)<sup>732</sup>. Profiled brooches in the same style but not similar to those found in Zweeloo grave 29 are also known from Domburg<sup>733</sup>. The grave 29 brooches can be placed in Thörles type 12 and Van Bellingen and Kleeman's types 3<sup>734</sup>.

The brooch from Wijster is band shaped and terminates on both sides in three equal lobes. In the centre of the relatively low bow, the sides of the brooch are notched. Centrally on the bow, two parallel and lengthwise incised lines are present. The brooch is found as a single object and the mechanism and needle catch are missing.

Given the decoration, the brooch would fit best in Heeren and Van der Feijst's types 90a3 or 90c1. Due to the absence of the mechanism, exact placement is impossible. However, in case of a type 90a3, the brooch could be dated between AD 750 and 900 according to Heeren and Van Der Feijst, whilst in case of a type 90c1 the date would be later, between 800 and 1050<sup>735</sup>. Especially the latter seems somewhat late when viewing the context of grave 186, which contains so called checkerboard beads of category B4-B1. These beads can be dated to approximately 650-750/800. In the cemetery publication, Van Es postulates a date in the seventh or eighth century<sup>736</sup>.

A similar brooch as found in Wijster is known as a stray find from the early medieval Huinerveld cemetery in Putten (Gelderland)<sup>737</sup>. Heeren and Van Der Feijst list two examples somewhat similar to the Wijster brooch which are found in Naaldwijk (Zuid-Holland), in the

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<sup>732</sup> Thieme 1978, 71.

<sup>733</sup> Capelle 1976, 62-66.

<sup>734</sup> Van Es 2007, 832.

<sup>735</sup> Heeren *et al.* 2017, 235 and 237.

<sup>736</sup> van Es 1967, 507.

<sup>737</sup> Ypey 1962/63, 141 and Fig. 34.II

context of a *vicus* excavation with military link. Naaldwijk is also home to an early medieval cemetery which is not part of this sample. A third brooch listed is a detector find from Wijk bij Duurstede (Dorestad (Utrecht))<sup>738</sup>.

#### Occurrence in the Netherlands:

*Wijster*: 186

*Zweeloo*: 11, 29

#### Identification in other typologies:

Franken AG: **related to S-Fib 10** – (phase 8 > 640/50 – 670/80).

Siegmund: **related to Fib 10** – (phase 10 > 670-705).

LPV: **related to 292** (phases MR2-MR3 > 630/40 – 700/10).

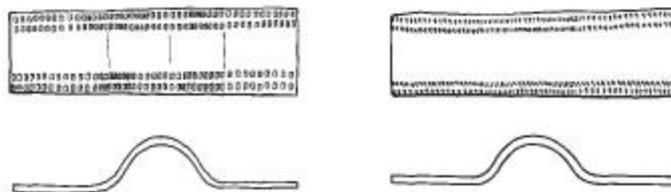
Hines: -

Heeren: **Group 90 – general date** – (550 – 1025). **Group 90 – subtype A** – (570 – 730), **A3 with three lobes** – (750 - 900), **A5 with decoration of impressions** – (600 - 700)<sup>739</sup>. **Group 90 – subtype B** – (700 – 830). **Group 90 – subtype C** – (800 – 1025).

#### Dating in the Netherlands:

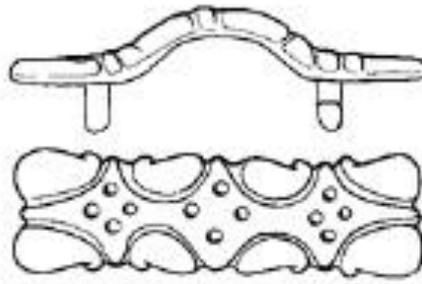
Phase 8-10 (640/50 – 750). Possibly continuing up to 800/850.

This date applies to the variants discussed in this group which are found in Drenthe. The availability within the sample did not allow for further study of different variant or find locations. It is possible, however, that this date is applicable on a larger scale.



<sup>738</sup> Heeren *et al.* 2017, 494, 497, 596.

<sup>739</sup> Heeren *et al.* 2017, 234-35. Dating in Heeren *et al.* based on: Bos 2006, 459-460., Thörle 2001, 35-50.



BR-1h (Van Es et al. 2008, 887 + 889)

### **BR-1i** Equal-armed brooches with round plates

Equal-armed brooches made of copper-alloy with two relatively large circular plates. The brooch from Maastricht has a decoration of an incised equal-armed cross on both round plates. The edges of the plates are decorated with an incised border with geometric patterns. The bow is also decorated with geometric patterning.

#### **Occurrence in the Netherlands:**

*Maastricht: stray find.*

#### **Identification in other typologies:**

Franken AG: **S-Fib 10** – (phase 9-10 > 670/80 - 750).

Siegmund: **Fib 10** – (phase 10 > 670 - 705).

LPV: **291** (phases MR2-MR3 > 630/40 – 700/10, most prominent in MR3 > 660/70 – 700/10).

**Related to 286** (phases MR2-MR3 > 630/40 – 700/10).

Hines: -

Heeren: **Group 90a4** – (late 6<sup>th</sup> – early 8<sup>th</sup> century, those with incised decoration: 7<sup>th</sup> century).

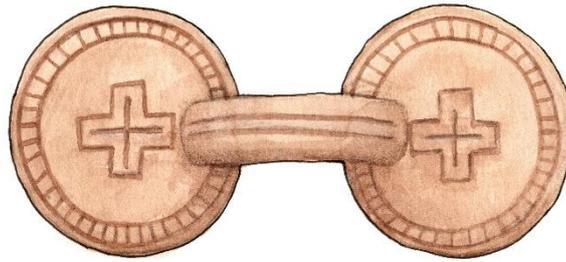
Thörle: **type IIA1** – (JMII – JMIII > 630/40 – 670/80)<sup>740</sup>.

#### **Dating in the Netherlands:**

Unknown. A late seventh century date is most likely.

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<sup>740</sup> Thörle 2001, 50-53, 57, 92 and table 7.



BR-1i

### **BR-1j Equal-armed brooches with chip-carved decoration (Butterfly brooches)**

The equal-armed brooch with chip-carved decoration is also known as the butterfly brooch due to its characteristic shape. It is a multi-part bow brooch which has a two-piece spring mechanism. The relatively low and narrow bow connects two symmetrical 'wings' which are roughly trapezoid in shape. The brooch has a characteristic chip-carved decoration which is known in the German literature as *Kerbschnitt*.

The brooch from Zweeloo is gilded and the decorative pattern consists of a combination of geometrical and zoomorphic styles<sup>741</sup>.

The equal-armed brooch with chip-carved decoration is rare in the Netherlands with only five known examples from the northern provinces of Drenthe and Friesland<sup>742</sup>. One of the brooches found features in the sample used for this research. In the area between the rivers Elbe and Weser in Germany, the butterfly brooch is found in larger numbers and is normally related to female gender contexts.

Because of the low find numbers, Heeren and Van Der Feijst make no distinction between different subtypes across the brooches from the Netherlands. The German butterfly brooches, however, are divided into various subtypes by Böhme<sup>743</sup>. The decoration and shape of the Zweeloo brooch seem to include style elements of the Nesse and Dösemoor subtypes as found in Germany. The latter of these types is dated by Böhme to the second half of the fifth century whilst the former is dated to the first half of the fifth century. In light of the phase 3 dating of Zweeloo grave 87, it is possible that the butterfly brooch in this context should be considered a transitional type.

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<sup>741</sup> Van Es *et al.* 2007, 914.

<sup>742</sup> Heeren *et al.* 2017, 204.

<sup>743</sup> Böhme 1974, 16.

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

Heeren: **Group 79** – (400 – 500, possibly until approximately 530)<sup>744</sup>.

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).



*BR-1j (National Museum of Antiquities of the Netherlands)*

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<sup>744</sup> Dating in Heeren based on the dating by Böhme: Böhme 1974, 19.

### **BR-1k Small equal-armed brooches with lobed plates**

Small equal-armed brooches made of copper-alloy of which the bow is relatively large in comparison to the plates. The plates consist of three circular lobes with inlay.

The Maastricht brooch is the only specimen of this type found in the Netherlands to date. The bow of the Maastricht brooch is ovoid and convex with a flattened top. In the flattened top, a circular recess is visible with the remains of a white substance. It can be suggested that the recess was once home to glass or garnet inlay. The white substance may be a residue of an adhesive. An incised ladder-band is applied around the recess, in turn surrounded by a row of triangles. Similar triangles are visible along the edge of the bow. The plates of the brooch are formed by three circular lobes, each containing yellowish glass set on gold foil. It is probable that a similar decoration once adorned the large central cell on the bow.

The brooch was found in situ and in its original position in the grave and is therefore likely a genuine part of the Merovingian grave assemblage of Maastricht grave 85. In the archive of the Vrijthof excavation, a remark was found linking this for the Netherlands unknown brooch type to the find of a 'Scandinavian brooch' in Farsleben (Sachsen-Anhalt, Germany), which is said to resemble the Maastricht specimen<sup>745</sup>. The location of this cemetery is in the region of Germany that was part of the Thuringian realm during the early medieval period.

An equal-armed brooch resembling the Maastricht specimen is listed by LPV as a 'Thuringian type' (256, PM-MA1 > 440/50 – 520/30, most commonly in MA1 > 470/80 – 520/30). The brooch listed by LPV differs from the Maastricht specimen through a rectangular rather than an ovoid bow. The brooch is decorated with inlay in similar positions as seen for the Maastricht specimen. The nature of the inlay, however, is not specified by LPV<sup>746</sup>.

Although it cannot be said with certainty, the Maastricht specimen seems to be a Thuringian brooch or a Merovingian interpretation of a Thuringian brooch design.

In Maastricht, the brooch is found in combination with a glass globular beaker of type GL-1a (phase 5-7 > 565 – 640/50) and a pottery jug of type PO-7b (phase 6 > 580/90 – 610/20).

#### **Occurrence in the Netherlands:**

*Maastricht: 85.*

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<sup>745</sup> Theuws *et al.* 2017, 247 (footnote 287); Behm-Blancke 1973, tafel 100.

<sup>746</sup> Legoux *et al.* 2016, 26, 45, 62.

### Identification in other typologies:

Franken AG: -

Siegmund: -

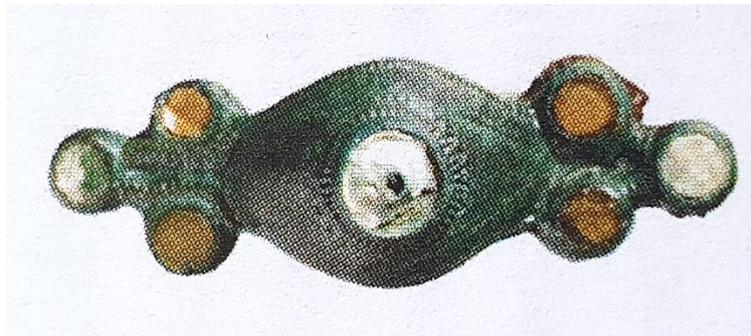
LPV: **related to 256** (phases PM-MA1 > 440/50 – 520/30, most commonly in MA1 > 470/80 – 520/30).

Hines: -

Heeren: -

### Dating in the Netherlands:

Phase 5-6 (565 – 610/20).



*BR-1k (Theuws et al. 2017, 446)*

### **BR-1I** Cruciform brooches

Bow brooches with a rectangular head plate equipped with three lobes or knobs. Due to the positioning of the lobes or knobs, the shape of the brooch resembles a cross with the foot plate, bow and top lobe forming the vertical part. It can be argued that this type should be classified as a radiate headed brooch (category BU-2). Most radiate headed brooches, however, have five or more knobs. The radiate headed brooches with three knobs are closely related to the cruciform brooch but are usually smaller and have a semi-circular or triangular head-plate rather than a rectangular one. In literature, the cruciform brooch is often categorised as a subtype of the small-long brooch.

Most brooches in this group have a lengthwise ridge on the bow and a decoration of incised lines on the foot plate. The terminal of the foot plate is decorated as a stylised animal head. The knobs are often nudged in the middle and the brooches are made of copper-alloy.

Cruciform brooches are a type that is found in the coastal regions around the North Sea, mainly in England, Scandinavia and the Netherlands. Sporadically, the type occurs further inland in the basins of the rivers Rhine, Weser and Elbe<sup>747</sup>. Heeren and Van Der Feijst list a specimen which is found in Elst, but the brooch does not feature in the publication of the cemetery and further details are unknown<sup>748</sup>.

The specimen from Oosterbeintum grave 398 has two dot-in-circles on the rectangular head plate and belongs to the so-called Midlum subtype. The brooch which is possibly found in Elst has flat lobes rather than knobs attached to the head plate but is further consistent with the above specifications. The headplate and lobes are decorated with various dot-in-circles in what seems to be a deliberate row pattern.

The brooches found in Oosterbeintum contexts 100, 160 and 365 are severely damaged. They are no longer recognisable as belonging to the Midlum subtype on the basis of the available evidence. In case of the latter brooch, the knobs are rectangular rather than round.

Heeren and Van Der Feijst list cruciform brooches as part of their group 82 (bow brooches with a more or less rectangular plate) and do not specify any subtypes<sup>749</sup>. The cruciform brooches are listed as 82g and dated between AD 450 and 550.

Knol, in the Oosterbeintum publications assigns the brooches from graves A, 60, 360 and 398 to the Midlum subtype. Brooches of this subtype were also found in other places in Friesland including Hogebeintum, Midlum en Wijnaldum<sup>750</sup>. In 1995, further specimens were already known from England, the northern German state of Schleswig-Holstein and Denmark, but a new international inventory would be useful<sup>751</sup>. Reichstein postulates that the Midlum type is a late cruciform brooch and dates it to the second half of the fifth or early sixth centuries<sup>752</sup>. In the Oosterbeintum publication, however, Knol goes with the dating by Hines (AD 475-525). Hines links the date of the late cruciform brooches to Style 1 decoration as known from Anglo-

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<sup>747</sup> De Leeuw 2002, fig. 4.18 to 4.34.

<sup>748</sup> Heeren *et al.* 2017, 491, 591.

<sup>749</sup> Heeren *et al.* 2017, 211-12.

<sup>750</sup> Knol *et al.* 1995/96, 330.

<sup>751</sup> Reichstein 1975, 42.

<sup>752</sup> Reichstein 1975, 108.

Saxon England<sup>753</sup>. It may be possible to attribute the stylised animal heads on the Midlum brooches to this early zoomorphic decorative style.

**Occurrence in the Netherlands:**

*Elst: ?*

*Oosterbeintum: A, 60, 100, (160), 360, 365 (stray find), 398.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: **related to BR1-a** (phase AS-FB(p) > 510/45 – 555/85).

Heeren: **82g** – (450-550).

**Dating in the Netherlands:**

Phase 2-3 (430/35 – 510/25).



*BR-1 (National Museum of Antiquities of the Netherlands)*

**BR-1m Bow brooches with a heart-shaped head-plate and a trapezoid foot**

Bow brooches with a heart-shaped head-plate and a trapezoid foot with rounded bottom corners. The cross section of the bow is band shaped, and the brooches are equipped with a two-piece spring which is placed between widely spaced lugs.

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<sup>753</sup> Hines 1984, 7-28.

Brooches of this type are elaborately decorated with carved geometric patterns. The specimen from Rhenen grave 152 is equipped with three small circular and raised fields, one on either side of the head-plate and one centrally on the bottom edge of the foot. The brooch is made of gilded silver.

This brooch type is rare in the Netherlands but parallels with similar head plates are known from parts of Germany that belonged to the Thuringian realm during the early medieval period. Often, however, these brooches have a zoomorphic terminal to the foot plate rather than a rectangular plate as seen in Rhenen. The Thuringian brooches also often show notches on both sides of the head plate whilst the Rhenen specimen shows two round raised fields in the same place<sup>754</sup>. The '*Museum für Ur- und Frühgeschichte Thüringens*' in Weimar (Thüringen) dates these brooches between AD 500 and 550 in its online catalogue<sup>755</sup>.

LPV list brooches similar to the one found in Rhenen, but with the zoomorphic terminal, and date them between 470/80 and 580/90. They also mark the type as Thuringian in their typology<sup>756</sup>.

#### **Occurrence in the Netherlands:**

*Rhenen: 152.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **related to 261** (phases MA1-MA3a > 470/80 – 580/90).

Hines: -

Heeren: **82d** – (500-550/575).

#### **Dating in the Netherlands:**

Phase 4 (510/25 - 565). Possibly as early as phase 3.

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<sup>754</sup> Brather-Walter 2017, 291; Behm-Blancke 1973; Timpel 1999.

<sup>755</sup> [www.thue.museum-digital.de](http://www.thue.museum-digital.de) (object 1567.)

<sup>756</sup> Legoux *et al.* 2016, 26, 45, 62.



BR-1m (National Museum of Antiquities of the Netherlands)

## BR-2: RADIATE-HEADED BROOCHES

Radiate-headed brooches are a relatively common find in early medieval inhumations. The fact that they are almost always discovered in pairs is a first indication that this brooch type was part of the female dress. The radiate-headed brooch is in fact a type of bow brooch but can be distinguished from the many other bow brooches by its specific shape and the presence of knobs, often three or five, attached to the head plate. Most radiate-headed brooches are made of copper-alloy. Especially the larger examples are sometimes made of gilded silver and adorned with garnet or imitation garnet inlay. In most cases, the needle and spring mechanism are made of iron. The brooches are equipped with a two-piece spring which is placed between widely spaced lugs<sup>757</sup>.

Radiate-headed brooches come in a large variety of styles which are elaborately classified for the western parts of the Frankish realm by Alexander Koch. In his typology, Koch uses two main criteria for classification of which the first is the shape of the foot in combination with head-plates in various styles. The second variable is the number of knobs that are present on the head-plate<sup>758</sup>.

The German typology by Siegmund distinguishes between five small types with three knobs in combination with various foot and/or head-plate shapes. The larger specimens are divided into seven different types based on the shape of the head-plate in combination with the

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<sup>757</sup> Heeren *et al.* 2017, 207-211.

<sup>758</sup> Koch 1998, 463-470 + plates 1-2.

number of knobs and the shape of the foot<sup>759</sup>. The Franken Arbeitsgruppe copies the typology by Siegmund but creates one single group which includes Siegmund's first five small types<sup>760</sup>. LPV present an extensive typology of radiate-headed brooches (Fibule Ansée) from northern France. The small examples, mainly with three knobs, are grouped together as one group. The larger specimens are classified on the basis of the same criteria as mentioned for Siegmund and the Franken Arbeitsgruppe but including decoration. Because the decoration is quite varied, this results in twenty-four different groups. In a chronological sense, this detailed classification is of little relevance. It is the size, shape of the head-plate and foot as well as the number of knobs that ultimately makes a chronological difference<sup>761</sup>.

For the Netherlands, Heeren and Van Der Feijst make an initial division between radiate-headed brooches with a semi-circular head-plate (group 81) and those with a rectangular head-plate (group 82)<sup>762</sup>. The term 'radiate-headed brooches' is not used. Instead, group 81 is labelled 'Bow brooches with a semi-circular head-plate' and group 82 is named 'Bow brooches with a more or less rectangular head-plate'.

The former of these groups is relatively homogeneous and includes only radiate-headed brooches, both large and small. Heeren describes how a subdivision of the main group with semi-circular head-plates is created using the same criterion as previously applied by Koch. It is mentioned that, as a third and leading criterion in this group the cross section of the bow is added. Chronological relevance is attributed to the difference between a flat, band-shaped cross section and a high, roughly triangular cross section<sup>763</sup>. From the sample it becomes clear, however, that the cross-section division largely coincides with the division between large and small specimens. The fact that for instance Siegmund and LPV distinguish chronologically between small and large brooches means that the difference between the two cross sections is already incorporated to a large extent, albeit not specifically mentioned.

Heeren's group 82 is a much less homogenous group and includes radiate-headed brooches with a square head-plate, small long brooches and some subtypes from the family of the square headed brooches<sup>764</sup>. Although all identifiable as bow brooches, the various types differ significantly in design, size, decoration and pattern of distribution, prompting the need for separation of the subtypes as presented in this typology.

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<sup>759</sup> Siegmund 1998, 53-55.

<sup>760</sup> Mússemeier *et al.* 2003, 30-32.

<sup>761</sup> Legoux *et al.* 2016, 26, 45, 62.

<sup>762</sup> Heeren *et al.* 2017, 207-214.

<sup>763</sup> Heeren *et al.* 2017, 207.

<sup>764</sup> Heeren *et al.* 2017, 211-212.

## **BR-2a Small radiate-headed brooches with a semi-circular head plate with three bird head-like knobs**

Small radiate-headed brooches with a semi-circular head-plate which is equipped with hooks rather than knobs. It is thought that the hooks are a stylised representation of bird heads. Two hooks pointing upwards are present on either side of the head-plate and a central knob, on top of the head-plate splits into two hooks, pointing in opposite directions. The brooch has a triangular cross section and a trapezoid foot. Two more hooks or knobs are usually present on either side of the transition from bow to foot.

In the case of the specimen from Rhenen grave 82, both foot and head-plate are decorated with a border created by two incised lines. The central fields within these boundaries are decorated with a dot-in-circle motif. The bow is undecorated, and the central knob/hook is decorated with five small dots.

### **Occurrence in the Netherlands:**

*Rhenen: 82*

### **Identification in other typologies:**

Franken AG: **S-Fib 12.1 to 12.5** – (phase 2 > 430/35 – 460/80)

Siegmund: related to **Fib 12.1** – (phase 2 > 440-485), **Fib 12.2** – (phase 2 > 440-485), **Fib 12.3** – (phase 3 > 485-530), **Fib 12.4** – (phase 2 > 440-485), **Fib 12.5** – (phase 2 > 440-485).

LPV: **255** (phases PM-MA1a > 440/50 – c. 500, most prominent in PM > 440/50 – 470/80).

Hines: -

Heeren: **Group 81c** – (dating not mentioned, but based on triangular cross section c. 430-500)

### **Dating in the Netherlands:**

Phase 2 (435 – 460/80).



*BR-2a (National Museum of Antiquities of the Netherlands)*

**BR-2b Small radiate-headed brooches with a semi-circular head-plate, three knobs and a rectangular foot**

Brooches in this group have a semi-circular head-plate with three knobs. The bow is usually triangular in cross-section and the foot is rectangular or slightly trapezoid in shape.

Both head-plate, bow and footplate of the Rhenen grave 799 specimens are decorated with a dot-in-circle motif. The head-plate and foot are further decorated with a border consisting of two incised lines. Between those lines, transverse lines are placed.

**Occurrence in the Netherlands:**

*Rhenen: 799.*

**Identification in other typologies:**

Franken AG: **S-Fib 12.1 to 12.5** – (phase 2 > 430/35 – 460/80).

Siegmund: related to **Fib 12.1** – (phase 2 > 440-485).

LPV: related to **253** (phases PM-MA1a > 440/50 – c. 500, most prominent in PM > 440/50 - 470/80).

Hines: -

Heeren: **Group 81a5** – (475-500)

**Dating in the Netherlands:**

Phase 2-3 (435 – 510/25).



*BR-2b (National Museum of Antiquities of the Netherlands)*

**BR-2c Small radiate-headed brooches with a semi-circular head-plate, three knobs and a dovetail-shaped foot**

Small radiate-headed brooches with a semi-circular head-plate with three knobs. In the case of the specimen from Rhenen grave 99, the head-plate is rather narrow and elongated, creating the impression of a dome shape. The bow has a triangular profile but is wrapped with metal wire for decorative purposes. The foot is elongated trapezoid and ends in a characteristic dovetail shape. The head-plate is decorated with incised lines and more or less triangular impressions. The foot is decorated with a border of two incised lines between which transverse lines are placed.

**Occurrence in the Netherlands:**

*Rhenen: 99.*

**Identification in other typologies:**

Franken AG: **S-Fib 12.1 to 12.5** – (phase 2 > 430/35 – 460/80).

Siegmund: **Fib 12.4** – (phase 2 > 440-485).

LPV: **255** (phases PM-MA1a > 440/50 – c. 500), **257** (phases PM-MA1a > 440/50 – c. 500).

Both types are most prominent in PM > 440/50 – 470/80.

Hines: -

Heeren: **Group 81a4** – (475-500).

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).



*BR-2c (National Museum of Antiquities of the Netherlands)*

**BR-2d Small radiate-headed brooches with a triangular head-plate, three knobs and a complex foot**

Small radiate-headed brooches with a more or less triangular head-plate and three pronounced knobs. The foot is formed by a combination of a triangular shape and two circular shapes. Starting at the side of the bow, the foot consists of a larger circular part with a triangular part attached. The triangle ends in a smaller circular terminal. Although the overall foot shape approaches a diamond shape, the specific type is not directly reflected by any of the examples presented by Heeren. The specimen from Elst is a best match to Heeren's type 81e1. The foot of this type is described as diamond shaped with an animal head. The triangular foot from Elst, with a small round terminal does resemble the shape of an animal head but is not decorated, in contrast to type 81e1.

**Occurrence in the Netherlands:**

*Elst: 159.*

### Identification in other typologies:

Franken AG: **S-Fib 12.1 to 12.5** – (phase 2 > 430/35 – 460/80).

Siegmund: related to **Fib 12.1** – (phase 2 > 440-485), **Fib 12.5** – (phase 2 > 440-485).

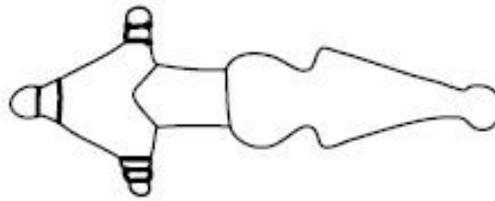
LPV: related to **255** (phases PM-MA1a > 440/50 – c. 500 most prominent in PM > 440/50 – 470/80), related to **254** (phases MA1 > 470/80 – 520/30).

Hines: -

Heeren: related to **81e** – (520-560/80)

### Dating in the Netherlands:

Phase 4 (510/25 – 565).



*BR-2d (Verwers et al. 2015, 221)*

### **BR-2e Radiate-headed brooches with a semi-circular head-plate, five knobs and diamond-shaped foot with circular terminal**

Radiate headed brooch with a semi-circular head-plate which is equipped with five knobs. The cross section of the bow is roughly triangular. The foot is diamond shaped and terminates in a small circle. A small protruding lobe, hook or arm is placed on both sides of the brooch at the transitioning point from bow to foot. This is one of the differences between this type and type BR-2f, which has protruding circular lobes at the extremities of the diamond shaped foot on both sides.

The head-plates and footplates of all three specimens in the sample are decorated with a double incised line which forms a border around the outline. The brooch from Rhenen grave 78 has a dot-in-circle motif on the head-plate, bow, foot and terminal.

The specimen from Rhenen grave 165 has a similar dot-in-circle decoration on the head-plate, foot and terminal. The bow, however, is decorated with two transverse incised lines in the centre, flanked by two or three opposing incised chevrons on either side.

The brooch from Wageningen grave 153 has the same decoration on the bow as the specimen from Rhenen grave 165 but does not have the dot-in-circle motif. Apart from the previously mentioned border, the head-plate, foot and terminal are plain.

**Occurrence in the Netherlands:**

*Rhenen: 78, 165.*

*Wageningen: 153.*

**Identification in other typologies:**

Franken AG: **S-Fib 12.6** – (phase 3 > 460/80 – 510/25).

Siegmund: **Fib 12.6** – (phase 3 > 485-530).

LPV: **254** (phases MA1 > 470/80 – 520/30).

Hines: -

Heeren: **81b1** – (dating not mentioned but based on triangular cross section c. 430-500).

**Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).



*BR-2e (National Museum of Antiquities of the Netherlands)*

## **BR-2f Radiate-headed brooches with a semi-circular head-plate, five knobs and a diamond-shaped foot**

Radiate headed brooches with a semi-circular head-plate which is equipped with five knobs. The foot is diamond shaped and has an ovoid or trapezoid terminal. In most cases, the terminal is decorated to represent an animal head (e.g. Rhenen grave 88). Small circular protruding lobes are present on the extremities of the diamond shape on both sides. This is one of the differences between this type and type BR-2e, which has protruding lobes, arms or hooks at the transition from bow to foot. The brooches are made of copper-alloy or gilded silver and the knobs as well as the side-lobes can be plain, profiled or inlaid with garnet (e.g. Rhenen grave 433). The general decoration of brooches in this group is elaborate and can consist of incised lines and/or dot-in-circle motifs. The cross section of the bow is usually band shaped.

### **Occurrence in the Netherlands:**

*Elst: 112, 239.*

*Rhenen: 88, 433, 470.*

### **Identification in other typologies:**

Franken AG: **S-Fib 12.7** – (phase 4 > 510/25-565).

Siegmund: **Fib 12.7** – (phase 3 > 485-530).

LPV: **265** (phases MA1-MA2 > 470/80 – 560/70, most frequently in MA1 > 470/80 – 520/30).

Hines: -

Heeren: **81e2** – (c. 520-560/80).

### **Dating in the Netherlands:**

Phase 4 (510/25 - 565). A start around c. 490/500 is not unthinkable.



*BR-2f (Wagner et al. 2011, 340)*

**BR-2g Radiate-headed brooches with a semi-circular head-plate, five knobs and a rectangular foot**

Radiate headed brooch with a semi-circular head-plate which is equipped with five knobs. The foot is rectangular or slightly trapezoid. Brooches of this type are made of copper-alloy (e.g. Rhenen 423) or gilded silver (e.g. Rhenen 31) and the bow usually has a flat, band like cross section. Thickened bows, however, occur from time to time (e.g. Elst 118).

The decoration of brooches in this group is elaborate and consists of incised lines in various patterns and styles. In some cases, a combination of incised lines and dot-in-circle motifs is present. The knobs are profiled and usually decorated with either a single dot-in-circle (e.g. Rhenen 380) or with garnet inlay (e.g. Rhenen 182). Only two brooches in this sample did not have decorated knobs (Rhenen 332 and 808). The brooch from Rhenen grave 438 is the only specimen in the sample of which the knobs represent stylised bird heads.

**Occurrence in the Netherlands:**

*Elst: 118, 239.*

*Rhenen: 31, 93, 131, 182, 195, 332, 380, 397, 423, 438, 530, 578, 600, 716, 808.*

**Identification in other typologies:**

Franken AG: **S-Fib 12.8** – (phase 3-4a > 460/80 – c. 535/40).

Siegmund: **Fib 12.8** – (phase 3 > 485-530).

LPV: **268 bird head knobs** (phases MA1-MA2a > 470/80 – 540/50, most frequently in MA1b > 495/500 – 520/30), **269** (phases MA1-MA2 > 470/80 – 560/70, most frequently in MA1b >

495/500 – 520/30), **270** (phases MA1-MA2 > 470/80 – 560/70, most frequently in MA1b > 495/500 – 520/30), **271** (phases MA1 > 470/80 – 520/30, **272** (phases MA1 > 470/80 – 520/30, most frequently in MA1b > 495/500 – 520/30), **273** (phases MA1 > 470/80 – 520/30, most frequently in MA1b > 495/500 – 520/30), **274** (phases MA1b-MA2 > 495/500 – 560/70, most frequently in MA2 > 520/30 – 560/70).

Hines: -

Heeren: **81d2** – (c. 480-550), related to **81d3** – (c. 480-550).

### Dating in the Netherlands:

Phase 3 – 5 (460/80 – 580/90).



*BR-2g (National Museum of Antiquities of the Netherlands)*

### **BR-2h Radiate-headed brooches with a semi-circular head-plate, five zoomorphic knobs and a rectangular foot with bird head**

This rare type of radiate headed brooch is usually made of gilded silver and is extensively decorated. The brooches have a semi-circular head-plate which is equipped with five knobs in the shape of animal heads. The eyes of the animals can be inlaid with garnet and/or glass. The foot is rectangular, sometimes with slightly convex sides and has a terminal in the shape of a bird head.

The specimen from Maastricht is equipped with four knobs in the shape of a bird head and a central knob in the shape of an unidentified animal head, possibly a snake. The birds all have

a garnet inlaid eye and the unidentified animal has two eyes inlaid with green glass paste. The heads, beaks and necks of the birds are decorated with incised lines. The semi-circular head plate is given a border of incised lines and four round cells with garnet inlay are present in the central field. The bow is decorated with incised lines and dots. The foot consists of a bird's neck, which is decorated with incised scrolls and lines. The head itself consists of a beak, decorated with incised lines, and a large round cell with garnet inlay for an eye. The head-plate and foot also show traces of niello decoration.

Exact parallels to the brooch from Maastricht are not known from the Low Countries, Germany or France. The individual component of the semi-circular head-plate with five bird heads or four bird heads and the head of an unknown animal, however, is much more common<sup>765</sup>. This feature usually occurs in combination with a rectangular foot plate (e.g. Rhenen grave 438, classified in group BR-2g) and is classified for Germany by Koch as type I.3.3.2.8. None of the subtypes mentioned by Koch are an exact match to the Maastricht brooch<sup>766</sup>.

LPV lists brooches with bird head-shaped knobs and a rectangular foot as type 268 (MA1-MA2a > 470/80 – 540/50, most commonly in MA1b > 490/500 – 520/30)<sup>767</sup>. The type is not specifically listed by Siegmund or the Franken AG.

Radiate headed brooches with a bird-shaped foot plate are listed by A. Koch as type III.3.4.2. The bird-head terminal, however, looks different to the one seen in Maastricht. When these brooches have bird head-shaped knobs, they also look very different to the knobs seen on the Maastricht specimen<sup>768</sup>. This type of foot plate is not specified by either LPV, Siegmund or the Franken AG. Koch nor other typologies list specimens with the specific animal head-shape of the central knob of the Maastricht species<sup>769</sup>.

#### **Occurrence in the Netherlands:**

*Maastricht: stray find.*

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<sup>765</sup> Theuws *et al.* 2017, 246.

<sup>766</sup> Koch 1998, 92-96.

<sup>767</sup> Legoux *et al.* 2016, 45, 62.

<sup>768</sup> Koch 1998, 114-17.

<sup>769</sup> Theuws *et al.* 2017, 246.

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **related to 268** (MA1-MA2a > 470/80 – 540/50, most commonly in MA1b > 490/500 – 520/30).

Hines: -

Heeren: **81d3** – (480-550).

**Dating in the Netherlands:**

Unknown. Given the similarities with the well-known bird brooches (see BR-6) a date in phases 3 and 4 (460/80 and 565) is likely.



*BR-2h Theuws et al. 2017, cover)*

**BR-2i Radiate-headed brooches with a rectangular head-plate, free-standing knobs and an ovoid foot**

Radiate headed brooches with a rectangular head-plate and an ovoid foot. The ovoid foot ends in a smaller ovoid or trapezoid terminal which is sometimes decorated to represent a stylised animal head (e.g. Rhenen grave 152). The head-plate is usually equipped with seven or eight free-standing and profiled knobs. Two knobs are placed on either side of the head-plate and three or four knobs are present on top. The brooches are made of copper-alloy or

gilded silver and are richly decorated. Decoration usually consists of incised lines, often in combination with triangles and/or dot-in-circle motifs. The cross section of the bow is usually trapezoid or semi-circular.

**Occurrence in the Netherlands:**

*Rhenen: 79, 152, 413.*

**Identification in other typologies:**

Franken AG: **S-Fib 12.11** – (phase 4 > 510/25-565).

Siegmund: **Fib 12.11** – (phase 6-8 > 570-640).

LPV: **276** (phases MA2 > 520/30 – 560/70, sporadically in MA3 > 560/70 – 600/10).

Hines: -

Heeren: **82a** – (500-600).

**Dating in the Netherlands:**

Phase 4 (510/25 - 565). Occasionally in phase 3 (460/80 – 510/25).



*BR-2i (National Museum of Antiquities of the Netherlands)*

**BR-2j Radiate-headed brooches with a rectangular head-plate with scalloped edge and an ovoid foot**

Radiate headed brooches with a rectangular head-plate and an ovoid foot. The ovoid foot ends in a smaller ovoid or slightly trapezoid terminal which is sometimes decorated to represent a stylised animal head (e.g. Elst grave 211). The 'lobes' along the head-plate are

touching sides, which creates a scalloped edge rather than a series of knobs. Two lobes are placed on either side of the head-plate and usually four lobes are present on top. The brooches are made of copper-alloy or gilded silver and are richly decorated. Decoration usually consists of incised lines, often in combination with dot-in-circle motifs. The cross section of the bow is usually band-shaped or slightly triangular.

**Occurrence in the Netherlands:**

*Elst: 87, 159, 211.*

*Rhenen: 332.*

*Wijster: stray finds.*

**Identification in other typologies:**

Franken AG: **S-Fib 12.10** – (phases 4-5 > 510/25-580/90).

Siegmund: **Fib 12.10** – (phase 4 > 530-555).

LPV: **277** (phases MA2-MA3 > 520/30 – 600/10, most prominently in MA3 > 560/70 – 600/10).

Hines: -

Heeren: **82b** – (500-600).

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).



*BR-2j (Verwers et al. 2015, 262)*

## BR-3: ANNULAR AND PENANNULAR BROOCHES

As the name suggests, the shape of a penannular brooch resembles an interrupted circle. This in contrast to the annular brooch, which comprises of a full circle. Penannular brooches are very rare in the Netherlands and indeed in north-western Europe during the early medieval period. The only group included in this typology are the Omega brooches which have Roman roots but were popularised again during the early medieval period. Annular brooches are more common in the Netherlands and are mainly found in Friesland, Drenthe and the Rhine basin.

### BR-3a Annular brooches

Annular brooches are ring-shaped and usually made of cast copper-alloy. Sheet metal, however, does occur. The ring can be plain or decorated with stamped dots, indentations, and/or incised lines. In some cases, the decoration is cast rather than applied. Punch marks occur in combination with a flat sheet-metal ring. Sometimes larger ridges or bosses are present (e.g. Oosterbeintum grave 374b). Decoration with animal heads occurs occasionally (e.g. Maastricht (Limburg) and Dongjum (Friesland), both not in this sample)<sup>770</sup>. The brooches sometimes occur in pairs. The cross-section of cast specimens can either be ovoid, approaching round or semi-circular, with a flat underside.

The brooches from Oosterbeintum graves 60 and 295 and Rhenen grave 722 are in a fragmentary state. Only evidence for one annular brooch per grave was found. In Oosterbeintum graves 374b and 428 and Rhenen graves 344 and 669 pairs of annular brooches were discovered. The brooch from Zweeloo is a stray find with a decoration of regular indentations. The brooches from Rhenen grave 344 are the only ones in the sample with a ring made of a bronze sheet strip rather than cast copper-alloy. Both ends of the strip are riveted together to form a ring. The decoration on one of these brooches consists of a zigzag motif between two bands, made up of small punch marks. The brooches are very similar

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<sup>770</sup> Knol 1933, 198-200.

to type BR3-c as identified for Anglo-Saxon England by Hines (see below). A similar decoration on the other brooch in the grave is probably lost to corrosion.

Van Vilsteren dates annular brooches to the late sixth or seventh century, based on information from a personal letter sent to him by Ypey in 1985. In this letter, Ypey notes that there are no examples known to him from France but that the type features in the Fries Museum in Leeuwarden (Friesland) as well as in a museum in the German city of Worms (Rheinland-Pfalz). Ypey further mentions that the type is relatively common in England and refers to the collection of the British Museum. In addition, he describes a specimen from the Saint Pieter cemetery in Maastricht (Limburg) which does not feature in this sample<sup>771</sup>.

Knol groups brooches of this type as ‘annular brooches with simple or no decoration’ and lists an extensive inventory of the brooches known from the Netherlands in 1993<sup>772</sup>. A distribution map in the publication shows the largest cluster along the north coast in Friesland, including Hogebeintum, Oosterbeintum and various other *terpen*. Four sites in Drenthe are listed, namely Zweeloo, Gasselte, Hijken and Emmen (Emmerveld). Further brooches of this type are found in Maastricht (Limburg), Garderen (Gelderland), Monster (Zuid-Holland) and Rhenen (Utrecht)<sup>773</sup>. Knol suggests a date in the fourth quarter of the sixth century or in the seventh century on the basis of the contexts from Rhenen. He adds, however, that a date as early as the second half of the fifth century is also possible based on data from England<sup>774</sup>.

Heeren and Van Der Feijst do not list this type of annular brooch specifically. A type with a trapezoid plate opposite the attachment of the pin is listed as type 70c (AD 390-470)<sup>775</sup>. A similar type with the extra trapezoid plate is dated by Knol to AD 300-400<sup>776</sup>.

As previously mentioned, this type of brooch occurs regularly in Anglo-Saxon England and Hines divides a sample of forty-seven annular brooches into five categories<sup>777</sup>. His type BR3-a consists of a broad and flat ring of sheet metal, often with a slot and/or bed for the end of the

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<sup>771</sup> Van Es *et al.* 2007, 833 and 903 (note 161)

<sup>772</sup> Knol 1993, 67-68 and 198-200.

<sup>773</sup> Knol 1993, 67; Van Vilsteren 1988, fig. 2 (Gasselte); De Voogd 1990, 69-70 (Hijken), Van Es *et al.* 2007, 833 (Zweeloo); Bursch 1937, fig. 35 numbers 6 and 12 (Emmen); De Boone 1971, fig. 11 number R1 (Garderen); Braat 1956, fig. 22 number 3b (Monster).

<sup>774</sup> Knol 1993, 67-68.

<sup>775</sup> Heeren *et al.* 2017, 185-86.

<sup>776</sup> Knol 1993, 67.

<sup>777</sup> Hines *et al.* 2013, 222-23.

pin. No date is provided for this type. Type BR3-b consists of a narrow and moulded ring with a flat back and therefore a roughly semi-circular cross-section. The ring is decoratively divided in equal profiled sections. The brooches are dated between 510/45 and 625/50. Type BR3-c consists of a flat ring of sheet metal which is narrower than in type BR3-a. Brooches of this type are sometimes decorated with punch marks or incised lines. Sometimes a bed for the pin is present. Brooches of this type are dated between 510/45 and 625/50. The fourth type (BR3-d) has a slender ring with an ovoid or circular cross-section. The decoration is not mentioned but the drawing shows bundles of incised lines. It is clear, however, that the shape of the ring is the leading factor for classification in this case. Brooches of this type are dated between 555/85 and 660/685. The fifth and last type (BR3-e) has a slender ring which is decorated with two or four animal heads. This type is dated in the seventh century between 625/50 and 660/85.

According to the inventory of annular brooches in the Netherlands by Knol, all types identified by Hines are represented in the Netherlands, except for BR3-a<sup>778</sup>. It becomes clear that the semi-circular cross-section of the ring is not restricted to types with a ring divided in equal profiled sections in the Netherlands (e.g. Oosterbeintum 295). *Table 13* shows how a number of Dutch specimens would classify according to the types identified by Hines for Anglo-Saxon England. The place names in bold represent brooches which are part of this sample. Information on the brooches not in this sample is derived from the inventory by Knol<sup>779</sup>. The main criterion used for classification is the shape and cross-section of the ring.

*Table 13: Classification of Dutch annular brooches according to the Hines & Bayliss typology.*

Hines type (Anglo-Saxon England)	Occurrence in the Netherlands
<b>Hines BR3-a</b>	-
<b>Hines BR3-b</b>	<b>Oosterbeintum 295; Rhenen 669;</b> <b>Zweeloo;</b> Gasselte, Anjum, Hogebeintum, Jelsum, Goutum.
<b>Hines BR3-c</b>	<b>Rhenen 344;</b> Hallum, Hogebeintum, Blija. <b>Oosterbeintum 60, 374b, 428; Rhenen</b>
<b>Hines BR3-d</b>	<b>722;</b> Cornjum, Beetgum-Besseburen, Hogebeintum.
<b>Hines BR3-e</b>	Dongjum, Maastricht.

<sup>778</sup> Knol 1993, 199-200.

<sup>779</sup> Hines *et al.* 2013, 222-23; Knol 1993, 199-200.

From the contexts in this sample becomes clear that it is currently impossible to date the annular brooches from the Netherlands in a similarly detailed way as Hines has done for England. The evidence from this sample points to a chronological dichotomy between specimens from Friesland (the north coast) and those from Rhenen (the Rhine basin in the central Netherlands). In Oosterbeintum grave 60, the brooch is found in combination with a cruciform brooch of type BR-1I (phase 1-3 > 400 – 510/25). Oosterbeintum grave 295 offers little supporting evidence apart from amber beads, which are usually indicative for a sixth century date. Grave 374b offers no supporting evidence and in Oosterbeintum grave 428 the brooch is found in combination with a cast Domburg brooch of type BR-1f (phase 4b-6 > 535/40 – 610/20). A date in the earlier part of this spectrum is suggested by the presence of a rock crystal bead, dating to phases 3-4 (460/80 – 565). The sixth century date is further strengthened by the presence of amber.

In Rhenen grave 344, the brooches are found in combination with a pottery vessel of type PO-3a which dates to phases 5-7 (565 – 640/50). Sporadically, this pot-type occurs as early as phase 4 or as late as phase 8. In grave 669, the brooch is accompanied by a buckle of type BU-5h (phase 5-8 > 565 – 670/80, most commonly in phase 8). In Rhenen grave 722, the brooch occurs alongside a pottery vessel of type PO-3c which dates to phase 6 (580/90 – 610/20). Sporadically, a pot of this type occurs as early as phase 5 or as late as phase 7.

From this overview can be concluded that annular brooches seem to occur most frequently in phases 3 and 4 and possibly in phase 5 in the north. In the central Netherlands, however, an occurrence in phases 5 or 6 and possibly phase 7 is evidenced.

From table 13 it becomes clear that all types identified by Hines occur in the northern as well as in the central- or southern Netherlands. Whilst most dates for England fit with occurrence in the central or southern Netherlands, for the northern brooches, the English dates are too late. This leads to the suggestion that the northern examples may be brought to Friesland by Saxons, visiting the Dutch north coast on their way to England, whilst the examples in the central and southern Netherlands are the result of contact with Anglo-Saxon England in later phases.

**Occurrence in the Netherlands:**

*Oosterbeintum: 60, 295, 374b, 428.*

*Rhenen: 344, 669, 722.*

*Zweeloo: stray find.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: **BR3-a** – (no date available), **BR3-b** – (AS-FB - AS-FD > 510/45 – 625/50), **BR3-c** – (AS-FB - AS-FD > 510/45 – 625/50), **BR3-d** – (AS-FC - AS-FE > 555/85 – 660/685), **BR3-e** – (AS-FE > 625/50 – 660/85).

Heeren: related to **Group 70c** – (390-470).

**Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50). Most likely phases 3-4 (460/80 – 565) or potentially phase 5 (565 – 580/90) in the northern provinces. Most likely phases 5-7 (565 – 640/50) in other parts of the country.



*BR-3a (National Museum of Antiquities of the Netherlands)*

**BR-3b Penannular (Omega) brooches**

Omega brooches belong to the family of the penannular brooches and are shaped similar to the uppercase character for the Greek letter *Omega* ( $\Omega$ ). The brooch consists of an interrupted ring of which both ends are folded outwards or upwards. The pin is attached opposite the opening.

**Roman omega brooches**

The traditional omega brooch has its origin in the Roman period. This type, classified by Heeren and Van Der Feijst as group 41, is characterised by its outwardly folded ends. Brooches of this type have a loop which is round, hexagonal or flower-shaped in cross section. The ends of the loop are often equipped with a small decorative terminal. The traditional omega brooch is usually dated in the Netherlands to pre-Flavian times (between approx. AD 30 and 70). Evidenced by various hoards, the omega brooch sees a revival during the third century AD. Specimens from the third century are usually larger than their first century predecessors and often made of silver<sup>780</sup>.

### **Early Medieval omega brooches**

In addition to the revival of the traditional omega brooch in the third century, variations based on the same omega-shape are found in contexts which date well into the sixth century. These late- or Merovingian omega brooches are classified by Heeren and Van Der Feijst as part of group 70, which further includes general penannular types as previously identified by Fowler and Hull<sup>781</sup>. Group 70 can be divided into various subtypes of which A and B are relevant for group BR-3b.

Subtype A has ends which are folded upwards and then rolled-up. This type can be divided into subtype A1 with a thin loop with a round cross section and subtype A2 with a thicker loop with a diamond-shaped cross section.

Subtype B is characterised by upwardly folded ends which are hammered into little rectangular blocks.

Distribution of traditional Roman omega brooches in the Netherlands is generally restricted to the Rhine basin. Heeren and Van Der Feijst note that almost all examples are found in a military rather than a civil context and thus related to male gender. From the Iron Age onwards, a tradition of using penannular brooches exists in Spain and England<sup>782</sup>. Especially in the former country, the omega brooch was commonly used whilst in England this specific subtype of the penannular brooch is considered a Roman import<sup>783</sup>.

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<sup>780</sup> Heeren *et al.* 2017, 117-118.

<sup>781</sup> Fowler 1960, types C/D., Hull 2004, types P3/P4.

<sup>782</sup> Heeren *et al.* 2017, 117-118.

<sup>783</sup> Isidro 2001., Fowler 1960.

The early Medieval omega brooches are found in large parts of Europe, from England to the Danube region in Germany and Austria<sup>784</sup>. In the Netherlands, the brooches are mostly found along the river Rhine<sup>785</sup>.

The omega brooches found in Rhenen graves 712, 818 and 819 are made of iron whilst the example from grave 808 is made of copper-alloy. The four brooches belong to the Merovingian group and are equipped with the upwardly folded and rolled-up ends of subtype A. The brooch from grave 819 has the thinnest loop with a cross section which approaches a round shape. The brooches from graves 712, 808 and 818 are thicker but do not have the diamond-shaped cross section as described by Heeren. Instead, the cross section is roughly rectangular. Grave 712 is a double grave containing a male- and female-gender individual. Grave 808 is a female-gender inhumation whilst graves 818 and 819 are weapon graves. Grave 818 has a possible link with the military through a belt set of type BU-1c.

The brooch found in Rhenen grave 505 differs visibly from the other four. The specimen is made of iron and was found in a corroded state. It is clear, however, that the loop is substantially thicker than seen in the other four brooches and the ends are folded outwards rather than upwards. The cross section of the loop is round. The folded-over ends are not decorated.

The brooch from grave 505 has many style characteristics which suggests that the specimen belongs to the Roman group. The context in which the brooch is found, however, can be placed in phase 3 (460/80 – 510/25). This date would place the brooch chronologically relatively late in the group. In comparison to the Roman omega brooches known, the Rhenen grave 505 example is rather coarsely made out of iron and without decorative terminals. Whilst the Roman omega brooch is closely related to male gender contexts and the military, grave 505 seems to be the last resting place of a person of female gender. It is likely that the brooch from grave 505 is also a medieval specimen, albeit more truthfully mirroring its Roman predecessor.

The brooch from grave 841 is made of copper-alloy and is found in combination with a spear head and a fire striker. This indicates a male-gender context. A Roman silver coin from the same grave (Denar of Trajanus, BMC 115ff, RIC 158) provides a *terminus ante quem* of AD 101 to 102. Grave 841 is one of the oldest in the cemetery, belonging to the late Roman period or

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<sup>784</sup> Höck 2013.

<sup>785</sup> Heeren *et al.* 2017, 185-186

the earliest years after Roman withdrawal. This is supported by the presence of a late antique buckle of type BU-1a (phase 1-2 > 400-460/80). Although the brooch is probably late Roman, it is not part of the 'Roman group' as identified by Heeren and Van Der Feijst. This is also supported by the presence of the upwardly folded and rolled-up ends, similar to subtype A. Despite the *terminus ante quem*, it is equally unlikely that this grave dates as early as the second century AD. With a possible date in phase 1, however, this specimen may be one of the oldest omega brooches in the sample.

Based on the inhumations in which the brooches from this group are found, it can be concluded that early medieval omega brooches are found in relation to male- as well as female-gender contexts. In case of a discovery in a male-gender inhumation, the brooch is sometimes linked to military attire and always to weapons. This link to the military is much more evident, however, for Roman omega brooches. The older omega brooches in the sample (phases 1 and 2) usually belong to male-gender contexts whilst the slightly younger ones are found in female-gender inhumations.

**Occurrence in the Netherlands:**

*Rhenen: 505, 712, 808, 818, 819, 841.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: **related to BR3-f** – (AS-FD - AS-FE > 580/640 – 660/85).

Heeren: **Group 41 (Roman omega brooches)** – (AD 30 – 70, larger examples often made of silver: AD 200 – 300). **Group 70 (Early Medieval omega brooches) Subtype A** – (AD 200 – 400<sup>786</sup>, iron specimen up to 550/600). **Subtype B** – (pre-AD 300).

**Dating in the Netherlands:**

Phase 1-4 (400 - 565). Most commonly in phases 1-3 (400 – 510/25) and in male-gender graves often earlier (phases 1-2) than in female-gender graves.

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<sup>786</sup> Heeren *et al.* 2017, 186. Dating is based on Jobst 1975, 125.



BR-3b (National Museum of Antiquities of the Netherlands)

## BR-4: GARNET DISC BROOCHES

Garnet disc brooches are usually round or rosette-shaped and made of silver or gilded silver. Also included in this sample are some quatrefoil-shaped disc brooches with garnet inlay. Rectangular varieties do exist but do not feature in the inhumations analysed for this typology. The brooches with a quatrefoil shape can be divided into two different groups on the basis of their specific decoration (BR-4e and BR-4f).

Brooches with a round or rosette shape are traditionally divided into classes according to the number of inlaid zones and the overall size. Vielitz created a detailed and useful typology for types from Germany. For the Netherlands, the brooches are included in the typology by Heeren and Van Der Feijst<sup>787</sup>.

Heeren as well as the Franken Arbeitsgruppe, Siegmund and LPV divide the brooches into groups according to the number of inlaid zones. The absence of clear definitions per class or even a basic definition of an inlaid zone, however, makes classification of the brooches unnecessary complicated. In order to be sure where to place a brooch, the specific artefacts used to create named typologies need to be retraced.

In this typology an attempt has been made to provide a clear definition of each of the four types identified. For classification, attention is paid to the difference between zones of garnet

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<sup>787</sup> Vielitz 2003; Heeren *et al.* 2017, 218-20

inlay and the central field. **Zones can be defined by the presence of multiple cells whilst a central field contains a single cell. A central field can thus hold garnet inlay, but only in a single cell.**

Group BR-4a includes all brooches with a single zone of garnet or glass inlay and a central field which is decorated in any way, except with pressed metal foil or filigree. A central field decorated with a garnet in a single cell is thus possible.

Group BR-4b includes all brooches with a single zone of garnet or glass inlay and a central field which is decorated with pressed metal foil or filigree

Group BR-4c includes all brooches with a single zone of garnet or glass inlay around a central zone consisting of multiple cells. Alternatively, the outer zone encloses a second zone of cells which, in turn, encloses a central field of one cell only.

Group BR-4d includes all brooches with a single zone of garnet or glass inlay around a second zone which contains inlaid cells, a combination of inlaid cells and filigree decoration or a combination of inlaid cells and pressed metal foil decoration. The second zone encloses a third zone which is inlaid with multiple pieces of garnet or glass.

**BR-4a Circular and rosette-shaped disc brooches with a single zone of garnet inlay**

This group includes two shapes of disc brooches with a single zone of garnet inlay. The first type is circular and often somewhat thicker than the second type, which is rosette shaped and equipped with a scalloped edge (*table 14*).

*Table 14: Brooches from group BR-4a with a round or a rosette shape.*

Shape	Occurrence in graves
Round	Elst 118, 161, 238, 239, Maastricht 306, Rhenen 169, 380, 423, 433, (563), 577, 601, 712, Wijster 2
Rosette	Rhenen 79, 440, (696)

Brooches belonging to this group can be described as having a single zone of garnet or glass inlay and a central field which is decorated in any way, except with pressed metal foil or filigree. A central field decorated with a garnet in a single cell is possible.

The brooches in this group are made of silver (e.g. Rhenen grave 712) or gilded silver (e.g. Rhenen grave 601) and the garnets are usually set on gold foil, often with a waffle pattern. Edges of the brooch and/or the central field are sometimes decorated with beading. The brooch from Rhenen grave 577 has an edge decoration of parallel vertical incised lines.

The number of cells with garnet inlay varies per brooch. Siegmund postulates that brooches with four cells are generally found in the middle and lower Rhine areas as well as in northern France. Brooches with six cells are restricted to the lower Rhine area.<sup>788</sup> Vielitz indicates that brooches with four, six or eight cells are most commonly found whilst those with a higher number of cells and those with an odd number of cells are rarer<sup>789</sup>. For the brooches belonging to BR-4a included in this sample, the cell count is presented in *table 15*. From the data it becomes clear that six and eight cells are the most commonly occurring numbers, followed by five and twelve. Although brooches with four cells supposedly originate from areas to the direct east and south of the Low Countries, this number of cells does not feature in the sample. Exceptions to this are the quatrefoil shaped brooches which are grouped in BR-4e and BR-4f.

*Table 15: Number of cells per brooch from group BR-4a.*

<b>Number of cells</b>	<b>Occurrence in graves</b>	<b>Total (pairs counted as 1)</b>
<b>Four</b>	-	0
<b>Five</b>	Maastricht 306, Rhenen 440, 601	3
<b>Six</b>	Elst 238, 239, Rhenen 169, (563), 577, (696)	6
<b>Seven</b>	-	0
<b>Eight</b>	Rhenen 79, 380, 423, 433, Elst 118, Wijster 2	6
<b>Nine</b>	-	0
<b>Ten</b>	Rhenen 712	1
<b>Eleven</b>	Elst 161	1
<b>Twelve</b>	Elst 239, Maastricht 314, Rhenen 166	3

<sup>788</sup> Siegmund 1998, 45; Martin 1976, 81-2.

<sup>789</sup> Vielitz 2003, 32.

As previously mentioned, brooches in this group have a central field which can be decorated in various ways. One of the most common decorations is a white glass bead (e.g. Maastricht grave 306 and Rhenen graves 380, 433, 601 and 712). The specimens from Rhenen graves 169, 423, 440, Elst graves 118 and 161 and Wijster grave 2 have a central field which is inlaid with a single garnet or piece of red glass. In some cases, the infill of the central field has been lost entirely.

Only fragments are found of the brooch in Rhenen grave 563, including wedge shaped glass in a yellowish-green colour. It is expected that the brooch in this grave was equipped with six glass-inlaid cells. The central fields of the brooches in grave 696 are damaged and it is unclear whether these were filled with glass/garnet or with metal foil (BR-4b).

The brooch from Wijster has the characteristic shape of brooches in this group but is inlaid with glass rather than garnet. The brooch has eight fields of which every other field is inlaid with green glass. The remaining four cells are inlaid with red glass, as is the central field. In this way the red or the green glass forms the shape of an equal armed cross. Brooches with this style of decoration are not mentioned separately in the German typologies. In the typology for northern France, this brooch would probably fit in group 218. This particular decorative style is somewhat reminiscent of Anglo-Saxon disc brooch types grouped by Hines as type BR2<sup>790</sup>. The brooch is found in combination with various eighth century items including a needle case of type TU-1c and a key of type KE-1i. It is likely that this type is a seventh century copy of sixth century originals with garnet.

#### **Occurrence in the Netherlands:**

*Elst: 118, 161, 238, 239.*

*Maastricht: 306.*

*Rhenen: 79, 169, 380, 423, 433, 440, (563), 577, 601, (696), 712.*

*Wijster: 2.*

#### **Identification in other typologies:**

Franken AG: **S-Fib 1.1** – (phases 3-4a > 460/80 – 535, rarely as late as 550).

Siegmund: **Fib 1.1** – (phase 3-4 > 485-555).

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<sup>790</sup> Hines *et al.* 2013, 221-22.

LPV: **207** (phases MA1-MA3 > 470/80 – 600/10, most prominently in MA1-MA2 > 470/80 - 560/70). related to **218** (phase MA3 > 560/70 – 600/10).

Hines: -

Heeren: **84a1 (circular) and 84a2 (rosette)** – (485-550)

Vielitz: **A3** (mostly phase 2 > 530/40-560/70)<sup>791</sup>

#### **Dating in the Netherlands:**

Phase 4 (510/25 - 565). Occasionally in phases 3 (460/80-510/525) and 5 (565 – 580/90).

The Wijster specimen is an eighth century copy and dates to phase 9-10 (670/80 – 750) or possibly later, up to approximately 800/50.



*BR-4a (National Museum of Antiquities of the Netherlands)*

#### **BR-4b Circular and rosette-shaped disc brooches with a single zone of garnet inlay and a central field with pressed metal foil or filigree decoration**

This group includes two shapes of disc brooch with a single zone of garnet inlay. The first type is circular and often somewhat thicker than the second type, which is rosette shaped and equipped with a scalloped edge (*table 16*).

Brooches belonging to this group can be defined as having a single zone of garnet or glass inlay and a central field which is decorated with pressed metal foil or filigree. The brooches in this group are made of silver or gilded silver and the garnets are usually set on gold foil, often

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<sup>791</sup> Vielitz 2003, 42-3, 247, 253.

with a waffle pattern. Edges of the brooch and/or the central field are sometimes decorated with beading.

The number of cells with garnet inlay varies per brooch and is presented in *table 17*. From the data it becomes clear that eight cells is the most commonly occurring number, followed by ten and twelve.

*Table 16: Brooches from group BR-4b which are round and rosette shaped.*

Shape	Occurrence in graves
<b>Round</b>	Maastricht 274, Rhenen 423
<b>Rosette</b>	Elst 135, Maastricht 95, 187, 189, 314, Rhenen 166, 332, (696)

*Table 17: Number of cells per brooch from type BR-4b.*

Number of cells	Occurrence in graves	Total (pairs counted as 1)
<b>Six</b>	Rhenen (696)	1
<b>Seven</b>	-	0
<b>Eight</b>	Elst 135, Maastricht 95, 274, Rhenen 332	4
<b>Nine</b>	-	0
<b>Ten</b>	Maastricht 187, 189	2
<b>Eleven</b>	Rhenen 423	1
<b>Twelve</b>	Maastricht 314, Rhenen 166	2
<b>Thirteen</b>	-	0
<b>Fourteen</b>	-	0
<b>Fifteen</b>	-	0
<b>Sixteen</b>	Rhenen 400	1

A pressed metal foil decoration of the central field almost always consists of a radiating line pattern from a central point (e.g. Maastricht 187, 274, 314 and Rhenen 332, 423). Filigree decoration in the central field occurs in Maastricht grave 95 and Rhenen grave 166.

The central fields of the brooches in grave 696 are damaged and it is unclear whether these were filled with glass/garnet (BR-4a) or with metal foil. The brooches have a single zone of garnets consisting of six segments.

The brooches from Maastricht grave 189 and Rhenen grave 400 are the only two specimens in the sample with a combination of garnet and filigree in the central field. It is debatable whether these brooches belong in this group or that they should be placed in group BR-4c. Chronologically, however, the difference between both groups is minimal and cannot be

determined more specifically on the basis of the present sample. Vielitz provides a date for brooches with a central field containing a combined decoration of filigree and garnet of between AD 560/70 – 600/10, which is later than the date both Siegmund and the Franken AG provide for the brooches in groups BR-4b and 4c<sup>792</sup>.

The filigree decoration in the case of the brooch from Maastricht grave 189 is placed between two isolated and roughly ovoid cells with garnet inlay. The filigree decoration consists of four strips of which both ends are curled either outwards or inwards.

The brooch from Rhenen grave 400 is larger, more complex in nature and its outer zone consists of sixteen cells. This number is exceptionally high for brooches in groups BR-4a and b. The number of cells and the overall size and complexity would suggest this brooch should be placed in group BR-4c. The filigree decoration consists of centrally placed quatrefoil-shaped knotwork which is reminiscent of a Celtic pattern. Further filigree is placed between three independent garnet groups and consists of less structured knotwork. The three independent garnet groups consist of three cells each and form three individual bird heads. The bodies and beaks of the birds are inlaid with garnet whilst the eyes are inlaid with a white glass bead as is sometimes seen in the central fields of brooches from group BR-4a.

In both Maastricht grave 189 and Rhenen grave 400, the aforementioned brooches are the only object suitable for dating. It is therefore impossible to provide a Dutch date for brooches of this subtype on the basis of the current sample. The creation of a separate group is omitted as a result of the lack of sufficient independent chronological information. Based on the size of the brooch from Rhenen grave 400, it can be suggested to belong in phase 5 (AD 565 – 580/80) or in the final years of phase 4 (510/25 – 565). The brooch from Maastricht is somewhat smaller and dates likely to phase 4 or 5.

#### **Occurrence in the Netherlands:**

*Elst:* 135.

*Maastricht:* 95, 187, (189), 274, 314.

*Rhenen:* 166, 332, (400), 423, (696).

#### **Identification in other typologies:**

Franken AG: **S-Fib 1.4** - (phases 4b-5 > c. 535 – 580/90).

Siegmund: **Fib 1.4** – (phase 5 > 555-570).

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<sup>792</sup> Vielitz 2003, 77; Theuws *et al.* 2017, 245.

LPV: related to **207** (phases MA1-MA3 > 470/80 – 600/10, most prominently in MA1-MA2 > 470/80 – 560/70).

Hines: -

Heeren: related to **84a1 (circular) and 84a2 (rosette)** – (485-550).

Vielitz: related to **E2** (mostly phase 2 > 530/40-560/70, occasionally phase 1 > 480/500 – 530/40 and phase 3 560/70 – 600/10)<sup>793</sup>, related to **E3** (phase 3 > 560/70 – 600/10)<sup>794</sup>

### Dating in the Netherlands:

Phase 4b - 5 (535/40 – 580/90).



*BR-4b (National Museum of Antiquities of the Netherlands)*

### **BR-4c** Circular and rosette-shaped disc brooches with a double zone of garnet inlay

Brooches belonging to this group can be described as having a single zone of garnet or glass inlay around a central zone consisting of multiple cells (e.g. Elst 238). Alternatively, the outer zone encloses a second zone of cells which, in turn, encloses a central field of one cell only (e.g. Maastricht 17, Rhenen 169). In the case of Rhenen grave 413, the brooch consists of an outer zone which encloses a zone of filigree decoration around a central field with a small garnet or piece of red glass.

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<sup>793</sup> Vielitz 2003, 42-3, 247, 253.

<sup>794</sup> Vielitz 2003, 42-4, 253.

Brooches of this type are usually made of silver, gilded silver or copper-alloy. In this sample, the rosette shape features three times, in Rhenen graves 169, 235 and 413. Edges of the brooch and/or the central field are sometimes decorated with beading.

The number of cells in the outer zone differs per brooch and is displayed in *table 18*. In the case of the brooch from Maastricht grave 17, the second zone contains another five trapezoid garnets around a central field. The brooch from Rhenen grave 169 contains a second zone with six trapezoid-shaped garnets around a central field. The central field in this case is decorated with a single garnet.

The central zone of the Elst 238 brooch consists of six garnets whilst the centre of the Rhenen 338 brooch contains five. The centre of the brooch from Maastricht grave 166 is composed of three triangular-shaped garnets and the middle of the Rhenen 803 brooch of four. The brooch from Rhenen grave 235 is fragmentary and it is unclear if the brooch belongs in this group or in BR-4a/b.

The outer zone of the brooch from Maastricht grave 17 contains sixteen cells inlaid with garnets and four cells inlaid with yellow-greenish glass. The glass pieces form a cross motif which is similar to that found on the brooch from Wijster grave 2 (see BR-4a).

It may be possible to include the brooches from Maastricht grave 189 and Rhenen grave 400 in this group. Please refer to group BR-4b for a discussion.

*Table 18: Number of cells per brooch from type BR-4c.*

<b>Number of cells</b>	<b>Occurrence in graves</b>	<b>Total (pairs counted as 1)</b>
<b>Nine</b>	Rhenen 238	1
<b>Ten</b>	Rhenen 235, 413	2
<b>Eleven</b>	-	0
<b>Twelve</b>	Elst 238, (239), Maastricht 166, Rhenen 803	4
<b>Thirteen</b>	-	0
<b>Fourteen</b>	Rhenen 169	1
<b>Fifteen</b>	Elst 88	1
<b>Twenty</b>	Maastricht 17	1

**Occurrence in the Netherlands:**

*Elst: 88, 238, (239).*

*Maastricht: 17, 166.*

*Rhenen: 169, (235), 338, 413, 803.*

**Identification in other typologies:**

Franken AG: **S-Fib 1.3** – (phases 4 > 510/25 - 565, rarely in phase 5 > 565 – 580/90).

Siegmund: **Fib 1.3** – (phase 4 > 530-555, rarely in phase 5 > 555-570).

LPV: **215** (phases MA2-MA3 > 520/30 – 600/10). Related to **216** (phases MA2-MA3 > 520/30 – 600/10).

Hines: -

Heeren: **84b1** – (500-550).

**Dating in the Netherlands:**

Phase 4-5 (510/25-580/90).



*BR-4c (National Museum of Antiquities of the Netherlands)*

**BR-4d Circular and rosette-shaped disc brooches with a triple zone of garnet inlay**

Brooches included in this group can be described as having a single zone of garnet or glass inlay around a second zone which contains inlaid cells, a combination of inlaid cells and filigree decoration or a combination of inlaid cells and pressed metal foil decoration. The second zone encloses a third zone which is inlaid with multiple pieces of garnet or glass.

Brooches of this type are usually made of silver, gilded silver or copper-alloy. Two brooches found as part of the sample are rosette shaped and one brooch is round. Brooches of this type

are usually larger than those belonging to groups BR-4a and b. Due to the often-large number of cells in the outer zone, the cells are usually relatively narrow.

The brooch from Elst grave 127 consists of an outer zone with nineteen garnets. The second zone shows three cells inlaid with garnet alternated by three sunken fields with filigree decoration. The inner zone is decorated with four triangular cells with garnet inlay.

The brooch from Rhenen grave 803 has an outer zone consisting of nineteen garnets surrounding a second zone which shows a combination of four inlaid cells and four sunken fields with pressed metal foil decoration. The third zone is divided into two large and four smaller triangular cells with inlay.

The exact provenance of the brooch from Rijnsburg is unknown as the site administration is rather fragmentary. Due to the absence of a context, this specimen is not used for the purpose of dating. The brooch is large, round and has an outer zone with twenty-four garnets. The second zone consists of seventeen garnets which vary in shape and size. This zone also contains four semi-circular cells inlaid with green enamel. The third zone consists of four cells containing garnet and four semi-circular cells containing blue enamel. The metal between the garnet-inlaid cells in combination with the enamel-inlaid cells form an equal armed cross in the centre of the brooch.

#### **Occurrence in the Netherlands:**

*Elst: 127.*

*Rhenen: 803.*

*Rijnsburg: (grave number unknown).*

#### **Identification in other typologies:**

Franken AG: related to **S-Fib 1.5** – (phase 5 > 565 – 580/90).

Siegmund: related to **Fib 1.5** – (phase 6 > 570-585).

LPV: related to **217** (phase MA3 > 560/70 – 600/10).

Hines: -

Heeren: related to **84c** – (500-550).

#### **Dating in the Netherlands:**

Phase 5 (565 – 580/90).



BR-4d (National Museum of Antiquities of the Netherlands)

### **BR-4e Quatrefoil-shaped disc brooches with stylised bird heads and garnet inlay**

Brooches of this type are made of gilded silver and have a characteristic quatrefoil shape. The centre of the brooch is formed by a small circle with garnet inlay. A similar small circle with garnet inlay is situated on each of the four sides of the quatrefoil shape, in the indentation where two 'leaves' meet. The garnets on the four sides form the eyes of four birds. A stylised bird head is created around each eye through carving and perforation. This specific type does not feature in Heeren's group 84 of garnet-inlay brooches but resembles most closely type 89i. This brooch, however, is not decorated with garnet and is also dated much later, between AD 850 and 925<sup>795</sup>. Given the combination of garnet inlay and the quatrefoil shape, it can be assumed that the brooches should be placed in Heeren's type 84b2.

#### **Occurrence in the Netherlands:**

*Rhenen: 87, 394.*

#### **Identification in other typologies:**

Franken AG: related to **S-Fib 1.2** – (phases 4-5 > 510/25-580/90. Sporadically around the transition from phase 3 to phase 4 > start c. 490).

Siegmund: related to **Fib 1.2** – (phase 4 > 530-555).

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<sup>795</sup> Heeren *et al.* 2017, 230-233.

LPV: **213** (phases MA1-MA2 > 470/80 – 560/70, most prominently in MA1 > 470/70 – 520/30).

Hines: -

Heeren: related to **84b2** – (500-550).

#### **Dating in the Netherlands:**

Phase 4 (510/25 – 565).



*BR-4e (National Museum of Antiquities of the Netherlands)*

#### **BR-4f Quatrefoil-shaped disc brooches with garnet inlay**

Brooches of this type are made of copper-alloy or gilded silver and have a characteristic quatrefoil shape which sometimes approaches a square with rounded corners. The brooches are inlaid with a semi-circular garnet on each of the four corners or lobes and have a diamond-shaped centre.

In the case of the brooch from Rhenen grave 343, the centre is made of bronze sheet which is divided into four triangles by a slight relief, with a central dot where the embossed lines cross. In the centre of each of the four triangles an embossed dot is placed.

The specimen from Rhenen grave 530 also has four semi-circular garnets on the corners, but the diamond-shaped centre is inlaid with four square garnets rather than decorated through embossing.

#### **Occurrence in the Netherlands:**

*Rhenen: 343, 530.*

### Identification in other typologies:

Franken AG: **S-Fib 1.2** – (phases 4-5 > 510/25-580/90. Sporadically around the transition from phase 3 to phase 4 > start c. 490).

Siegmund: **Fib 1.2** – (phase 4 > 530-555).

LPV: **208** (phases MA1-MA2 > 470/80 – 560/70, most prominently in MA1 > 470/70 – 520/30).

Hines: -

Heeren: **84b2** – (500-550).

### Dating in the Netherlands:

Phase 4-5 (510/25-580/90).



*BR-4f (National Museum of Antiquities of the Netherlands)*

## BR-5: DISC AND SAUCER BROOCHES

Saucer brooches are a relatively rare find in Dutch cemeteries. Their characteristic shape is easily recognisable, especially in the cast specimens. The composed variant is found more commonly than cast saucer brooches and occurs usually in early graves.

Disc brooches exist in various shapes, sizes and forms. Some types are cast whilst others are composed, and some are richly decorated with glass and garnet inlay whilst others show

simple carved motifs. The shape of the disc brooch is not necessarily round. Included in this typology are diamond shapes, crosses and rectangles.

### **BR-5a Cast saucer brooch**

This group contains brooches with a cast lenticular base plate of copper-alloy. In comparison to the brooches from group BR-5b, the level of concavity of the base plate is greater in this group and therefore easier to recognise. The mechanism, loop and decoration are cast as one piece.

Decoration of brooches in this group varies but can generally be divided into two different subgroups. The first subgroup consists of brooches with a decoration of concentric circles and the second subgroup contains brooches with geometric patterns.

Heeren and Van Der Feijst list the existence of a third subgroup, namely those brooches showing a decoration of (degenerated) animal style or face-like motifs. They list the find of one such a brooch in the Broechem cemetery (Antwerpen, Belgium) and suggest this brooch must be an Anglo-Saxon import, as the type more regularly occurs in England<sup>796</sup>. It should be noted, however, that a cast decoration of degenerated animal style was also found on a disc brooch (type BR-5e) from Elst grave 91 and is not unknown to the Netherlands.

The three brooches from the sample which belong to this group have a decoration of concentric circles. In Rhenen grave 840, the brooches occur as a pair. For Rhenen grave 577, it is unclear whether the find is actually a brooch as the mechanism is missing. In the publication, the find is described as a 'lenticular disc' and not as a brooch. The 'disc' has an elevated centre, which is different to the brooches from grave 840.

For cast saucer brooches, Siegmund and the Franken Arbeitsgruppe list the presence of those with a decoration of concentric circles as a separate category. In addition to this, a category of cast saucer brooches is listed with a decoration of lines and dots or dot-in-circles. No examples of the latter were found in this sample.

#### **Occurrence in the Netherlands:**

*Rhenen: (577), 840*

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<sup>796</sup> Heeren *et al.* 2017, 198-200.

**Identification in other typologies:**

Franken AG: **S-Fib 4.2a** – (phase 2 > 435 – 460/80, also citing Böhme: > 400 - 500). **Related to S-Fib 4.2b** – (phase 3-4 > 460/80 – 565).

Siegmund: **Fib 4.2a** – (phase 2 > 440-485). **Related to Fib 4.2b** – (phase 2 > 440 - 485).

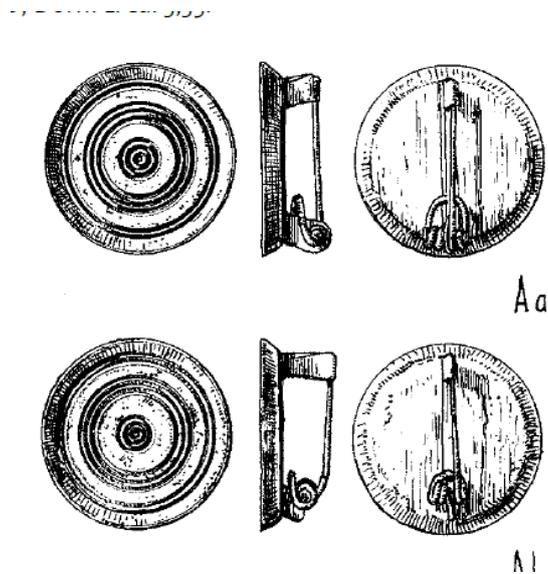
LPV: -

Hines: **BR2-a** (510/45 – 555/85).

Heeren: **Group 77b1** (390 – 470). **Group 77b2** (390 – 470). **Group 77b3** (390 – 500).

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).



*BR-5a (Wagner et al. 2011, 613)*

**BR-5b Applied saucer brooch**

This group contains brooches which are composed of a lenticular base plate, usually made of copper-alloy, and a top layer in which a decoration is pressed. In the Netherlands, this decoration often consists of a knotted six-pointed star, resembling a Star of David, surrounded by a decorative border. Also the centre of the star is usually decorated. One example from Rhenen grave 356 is equipped with an eight-pointed star. The star motif closely resembles early Anglo-Saxon parallels as found in, for example, Dorchester-on-Thames (Oxfordshire)<sup>797</sup>.

<sup>797</sup> Kirk *et al.* 1952, 63-76.

The pair of saucer brooches from Zweeloo grave 87 have a base plate which is made of gilded silver. The decoration does not consist of the traditional star pattern but resembles an equal-armed cross with curly ends in the centre of the brooch. The cross is surrounded by a border consisting of short diagonal indentations. In the four corners formed in the centre of the cross four raised square dots are placed. The brooch is trimmed with a beaded edge. Van Es classifies this brooch as a type *Westerwanna*, as previously identified by Böhme<sup>798</sup>. A similarly decorated brooch, albeit made of copper-alloy, is known from Rhenen grave 823. Additionally, brooches of this type are found in various places in England including Long Wittenham (Berkshire), Luton (Bedfordshire), Mitcham (Surrey), Guildown (Surrey) and High Down (West Sussex)<sup>799</sup>.

Heeren's typology distinguishes between three groups of applied saucer brooches. The first group (77a1) consists of brooches with the six-pointed star motif. Group 77a2 includes all brooches with a different pressed decoration. The final group (77a3) consists of brooches with applied decoration (e.g. glass).

It is unclear whether the brooch from Zweeloo grave 89 belongs to this group. In the cemetery publication, the brooch is presented as a composed disc brooch, but probably an earlier type than those grouped in BR-5c<sup>800</sup>. Given the shape of the brooch, especially in comparison to saucer brooches from Rhenen, as well as the fact that the base plate is made of copper-alloy, it has been decided to place the brooch in this group. Chronologically, this is in accordance with the context.

#### **Occurrence in the Netherlands:**

*Rhenen: 356, 822, 823, 832, 844, 845.*

*Wageningen: 86.*

*Zweeloo: 87, (89).*

#### **Identification in other typologies:**

Franken AG: **S-Fib 4.1** – (phase 2 > 435 – 460/80).

Siegmund: **Fib 4.1** – (phase 1 > 400-440).

LPV: -

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<sup>798</sup> Van Es *et al.* 2007, 831; Böhme 1974, 28.

<sup>799</sup> Böhme 1974, 350 (*Fundliste* 7).

<sup>800</sup> Van Es *et al.* 2007, 831

Hines: related to **BR2-a** (510/45 – 555/85).

Heeren: **Group 77a** (390 – 470).

### **Dating in the Netherlands:**

Phase 2 (430/35 – 460/80). (Zweeloo grave 87 dates to phase 3, the brooches in this grave are likely to be heirloom pieces).



*BR-5b (National Museum of Antiquities of the Netherlands)*

### **BR-5c Composed disc brooch with pressed metal decoration**

Composed disc brooches with pressed metal decoration come in different forms. This group includes the young specimens which are often equipped with a beaded edge.

A composed disc brooch consists of a flat round base plate to which a metal top layer is attached. This top layer is equipped with pressed decoration. Van Es notes that an iron base plate, as seen in the specimen from Wijster grave 73, is characteristic for younger composed disc brooches whilst older brooches are normally equipped with a copper-alloy base plate<sup>801</sup>.

A group for older composed disc brooches is not included in this typology as the evidence for their existence is inconclusive on the basis of the present sample. The only possible candidate is a brooch from Zweeloo grave 89. Given the shape of the brooch, especially in comparison to saucer brooches from Rhenen, it was decided to add this specimen to group BR-5b.

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<sup>801</sup> Van Es *et al.* 2007, 831.

The cemetery of Wijster has a high number of iron disc brooches. In graves 15 and 73, traces can be seen of the decorated copper-alloy top layer. The brooches from the grave numbers placed between brackets no longer show this top layer. Theoretically, this means that the brooches do not need to belong in this group. It is likely, however, that the top layer has eroded over time leaving behind the much thicker base plate.

**Occurrence in the Netherlands:**

*Wijster: (11), 15, (16), (17), (67), (72), 73, (74), (119), (120), (125).*

**Identification in other typologies:**

Franken AG: **S-Fib 3** – (phase 8-9 > 640/50 – 710).

Siegmund: **Fib 3** – (phase 9-10 > 640-705).

LPV: **223** (phase MR1-MR3 > 600/10 – 700/10, most prominently in phase MR2 > 630/40 – 660/70).

Hines: -

Heeren: **related to group 88** (500 – 925). **Related to group 86** (400 – 950).

**Dating in the Netherlands:**

Phase 8-10 (640/50 – 750).



*BR-5c*

## **BR-5d Composed disc brooch with filigree and garnets or glass decoration**

Composed disc brooches, often consisting of a copper-alloy base plate with a (gilded) silver top plate. The top plate is decorated with a combination of filigree and independent cells with garnet or glass inlay. The centre of the brooch is elevated.

The specimen from Bergeijk grave 65 is made of gold foil which is fixed to a copper-alloy base plate with three rivets. The brooch has a central boss surrounded by various filigree motifs. Further decoration consists of three birds consisting of fields inlaid with garnet and white opaque glass.

Brooches of this type are studied by Graenert, who developed a classification system on the basis of construction, shape, size and pattern of decoration. Following this classification system for the brooch from Obbicht, it can be identified as a type A1F2 which dates to phases AMIII to JMI (560/70 – 630/40)<sup>802</sup>. The brooch from Bergeijk is more difficult to classify according to Graenert but is most like 'group 2', which dates to the same period as the Obbicht specimen.

Heeren and Van Der Feijst classify brooches in this group as type 87b (585-640).<sup>803</sup>

### **Occurrence in the Netherlands:**

*Bergeijk: 65.*

*Obbicht: 36.*

### **Identification in other typologies:**

Franken AG: **S-Fib 2.3** – (phase 6 > 580/90 – 610/20).

Siegmund: **Fib 2.3** – (phase 7 > 585-610).

LPV: **221** – (phase MA3b-MR2 > 580/90 – 660/70, most frequently in MR1 > 600/10 – 630/40).

Hines: **related to BR2-c** – (no date provided), **related to BR2-d** – (AS-FD – AS-FE > 580/640 – 660/85).

Heeren: **Group 87b** (585-640).

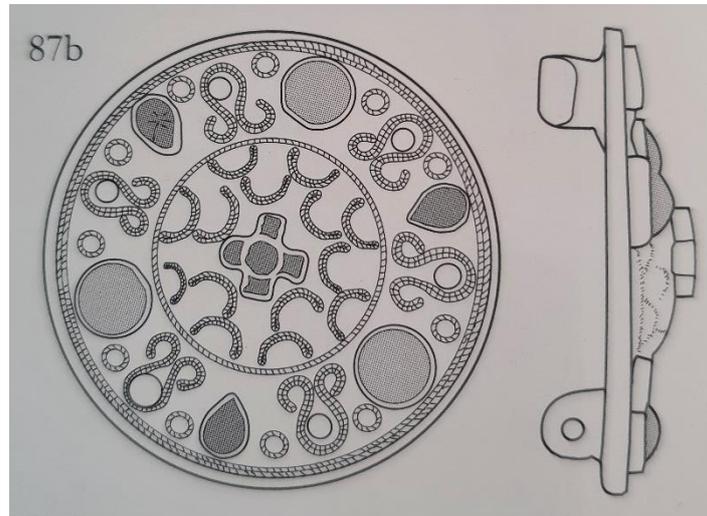
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<sup>802</sup> Graenert 2007, 14-17, 24, 35-43, 51-55 and figures 21, 23.

<sup>803</sup> Heeren *et al.* 2017, 224-26.

### Dating in the Netherlands:

Phase 5-6 (565 – 610/20).



BR-5d (Heeren et al. 2017).

### BR-5e Round copper-alloy disc brooch with cast- or engraved decoration

Brooches in this group are made of a flat copper-alloy disc with cast- or engraved decoration. The centre of the disc is not raised in contrast to the brooches of type BR-5d. The decoration comes in various forms but often represents an equal-armed cross or concentric circles. The shapes are sometimes enhanced by dot-in-circle motifs. The specifics of the decoration, however, can vary per brooch.

Brooches of this type are classified by Heeren and Van Der Feijst as group 88a. A further subdivision in three groups is made on the basis of the type of fastening. The brooches which are part of BR-5e have a mechanism of a spring mounted on a single lug. This corresponds to Heeren's subtype 88a<sup>804</sup>.

The decoration of the brooch from Rhenen grave 166 consists of a cast equal-armed cross of which the surface lays approximately 1 mm. lower than the rest of the brooch. The difference in surface height suggests that this brooch could belong to Heeren's type 89. This group consists of, amongst other types, brooches made using the *Grubenemail* technique.

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<sup>804</sup> Heeren et al. 2017, 226-27.

Application of this technique means that the lower parts of the brooch, in this case the cross, are filled-in with enamel. Heeren and Van Der Feijst date brooches of this type to between AD 875 and 1000<sup>805</sup>. This dating is much too late to apply to the brooch from Rhenen grave 166, which is found together with a brooch from group BR-4b (phase 4b-5 > 535/40 – 580/90) and amber beads. No traces of inlay, enamel or otherwise, were discovered on the brooch. While it may be possible that the date suggested by Heeren and Van Der Feijst for the group 89 brooch is too late, it is much more likely that the brooch from Rhenen grave 166 belongs to their group 88a.

The brooch from Elst grave 91 is decorated with a pattern that may be interpreted as degenerated animal style in a cross-shape. The brooch is made of gilded copper-alloy and was found in combination with a pot of type PO-2f (Phase 4-6 (510/25 – 610/20). Most frequently in phase 4-5 (510/25 – 580/90).

**Occurrence in the Netherlands:**

*Elst: 91.*

*Rhenen: 166.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

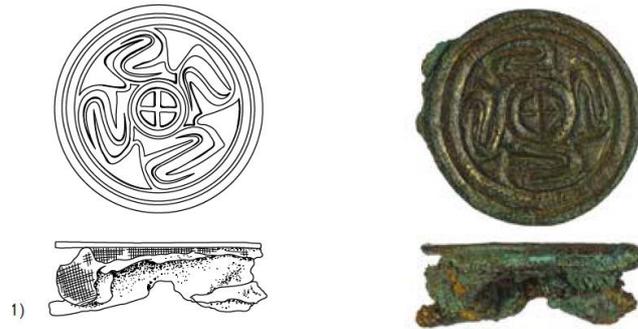
Heeren: **Group 88a** (500 – 625).

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

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<sup>805</sup> Heeren *et al.* 2017, 230-33.



BR-5e (Verwers *et al.* 2015, 182).

### **BR-5f Round cast copper-alloy disc brooches with a raised centre and engraved decoration**

Brooches in this group are made of a flat cast copper-alloy disc and have a raised centre. The brooches are decorated with engravings in various motifs. Usually part of the decoration comprises of spaced bundles of incised lines, starting from the centre. Between the bundles, dot or dot-in-circle decoration is often applied. Brooches in this group are small, with a diameter of less than 3 cm. In those cases where four bundles of rays occur, the decoration is often considered an equal-armed cross.

According to the German typology by the Franken Arbeitsgruppe, small brooches with a diameter of less than 3 centimetres date earlier than those with a larger diameter. Besides, it is thought that dot-in-circle decoration precedes single dots or lines<sup>806</sup>. Amongst the brooches in this sample, this distinction cannot be made with certainty. It must be noted, however, that the brooch from Elst grave 249 (combination of dots and lines) likely predates the brooch from Rhenen grave 269 (only lines). Both brooches are smaller than 3 centimetres.

#### **Occurrence in the Netherlands:**

*Elst: 249.*

*Rhenen: 269.*

*Rijnsburg: grave number unknown.*

<sup>806</sup> Müssemeier *et al.* 27-8 (types S-Fib 4.2b and 4.3B).

### Identification in other typologies:

Franken AG: **S-Fib 4.2b** – (phase 3-4 > 460/80 - 565), **Fib 4.3B** (phase 5-6 > 565 – 610/20).

Siegmund: **Fib 4.2b** – (phase 2 > 440 - 485), **Fib 4.3** – (phase 8 > 610/640).

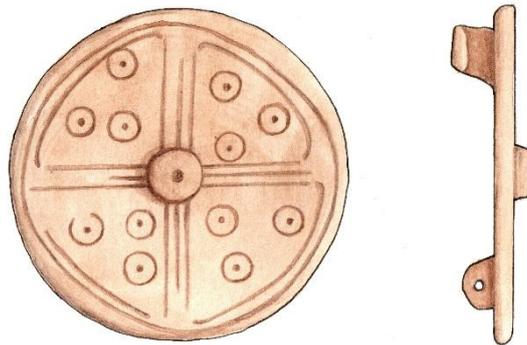
LPV: **210** (phase MA2-MA3 > 520/30 – 600/10, a single specimen in phase PM > 440/50 – 470/80 and MR1a > c. 600/10 – 615/20).

Hines: -

Heeren: **Group 88e** (500 – 625).

### Dating in the Netherlands:

Phase 4-5 (510/25 – 580/90).



BR-5f

### BR-5g Disc brooch - Diamond-shaped with lobes

Small diamond-shaped brooches made of copper-alloy or gilded silver, with carved and punched decoration. Occasionally, garnet or glass inlay occurs. The four points of the diamond are provided with two round lobes each, creating the idea of an equal-armed cross shape.

In case of the specimen from Rhenen grave 510, the lobes are decorated with various small punch marks which seem to be placed randomly. The centre of the brooch is decorated with an incised line which forms a diamond shape. Inside this line, a second diamond shape is formed by another incised line. In the centre of the double diamond, eight or nine punch marks form an equal-armed cross. The brooch from Rhenen grave 712 is corroded but the dot-in-circle marks on the lobes are well visible. The centre is decorated with incised lines

forming concentric diamonds. The pair of brooches from Rhenen grave 470 is made of gilded silver and damaged. The centre of the brooch is decorated with two incised rectangles surrounding a circular central setting. In the setting, a garnet was placed on metal foil.

Heeren and Van Der Feijst place this brooch in type 88. This type contains various early medieval disc brooches with a decoration of incised lines. Brooches in the group are subdivided on the basis of their mechanism type, basic shape and aspects of their build up. Brooch BR-5g equals subtype 88b. Heeren and Van Der Feijst indicate that an example of this brooch type was found in the Borgharen excavation. The brooch, however, is not listed amongst the inventory of any of the Borgharen graves within this sample.

Heeren and Van Der Feijst further list two examples from a settlement excavation in Wijk bij Duurstede ((Dorestad) Utrecht) and one from a settlement excavation in Elst (Gelderland)<sup>807</sup>.

Typ 88 is defined as containing small disc brooches with cast or incised decoration, without inlay. The brooches from Rhenen grave 470 should therefore theoretically belong to group 89, which is defined as containing small disc brooches with glass or enamel inlay. Although garnet is not glass or enamel, the presence or absence of inlay is clearly indicated as the dividing factor. None of the subtypes listed in type 89, however, matches the brooches from grave 470. In addition, the oldest date assigned to a brooch in type 89 is 750 – 850, which is far too late for the brooches in grave 470<sup>808</sup>. The brooches in grave 470 can be dated with certainty to phase 4, which is consistent with subtype 88b and the contemporary fashion of garnet disc brooches (see BR-4).

Brooches of this type are not listed by the Franken Arbeitsgruppe and Siegmund. LPV list the type for northern France (211). Werner indicates the distribution of BR-5g in two clusters which are in accordance with this. The first cluster is situated in northern France, to the north and east of Paris, whilst the second cluster is located around the river Rhine in southern Germany, but not in the Lower Rhine valley in Nordrhein Westfalen<sup>809</sup>.

#### **Occurrence in the Netherlands:**

*Borgharen: ?*

*Rhenen: 470, 510, 712.*

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<sup>807</sup> Heeren *et al.* 2017, 226-29, 468, 494, 594.

<sup>808</sup> Heeren *et al.* 2017, 226-29 (type 88), 230-33 (type 89).

<sup>809</sup> Werner 1961.

### Identification in other typologies:

Franken AG: -

Siegmund: -

LPV: **211** (phase MA1-MA3 > 470/80 – 600/10, most commonly in MA1 > 470/80 – 520/30).

Hines: -

Heeren: **Group 88b** (likely 500 – 550/75)

### Dating in the Netherlands:

Phase 4 (510/25 – 565).



*BR-5g (National Museum of Antiquities of the Netherlands)*

### **BR-5h** Disc brooch – Equal-armed cross with lobes

Disc brooches in the shape of an equal-armed cross, made of copper-alloy. The brooch from Wijster grave 5 is equipped with two lobes at the end of each arm of the cross. The lobes are decorated with a dot-in-circle each. The arms of the cross have edges which are slightly higher than the centre. The centre of each arm is decorated with incised lines. The centre of the cross is plain, but examples are known with an incised star or asterisk centrally on the cross.

Dating of brooches of this type is difficult. In the Wijster publication, Van Es postulates a typological relationship with group BR-5g. He suggests BR-5g is a French type, dated by Werner to the sixth century<sup>810</sup>. However, Van Es dates the cross-shaped type to the seventh and especially the eighth century on the basis of a *Stufe* IV date for the German Rhineland by Böhner<sup>811</sup>.

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<sup>810</sup> Van Es 1967, 508; Werner 1961, 37-8, numbers. 173-4 and fig 53; Böhner 1958, 98.

<sup>811</sup> Van Es 1967, 508; Böhner 1958, 110-11 and fig. 18:11.

Van Es lists various specimens similar to the brooch found in Wijster, namely from Drantum and Liebenau (Niedersachsen) in Germany and Domburg (Zeeland) in the Netherlands<sup>812</sup>. Other brooches listed are less similar but closely related, namely from Drantum, Woltwiesche, Dörverden (Niedersachsen), Soest (Nordrhein-Westfalen), Quedlinburg and Helfta (Sachsen-Anhalt) in Germany and from Domburg in the Netherlands<sup>813</sup>.

Heeren and Van Der Feijst list more Dutch parallels to the Wijster brooch, namely a surface find from Heusden (Noord-Brabant), a settlement find from Lent (Gelderland) and a brooch from a Roman *vicus* excavation in Nijmegen (Gelderland)<sup>814</sup>.

Bos touches upon similar difficulties around dating the brooches as Van Es and mentions a find from a fifth century context<sup>815</sup>. Wamers on the other hand concludes that the cross-shape is characteristic for the Carolingian period and dates the type as late as the eighth or ninth century<sup>816</sup>. Heeren and Van Der Feijst classify the type within their large group 88. The cross-shaped brooch with lobes is given code 88c1 and is dated between AD 775 and 925<sup>817</sup>.

In grave 5 of the Wijster cemetery, the brooch occurs in combination with two almond-shaped amethyst beads. For the German Rhineland, these beads are dated between phase 5 and 8 (565 – 670/80), sometimes continuing into phase 9 and 10 (565 – 750)<sup>818</sup>. They occur most often in phases 6 and 7 (580/90 – 640/50) in the Netherlands, but in Wijster and Zweeloo no amethyst bead was found which dates to before phase 8. Specifically in the Wijster cemetery, all amethyst beads are associated with either late rectangular brooches of type BR-5i or Mosaic beads of categories B4-B2 and B4-B4, indicating a Carolingian date. Grave 5 is the only context where amethyst beads cannot be linked to any of these late artefacts. Whilst a somewhat earlier start date is thus possible, the brooch most likely dates to phase 8 to 10 or the start of the Carolingian period.

#### **Occurrence in the Netherlands:**

*Wijster: 5.*

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<sup>812</sup> Van Es 1967, 508; Zoller 1965, 11-12 (Drantum); Roes 1955, fig. 7:2 (Domburg).

<sup>813</sup> Van Es 1967, 508; Schulz 1960, 324-25 + fig. 65,0, 2b, 65 (Drantum, Quedlinburg, Helfta, Woltwiesche); Roes 1955, fig. 7,4 (Domburg); Genrich 1963, 19 + fig 21.1 (Dörverden); Böhner 1958, 110-11 + fig 18,2 (Soest).

<sup>814</sup> Heeren *et al.* 2017, 464, 467, 483, 594.

<sup>815</sup> Bos 2006, 779.

<sup>816</sup> Wamers 1994, 590.

<sup>817</sup> Heeren *et al.* 2017, 227-29.

<sup>818</sup> Müssemeier *et al.* 2003, 38.

### Identification in other typologies:

Franken AG: -

Siegmund: -

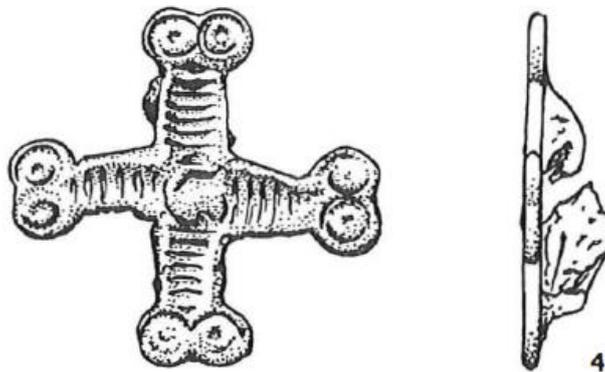
LPV: related to **296** (phase MA3-MR1 > 560/70 – 630/40, most commonly in MR1 > 600/100 – 630/40).

Hines: -

Heeren: **Group 88c1** (likely 775 – 925)

### Dating in the Netherlands:

Phase 8-10 (640/50 – 750). Possibly continuing up to approximately AD 800/50.



*BR-5h (van Es 1967, 412).*

### **BR-5i** Rectangular disc brooch with carved, stamped or punched decoration

Rectangular brooches with carved, stamped or punched decoration. Brooches in this group are usually made of copper-alloy. In some cases, the brooch is composed of an iron base to which a copper-alloy plate is fused (e.g. Wijster 156 and possibly 199). In case of the latter, the copper-alloy plate carries the decoration. The specimens with a plate are closely related to the composed disc brooches with pressed metal decoration grouped in BR-5c. In most cases, the needle and/or the entire mechanism are missing, indicating that these were probably made of iron.

The decoration of brooches in this group varies but usually consists of a border along the edges and a central motif. Square impressions are known, as well as plaited bands, linear

incisions and circular punch marks. Rectangular disc brooches decorated with glass or enamel inlay form a separate group and are listed in group BR-5j.

Siegmund describes rectangular brooches as type Fib 11, which is dated to phase 11 (705-740). Siegmund states, on the basis of research by Stein, that the oldest rectangular brooches are often equipped with a silver cover plate which carries the decoration. The decoration of these older brooches is described as a subtle and fine engraving or a flat *Tremolierstich* (hammered engraving, often a zigzag or snake-like motif)<sup>819</sup>.

The younger brooches are described as often made of copper-alloy and decorated with stronger ornamentation or enamel inlay. In addition, it is mentioned that the younger types often have concave sides. Further chronological differences can be derived from the dimensions of the brooches. The oldest brooches are longer, narrower and generally smaller whilst the younger specimens are shorter, wider and generally larger. Siegmund notes that the ratio between length and width (**length/width**) is 2.3 to 1 or higher for older brooches whilst for younger specimens the ratio is less than 2.3 to 1. The Franken Arbeitsgruppe copies the description by Siegmund and stresses that the older brooches are almost always longer and narrower, with the exception of a few specimens<sup>820</sup>.

When viewing the typological seriation of rectangular disc brooches by Thieme, it becomes clear that indeed size and ratio are the most important chronological indicators. The smaller narrower specimens are given a seventh century start date with a possible continuation in the first half of the eighth century. This variant is especially distributed in the Rhineland. It is suggested that this variant evolves into a broader and generally larger type which dates roughly to the earliest phase of the Carolingian period, between AD 750 and 800. From approximately 800, or slightly earlier, the type evolves further and is provided with concave sides. There are types of which only the long sides are concave, and which are possibly slightly earlier than those with four concave sides. Both variants, however, are dominant between c. AD 800 and 850.

The rectangular brooches in this sample all originate from the Wijster and Zweekoo cemeteries. The characteristics of the brooches are displayed in table 18. From these characteristics becomes clear that the brooches with *Tremolierstich* do not have a plate, in

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<sup>819</sup> Siegmund 1998, 52; Stein 1967, Stein 1967, 416 and list 20.

<sup>820</sup> Müssemeier *et al.* 2003, 30.

contrast to the situation in Germany as described by Siegmund and Stein. Concave sides were not found in the sample, except for a brooch belonging to group BR-5j.

Table 19: Characteristics of the brooches belonging to group BR-5j from the Netherlands.

Grave number	Dimensions (cm.)	Ratio	Material	Plate	Decoration	<i>Tremolierstich</i>
<b>WS 7</b>	length 4.0 width 2.5	1.6	Copper-alloy	No	Stamped squares	No
<b>WS 30</b>	length 3.8 width c. 3.1	1.2	Copper-alloy	No	Stamped squares	No
<b>WS 156</b>	length 5.2 width 2.3	2.3	Iron	Yes	Stamped ornament, ridges, s-shaped scrolls, beaded ridges	No
<b>WS 182</b>	length 4.1 width 2.3	1.8	Copper-alloy	No	Incised cross-hatching and plaiting	No
<b>WS 199</b>	length 3.4 (?) width unknown	?	Iron	Yes	Unknown	Unknown
<b>ZL 33</b>	length 5.0 width c. 2.7	1.9	Copper-alloy	No	Stamped ornament	No
<b>ZL 38</b>	length 4.0 width c. 2.5	1.6	Copper-alloy	No	Incised lines and cross-hatching	Yes
<b>ZL 45</b>	length 5.8 width 3.3	1.8	Copper-alloy	No	Punched chain	Yes

Any plates found in relation to the brooches in this sample were made of copper-alloy and not of silver. The fact that most features which Siegmund and Stein regard as chronologically

relevant do not apply to the Dutch brooches from the sample, suggests that the brooches belong to the second group which evolved from the rectangular 'Rhineland' brooches. When looking at dimensions in line with Thieme, it suggests too that all but one brooch belongs to this second group. The brooch with the strongest decoration (Wijster grave 156) is a specimen made of iron and with a copper-alloy plate. This is the only brooch that could possibly be classified as an older specimen.

The difference in date between the specimen from grave 156 and the others is supported by the fact that the grave 156 brooch is found in combination with so-called checkerboard beads which date between 650 and 750/800. These beads are also in five cases connected to composed disc brooch with pressed metal decoration (BR-5c) which are a possible predecessor of the rectangular variant. Two of the other rectangular brooches (Zweeloo graves 33 and 45) are found in combination with so-called millefiori eye beads which date to the Carolingian period, between 775 and 850/900.

On the basis of the available evidence, specimen with a dimensions ratio of 2.3 to 1.0 or higher can be dated in the Netherlands to phases 9 and 10 (670/80 – 750) or possibly even as early as phase 8 (640/50 – 670/80). Those with a dimensions ratio of less than 2.3 to 1.0 can be dated later, roughly between 750 and 850.

#### **Occurrence in the Netherlands:**

*Wijster: 7, 30, 156, 182, (199)*

*Zweeloo: 33, 38, 45*

#### **Identification in other typologies:**

Franken AG: **S-Fib 11** – (phase 9-10 > 670/80 - 750).

Siegmund: **Fib 11** – (phase 11 > 705-740).

LPV: -

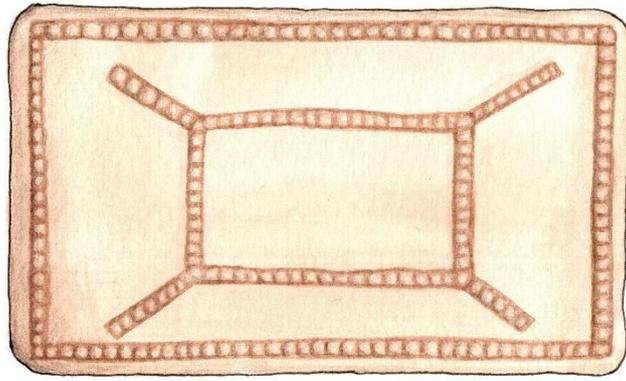
Hines: -

Heeren: **Group 88f** (775 – 875)

#### **Dating in the Netherlands:**

Small specimen (see above): Phase 9-10 (670/80 – 750).

Large specimens (see above): Carolingian period (c. 750 – 850).



BR-5i

### **BR-5j Rectangular disc brooch with concave sides and enamel or glass inlay**

Rectangular disc brooches made of copper-alloy which can be distinguished from those in group BR-5i on the basis of their decoration of glass or enamel inlay. Disc brooches with enamel or glass inlay exist in various shapes including round, square, rectangular with straight sides and rectangular with concave sides. Only the latter, however, was found as part of the sample used for this research, hence the focus in this group on rectangular brooches with concave sides. It is likely that a similar date can be applied to all shape varieties.

The brooch from Wijster grave 138 shows a central field of translucent blue glass which is surrounded by a raised border. Against each of the four concave borders of the brooch, a semi-circular cell is placed containing white inlay. The placement of the cells could be interpreted as forming a cross shape, although this may not necessarily have been the intended result in the eyes of the creator.

Rectangular brooches belonging to BR-5i and BR-5j are grouped together in Siegmund's type Fib 11, which is dated to phase 11 (705-740). It is suggested that enamel or glass inlay can be regarded a late characteristic within this spectrum<sup>821</sup>.

Wamers, who dated various glass or enamel inlaid disc brooches, places this type between the late ninth century (approximately AD 875/80) and the very early eleventh century

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<sup>821</sup> Siegmund 1998, 52; Stein 1967, *Adelsgräber* 416 and list 20.

(approximately AD 1000/1020). The same date is given to rectangular brooches without concave sides but with a similar decoration and mechanism<sup>822</sup>. Round brooches with similar decoration and mechanism, however, are dated by Wamers to the ninth century (AD 800-900)<sup>823</sup>. Frick, also responsible for dating various brooch types with glass or enamel inlay postulates a date for the round equivalent of between AD 875 and approximately 1000<sup>824</sup>.

Heeren and Van Der Feijst place specimens from group BR-5j in their larger group 89 which contains brooches of various shapes, brought together on the basis of their glass or enamel inlay. The rectangular brooch with concave sides is further specified as subtype 89k1, for which is noted that the inlay represents a cross motif. The subtype is dated between AD 875 and 1000, together with round and rectangular brooches made using the same techniques and showing a similar decoration (89a and 89b1 respectively). There is argued that the gap of almost a century between round and rectangular specimens as postulated by Wamers is unlikely. Instead, Heeren and Van Der Feijst choose to align their date of the rectangular specimens with and without concave sides with the date given by Frick to round counterparts<sup>825</sup>.

Given the fact that a rectangular brooch with glass or enamel inlay and concave sides is included in the sample used for this research indicates that the start date provided by Wamers, Frick and Heeren and Van Der Feijst is too late. This is supported by the findings of both Siegmund, Stein and the Franken Arbeitsgruppe in relation of the German Rhineland. The occurrence of the brooches in the German Rhineland during the Merovingian period does not necessarily mean that the same date applies to the Netherlands. However, a difference in starting date of about 150 to 200 years between the German Rhineland and the relatively nearby Dutch province of Drenthe is very unlikely.

Wijster grave 138 in which the brooch is found is difficult to date on the basis of other artefacts. The only indicative artefact is an amethyst bead which the Franken AG dates between phases 5 to 8 (565 – 670/80), with a sporadic occurrence in phases 9 or 10 (670/80 – 750) for the German Rhineland. Amethyst beads occur most often in phases 6 and 7 (580/90

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<sup>822</sup> Wamers 1994, 587 and fig. 175).

<sup>823</sup> Wamers 1994, 594 and fig 182.

<sup>824</sup> Frick 1992/1993, 261-62.

<sup>825</sup> Heeren *et al.* 2017, 230-33.

– 640/50)<sup>826</sup>. Siegmund places amethyst beads between AD 610 and 740 whilst Hines postulates a date for England between 555/85 and 660/85<sup>827</sup>.

On this basis, a date is possible for the brooch roughly between phase 7 and 10 (610/20 – 750) and a phase 9 or 10 date is not more likely than a date in phase 7 or 8. A start date in the Carolingian period is too late whilst continuation of occurrence into the Carolingian period is possible on the basis of the data presented by the aforementioned other researchers.

#### **Occurrence in the Netherlands:**

*Wijster: 138.*

#### **Identification in other typologies:**

Franken AG: **S-Fib 11** – (phase 9-10 > 670/80 - 750).

Siegmund: **Fib 11** – (phase 11 > 705-740).

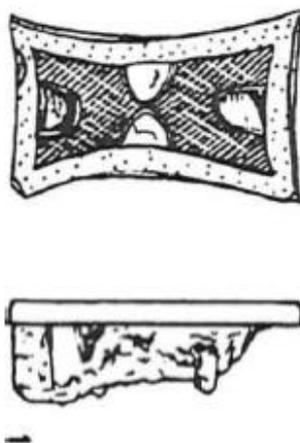
LPV: -

Hines: -

Heeren: **Group 88k1** (875 – 1000).

#### **Dating in the Netherlands:**

Phase 7-10 (610/20 - 750). Possibly continuing into the Carolingian period.



*BR-5j (van Es 1967, 458).*

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<sup>826</sup> Müssemeier *et al.* 2003, 38.

<sup>827</sup> Siegmund 1998, 63 and 77; Hines *et al.* 2013, 485 and 566.

## BR-6: ZOOMORPHIC BROOCHES

Zoomorphic brooch designs were popular and widespread during the Roman period and continued to be created and used during the early medieval period. The most common early medieval zoomorphic brooch type is the bird brooch. This type, in the form of what should probably be interpreted as an eagle, is found in various designs and with simple decoration or fitted with garnet inlay. Other zoomorphic brooches have the shape of a horse or duck. The s-shaped brooch is more subtle, as it depicts a more stylised and less easily recognisable animal.

### BR-6a S-shaped brooches

Brooches in this group are made of copper-alloy, gilded copper-alloy or gilded silver and usually consist of a stretched body with a curved animal head on each side, together forming an s-shape. The name relates to this characteristic shape but does not do justice to the zoomorphic nature of the design. The animal heads are often equipped with a wide-open beak (e.g. Rhenen 608) and the eye can be plain (e.g. Rhenen 595), decorated with a dot-in-circle (e.g. Rhenen 510) or decorated with inlay (e.g. Elst 249). It is thought that the animal represented should be regarded a snake or serpent.

The group of S-shaped brooches is not homogenous and several variations on the design set out above are known. When holding the brooch with the mechanism in the right position, the 'S' is sometimes as the letter, but other times mirrored or lying on its side. The brooch from Rhenen grave 510 has only one head whilst the opposite end of the s-shape is formed by a tail. This variant is sometimes named a seahorse brooch, although it could equally represent a snake or serpent. The beaks of the brooch in Elst grave 249 are closed and bended, similar to bird beaks seen on various other brooches in this category such as BR-6b and in the categories BR-2 and BR-4. The pair of brooches found in Rhenen grave 595 consist of two heads and two roughly ovoid bodies which are connected by an intermediate piece of metal to form the s-shape.

The s-shaped brooches in this sample are all decorated with incised lines and/or chip carving forming various patterns on bodies and heads. In some cases the incised lines are

accompanied by dot in circle motifs. From the typology by LPV for northern France is known that s-shaped brooches can be decorated more elaborately, with garnet on the body or with a diamond-shaped, raised and sometimes inlaid centre<sup>828</sup>.

Heeren and Van Der Feijst created group 85 for s-shaped brooches in the Netherlands and differentiate between brooches with garnet inlay (85a) and specimens without garnet inlay (85b). They indicate a total of twenty-three s-shaped brooches known from the Netherlands, but also state that eight have garnet-inlay eyes and eighteen are found without garnet, bringing the total to twenty-six<sup>829</sup>. From the seven s-shaped brooches in this sample, one has garnet-inlaid eyes whilst the remaining six have no garnet inlay. Heeren and Van Der Feijst rightly observe that the specimens found in the Netherlands are relatively plain in comparison to the richly decorated s-shaped brooches known from southern Germany and northern Italy<sup>830</sup>.

S-shaped brooches are a relatively common find in Europe. As mentioned previously, elaborately decorated examples are found in France, northern Italy and southern Germany. From Italy, some fifty specimens are known<sup>831</sup>. The southern German cemetery of Schretzheim (Bayern) holds approximately twenty s-shaped brooches and another approximately thirty are found in the Altenerding cemetery (Bayern)<sup>832</sup>. This contrasts sharply with the three s-shaped brooches that were found in the research area covered by Siegmund, and another three which were added for the German Rhineland by the Franken Arbeitsgruppe<sup>833</sup>. The low numbers of finds in the German Rhineland also contrast with the twenty-three or twenty-six brooches known from the Netherlands, as indicated by Heeren and Van Der Feijst. The find of a possible semi-finished s-shaped brooch in Hemmen (Gelderland) may be an indication for local production<sup>834</sup>. Local production could be an explanation for the relatively large cluster in the Netherlands in comparison with the German Rhineland and specifically in the central river basin. In addition, it could explain the prevalence of relatively plain s-shaped brooches in the Netherlands, in comparison with more elaborate designs known from France, Germany and Italy.

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<sup>828</sup> Legoux *et al.* 2016, 25 and 44.

<sup>829</sup> Heeren *et al.* 2017 220-22 and table 4.67.

<sup>830</sup> Heeren *et al.* 2017, 222.

<sup>831</sup> Menis 1990.

<sup>832</sup> Koch 1977, table 194 (Schretzheim); Sage 1984, tables 194-195 (Altenerding).

<sup>833</sup> Siegmund 1998, 51; Müssemeier *et al.* 2033, 29.

<sup>834</sup> Heeren *et al.* 2017, 222.

Heeren and Van Der Feijst, the Franken Arbeitsgruppe and Siegmund date s-shaped brooches as one group. Heeren and Van Der Feijst do not identify chronological differences between various subtypes whilst the Franken Arbeitsgruppe and Siegmund note subtle differences. The general date ranges provided by the three studies, however, are roughly similar.

LPV divide s-shaped brooches in seven groups on the basis of size and decoration and date the groups individually (groups 225 – 231). Given the size and the simple decoration of the brooches in this sample, they all belong to LPV's group 226.

In this typology, a single date is provided for s-shaped brooches. Further specification on the basis of individual characteristics turned out not to be possible for the specimens in this sample.

#### **Occurrence in the Netherlands:**

*Elst: 155, 249.*

*Rhenen: 316, 510, 562, 595, 608.*

*Wijchen: 81 (not in this sample).*

#### **Identification in other typologies:**

Franken AG: **S-Fib 8** – (phase 3-6 > 460/80 – 610/20).

Siegmund: **Fib 8** – (phase 3-5 > 485 - 570).

LPV: **226** (phase MA1-MA2 > 470/80 – 560/70, most commonly in phase MA1 > 470/80 – 520/30). **Related to 225** (phase PM-MA1 > 440/50 – 520/30). **Related to 227** (phase MA2-MA3 > 520/30 – 600-610). **Related to 228** (phase MA3-MR1 > 560/70 – 630/40). **Related to 229** (phase MA1b-MA2 > 490/500 – 560/70, most commonly in MA2 > 520/30 – 560/70). **Related to 230** (phase MA3 > 560/70 – 600/10). **Related to 231** (phase MA2-MA3 > 520/30 – 600-610, most commonly in MA3 > 560/70 – 600/10).

Hines: -

Heeren: **Group 85a and 85b** (500 – 570).

#### **Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).



*BR-6a (National Museum of Antiquities of the Netherlands)*

### **BR-6b Bird brooches without garnet inlay and with a closed beak**

Brooches in this group are made of copper-alloy and represent a stylised bird. The bird brooch is a relatively common find in graves from the early medieval period and several variations exist. The brooches of group BR-6b distinguish themselves from those in groups BR-6c and d by the absence of garnet inlay and the fact that the bird's beak is closed. The group represents the most simple bird-brooch types available.

The brooches in this group are sometimes found in pairs (e.g. Rhenen 374 and 808) and sometimes as single items (e.g. Rhenen 87 and 753). They are relatively small, with the height of specimens in the sample varying between 2.65 and 4.30 centimetres.

The basic shape of the bird varies, with the most noticeable characteristic being the presence or absence of a clearly distinguishable wing and claws. The tail is usually trapezoid, the head just slightly bigger than the eye and the beak curved. The eye itself is sometimes indicated with a dot-in-circle and sometimes with an incised or stamped cross. In other cases, the head is left plain, or the position of the eye is indicated with a plain sunken field.

The bird brooch from Rhenen grave 753 consists of an ovoid body, a trapezoid tail, and a curved beak. No wing or claws are present. The eye is indicated with a cross. The ovoid body is lengthwise divided in half by a ridge. On both sides of the ridge, a decoration of parallel linear incisions is applied. The beak and tail are also decorated with incised lines.

The bird-brooches in Rhenen grave 808 have wings, claws and trapezoid tails which are separated from the body by incised lines. The head and body are separated by a ridge. The eyes are undecorated whilst the beaks, wings, claws, and tails are decorated with linear incisions.

The specimens in Rhenen grave 374 have a somewhat angular appearance. The heads and bodies are separated by an incised line. Beaks, wings, claws, and trapezoid tails are decorated with incised lines and the eyes are undecorated.

The brooch from Rhenen grave 87 is in a corroded state. It is possible, however, to identify the decoration on the beak, wings, claws, and trapezoid tail as incised lines. The location of the eyes is slightly sunken but not enough to have held a garnet. The head and body are separated by an incised line.

The bird-brooch from Wageningen grave 105 is simple and the eye is not indicated at all. The beak, wings and claws are decorated with coarse incised lines. The tail of this bird brooch could probably be best described as shield- or mushroom shaped.

Whilst the Franken Arbeitsgruppe, Siegmund and Heeren and Van Der Feijst place all bird-shaped brooches without garnet inlay in a single group with a single date (except for the substantially larger brooches), LPV subdivide the specimens on the basis of size, shape variations and decorative styles. They suggest, for example, that the start date of brooches without claws, such as found in Rhenen grave 753 is approximately twenty years earlier than the start date of the more general type as found in the remaining three Rhenen graves. LPV also lists a somewhat primitive variant (type 235) which is not known from this sample. They postulate a typological development from this primitive variant into the still relatively primitive brooches without claws (type 241 and Rhenen grave 753) as well as into small but more developed types (type 238, not in this sample). These two variants are then followed by the more general type (type 239) found in Rhenen graves 87, 374 and 808.

On the basis of the available brooches in the sample, it is unfortunately not possible to confirm or deny with any certainty the value of this theory from northern France for the situation in the Netherlands. It must be noted, however, that Rhenen grave 753 may be slightly older than graves 87, 374 and 808 on the basis of its other content, which indicates that the French findings may also apply in the Netherlands.

**Occurrence in the Netherlands:**

*Rhenen: 87, 374, 753, 808.*

Wageningen: 105.

**Identification in other typologies:**

Franken AG: **S-Fib 7.1** – (phase 3 > 460/80 – 510/25).

Siegmund: **Fib 7.1** – (phase 3 > 485 - 530).

LPV: **239** (phase MA1-MA2 > 470/80 – 560/70, most commonly in phase MA1 > 470/80 – 520/30). **241** (phase PMb-MA1 > 455/60 – 520/30). **238** (phase PMb-MA1 > 455/60 – 520/30, most commonly in MA1 > 470/80 – 520/30). **Related to 235** (phase PM > 440/50 – 470-80). **Related to 236** (phase PM-MA1 > 440/50 – 520/30). **Related to 242** (phase MA1 > 470/80 – 520/30). **Related to 243** (phase MA1 > 470/80 – 520/30). **Related to 244** (phase MA1-MA2 > 470/80 – 560/70). **Related to 245** (phase MA1-MA2 > 470/80 – 560/70). **Related to 246** (phase MA1 > 470/80 – 520/30). **Related to 247** (phase MA1b-MA2 > 490/500 – 560/70). **Related to 248** (phase MA1 > 470/80 – 520/30, sporadically in PM > 440/50 – 470/80). **Related to 249** (phase MA3-MR1 > 560/70 – 630/40). **Related to 250** (phase MA1b-MA3 > 490/500 – 600/10, most commonly in MA2-MA3 > 520/30 – 600/10).

Hines: -

Heeren: **Group 83a1** (470 – 530).

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25). Occasionally in phase 4 (510/25 – 565).



*BR-6b (National Museum of Antiquities of the Netherlands)*

### **BR-6c Bird brooches without garnet inlay and with an open beak (Type Westhoven)**

Brooches in this group are made of copper-alloy and represent a stylised bird. The bird brooch is a relatively common find in graves from the early medieval period and several variations exist. The brooches of group BR-6c distinguish themselves from those in groups BR-6b and d by the absence of garnet inlay and the fact that the bird's beak is open.

The brooches in this group are sometimes found in pairs but more commonly alone. They are relatively small, with the height of specimens in the sample varying between 2.65 and 3.00 centimetres.

Bird brooches of this type often have a straight body with a decoration of horizontal incised lines on its left half, forming the impression of a spiral or spine. The right side of the body is plain or equipped with a centrally placed vertical incised line (or lines) which connects the beak with the tail. The claws, as often visible in bird brooches from type BR-6b are replaced by the bottom half of the beak, pointing outwards and down. The top half of the beak is curved in a similar way as the beaks of bird brooches in group BR-6b. Together the two parts of the beak create the illusion of an open beak or a shouting bird. Both parts of the beak are often decorated with incised lines and the eye is indicated with a dot-in-circle motif. The tail and body are separated by one or more ridges or incised lines. The tail of the bird is either trapezoid or dovetail shaped. The tail of the brooches from Rhenen is dovetail shaped and decorated with incised lines. The tail from the Posterholt specimen is trapezoid and decorated with incised lines and a single dot-in-circle.

This specific type of bird brooch is relatively rare in western Europe with only twelve specimens known from Germany and the Netherlands (*table 20*)<sup>835</sup>. In the typologies by the Franken AG, Siegmund and Heeren and Van der Feijst, brooches of this type are placed in the same category as other bird brooches without garnet inlay (BR-6b). LPV have a separate category for bird brooches with an open beak (245), which means this type also appears in northern France. It is unclear, however, in which cemeteries the brooch(es) was (were) found. Based on the data from table 20 it seems that brooches with a dovetail-shaped tail are concentrated further north than brooches with a trapezoid-shaped tail. The former variant is

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<sup>835</sup> Thiry 1939, 97. Werner 1961, 46, 61, finds list 9, table 43. Hässler 1990, 192, table 95. Ludowici 1997. De Haas *et al.* 2013, 274.

found in the German state of Niedersachsen as well as in Rhenen, all to the north of the river Rhine, whilst the latter type is mainly known from cemeteries on the banks of the river Rhine in Germany and from Posterholt. An exception to this is one brooch with a dovetail-shaped tail which is found in Dalsheim (Rheinland-Pfalz). This is the southernmost brooch found in Germany.

The brooch from the Posterholt cemetery was found in the backfill of a reopening pit overlaying graves 89 and 90. It is therefore unclear whether the brooch belongs to grave 89 or 90. Based on the presence of mainly seventh century finds in grave 90 (e.g. part of a belt fitting of type BU-5e), it can be expected that the bird brooch belongs to the inventory of grave 89<sup>836</sup>.

*Table 20: Bird brooches with an open beak known from the Netherlands and the nearby states of Germany.*

#	Country	Province/state	Place	Single or pair	Tail shape
1	Germany	Rheinland-Pfalz	Dalsheim	Single	Dovetail
2	Germany	Rheinland-Pfalz	Westhofen	Single	Trapezoid
3	Germany	Rheinland-Pfalz	Mühlhofen - Bendorf	Single	Trapezoid
4	Germany	Rheinland-Pfalz	Andernach	Single	Trapezoid
5	Germany	Niedersachsen	Liebenau	Pair	Dovetail
6	Germany	Niedersachsen	Salzgitter - Lobmachersen	Single	Dovetail
7	Netherlands	Utrecht	Rhenen	Pair	Dovetail
8	Netherlands	Limburg	Posterholt	Single	Trapezoid
9	Unknown	Unknown	Unknown	Single	Dovetail
10	Unknown	Unknown	Unknown	Single	Dovetail

#### **Occurrence in the Netherlands:**

*Posterholt: 89/90.*

*Rhenen: 507.*

<sup>836</sup> De Haas *et al.* 2013, 94-5, 270-74.

**Identification in other typologies:**

Franken AG: **S-Fib 7.1** – (phase 3 > 460/80 – 510/25).

Siegmund: **Fib 7.1** – (phase 3 > 485 - 530).

LPV: **245** (phase MA1-MA2 > 470/80 – 560/70). **Related to 235** (phase PM > 440/50 – 470-80). **Related to 236** (phase PM-MA1 > 440/50 – 520/30). **Related to 238** (phase PMb-MA1 > 455/60 – 520/30, most commonly in MA1 > 470/80 – 520/30). **Related to 239** (phase MA1-MA2 > 470/80 – 560/70, most commonly in phase MA1 > 470/80 – 520/30). **Related to 241** (phase PMb-MA1 > 455/60 – 520/30). **Related to 242** (phase MA1 > 470/80 – 520/30).

**Related to 243** (phase MA1 > 470/80 – 520/30). **Related to 244** (phase MA1-MA2 > 470/80 – 560/70). **Related to 246** (phase MA1 > 470/80 – 520/30). **Related to 247** (phase MA1b-MA2 > 490/500 – 560/70). **Related to 248** (phase MA1 > 470/80 – 520/30, sporadically in PM > 440/50 – 470/80). **Related to 249** (phase MA3-MR1 > 560/70 – 630/40). **Related to 250** (phase MA1b-MA3 > 490/500 – 600/10, most commonly in MA2-MA3 > 520/30 – 600/10).

Hines: -

Heeren: **Group 83a1** (470 – 530).

**Dating in the Netherlands:**

Phase 3-4a (460/80 – c. 540).



*BR-6c (De Haas et al. 2013, cover).*

### **BR-6d Bird brooches with garnet inlay in the eye, tail, and/or claws**

Brooches in this group are made of copper-alloy or gilded silver and represent a stylised bird. The bird brooch is a relatively common find in graves from the early medieval period and several variations exist. The brooches of group BR-6d distinguish themselves from those in groups BR-6b and c by the presence of garnet inlay. In most cases, only the eye is garnet inlaid. In a few cases inlay can also be found in the tail (e.g. Rhenen 131). The pair of brooches from Elst grave 216 is unique within the sample as it has garnet inlaid wings and claws in addition to inlaid eyes and tails.

The basic shape of the bird varies, but normally includes a body, a head which is usually dominated by the inlaid eye, a curved beak, a tail and stylised wings and claws. The tail is usually trapezoid. One brooch from Rhenen grave 131, however, has a narrow rectangular tail whilst the tail of the other specimen in the same grave is broad rectangular and inlaid. The brooches from Rhenen grave 93 have a somewhat angular appearance, similar to the specimen from Rhenen grave 374 in group BR-6b. The eyes of the brooches in Rhenen grave 93 are inlaid with Pyrope, an uncommon type of garnet which varies in colour between deep red and black.

Besides the garnet inlay, the brooches are usually decorated with incised lines and sometimes with dot-in-circle motifs. The various body parts such as head, body and wings are normally separated by incised lines or ridges.

The brooches in this group are sometimes found in pairs and sometimes as single items. In Rhenen grave 131, two bird brooches were found which look substantially different and cannot be considered a pair. Similar to bird brooches from groups BR-6b and c, specimens in this group are relatively small, with the height of brooches in the sample varying between 2.7 and 3.2 centimetres.

The Franken Arbeitsgruppe and Siegmund distinguish chronologically between bird brooches with an inlaid eye only (S-Fib 7.2, phase 3 > 460/80 – 510/25) and Fib 7.2, phase 3 > 485-530) and those with inlay in the foot or tail (S-Fib 7.3, phase 4 > 510/25-565 and Fib 7.3, phase 4 > 530-555)<sup>837</sup>. This distinction cannot be made on the basis of this sample.

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<sup>837</sup> Müssemeier 2003, 28; Siegmund 1998, 50-1

Heeren and Van Der Feijst created three bird brooch categories of which the first contains plain brooches, without garnet inlay (83a1). The second category contains brooches with garnet inlaid eyes only (83a2). All other bird brooches, including those with inlaid tails, claws, and wings as well as the large brooches from group BR-6e belong to their third category (83a3). Categories 83a1 and a2 are dated between AD 470 and 530 whilst category 83a3 is dated somewhat later, between AD 500 and 600<sup>838</sup>. On the basis of the brooches in this sample, the chronological difference between brooches with garnet inlay in the eye only and those with inlay in claws and tails cannot be demonstrated. The most elaborately decorated specimen (Elst grave 216) for example, is found in combination with Anglo-Saxon style pottery (PO-5d) which can be dated to phase 3 or 4 (460/80 – 565). A phase 4 date for this brooch is possible, but not at all certain.

#### **Occurrence in the Netherlands:**

*Elst: 216.*

*Rhenen: 79, 88, 93, 99, 131, 181, 716.*

#### **Identification in other typologies:**

Franken AG: **S-Fib 7.2** – (phase 3 > 460/80 – 510/25), **S-Fib 7.3** – (phase 4 > 510/25 – 565).

Siegmund: **Fib 7.2** – (phase 3 > 485 - 530), **Fib 7.3** – (phase 4 > 530-555).

LPV: **238** (phase PMb-MA1 > 455/60 – 520/30, most commonly in MA1 > 470/80 – 520/30).

**239** (phase MA1-MA2 > 470/80 – 560/70, most commonly in phase MA1 > 470/80 – 520/30). **Related to 235** (phase PM > 440/50 – 470-80). **Related to 236** (phase PM-MA1 > 440/50 – 520/30). **Related to 241** (phase PMb-MA1 > 455/60 – 520/30). **Related to 242** (phase MA1 > 470/80 – 520/30). **Related to 243** (phase MA1 > 470/80 – 520/30). **Related to 244** (phase MA1-MA2 > 470/80 – 560/70). **Related to 245** (phase MA1-MA2 > 470/80 – 560/70). **Related to 246** (phase MA1 > 470/80 – 520/30). **Related to 247** (phase MA1b-MA2 > 490/500 – 560/70). **Related to 248** (phase MA1 > 470/80 – 520/30, sporadically in PM > 440/50 – 470/80). **Related to 249** (phase MA3-MR1 > 560/70 – 630/40). **Related to 250** (phase MA1b-MA3 > 490/500 – 600/10, most commonly in MA2-MA3 > 520/30 – 600/10).

Hines: -

Heeren: **Group 83a2** (470 – 530). **Group 83a3** (500 – 600).

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<sup>838</sup> Heeren *et al.* 2017, 215-18.

**Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).



*BR-6d (National Museum of Antiquities of the Netherlands)*

**BR-6e Composed eagle brooches with pressed-metal decoration**

Brooches in this group have a similar general shape to those in groups BR-6b to BR-6d but are substantially larger. The specimens from Rhenen grave 373 measure 9.3 cm. and approximately 10.6 cm. The brooches are composed of an iron plate and a copper-alloy top layer in which decoration is pressed.

The pair from Rhenen grave 373 consists of two mirrored brooches with fairly equal decoration. The decoration consists of an eleven-leaf rosette surrounded by a circle centrally on the brooch. Above and below the rosette, linear, circular, and spiral-shaped motifs are present. The eyes are indicated with large circles. In the case of one brooch, this circle is filled with a six-leaf rosette. The contours of the entire brooch, including the beak are indicated with a line. Both brooches do not show wings or claws. The trapezoid tails have scalloped ends, creating the impression of three 'tail feathers'.

**Occurrence in the Netherlands:**

*Rhenen: 373.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

Heeren: **Group 83a3** (500 – 600).

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).



*BR-6e*

**BR-6f Duck brooch**

Bird brooch in the shape of a stylised duck.

The brooch from Rhenen grave 799 is made of copper-alloy and is approximately 3 centimetres in length. The wings of the duck are separated from the base plate by a rib. The duck's spine is indicated by a line of small incisions transverse to the longitudinal direction of the body. The wings on both sides are decorated with small punch marks which seem to be distributed fairly equally. The eyes of the duck are indicated with similar small punch marks. The pin is placed lengthwise underneath the bird.

Other brooches which belong to this group, but which are not part of the sample are sometimes plain and sometimes decorated with incised lines in a chevron motif. One specimen is known to be decorated with a combination of linear incisions, chevron patterns and dot-in-circles (see below).

Brooches in the shape of a stylised duck do not feature in the typologies by the Franken Arbeitsgruppe and Siegmund which suggests an absence of the type in the German Rhineland. LPV list type 237, which is a brooch in the shape of a sitting rather than an upright bird. This type shows remote similarities to the Rhenen duck brooch and is indicated as an Anglo-Saxon type<sup>839</sup>. However, the resemblance is limited to the posture of the birds. Similar brooches depicting a sitting bird are not included in the typology for Anglo-Saxon England by Hines and colleagues.

Whilst a stylised eagle-like bird is depicted most commonly during the early medieval period, bird brooches depicting ducks, chickens, peacocks and other species are known from as early as the late Roman period. Riha postulates a start date for brooches belonging to this group during the late second century AD and an end date in the fourth century<sup>840</sup>. Detector finds of duck-like stylised bird brooches are known from Lith and Grave, both along the river Meuse in the province of Noord-Brabant. These finds are linked to fluvial deposits which contained archaeological material from the late Roman to the Carolingian period<sup>841</sup>. Another brooch made in a similar style is known from a settlement and possible *vicus* site in Vleuten-de Meern, along the *Limes* near Utrecht<sup>842</sup>. Most of the finds from this site can be dated to the second or third century<sup>843</sup>. A further brooch was found by a metal detectorist in Neerijnen along the river Waal<sup>844</sup>. The Neerijnen brooch is corroded but shows a decoration of incised lines in a chevron motif. The brooch from Vleuten-de Meern is plain whilst the specimen from Grave is somewhat larger and decorated with a combined motif of incised lines, chevrons and dot-in-circles<sup>845</sup>.

The brooch from Rhenen grave 799 occurs in combination with a radiate headed brooch of type BR-2b which can be dated in phase 2 (435 – 460/80). The large spindle whorl or whorl

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<sup>839</sup> Legoux *et al.* 2016, 25, 44.

<sup>840</sup> Riha 1979, 89-90.

<sup>841</sup> Verwers 1986a, 39, 46.

<sup>842</sup> Heeren *et al.* 2017, 492, 592.

<sup>843</sup> Gazenbeek *et al.* 2002.

<sup>844</sup> Heeren *et al.* 2017, 463, 592.

<sup>845</sup> Heeren *et al.* 2017, 592.

bead in the same grave can be placed in phase 2 or possibly 3 (435-510/25). These finds are accompanied by various early Merovingian beads as well as a melon bead, which is considered late Roman but continues to be deposited in the earliest phases of the medieval period (phase 1-2, 400-460/80). Based on this evidence, the end date for the duck-shaped brooch as postulated by Riha seems somewhat early. Although a Roman origin cannot be ruled out, the brooches occur in some cases in contexts linked to the early Medieval period. The type is mainly known from the central river basin and is possibly produced locally<sup>846</sup>. This idea is in agreement with the fact that the type is not mentioned in the typologies by the Franken Arbeitsgruppe, Siegmund, LPV or Hines and colleagues, suggesting that the distribution outside of the Netherlands is limited or even absent. The suggestion by Heeren and Van Der Feijst that the type is developed in the Dutch central river basin during the fifth century, however, seems unlikely given the known existence of the shape from as early as the late Roman period<sup>847</sup>.

#### **Occurrence in the Netherlands:**

*Rhenen: 799.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

Heeren: **Group 83h** (400 – 550).

#### **Dating in the Netherlands:**

Late Roman period and phases 1-2 (400-460/80), possibly as late as phase 3 (460/80 – 510/25).

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<sup>846</sup> Heeren *et al.* 2017, 217.

<sup>847</sup> Heeren *et al.* 2017, 217.



BR-6f (National Museum of Antiquities of the Netherlands)

### BR-6g Horse brooch

Figure brooches in the shape of a horse or a horse with rider. The brooches are made of gilded silver and have a maximum length of approximately 3.5 centimetres.

Brooches of this type are found in three graves within the sample, either in pairs (e.g. Elst 175) or as a single object (e.g. Rhenen 195). In the case of Rhenen grave 152, the brooches depict a horse with rider whilst in the other cases only a horse is depicted.

The brooches from Rhenen grave 152 have a base which is decorated with incised lines in the same style as the horse's manes. Further details of the horse's body and the rider are accentuated by incised lines around the edges to create the impression of depth. The brooch from Rhenen grave 195 shows a snout, manes and tail which are accentuated by incised lines. The outline of the brooch is marked with triangular impressions. Within this marking, some incised lines are present. The pair from Elst grave 175 has snouts, manes, tails, ears and bases which are accentuated by incised lines. A circular hole is present below the front legs.

Horse brooches do not feature in the typology by the Franken Arbeitsgruppe. Siegmund mentions one specimen which was found in Xanten (Nordrhein Westfalen, Germany). The Xanten grave could not be dated but an overlying grave, dating to phase 8b (approx. 625-640), is suggested as a source for a *terminus ante quem*<sup>848</sup>. LPV created separate categories for horse brooches (283) and horse brooches with a rider (282). Group 283 also includes an example of a horse brooch with a hole below the legs, as seen in Elst grave 175. Both are given the same date of PM-MA1 (440/50 – 520/30), with most specimens datable to phase PM (440/50 – 470/80)<sup>849</sup>.

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<sup>848</sup> Siegmund 1998, 51.

<sup>849</sup> Legoux *et al.* 2016, 26, 46, 62.

Heeren and Van Der Feijst list horse brooches for the Netherlands in groups 83c (horse only) and 83f (horse with rider). In addition to the brooches from Rhenen grave 152 and Elst grave 175, two examples from Neerrijnen (Gelderland) are listed as detector finds (horse only and horse with rider). The brooch from Rhenen grave 195 is not mentioned<sup>850</sup>. Heeren and Van Der Feijst do not provide a date for horse brooches<sup>851</sup>.

The brooches in this sample can all be dated to phase 3. It is possible, however, to suggest that Rhenen grave 152 belongs in (early) phase 4 rather than phase 3 on the basis of two other brooches in the context, namely a type BR-1m and BR-2j. The evidence is not strong enough to suggest that horses with riders are a possible typological development following brooches only depicting a horse.

#### **Occurrence in the Netherlands:**

*Elst: 175.*

*Rhenen: 152, 195.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: **Fib 9** – (no date provided).

LPV: **282** (phase PM-MA1 > 440/50 – 570/80, most commonly in PM > 440/50 – 470/80).

**283** (phase PM-MA1 > 440/50 – 570/80, most commonly in PM > 440/50 – 470/80).

Hines: -

Heeren: **Group 83c** (no date provided). **Group 83f** (no date provided).

#### **Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).



*BR-6g (National Museum of Antiquities of the Netherlands)*

<sup>850</sup> Heeren *et al.* 2017, 592.

<sup>851</sup> Heeren *et al.* 2017, 218.

## **BR-6h Dog brooch (belt fastener)**

Figure brooches in the shape of a stylised laying dog.

The brooch from Rhenen grave 95 is made of copper-alloy and the neck, snout and base of the tail are indicated with now worn incised lines. The tail is bended round to form a circular loop. The head and body of the dog are hollow and behind the neck a knob is cast for fastening.

This brooch was not worn in the usual way, attached with a pin, but was used for the fastening of a belt. It can therefore be suggested that it should be listed amongst buckle and belt fittings. The specific animal shape of the type and the emphasis on the decorative value rather than the utility value were decisive for placing the piece in this category. The piece does not in any way resemble any of the other belt fittings from this study.

### **Occurrence in the Netherlands:**

*Rhenen: 95.*

### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

### **Dating in the Netherlands:**

Phase 4 (510/25 - 565).



*BR-6h (National Museum of Antiquities of the Netherlands)*

# PINS

Pins occur occasionally in Dutch inhumations from the early medieval period. Whilst most types are typical grave goods belonging to a female gender context, the needles or simple pins with perforated head from group PI-1a occur in both male and female gender inhumations. In undisturbed graves, most pins occur near the head of the deceased. Occasionally, pins are found in the chest area.

## PI-1: PINS

Unlike other grave goods such as brooches or pottery, pins cannot be clearly divided into categories on the basis of a specific shape, use of a certain material or any other characteristic. In this typology, it is chosen to work with a single category which contains a group for each pin type found as part of the sample from the Netherlands.

### **PI-1a Needle or simple pin with a perforated head**

Needle or simple pin with a perforated head. The shaft can be straight or bent. The specimens from Rhenen grave 394 and 609 are made of copper alloy and have a bent shaft. The needles are tapered, and the thickest side is perforated. The perforated 'head' is not extra thickened or otherwise marked.

Siegmund distinguishes between plain specimens and those with a slight line decoration. The latter was not found amongst the sample from the Netherlands. Siegmund further mentions that pins or needles of this type occur in both male- and female gender inhumations<sup>852</sup>. In the current sample, the type has only been found in female gender inhumations.

#### **Occurrence in the Netherlands:**

*Borgharen: 2.*

*Lent: 7224.*

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<sup>852</sup> Siegmund 1998, 44.

*Oosterbeintum: 360.*

*Rhenen: 394, 609.*

**Identification in other typologies:**

Franken AG: **Nad 1.1/2** – (phase 3-8 > 460/80 – 670/80).

Siegmund: **Nad 1.1** – (phase 3-8 > 485 - 640). **Nad 1.2** – (phase 3-8 > 485 - 640).

LPV: **319** – (phase MA1-MA3 > 470/80 – 600/10).

Hines: **related to PI1-f** – (no date provided).

**Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50).



*PI-1a (National Museum of Antiquities of the Netherlands)*

**PI-1b Pin with a mushroom-shaped head**

Copper alloy pin with a characteristic mushroom-shaped head. In the literature, this pin is also known as 'type Wijster'. The mushroom-shaped head is decorated with three or more incised lines. Part of the shaft, often approximately one third of the total length starting underneath the head, is decorated with incised lines in different patterns. In some cases (e.g. Rhenen grave 825), the decorated part of the shaft is faceted.

**Occurrence in the Netherlands:**

*Rhenen: 825, 828.*

*Wijster: 211.*

**Identification in other typologies:**

Franken AG: **S-Nad 2.1** – (phase 1-2 > pre 400 – 460/80).

Siegmund: **Nad 2.1** – (phase 1-2a > 400 - 460).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 1-2 (pre 400 – 460/80).



*PI-1b (van Es 1967, 481).*

**PI-1c Pin with three decorated spheres**

Silver pin with an elaborately decorated top section consisting of three spheres. The specimen from Rhenen grave 356 is equipped with rib decoration across approximately one third of its total length. The section of rib decoration is divided into three equal parts by two spheres. The spheres are decorated with various incised patterns and ribs. The head of the pin consists of a third sphere which is similarly decorated and topped with a small decorative knob. The spheres decrease in size from top to bottom. The spheres and the ribbed part of the pin are gilded.

**Occurrence in the Netherlands:**

*Rhenen: 356*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

### Dating in the Netherlands:

Phase 2 (435/40 – 460/80).



PI-1c (National Museum of Antiquities of the Netherlands)

### PI-1d Pin with zoomorphic head

Pin with a zoomorphic head, usually in the shape of a stylised bird. The specimen from Rhenen grave 696 is made of silver and has a thin and flat shaft which thickens towards the head. The thickened part of the shaft is decorated with two bundles of four ribs each. The bundles are separated by a faceted part. Above the faceted part, the pin is gilded. All decoration including the gilding is one sided, the back of the pin is flat and plain. Detailing of the bird is achieved with help of incised lines. The eye and tail of the bird are decorated with garnet inlay without underlaying foil.

### Occurrence in the Netherlands:

*Rhenen: 696.*

### Identification in other typologies:

Franken AG: **Nad 3** – (phase 3 > 460/80 – 510/25).

Siegmund: -

LPV: **314** – (phase PM-MA1 > 440/50 – 520/30, most commonly in MA1 > 470/80 – 520/30).

Hines: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).



*PI-1d (National Museum of Antiquities of the Netherlands)*

**PI-1e Pin with a polyhedron-shaped head**

Copper alloy or iron pin with a polyhedron shaped head. The head is sometimes decorated with incised lines.

**Occurrence in the Netherlands:**

*Rhenen: 165, 413, 496.*

**Identification in other typologies:**

Franken AG: **Nad 4** – (phase 4-5 > 510/25 – 580/90. Occurs up to AD 700 and also from 300 in provincial Roman contexts).

Siegmund: -

LPV: **313** – (phase PM-MA1 > 440/50 – 520/30, most commonly in MA1 > 470/80 – 520/30).

Hines: -

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).



*PI-1e (National Museum of Antiquities of the Netherlands)*

## PI-1f Pin with a spatulated head

Copper alloy or iron pin with a spatulated- or spoon-shaped head. The head can be round or have a rectangular to ovoid 'spatula' shape. Part of the shaft is often equipped with cast ribbed decoration or incised lines, usually starting directly under the head. The pin from Rhenen grave 716 is decorated with so called *Tremolierstich* or hammered engraving. The section can be round or faceted. LPV list pins with spatulated heads which are also equipped with a polyhedron-shaped decoration partway along the shaft<sup>853</sup>. This variation was not found as part of the Dutch sample.

### Occurrence in the Netherlands:

*Maastricht: 75, 308.*

*Rhenen: 219, (669), 670, 716.*

### Identification in other typologies:

Franken AG: **S-Nad 2.2** – (phase 5-7 > 565 – 640/50).

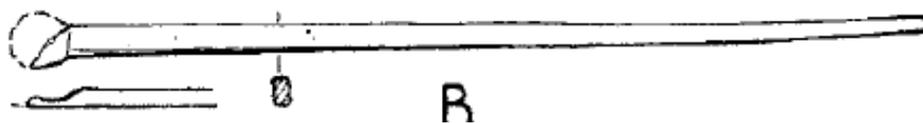
Siegmund: **Nad 2.2** – (phase 7 > 585 - 610).

LPV: **310** – (phase MA1-MA3 > 470/80 – 600/10).

Hines: **PI1-b** - (no date provided).

### Dating in the Netherlands:

Phase 4-5 (510/25 – 580/90).



*PI-1f (Wagner et al. 2011, 191).*

<sup>853</sup> Legoux et al. 2016, 26, 47 (types 311, 312).

### PI-1g Pin with a biconical head

Copper alloy pin with an elongated biconical head. The example from Maastricht is decorated with a single rib just below the head.

Pins of this type are rare and are not included in the typologies by Siegmund, the Franken AG and Hines. LPV list a type with a similarly shaped head. The LPV type, however, is highly decorated with a combination of beaded ornaments and glass beads or garnets<sup>854</sup>. Due to the similarities in shape, a relationship between the two types is likely. In the publication of the Vrijthof cemetery, this similarity is not noted, and it is suggested that the pin may be Roman in origin<sup>855</sup>.

#### Occurrence in the Netherlands:

*Maastricht: stray find*

#### Identification in other typologies:

Franken AG: -

Siegmund: -

LPV: **related to 316** – (phase MA3 > 560/70 – 600/10, occasionally in MA1-MA2 > 470/80 – 560/70).

Hines: -

#### Dating in the Netherlands:

No dating available.



*PI-1g (Theuws et al. 2017, 560).*

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<sup>854</sup> Legoux *et al.* 2016, 26, 47 (type 316).

<sup>855</sup> Theuws *et al.* 2017, 248.

## PI-1h Bone pins with decoration

Pins made of bone with a decorated surface.

The specimen from Maastricht grave 110 is elaborately decorated with horizontal and diagonal incised lines as well as dot-in-circles. Pins of this type are rare in the Netherlands and surrounding areas. A close parallel to the specimen from Maastricht, albeit less extensively decorated, was found in the Basel-Bernerring cemetery (Basel-Stadt) in northern Switzerland<sup>856</sup>. The Swiss context belonged to a male gender individual and was dated around AD 540/50. The pin was interpreted, with a reasonable amount of doubt, as part of a saddle. As the Maastricht pin was found in a female-gender grave, this explanation is unlikely.

### Occurrence in the Netherlands:

*Maastricht: 110.*

### Identification in other typologies:

Franken AG: -

Siegmund: -

LPV: -

Hines: -

### Dating in the Netherlands:

Phase 5-6 (565 – 610/20).



*PI-1g (Theuws et al. 2017, 465).*

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<sup>856</sup> Martin 1976, 136, 213-217.

# EARRINGS

Earrings are a rare occurrence in Dutch female graves of the early medieval period and are found next to the skull in undisturbed contexts. Although it is obvious to assume that earrings were then worn in the same way as most of them are today, namely through the earlobe, other wearing methods cannot be excluded. It is suggested that the size of some earrings could be indicative for wear around the ear rather than through the earlobe<sup>857</sup>. Another option is provided by Von Freeden, who suggests direct attachment to headbands or veils or attachment to leather strips which formed part of the head dress<sup>858</sup>.

In 1979, Von Freeden created a comprehensive typology of early medieval Alemannic earrings which covers many types also found in the Frankish realm<sup>859</sup>. The usefulness of this typology including relative chronology was previously recognised by Siegmund and the Franken AG<sup>860</sup>.

A frequently seen decorative element of early medieval earrings is a polyhedron. Polyhedrons are found integrated in the hoop of the earring (groups ER-1e and ER-1f) or at its end. Earrings with a polyhedron at the extremity of the hoop can be divided into three different types. The first type (group ER-1b) consists of earrings with a solid metal polyhedron which is created as a fixed part of the hoop. The second type (group ER-1c) consists of earrings which are equipped with a separately made polyhedron-shaped casing. The casing is made of gold or silver and decorated with garnets. Earrings of the third type (group ER-1d) have a similar separately made polyhedron-shaped casing which is attached to the hoop. For this type, however, the casing is made of copper-alloy or occasionally silver and decorated with glass paste ornaments rather than garnets. Von Freeden indicates that the garnets of type 2 earrings are set in *'Durchbrochen gearbeitete Polyederkapseln'*<sup>861</sup>. This indicates that the stones are set in cut out openings rather than in specially created settings. For the earrings of type 3 is indicated that the glass paste ornaments are set in *'aufgesetzten Fassungen'*<sup>862</sup>. This means that the ornaments are set in (raised) cell settings which are attached to the casing. From the Dutch sample, it becomes clear that this distinction in the production method cannot be made in all cases. The earrings from Maastricht grave 187, for example, show a

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<sup>857</sup> Theuws *et al.* 2017, 249.

<sup>858</sup> Von Freeden 1979, 412-13.

<sup>859</sup> Von Freeden 1979.

<sup>860</sup> Siegmund 1998, 41; Müssemeier *et al.* 2003, 23-24.

<sup>861</sup> Von Freeden 1979, 249-53.

<sup>862</sup> Von Freeden 1979, 264-67.

combination of triangular garnets set in cut out openings and diamond-shaped garnets set in attached cell settings<sup>863</sup>.

## ER-1: EARRINGS

The rarity of earrings in early medieval graves in the Netherlands has resulted in the fact that there are only few types recognised. Most groups created below are typologically linked to others through specific decorative elements or use of material. The decision was made to place all earring groups in a single category.

### ER-1a Simple earrings with a hook closure

Earrings consisting of an interrupted wire hoop made of silver or copper alloy. Both sides of the hoop are folded in order to form a small hook or loop. The earring is closed by hooking the ends together. Earrings of this type have no wire twisted around the hoop.

A piece of copper-alloy found next to the earrings from Elst grave 59 could be the remains of an ornament. In that case, it is likely that this specimen belongs to group ER-1f.

#### Occurrence in the Netherlands:

*Elst: (59).*

*Rhenen: 413.*

#### Identification in other typologies:

Franken AG: **S-Ohr 1** – (no date provided).

Siegmund: **Ohr 1** – (no date provided).

LPV: -

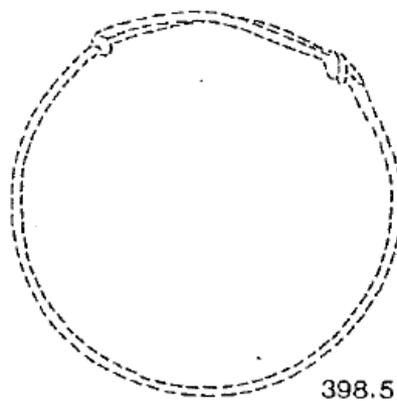
Hines: -

#### Dating in the Netherlands:

Phase 4-5 (510/25 – 580/90) It is likely that this type circulates beyond phase 5 and possibly up to phase 7 (610/20 – 640/50).

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<sup>863</sup> Theuws *et al.* 2017, 249.



*ER-1a (Knol et al. 1995, 394).*

### **ER-1b Earrings with a biconical-shaped ornament**

Earrings, often made of silver, consisting of an interrupted hoop with a solid or hollow conical-shaped ornament attached. Occasionally, the ornament can be spherical or conical rather than biconical. The ornament can be placed anywhere along the hoop including at its extremity. The earrings are often equipped with a hook and loop for fastening. The specimen from Borgharen grave 15 is hollow and two conical halves are connected together. The joint is decorated with a double row of small silver spheres.

#### **Occurrence in the Netherlands:**

*Borgharen: 15*

#### **Identification in other typologies:**

Franken AG: **Ohr 8** – (phase 5-8 > 565 – 670/80). **related to S-Ohr 6** – (no date provided).

Siegmund: **related to Ohr 6** – (phase 10-11 > 670 - 740).

LPV: **306** – (phase MR2-MR3 > 630/40 – 700/10).

Hines: -

#### **Dating in the Netherlands:**

No date available.



ER-1b (Legoux et al. 2016, 46).

### **ER-1c Earrings with solid polyhedron-shaped ornaments at their extremities**

Earrings consisting of an interrupted hoop with a solid polyhedron-shaped ornament at one end. The polyhedron is fixed and was made at the same time as the rest of the earring. The polyhedron can be plain or decorated with incised lines or dot-in-circles. For a decoration of garnet or glass paste, please see groups ER-1d and ER-1e respectively. Earrings of this type are usually made of silver, but gold occurs occasionally (e.g. Maastricht Pandhof grave 11321)<sup>864</sup>

The specimen from Rhenen grave 152 is made of silver and the sides of the polyhedron are decorated with two incised lines forming an equal armed cross. The side to which the hoop is attached remains undecorated.

In addition to the specimens listed below, earrings of this type are known from the Belgian cemeteries of Rosmeer (Limburg) and Hamoir (Liège)<sup>865</sup>.

#### **Occurrence in the Netherlands:**

*Maastricht Pandhof (not in the sample)*<sup>866</sup>: 10349, 10514, 10986, 11321.

*Posterholt*: 50.

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<sup>864</sup> Kars 2011, 286.

<sup>865</sup> Roosens et al. 1976, 28 (Rosmeer); Alenus-Lecerf 1978, 28, 39 (Hamoir).

<sup>866</sup> Kars 2011, 285-86.

*Rhenen: 152.*

**Identification in other typologies:**

Franken AG: **S-Ohr 2** – (phase 3-8 > 460/80 – 670/80, most commonly in phase 6-8 > 580/90 – 670/80).

Siegmund: **Ohr 2** – (phase 4-5 > 530 – 570 and phase 8-9 > 610 – 670).

LPV: **302** – (phase PM-MA3 > 440/50 – 600/10, most commonly in MA1-MA2 > 470/80 – 560/70).

Hines: -

Von Freedden<sup>867</sup>: AD 450 – 550 and 600 – 670.

**Dating in the Netherlands:**

Phase 4 (510/25 - 565).



*ER-1c (National Museum of Antiquities of the Netherlands)*

**ER-1d Gold or silver earrings with added polyhedron casing and garnet inlay**

Earrings made of gold or silver consisting of an interrupted hoop with a separately fabricated polygon-shaped casing attached to its extremity. The hoop can be made of straight or twisted metal. The casing is decorated with garnets. Please see ER-1e for similar earrings made of copper alloy or those inlaid with glass paste.

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<sup>867</sup> Von Freedden 1979, 277, 288.

The pair from Rhenen grave 99 is made of silver with gilded casings. The casings are decorated with round garnets set on foil. The pair from Maastricht grave 187 is made of silver and decorated with a combination of triangular and rhombical garnets with gold foil underneath. The eight triangular garnets are set in cut out open spaces whilst the four rhombical garnets are set in cell settings.

In addition to the graves listed below, earrings of this type and/or group ER-1e are known from the Belgian cemeteries of Wellin (Luxembourg), Huy-Saint-Victor (Liège), Franchimont (Namur), Trivières (Hainaut) and Haine-Saint-Paul (Hainaut)<sup>868</sup>.

**Occurrence in the Netherlands:**

*Maastricht: 187.*

*Rhenen: 99.*

**Identification in other typologies:**

Franken AG: **Ohr 4A** – (phase 3-5 > 460/80 – 580/90, most commonly in phase 4 > 510/25 - 565).

Siegmund: **Ohr 4** – (phase 4-8 > 530 - 640).

LPV: **303** – (phase PM-MA3 > 440/50 – 600/10, most commonly in MA1-MA3 > 470/80 – 600/10). **related to 304** – (phase MA3-MR2a > 560/70 – 645/50, most commonly in MA3-MR1 > 560/70 – 630/40, sporadically in MA1-MA2 > 470/80 – 560/70).

Hines: -

Von Freeden<sup>869</sup>: AD 500 – 550.

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).

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<sup>868</sup> Evrard 1997, 25; Docquier *et al.* 1989/90, fig. 11; Faider-Feytmans 1970, II plate 38.70; Dierkens 1981, plate 14.

<sup>869</sup> Von Freeden 1979, 251-52.



ER-1d (National Museum of Antiquities of the Netherlands)

### **ER-1e Copper alloy or silver earrings with added polyhedron-shaped casing and glass inlay**

Earrings made of copper alloy or silver consisting of an interrupted hoop with a separately fabricated polygon-shaped casing attached to its extremity. The hoop can be made of straight or twisted metal. The casing is decorated with ornaments made of glass paste. Please see ER-1d for similar earrings made of gold or those inlaid with garnet.

The pair from Maastricht grave 95 is made of silver and the hoop consists of twisted silver wire. The casing consists of six diamond-shaped segments which are connected by small triangles. Four of the six rhombical segments are equipped with a raised cell which is slightly smaller but similarly shaped. To every corner of the four rhombical cells, a small round cell is attached. Both rhombical and round cells are filled with green glass paste. The two non-decorated rhombical segments show possible remnants of small circular cells. A large cell with inlay could not be applied as it would interfere with the attachment to the loop<sup>870</sup>. Similar earrings, with small round cells attached to the non-decorated segments, are known from grave 102 of the Mindelheim cemetery (Bayern) and grave 5 of the Ötlingen cemetery (Baden-Württemberg) in southern Germany<sup>871</sup>. Earrings of this type and/or group ER-1d are further known from the Belgian cemeteries of Wellin (Luxembourg), Huy-Saint-Victor (Liège), Franchimont (Namur), Trivières (Hainaut) and Haine-Saint-Paul (Hainaut)<sup>872</sup>.

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<sup>870</sup> Theuws *et al.* 2017, 250.

<sup>871</sup> Von Freeden 1979, 264-65.

<sup>872</sup> Evrard 1997, 25; Docquier *et al.* 1989/90, fig. 11; Faider-Feytmans 1970, II plate 38.70; Dierkens 1981, plate 14.

### Occurrence in the Netherlands:

*Maastricht: 95*

### Identification in other typologies:

Franken AG: **Ohr 4B** – (phase 6-8 > 580/90 – 670/80).

Siegmund: **Ohr 4** – (phase 4-8 > 530 - 640).

LPV: **related to 303** – (phase PM-MA3 > 440/50 – 600/10, most commonly in MA1-MA3 > 470/80 – 600/10). **related to 304** – (phase MA3-MR2a > 560/70 – 645/50, most commonly in MA3-MR1 > 560/70 – 630/40, sporadically in MA1-MA2 > 470/80 – 560/70).

Hines: -

Von Freeden<sup>873</sup>: **AD 630/40 – 670/80**

### Dating in the Netherlands:

Phase 4-7 (510/25 - 640/50).



*ER-1e (Theuws et al. 2017, 451)*

### **ER-1f** Earrings with an integrated polyhedron-shaped ornament

Earrings consisting of an interrupted hoop with an integrated solid polyhedron-shaped ornament. The ornament can be placed anywhere along the hoop apart from at the extremity

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<sup>873</sup> Von Freeden 1979, 264-67.

(see group ER-1c). The polyhedron ornament can be plain or decorated with incised lines. For earrings with a polyhedron in combination with twisted wire, see group ER-1g.

The specimens from Rhenen grave 313 are made of copper alloy and the two ends of the hoop can be hooked together. The polyhedron ornament is somewhat long and thin. LPV is the only typology which notes the 'long' shape of the polyhedrons related to this type<sup>874</sup>.

**Occurrence in the Netherlands:**

*Rhenen: 313.*

**Identification in other typologies:**

Franken AG: **S-Ohr 5** – (phase 8 > 640/50 – 670/80, occasionally in phase 9-10 > 670/80 - 750).

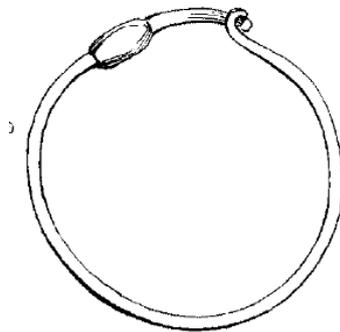
Siegmund: **Ohr 5** – (phase 9 > 640 – 670).

LPV: **307** – (phase MR1-MR3 > 600/10 – 700/10, most commonly in MR2 > 630/40 – 660/70).

Hines: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50). A continuation beyond phase 7 cannot be ruled out.



*ER-1f (Wagner et al. 2011, 230)*

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<sup>874</sup> Legoux et al. 2016, 26.

## ER-1g Earrings with an integrated polyhedron-shaped ornament and twisted wire

Earrings consisting of an interrupted hoop with an integrated solid polyhedron-shaped ornament. The ornament can be placed anywhere along the hoop apart from at the extremity (see group ER-1c). The polyhedron ornament can be plain or decorated with incised lines. In addition to the polyhedron ornament, wire is twisted around the main hoop in one or more places. For earrings with a polyhedron but without twisted wire, see group ER-1f. In some cases, the polyhedron ornament is somewhat long and thin. The most common closing mechanism for earrings in this group is small hook and a little loop which is created when the end of the hoop is folded backwards and twisted around the main hoop.

### Occurrence in the Netherlands:

*Bergeijk*: 9.

*Sittard*: 59.

### Identification in other typologies:

Franken AG: **S-Ohr 7** – (phase 8-10 > 640/50 – 750, most commonly in phase 9-10 > 670/80 - 750).

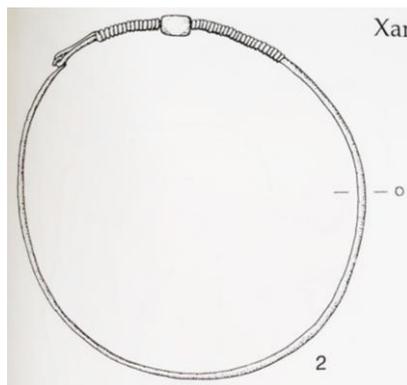
Siegmund: **Ohr 7** – (phase 10-11 > 670 - 740).

LPV: **307** – (phase MR1-MR3 > 600/10 – 700/10, most commonly in MR2 > 630/40 – 660/70).

Hines: -

### Dating in the Netherlands:

Phase 7-8 (610/20 – 670/80). A start as early as phase 6 cannot be ruled out.



*ER-1g (Siegmund 1998, 235)*

## **ER-1h Earrings with a twisted wire or ribbed section**

Earrings consisting of an interrupted wire hoop made of silver or copper alloy. On one side of the hoop, the end is folded backwards and twisted together to form a small loop. The other end is bent to form a small hook. Earrings of this type show a section of the hoop which is wrapped in metal wire to create a ribbed effect. In the German Rhineland, the type occurs with and without an ornament attached<sup>875</sup>. The specimens with an ornament are also known from the Netherlands (ER-1g) but those without an ornament are not part of the sample.

The specimen from Lent grave 7528, however, has a similar ribbed section but created through transverse incised lines. It is likely that the copper-alloy wire of this earring was gilded. It can be suggested that the earring represents a different version- or imitation of the Ohr 9 earrings as identified by the Franken AG in Germany.

### **Occurrence in the Netherlands:**

*Lent: 7528*

### **Identification in other typologies:**

Franken AG: **Ohr 9** – (phase 8 > 640/50 – 670/80, possibly also in phase 9-10 > 670/80 - 750).

Siegmund: -

LPV: **308** – (phase MR2-MR3 > 630/40 – 700/10, most commonly in MR3 > 660/70 – 700/10).

Hines: -

### **Dating in the Netherlands:**

Phase 7-8 (610/20 – 670/80).

For an illustration of this type, please see ER-1h, but without the polyhedron attachment.

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<sup>875</sup> Müssemeiere *et al.* 2003, 24 (S-Ohr7 and Ohr9).

# PENDANTS AND AMULETS

Whilst some artefacts can be clearly defined as either a pendant or an amulet, for others this is more challenging. For this reason, it is decided to group both artefact types together in a single category. Pendants are usually considered to be suspended from a ring or string and worn around the neck, as part of a necklace. In early medieval graves, pendants are often – but not exclusively – found in combination with beads and are located in the chest or neck area. Whilst amulets can also be worn as (part of) a necklace, in early medieval contexts they were often used as a girdle hanger. For this reason amulets are often found in the waist and upper leg area. It is not always clear whether amulets were suspended from a girdle or chatelaine. It may be possible that some were carried in a pouch or purse.

For the purpose of this typology and considering the often-unclear difference between pendants and amulets, it was decided to classify the items according to the materials they are made of. A distinction is made here between metal artefacts and items made from mostly natural materials.

## PA-1: METAL PENDANTS AND AMULETS

One of the largest material categories used for the production of pendants and amulets is metal. This category includes a wide variety of types of which most can be considered pendants rather than amulets.

### **PA-1a** Tube pendant of folded sheet metal

A tube-shaped pendant made of copper-alloy sheet which is often slightly conical. The sheet metal is folded round, and the top is pinched or folded together. Through this top part, a perforation is made for a small ring. Both in Elst and Wageningen, the tube is decorated with relatively equally spaced incised lines. In Rhenen grave 423, the decoration resembles a herringbone pattern and in grave 343 a pattern of crossed lines. In all cases, the tube is open

at the bottom end and organic remains were found inside it. In the case of the Wageningen pendant and the specimen from Rhenen grave 343, these remains are identified as wood.

#### Pendant, needle case or Hercules club?

The slight conical shape of the tube pendants is reminiscent of the so-called 'Hercules clubs' or 'Donar clubs' which already existed during the Roman period. For the early medieval period, LPV only list Hercules clubs made of bone and date them between 440/50 and 520/30<sup>876</sup> (see group PA-2c). Siegmund lists Hercules clubs made of sheet metal as a late type and dates them between 610 and 640<sup>877</sup>. The Franken AG copy the Siegmund type but indicate that such a precise date for the custom of wearing a Hercules club cannot be given<sup>878</sup>. Instead, the Hercules club is dated between 550 and 650. Siegmund notes that most Hercules clubs from the German Rhineland are hollow tubes, made of sheet metal. For this reason they are sometimes indicated in the literature as needle cases<sup>879</sup>. Werner postulates that the sheet metal specimens are inspired on their bone predecessors and indicates them as conical bronze pendants<sup>880</sup>.

Needle cases made of folded sheet metal, usually copper-alloy (see type TU-1c) occur in various graves in Zweeloo and Wijster and various scholars postulated Carolingian dates for them on the basis of German evidence<sup>881</sup>. The specimens from Wijster and Zweeloo are most closely related to needle case type 2d, identified by Kleemann and dated between 760/70 and 800/10<sup>882</sup>. This date is supported, or even extended into the ninth century by bead evidence from Zweeloo grave 59 (e.g. bead categories B4-B4 and B4-B1). This is a much later date postulated for needle cases (or possibly Hercules clubs) than indicated by Siegmund and the Franken AG for the German Rhineland. The specimens from Drenthe and those from the central river region look very similar. The needle cases, however, do not always seem to be equipped with a perforation or loop for suspension. The Drenthe specimens are almost all decorated with bundles of horizontal incised lines, whilst the decoration of the examples from the central Netherlands varies much more. For the specimens from the central Netherlands is noted that organic matter is present inside the pendant. In two cases, this is identified to be wood. On that basis, van Es postulates that the example from Wageningen is some sort of

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<sup>876</sup> Legoux *et al.* 2016, 27, 48, 62.

<sup>877</sup> Siegmund 1998, 83.

<sup>878</sup> Müssemeier *et al.* 2003, 40.

<sup>879</sup> Siegmund 1998, 83.

<sup>880</sup> Werner 1964, 187.

<sup>881</sup> Van Es 2007, 837.

<sup>882</sup> Kleemann 1991, 210.

utensil for personal hygiene and the wood is interpreted as belonging to a handle<sup>883</sup>. In Rhenen grave 423, the organic matter is described as having 'a fibrous structure'. The specimens from Drenthe were also found to have organic matter inside, but this is identified as rolled-up and sometimes sewn together fabric. In some cases, iron fragments were present inside the fabric casing, thought to be remains of needles<sup>884</sup>. A further difference is the length. The needle cases from Drenthe are all roughly 8.5 to 10 centimetres in length. The pendants from the central Netherlands, however, measure between 5 and 6 centimetres. Furthermore, it can be noted that the needle cases from Drenthe are found in the waist area of the deceased whilst the pendants are usually located in or near the chest area.

There is sufficient evidence to suggest that the needle cases from Drenthe and the pendants from the central Netherlands are not the same artefact type. Whilst the shape of the former may be inspired by the latter, their purpose is unlikely to be similar. Whether the pendants should be described as Hercules clubs remains subject of debate. Most metal Hercules Clubs from the Roman period, however, are characterised by a closed underside. In addition, Hercules clubs dating roughly to the same period as these pendants are made of bone (PA-2c). To avoid confusion, it was decided to use the term 'Hercules clubs' only for bone specimens and to indicate the artefacts from this group with the term 'pendant'.

#### **Occurrence in the Netherlands:**

*Elst: 249.*

*Rhenen: 343, 423.*

*Wageningen: 153.*

#### **Identification in other typologies:**

Franken AG: **related to S-Ggh 5** - (AD 550 - 650).

Siegmund: **related to Ggh 5** - (phase 8 > 610 - 640).

LPV: -

Hines: -

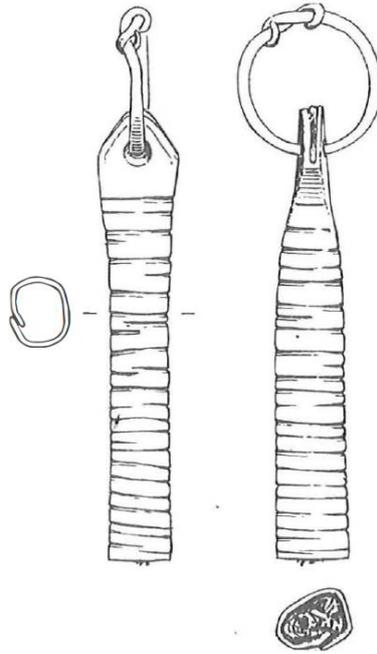
#### **Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).

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<sup>883</sup> Van Es 1964, 231, 291.

<sup>884</sup> Van Es 2007, 871.



PA-1a (van Es 1964, 230)

### **PA-1b** Cast metal disc pendant with decoration

A discoid and usually circular pendant made of cast metal. The pendant has simple incised or pressed decoration consisting of geometric patterns such as lines, circles and/or triangles around a small central boss. The loop is usually cast as one piece with the rest of the pendant.

#### **Occurrence in the Netherlands:**

*Rhenen: 505.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **related to 341** – (MA2-MA3 > 520/30 – 600/10).

Hines: **related to PE2-b** – (AS-FC – AS-FE > 555/85 – 660/85).

#### **Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).



PA-1b (National Museum of Antiquities of the Netherlands)

### **PA-1c Golden pendant with filigree decoration**

Disc pendants made of gold foil and decorated with filigree. The pendants occur in a variety of shapes, including circular (e.g. Maastricht 110), semi-circular with a lobed underside (e.g. Maastricht 187) and tapered rectangular with lobed sides (e.g. Bergeijk 65). The latter shape is described in German literature as that of a bunch of grapes. The Franken AG also identifies triangular specimens, which are often decorated with garnet<sup>885</sup>. Siegmund adds that the garnet decoration is often supplemented by bosses<sup>886</sup>. This triangular variant, which is said to date to the late Merovingian period in the German Rhineland, was not found as part of the Dutch sample, but bosses are part of the decoration of both specimens from Bergeijk.

Most pendants have an edging of twisted gold wire and a filigree decoration consisting of straight lines, knotwork, circles and semi-circles in various sizes. The decoration of the specimens from Bergeijk is supplemented with various bosses. The pendants are equipped with a small golden loop for suspension.

#### **Occurrence in the Netherlands:**

*Bergeijk: 65, 70.*

*Elst: 127.*

*Maastricht: 110, 187.*

*Rhenen: 86.*

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<sup>885</sup> Müssemeier *et al.* 2003, 39.

<sup>886</sup> Siegmund 1998, 78.

### Identification in other typologies:

Franken AG: **S-Per 6.1** - (Phase 4b – 5 > 535/40 – 580/90, sporadically up to phase 10 (710 – 750). **Triangular specimens** – (late Merovingian period).

Siegmund: **Per 6.1** - (phase 5-7 > 555 – 610) **Triangular specimens** – (post phase 7 > 610 and later).

LPV: **related to 341** – (phase MA2-MA3 > 520/30 – 600/10).

Hines: -

### Dating in the Netherlands:

Phase 5-6 (565 – 610/20).



*PA-1c (National Museum of Antiquities of the Netherlands)*

### **PA-1d** Coin pendant

Coin pendants are genuine or counterfeit coins which are perforated and used as pendant. In the twenty graves mentioned below, a total of twenty-seven coins pendants were found. From the twenty-seven coin-pendants, two were too corroded to be identified or dated. A further twenty-three were dated to the Roman period. Two coin-pendants, however, could be identified as early medieval in origin and are therefore chronologically extra interesting. The first pendant is a coin which is damaged and corroded. Its obverse shows Anastasius. Its reverse a monogram of Theoderich (Krauss 44, Ravenna). The coin is identified as a Half Silica of Theoderich and is dated between AD 500 and 525. The coin is found in Rhenen grave 413 together with two other coin pendants which can be dated in the first and second centuries

AD respectively<sup>887</sup>. The second early medieval coin pendant is made of gilded copper-alloy and its obverse shows the bust of an unknown person looking to the right. The reverse shows a cross which stands on a small ball. The coin, found in Elst cemetery grave 91, is identified as a counterfeited Tremissis and is dated to c. AD 600<sup>888</sup>.

**Occurrence in the Netherlands:**

*Elst: 91, 155, 161, 176.*

*Maastricht: 48, 100.*

*Obbicht: 8.*

*Posterholt: 9, 85.*

*Rhenen: 79, 138, 169, 195, 413, 563.*

*Sittard: 11, 43, 87.*

*Wageningen: 153, 168.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: **PE7-b** – (no date provided). **Related to PE7-a** – (AS-FC – AS-FE > 555/85 – 660/85).

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).



*PA-1d (National Museum of Antiquities of the Netherlands)*

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<sup>887</sup> Wagner *et al.* 2011, 292-300.

<sup>888</sup> Verwers *et al.* 2015, 181-82.

### **PA-1e Metal bell pendant**

A small copper alloy bell with a loop for attachment to a necklace.

This type of pendant is very rare in the Netherlands and surrounding countries. Hines and his colleagues list a silver bell-shaped bead, which is probably the closest parallel to this pendant type.

#### **Occurrence in the Netherlands:**

*Maastricht: 110.*

#### **Identification in other typologies:**

Franken AG: -

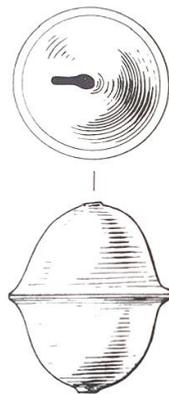
Siegmund: -

LPV: -

Hines: **related to BE2-c** – (AS-FB – AS-FE > 510/45 – 660/85).

#### **Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*PA-1e (Hines et al 2013, 209).*

### **PA-1f Pendant of twisted metal wire**

A pendant made of metal wire, often silver or copper-alloy. Both ends of the wire are twisted together to form a loop. Occasionally, the whole pendant is created of two wires which are twisted together (e.g. Wijster grave 5). The diameter of the rings varies.

From the dating of the graves it becomes clear that there is a dichotomy between pendants of this type found in the north and in the south. Whilst the two specimens from Bergeijk can be placed between phases 5 and 7, in the northeast the pendants do not occur before phase 8 and continue to occur well into the Carolingian period, up to approximately AD 825/50.

**Occurrence in the Netherlands:**

*Bergeijk: 19, 77.*

*Borgharen: 2.*

*Wijster 5, 7, 30, (35), 71, 73, 140, 148, 156, 160, 194, 199, 204, 205, 211.*

*Zweeloo: 33, 45, 46, 54.*

**Identification in other typologies:**

Franken AG: **S-Per 6.2** - (Phase 7 - 10 > 610/20 - 750).

Siegmund: **Per 6.2** - (phase 9-11 > 640 – 750 + late fourth and early fifth century).

LPV: -

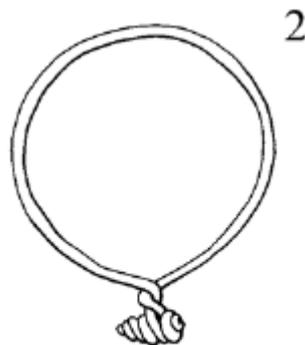
Hines: **WR2** – (AS-FE > 625/50 – 660/85). **Related to WR1-c** – (AS-FD – AS-FE > 580/640 – 660/85).

**Dating in the Netherlands:**

In the southern Netherlands: Phase 5-7 (565 – 640/50)

In the north-eastern Netherlands: Phase 1-2 (400 – 460/80) and Phase 8-10 (640/50 – 750)

Continuing up to c. AD 825/50.



*PA-1f (van Es et al 2007, 891).*

### **PA-1g Silver strip pendant**

A pendant made of a thin rectangular strip of silver with one rounded end. On the small side opposite the rounded end, the strip is bent to create a loop. In the loop of one of the pendants from Wijster grave 156 the remains of silver wire were found.

#### **Occurrence in the Netherlands:**

*Wijster: 156.*

#### **Identification in other typologies:**

Franken AG: -

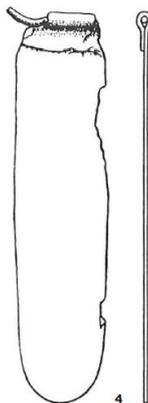
Siegmund: -

LPV: -

Hines: -

#### **Dating in the Netherlands:**

Phase 9-10 (670/80 - 750).



*PA-1g (van Es 1967, 467).*

### **PA-1h Copper-alloy strip pendant**

A pendant made of a thin rectangular strip of copper-alloy with a rounded end. The rounded end is perforated and often equipped with a ring.

**Occurrence in the Netherlands:**

*Rhenen: 13.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*PA-1h (Wagner et al. 2011, 62).*

**PA-1i Moon-shaped pendant – copper-alloy**

A moon-shaped pendant made of copper-alloy. The degree of shaping varies. The specimens from the sample are not decorated.

**Occurrence in the Netherlands:**

*Rhenen: 595, 829, 830.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

### Dating in the Netherlands:

Phase 1-4 (400 - 565).



*PA-1i (National Museum of Antiquities of the Netherlands)*

## PA-2: NON-METAL PENDANTS AND AMULETS

In addition to metal, natural materials such as bone, amber and antler are often used for the creation of amulets and pendants. Items made of glass are also included in this category.

### PA-2a Antler disc pendant and amulet

Pendant or amulets made of a disc of antler. The discs are usually round but can have other shapes too. The specimen from Oosterbeintum grave 402 is round, planoconvex and is equipped with an incised circle around the perforation. This pendant is made of red deer antler. The specimen from Maastricht grave 100 is largely lost to corrosion but some traces of incised linear decoration can still be recognised. The disc from Maastricht grave 230 is roughly round and flat and has one large as well as some very small perforations. Corrosion makes any possible decoration invisible.

In addition to the shape, a clear difference between the specimen from Maastricht grave 230 and the disc from Oosterbeintum is the size. In grave 230 the disc measures 4.1 centimetres in diameter and in Oosterbeintum only 1.6 centimetres. A further difference is related to the location of the artefacts in the graves. In Oosterbeintum, the disc was found in the chest area,

pointing towards a pendant, whilst the Maastricht discs were located in the waist area, signalling a girdle hanger.

The perforation located near the edge of the disc identifies the Oosterbeintum specimen as a pendant. For northern France, LPV list similarly shaped planoconvex discs, but with a central perforation. Their use is unclear, but they may represent a type of spindle whorl. The French specimens are made of bone rather than antler and are decorated with incised motifs. This French type 346 dates to phases MA1-MA3 (470/80 – 600/10)<sup>889</sup>.

LPV also classify larger antler discs, in the style of the Maastricht specimens. They are categorised in group 359 and date to phases MA2b-MA3 (540/50 – 600/10) with a most common occurrence in phase MA3 (560/70 – 600/10)<sup>890</sup>.

Oosterbeintum grave 402 is difficult to date independently. The combination of the antler pendant with amber beads, however, places the context most likely in the sixth century. Maastricht grave 100 likely dates to phase 6 on the basis of a buckle of type BU-4k. Grave 230 can be placed in phases 4 to 6 on the basis of the combination of a pottery vessel of type PO-2f and a comb of type CO-2b. The date given below thus mostly reflects the larger amulet-like items. The pendant from the north, however, is likely to date roughly similar.

**Occurrence in the Netherlands:**

*Maastricht: 100, 230.*

*Oosterbeintum: 402.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **359** – (phase MA2b-MA3 > (540/50 – 600/10, most commonly in MA3 > 560/70 – 600/10).

Hines: -

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

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<sup>889</sup> Legoux *et al.* 2016, 48, 62.

<sup>890</sup> Legoux *et al.* 2016, 48, 62.



*PA-2a (Theuws et al. 2017, 506)*

### **PA-2b Bone pendant**

Pendants made of bone in any shape. The specimen from Rhenen grave 166 is irregularly shaped and has a perforation near the edge. Through the perforation, a thin copper-alloy wire was threaded which was twisted together into a loop. The pendants or amulets can be plain or decorated with incised lines or dot-in-circles.

#### **Occurrence in the Netherlands:**

*Rhenen: 166, 452.*

*Wageningen: (153).*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

#### **Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).



*PA-2b (National Museum of Antiquities of the Netherlands)*

### **PA-2c Bone 'Hercules club'**

Stretched conical pendants or amulets made of bone. A perforation is present at the narrow end. The specimen from Maastricht is decorated with incised lines and has a square cross section.

For an explanation on metal 'Hercules clubs', please see group PA-1a.

#### **Occurrence in the Netherlands:**

*Maastricht: 97*

#### **Identification in other typologies:**

Franken AG: **S-Ggh 5** - (AD 550 - 650).

Siegmund: **related to Ggh 5** - (phase 8 > 610 - 640).

LPV: **344** – (phase PM-MA1 > (440/50 – 520/30).

Hines: -

#### **Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).



*PA-2c (National Museum of Antiquities of the Netherlands)*

### **PA-2d Animal tooth pendant**

Animal teeth worn as amulets or pendants from the neck or belt. The tooth can either be perforated or mounted in a metal socket with a suspension ring. Whilst the first method is most common in France, the latter is recognised most often in England<sup>891</sup>.

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<sup>891</sup> Legoux *et al.* 2016, 27, 48; Hines *et al.* 2013, 215.

The specimen from Maastricht grave 97 is fragmentary and the method of suspension cannot be retraced. It is likely that the tooth belonged to a wild boar. In Oosterbeintum grave 374b, the two teeth found are from a wolf and could be identified as not originating from the same animal. The teeth have a hole drilled through for suspension. The presence of iron chains near the teeth is interpreted as a chatelaine to which the teeth possibly belonged<sup>892</sup>.

#### **Occurrence in the Netherlands:**

*Maastricht: 97.*

*Oosterbeintum: 374b.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund-

LPV: **343** – (phase MA1-MA3 > (470/80 – 600/10).

Hines: **PE10-b** – (no date provided).

#### **Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).



*PA-2d (National Museum of Antiquities of the Netherlands)*

### **PA-2e Shell pendant**

Pendants or amulets made from a perforated shell. In most cases, the shells are identified as cowrie shells.

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<sup>892</sup> Knol *et al.* 1996, 393-95.

**Occurrence in the Netherlands:**

*Borgharen: 2.*

**Identification in other typologies:**

Franken AG: -

Siegmund-

LPV: **342** – (phase PM-MA3 > (440/50 – 600/10, sporadically in MR1 > 600/10 – 630/40).

Hines: **PE10-a** – (AS-FD – AS-FE > 580/640 – 660/85).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*PA-2e (National Museum of Antiquities of the Netherlands)*

**PA-2f Amber pendant**

Pendants made of amber in any shape. The specimen from Rhenen grave 423 is discoid and was found with a small metal ring attached. The pendant from Maastricht grave 110 is roughly elongated conical shaped with the perforation at the narrow end.

**Occurrence in the Netherlands:**

*Elst: 249.*

*Maastricht: 110.*

*Rhenen: 423.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

### Dating in the Netherlands:

Phase 4-6 (510/25 – 610/20).



*PA-2f (National Museum of Antiquities of the Netherlands)*

### **PA-2g Crystal ball pendant**

Crystal ball pendants consisting of a quartz sphere, usually of rock crystal, which is held between two silver bands. The bands are usually decorated with ribs and are riveted together underneath the sphere. Above the sphere, the bands are bent upwards and terminate in a loop for suspension.

The stray find from Maastricht is very similar to the other crystal ball pendants, with the essential difference being that the ball is made of iron. Hinz, who classified crystal ball pendants and informed the dating by Siegmund, does not specify iron ball pendants but suggests that items in the same style but made of a material other than crystal should be dated to the same period<sup>893</sup>. A possible parallel to the item from Maastricht is known from Schretzheim (Bayern) in southern Germany. An iron ball was found there in a copper-alloy frame and was dated through its context to between AD 660 and 680<sup>894</sup>.

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<sup>893</sup> Hinz 1966.

<sup>894</sup> Koch 1977 (I), 86, (II) grave 598, 127, plate 157.8.

**Occurrence in the Netherlands:**

*Elst: 175.*

*Maastricht: (stray find).*

*Rhenen: 79.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **339** – (phase MA1-MA3 > 470/80 – 600/10, most commonly in MA1-MA2 > 470/80 – 560/70, sporadically in PM > 440/50 – 470/80).

Hines: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).



*PA-2g (National Museum of Antiquities of the Netherlands)*

**PA-2h Glass bead pendant**

A pendant consisting of a glass bead, sometimes with a perforation near the edge rather than centrally. In most cases, pendants of this type are found with the remains of metal wire attached. In some cases, this metal wire is placed through the 'normal' central perforation. The difference between a glass bead and a glass bead pendant is the fact that the latter is strung individually. A glass bead pendant can be made of any bead type. The date given below is therefore more related to the fashion of wearing bead pendants rather than to the individual pendants. Their date can likely be estimated through classification of the specific bead.

Siegmund lists a bead pendant type which is purposely made by creating a glass loop (Per 1.7, dated between 485 and 705)<sup>895</sup>. No specimens of this type have been found in the sample from the Netherlands.

**Occurrence in the Netherlands:**

*Rhenen: (413), 423.*

**Identification in other typologies:**

Franken AG: -

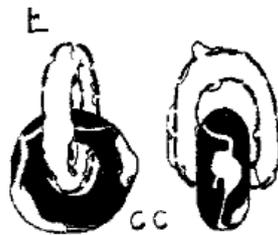
Siegmund: **related to Per 1.7** – (Group D-H > 485 – 705).

LPV: **Part of 374** – (phase PM-MA2 > 440/50 – 560/70, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: **related to PE11** – (AS-FE > 625/50 – 660/85).

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).



*PA-2h (Wagner et al 2011, 306)*

**PA-2i Pendant of fired clay**

A pendant made of fired pottery clay. The specimen from Rhenen grave 95 is thick discoid and equipped with a small copper-alloy ring. It has a terra cotta colour.

**Occurrence in the Netherlands:**

*Rhenen: 95.*

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<sup>895</sup> Siegmund 1998, 65.

**Identification in other typologies:**

Franken AG: -

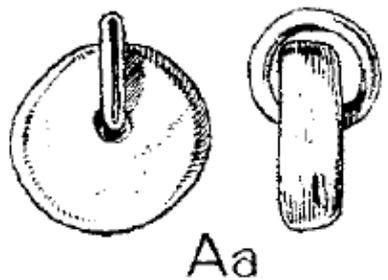
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).



*PA-2i (Wagner et al 2011, 105)*

**PA-2j Stone pendant**

A pendant made of natural stone. The specimen from Rhenen grave 176 was suspended through a natural hole.

**Occurrence in the Netherlands:**

*Rhenen: 176.*

**Identification in other typologies:**

Franken AG: -

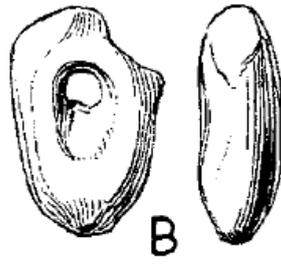
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).



*PA-2j (Wagner et al 2011, 162)*

# BRACELETS

Bracelets occur occasionally in Dutch inhumations from the early medieval period. They are a grave good which is associated with female gender inhumations and the types with thickened terminals (BT-1b – BT-1d) are most commonly found. In the north of the Netherlands, various other forms occur, especially towards the turn to the Carolingian period. Simple wire ring bracelets exist too. Their placement in the grave, however, often leads to uncertainty whether the item is a bracelet or belongs to a belt appendage. For the German Rhineland, Siegmund demonstrated that bracelets have a diameter between 6.2 and 8.0 centimetre<sup>896</sup>. This range is equally applicable to the Dutch sample. Simple iron (RC-1f) and copper-alloy (RC-1d) rings which could possibly be identified as a bracelet can be found in the section on rings and chatelaines.

## BT-1: BRACELETS

Due to the relatively small number of bracelets found in the Netherlands, it was chosen not to further subdivide the find category.

### **BT-1a Thin uninterrupted silver bracelets**

Silver bracelet consisting of a thin uninterrupted ring with a roughly ovoid or round cross section. Bracelets of this group usually occur in pairs and in Wijster grave 211 they were both worn on the left arm. The bracelets can be plain or decorated with a simple motif. In Wijster grave 211, one specimen is plain and the other is decorated with a single line of equally spaced dot-in-circles.

Closely related bracelets are known from graves 9, 12 and 14 of the Hailot cemetery (Namur) in Belgium<sup>897</sup>. Whilst these graves are likely to date between AD 450 and 500, it is thought that the examples from Wijster are somewhat earlier. Although the bracelets are supposedly

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<sup>896</sup> Siegmund 1998, 80-81.

<sup>897</sup> Breuer *et al.* 1957, 273, 218.

produced in the Meuse region, they do not occur in any of the cemeteries in the sample other than Wijster.

**Occurrence in the Netherlands:**

*Wijster: 211.*

**Identification in other typologies:**

Franken AG: -

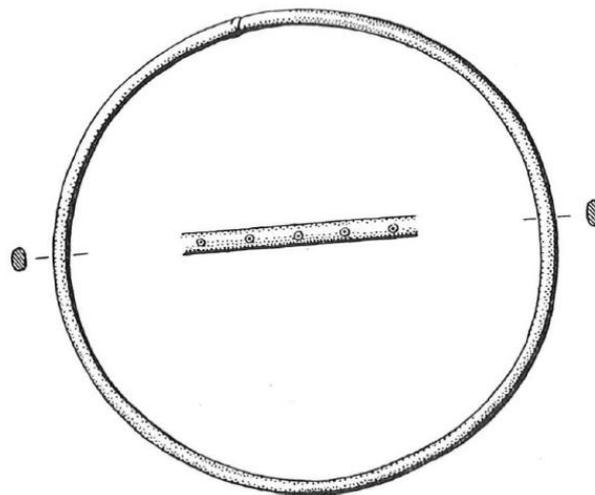
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).



*BT-1a (Van Es 1967, 481).*

**BT-1b Interrupted ring bracelet with thickened ends - silver**

Silver bracelet consisting of an interrupted ring. The ring thickens towards both ends and is not decorated. In some cases, the ends touch each other.

The bracelet from Wageningen grave 153 is identified as being made of silver by Holwerda and as being made of copper alloy by Van Es<sup>898</sup>. For this reason it is possible that the bracelet should be included in group BT-1c. The thickness of the terminals, however, is most closely aligned with the silver specimens. If the bracelet should belong to group BT-1c, it would be the oldest copper-alloy specimen in the sample.

**Occurrence in the Netherlands:**

*Rhenen: 413.*

*Wageningen: 153.*

**Identification in other typologies:**

Franken AG: **S-Rng 1.1** – (phase 3-4 > 460/80 - 565).

Siegmund: **Rng 1.1** – (phase 3 > 485 - 530).

LPV: **337** – (phase PM-MA3 > 440/50 – 600/10, most commonly in MA1 > 470/80 – 520/30).

Hines: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).



*BT-1b (National Museum of Antiquities of the Netherlands)*

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<sup>898</sup> Van Es 1964, 231.

### **BT-1c Interrupted ring bracelet with thickened ends – copper alloy without decoration**

Copper alloy bracelet consisting of an interrupted ring. The ring thickens towards both ends. In some cases (e.g. Sittard grave 71), the thickening of the terminals is minimal. This group specifically contains copper alloy specimens without cast or incised decoration (for decorated specimens, see group BT-1d).

Wührer, who published an overview of early medieval bracelets from a large part of Europe indicates that the plain specimens have a large area of distribution which stretches from northern France to Crimea in Ukraine<sup>899</sup>. The area with the largest cluster of undecorated specimens is the middle Rhine region as well as southern Germany and northern Switzerland. Wührer dates the undecorated bracelets between AD 450/80 and 720. In the Netherlands, plain bracelets occur in Limburg as well as in the Rhine basin.

When viewing the overall category of ring bracelets with thickened ends, it becomes clear that the silver examples (group BT-1b), which are the oldest, have the thickest ends. The youngest group (BT-1d), decorated copper alloy specimens, show terminals which are only slightly thickened. In this group, containing the undecorated copper alloy bracelets, there are specimens with more pronounced thickening (e.g. Rhenen grave 595) and those which are more like the specimens from group BT-1d (e.g. Sittard grave 71). When viewing the suspected dates for the individual bracelets, it can be seen that the example from Sittard grave 71 likely dates between phases 5 and 7. It is unlikely for the bracelet from Rhenen grave 595 to date later than phase 5, whilst a placement in phase 4 is possible. The specimen from Rhenen grave 431 can be placed in phase 4 to 6. Whilst the sample is too small for any definitive conclusions, this suggests a trend of decreasing thickness over time. For the specimens in our sample, this would mean that Rhenen 595 is the oldest followed by Rhenen 431 and Sittard 71 respectively. If the bracelet from Wageningen grave 153 (see group BT-1b) is made of copper alloy rather than silver, it would bring the dating of this group forward to include phase 3. The Wageningen bracelet would be the specimen with the thickest ends, which is in line with the theory.

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<sup>899</sup> Wührer 2000, 27-29.

**Occurrence in the Netherlands:**

*Rhenen: 431, 595*

*Sittard: 71*

**Identification in other typologies:**

Franken AG: **S-Rng 1.3** – (no date provided).

Siegmund: **Rng 1.3** – (no date provided).

LPV: **338** – (phase MA1-MR3 > 470/80 – 700/10, most commonly in MA1-MA3 > 470/80 – 600/10).

Hines: -

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20). Possibly continuing into phase 7 (610/20 – 640/50).



*BT-1c (National Museum of Antiquities of the Netherlands)*

**BT-1d Interrupted ring bracelet with thickened ends – copper alloy with decoration**

Copper alloy bracelet consisting of an interrupted ring. The ring thickens towards both ends. In some cases (e.g. Stein grave 7), the thickening of the terminals is minimal. This group specifically contains decorated specimens (for plain specimens, please see group BT-1c).

Decoration usually consists of cast or incised lines, circles and/or geometric patterns and can be found on the terminals of the bracelet.

Wührer, who published an overview of early medieval bracelets from a large part of Europe indicates that decorated specimens are rarer than their plain counterparts and have a much smaller area of distribution which focusses on northern France, Belgium and the German Rhineland, especially the region between Mayen and Koblenz. The specific decoration seen on the bracelets from Sittard grave 87 and Meerveldhoven grave 35, consisting of cast or engraved bundles of multiple lines which are separated by sunken triangles, is pinpointed even more specifically by Wührer, to the area west of the river Rhine<sup>900</sup>. The bracelets with the specific Sittard and Meerveldhoven decoration dates Wührer to AD 600 – 630/40 whilst decorated specimens in general are said to have a start date in the sixth century.

In the Netherlands, decorated specimens seem to occur mainly in the Merovingian cemeteries of Noord-Brabant, Limburg, Utrecht and Gelderland. Whilst a date in phase 6 or 7 is very likely for the bracelets found in Stein grave 7 and Meerveldhoven grave 35, a start date in phase 5 cannot be ruled out for the specimens found in Sittard grave 87 and Bergeijk grave 19. In light of the Sittard bracelet, this means that the start date of AD 600 as set by Wührer may be too late.

#### **Occurrence in the Netherlands:**

*Bergeijk: 19.*

*Lent: 7218.*

*Meerveldhoven: 35.*

*Rhenen: 32, 95, 97b, 781.*

*Sittard: 87.*

*Stein: 7.*

#### **Identification in other typologies:**

Franken AG: **S-Rng 1.2** – (phase 5-8 > 565 – 670/80, most commonly in phase 6-7 > 580/90 - 640/50).

Siegmund: **Rng 1.2** – (phase 8 > 610 - 640).

LPV: **338** – (phase MA1-MR3 > 470/80 – 700/10, most commonly in MA1-MA3 > 470/80 – 600/10).

Hines: -

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<sup>900</sup> Wührer 2000, figure 32.

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).



*BT-1d (National Museum of Antiquities of the Netherlands)*

**BT-1e Simple copper alloy bracelets**

Simple copper alloy bracelet consisting of a thin interrupted ring with a roughly ovoid or round cross section. The terminals of this bracelets are of similar width to- or narrower than the main ring. In case of the specimen from Rhenen grave 222, the terminals overlap a few centimetres. Bracelets of this type are not decorated.

**Occurrence in the Netherlands:**

*Rhenen: 222*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

### Dating in the Netherlands:

Phase 5-7 (565 – 640/50).



*BT-1e (National Museum of Antiquities of the Netherlands)*

### **BT-1f** Copper alloy decorated bracelets

Copper alloy bracelet consisting of an uninterrupted ring with a roughly ovoid or round cross section. Bracelets of this group are usually found in pairs and one example was worn on each arm. The bracelets are richly decorated with cast or incised lines and various other patterns. The specimens from Wijster grave 7 are divided into equal sized rectangular fields which are separated by notched ridges. Each field is decorated with two incised S-shaped scrolls and small crescent-shaped impressions. The decoration of the bracelets from Wijster grave 148 consists of equal sized rectangular fields which are separated from one another by zones of ribs. The depressions between the ribs are decorated with incised lines. The rectangular fields are each decorated with four dot-in-circles.

In the publication of the Wijster cemetery, bracelets of this type are dated to the eighth century on the basis of other items with the same s-shaped or scroll pattern decoration as the bracelets from grave 7<sup>901</sup>. A similar pattern is recognised on a rectangular disc brooch of type BR-5i from grave 156 of the same cemeteries. A further comparison is made between the

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<sup>901</sup> Van Es 1967, 509-10.

pattern on the bracelets and that of a pair of bronze spurs found in Barleben (Sachsen-Anhalt) in Germany<sup>902</sup>. The spurs are said to date to the Carolingian period (post AD 750).

All but one rectangular brooch from the Wijster cemetery is dated to the Carolingian period (c. 750 – 850). The exception, on the basis of its dimensions ratio, is the specimen with a scroll pattern which dates between 670/80 and 750. The suggestion of the scroll pattern being indicative for a Carolingian date is thus invalid. In grave 148, the bracelet is found in combination with mosaic beads of categories B4-B2 and B4-B4 which date to 700 – 825 and 775 – 900 respectively.

**Occurrence in the Netherlands:**

*Wijster: 7, 148.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Carolingian period (c. 750 – 825/50).



*BT-1f (Van Es et al. 1967, 414)*

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<sup>902</sup> Schulz 1940, 267-68, fig. 2.

### **BT-1g Flat bracelet with decoration – copper alloy**

Copper alloy bracelet consisting of a flat interrupted band. The bracelet from Wijster grave 156 is decorated with three rows of circular punch marks on both ends of the ring.

In Wijster grave 156, the bracelet is found in combination with an early rectangular brooch of group BR-5i which dates between 670/80 and 750. Further artefacts in the graves are mosaic beads of categories B4-B1 and B4-B2 which date to 650 – 750/800 and 700 – 825 respectively.

#### **Occurrence in the Netherlands:**

*Wijster: 156.*

#### **Identification in other typologies:**

Franken AG: -

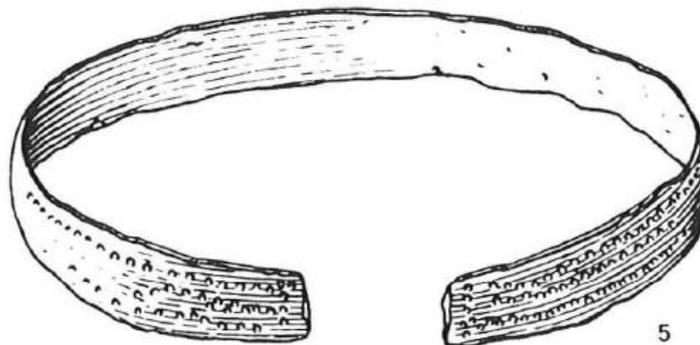
Siegmund: -

LPV: -

Hines: -

#### **Dating in the Netherlands:**

Phase 9-10 (670/80 – 750).



*BT-1g (Van Es et al. 1967, 467)*

### **BT-1h** Bracelet with flat leaf-shaped terminals – copper alloy

Copper alloy bracelet consisting of a thin interrupted ring with a round or ovoid section. On both sides, the ring flattens out into a flat leaf-shaped terminal.

#### **Occurrence in the Netherlands:**

*Elst: 208.*

#### **Identification in other typologies:**

Franken AG: -

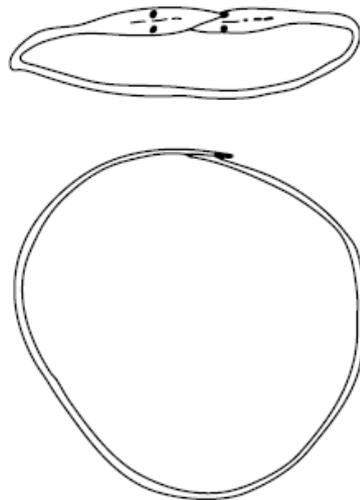
Siegmund: -

LPV: -

Hines: -

#### **Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).



*BT-1h (Verwers et al. 2015, 259)*

### **BT-1i** Bracelet of three twisted copper-alloy wires

Bracelets made of three strings of copper-alloy wire which are twisted together. The individual wires are usually somewhat thicker than those used to make the bracelets of group BT-1i.

**Occurrence in the Netherlands:**

*Rhenen: 828*

**Identification in other typologies:**

Franken AG: -

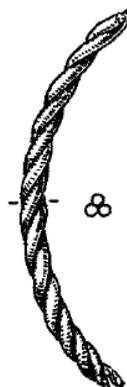
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).



*BT-1i (Wagner et al. 2012, 593)*

# FINGER RINGS

Finger rings are found about as often as earrings and bracelets in the Netherlands and occur in various forms. This seems to be in line with the situation in northern France but goes against the traditional picture in the German Rhineland where finger rings are rare<sup>903</sup>. The most simple designs, with or without a clearly defined bezel, are most common whilst rings with inlay are much more rare. Repurposing of Roman jewellery elements in early medieval rings is relatively common. This is less often seen in, for example, earrings or bracelets.

## FR-1: FINGER RINGS

The typology of finger rings from early medieval graves in the Netherlands is relatively concise. A clear distinction can be made between simple rings and those that can be considered as very luxurious. The latter are rare whilst the former occur in various shapes and forms. It has not been shown that these sub forms are all chronologically relevant.

### **FR-1a Simple finger rings**

Simple finger rings made of copper-alloy, silver or gold. Rings of this type do not have a defined bezel and are not decorated. Many rings are band-shaped, and the loop can have different widths. Other specimens have a round or D-shaped section.

#### **Occurrence in the Netherlands:**

*Maastricht: 48, 187, 198.*

*Meerveldhoven: 42, 50.*

*Posterholt: 22.*

*Rhenen: 78, 332, 470, 669.*

*Wageningen: 153.*

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<sup>903</sup> Siegmund 1998, 81.

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50).



*FR-1a (National Museum of Antiquities of the Netherlands)*

**FR-1b Spiral finger ring**

Simple finger rings made of spiralling copper-alloy or silver wire. The tightness of the spiralling differs per ring. Maastricht-Pandhof grave 10044 contained a loose bezel with carnelian inlay (FR-1d) and a loose loop of spiralling silver wire. Assuming that bezel and loop once belonged together, it would mean that spiral finger rings were not only used as finger rings in themselves but also as loops for more elaborately decorated rings. Like inlay of carnelian stone, wound finger rings are a known part of the Roman jewellery assemblage. The specimen from Elst grave 175 is found in combination with a glass bowl of type GL-7d which dates to phase 3. The context in Maastricht-pandhof is more difficult to date, but assuming that loop and bezel belong together, a placement in phase 5 or 6 can be expected. Given the fact that spiral rings are known from the Roman period, it is possible that they keep circulating continually into the early medieval period. This would explain the relatively early date of the specimen from Elst. With the possible arrival of a fashion for more elaborate rings, it can be

suggested that the spiral loop was brought together with a carnelian stone bezel in order to create a more exclusive piece.

**Occurrence in the Netherlands:**

*Elst: 175.*

*Maastricht Pandhof (not in this sample): (10044).*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 3-6 (460/80 – 610/20). Possibly continually from the Roman period up to phase 6.



*FR-1b (National Museum of Antiquities of the Netherlands)*

**FR-1c Finger rings with a defined bezel – plain or with incised decoration**

Finger rings, usually made of copper-alloy, which show a clear differentiation between hoop and bezel. In practice this means that the hoop of the ring widens in one place (e.g. Sittard grave 71) or that a plate larger than the width of the hoop is cast or placed on top of the ring (e.g. Rhenen grave 88). The bezel can be plain or decorated with an incised monogram. For both rings from Sittard, the decoration consists of a cross. The ring from Bergeijk grave 47 is

currently missing, but field administration shows a spiral pattern<sup>904</sup>. LPV list rings with incised zoomorphic and Christian monograms in a single category<sup>905</sup>. Siegmund does not provide a detailed inscription of the rings included<sup>906</sup>. The bezel can have different shapes such as round, lozenge-shaped, rectangular or rectangular with a scalloped edge.

Finger rings of this type circulate for a long time, but most specimens can be placed in phases 5 to 7. These are all rings with a bezel which comprises of a widening of the loop. The specimen from Rhenen grave 88, which shows a decorative plate cast on top of the loop, can be placed in phase 4. One specimen, from Bergeijk grave 124, is found in combination with a Sceatta of type BMC 4-5 which dates to AD 710-750. This would place the ring in phase 10. This ring shows two individual widenings of the hoop directly next to each other, creating a scalloped bezel. Future finds of similar types as those from Bergeijk 124 and Rhenen 88 could possibly shed light on the circulation period of these specific designs. On the basis of the current sample, no chronological distinction can be made between rings with Christian or zoomorphic symbolism.

#### **Occurrence in the Netherlands:**

*Bergeijk: 47, 124.*

*Maastricht: stray find.*

*Rhenen: 88.*

*Sittard: 71, 76.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: **includes Rng 3.1** - (no date provided).

LPV: **334** (phase MA3-MR2 > 560/70 – 660/70).

Hines: -

#### **Dating in the Netherlands:**

Phase 5-7 (565 – 640/50). Occasionally as early as phase 4 (510/25 – 565) and as late as phase 10 (710 – 750).

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<sup>904</sup> Theuws *et al.* 2012, 77.

<sup>905</sup> Legoux *et al.* 2016, 27, 48.

<sup>906</sup> Siegmund 1998, 81.



FR-1c (National Museum of Antiquities of the Netherlands)

### FR-1d Finger rings with carnelian inlay

Finger rings made of silver or gold and decorated with a Roman carnelian stone. The carnelian stones originate from the Roman period and are repurposed in early medieval jewellery. The stones usually have an engraved decoration, representing two wrestling men in the case of the Obbicht ring. The specimens from Maastricht-Pandhof are decorated with two different depictions of birds and one of a bull<sup>907</sup>. Maastricht-Pandhof grave 10044 contained a loose bezel and a loose loop which is formed from spiralling silver wire (FR-1b). It is likely that the two parts once formed one ring. The remaining three rings have a flat band-shaped loop of which one is decorated with two parallel grooves. The rings from Maastricht-Pandhof graves 10044 and 11260 are made of silver and have an ovoid bezel. The stones are placed in raised silver setting and the bezels are trimmed with filigree. The specimen found in grave 10021 is lost and it is unclear whether it was made of silver or gold. The ring from Obbicht grave 36 is made of gold, has a flat band-shaped loop and a round bezel. The carnelian is placed in a golden setting.

From the carnelian stones it is clear that they were used in Roman jewellery including rings<sup>908</sup>. This poses the question whether the stones are repurposed in 'new' rings, made during the early medieval period or that entirely Roman rings were reused and subsequently interred. It is clear, however, that the practice of using Roman carnelians in Merovingian jewellery is relatively common, especially in rings<sup>909</sup>. Unfortunately, the artefact with which the rings from

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<sup>907</sup> Kars, 2011, 297-98.

<sup>908</sup> Henkel 1913; Guiraud 1988.

<sup>909</sup> Ament 1991, 401-02.

Maastricht-Pandhof are buried do not aid dating<sup>910</sup>. Obbicht grave 36, however, can be firmly placed in the Merovingian period, likely in phase 5 or 6.

Whilst rings with carnelian stones are not specifically mentioned in the German, French or English typologies, LPV do list rings with an elevated setting and a flat stone. The date of this ring type may indicate when the style was considered fashionable. This, in turn, may indicate when Roman carnelians or entire Roman rings were repurposed. Alternatively, it can be thought that the rings were in use during the entire fifth and sixth centuries.

**Occurrence in the Netherlands:**

*Maastricht Pandhof (not in this sample): 10021, 10044, 11260.*

*Obbicht: 36.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **related to 335** (phase MA1-MA2 > 470/80 – 560/70, most commonly in MA1 > 470/80 – 520/30).

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20). Possibly continually from the Roman period onwards up to phase 6.



*FR-1d (Kars et al. 2016, 422).*

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<sup>910</sup> Kars, 2011, 297-98.

### **FR-1e** Finger rings with garnet inlay

Finger rings with cloisonné garnet inlay. The ring from Maastricht-Pandhof is made of silver and has a flat band-shaped loop. The loop is decorated with linear and circular punch marks. The round bezel is divided into four cells with garnet inlay.

#### **Occurrence in the Netherlands:**

*Maastricht Pandhof (not in this sample): 10514*

#### **Identification in other typologies:**

Franken AG: -

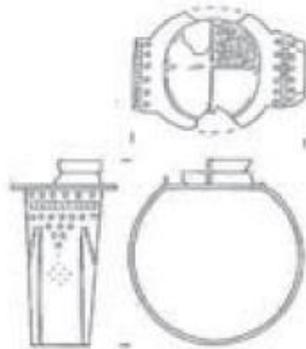
Siegmund: -

LPV: **333** (phase MA1-MA2 > 470/80 – 560/70, most commonly in MA1 > 470/80 – 520/30).

Hines: -

#### **Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).



*FR-1e (Kars 2011, Fig. 39).*

### **FR-1f** Wire rings with a bezel

Simple rings made of silver wire. A bezel and fastening are created by twisting the silver wire. Whilst rings of this type are often identified as finger rings, it may be possible that they are in some way related to necklaces. Similar rings in England are all found in the chest area<sup>911</sup>.

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<sup>911</sup> Hines *et al.* 2013, 217.

**Occurrence in the Netherlands:**

*Oosterbeintum: 438*

**Identification in other typologies:**

Franken AG: -

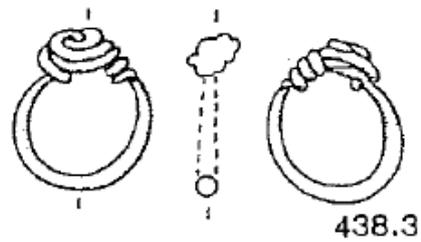
Siegmund: -

LPV: -

Hines: **WR3** – (no date provided).

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50).



*FR-1f (Knol et al. 1995, 400).*

# COMBS

As preservation of organic materials, including bone, is poor in many parts of the Netherlands under the influence of soil conditions, combs are a relative rarity in early medieval graves. When a comb is found, it is often in a damaged state, especially affecting the teeth and decorative outer plates. Combs are found in settlements but are more common in funerary contexts<sup>912</sup>. In the Spong Hill and Alwalton cemeteries in England (Norfolk and Cambridgeshire), combs are exclusively associated with cremations whilst in the Netherlands they also occur in inhumations<sup>913</sup>. Another source of comb-finds are places of production which are identified in Maastricht in the Netherlands and further upstream along the river Meuse in Huy (Liège) and Namur (Namur) in Belgium and in Mouzon (Ardennes) in France<sup>914</sup>. The majority of combs found in the Netherlands is made of antler.

Combs are generally associated with both male and female gender contexts, but some types seem to occur exclusively in either male or female gender inhumations<sup>915</sup>. Combs with a case are typically part of the female gender grave inventory. Amongst this sample from the Netherlands, four comb types could be identified of which two are triangular and two are straight. The triangular combs are associated with the Frisian and Saxon influences in the northern half of the country whilst the straight combs are more common in the Merovingian south.

## CO-1: TRIANGULAR COMBS

Triangular combs are not included in the typologies by Siegmund, The Franken Arbeitsgruppe, LPV and Hines and colleagues. In this typology, two different types are distinguished on the basis of the presence of a profiled cresting.

Böhme classified combs with a profiled cresting (group CO-1a in this research) as type D and distinguished between two subtypes indicated as D1 and D2. Type D1 is the earliest and the profiling of the top edge is usually somewhat rounded. The decoration of the outer layers is

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<sup>912</sup> Theuws *et al.* 2017, 287.

<sup>913</sup> Riddler *et al.* 2013, 107; Gibson 2007, 261.

<sup>914</sup> Plumier *et al.* 1999, 54-55.

<sup>915</sup> Aufleger 1996, 642.

modest, often consisting of one large circular ornament which is sometimes accompanied by dot-in-circles. Type D2 has a more strongly profiled top edge and the terminals are more clearly drawn out, giving the comb a somewhat more elongated shape. The outer layers are more elaborately decorated, often with three or more large circular ornaments in combination with a larger number of dot-in-circle motifs<sup>916</sup>. Since the publication by Böhme in 1974, the type is extensively studied in the contexts of the German Mosel region, southwestern Germany, Anglo-Saxon England, northern France and Maastricht in the southern Netherlands<sup>917</sup>.

One of the most recent studies views the 221 combs that could be classified from the Spong Hill Anglo-Saxon cemetery in Norfolk<sup>918</sup>. Amongst these are 125 triangular combs which are divided across five different types. The Spong Hill cemetery returned twenty-two combs of Böhme's type D<sup>919</sup>.

Group CO-1b in this research contains triangular combs with plain crestring. This type is not identified by Böhme but features in the Spong Hill cemetery research where it is presented as an English evolution of the Continental Böhme type D combs<sup>920</sup>. The fact that plain crested triangular combs are rare on the Continent, however, does not necessarily mean that they were never introduced or even produced there. Whilst the crestring is intact, no profile can be identified on the comb from Oosterbeintum. Additionally, the decorative style is very closely related to that of specimens found at Spong Hill (e.g. comb 1496/6)<sup>921</sup>. It remains subject of further research to establish whether the Oosterbeintum triangular comb was produced locally or imported from, for instance, England.

### **CO-1a Composed triangular combs with a sinuous crestring**

Bone or antler combs of this type have a triangular shape and are characterised by their profiled top edge. The pattern of the crestring varies. In some cases, evenly spaced

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<sup>916</sup> Böhme 1974, 123-24.

<sup>917</sup> Gilles 1981, 336 and table 70; Schach-Döriges 1994, 691-92; Hills 1981, 98-99; Riddler *et al.* 2013, 107-45; Kazanski 2003, 50; Seillier 1989, 617 and figure 14.8; Delacampagne 1997, 150; Dijkman *et al.* 1998, 67-68 and figure 19.

<sup>918</sup> Riddler *et al.* 2013, 107-45.

<sup>919</sup> Riddler *et al.* 2013, 107-10 and Table 2.19.

<sup>920</sup> Riddler *et al.* 2013, 112-13.

<sup>921</sup> Riddler *et al.* 2013, 112-13; Knol *et al.* 1995, 374.

perforations are present along the edge. Both terminals of the comb are usually decorated with a zoomorphic ornament.

The combs from Rhenen graves 842 and 846 are made of antler according to the collection records of the Dutch National Museum of Antiquities and of bone according to the authors of the publication<sup>922</sup>. In the Netherlands as well as in Germany, antler combs are much more common than those made of bone, increasing the chance that the museum classification is correct<sup>923</sup>.

The specimen from Rhenen grave 846 is poorly preserved but consisted of three layers. The core layer of the comb consists of four individual segments. At least one outer layer is decorated with a bundle of incised lines forming a border parallel to the three sides. The central space within the border is decorated with dot-in-circle motifs and engraved concentric circles. The profiled edge is barely preserved but traces of regularly spaced perforations are visible. No teeth and zoomorphic ornaments are preserved.

The comb from Rhenen grave 842 consists of three layers and the core layer is made up of five individual segments which are divided by thin strips of sheet copper. Both sides of the core layer were once covered in a thin layer of sheet copper to which the two outer layers were attached. The outer layers are decorated with a bundle of eight incised lines which run parallel to the edge of the comb in order to form a border. The central field within the border is hardly preserved, but traces can be seen of one dot-in-circle. The sinuous cresting with perforation can be recognised as well as one zoomorphic ornament. The teeth are missing. Part of a case is preserved, showing traces of dot-in-circle decoration.

The comb from Rhenen grave 842 belongs to Böhme's type D1 (see introduction to the triangular comb category) and the comb from Rhenen grave 846 can probably be classified in a similar way. The cresting of the latter is heavily damaged, leaving the possibility that the comb belongs to type D2. The placement of the perforations near the top of the remaining cresting, however, is most like a D1 comb. Böhme dates type D in the second half of the fifth century<sup>924</sup>. More recent research from England into, amongst other types, triangular combs has resulted in a date for Böhme's type D combs (c. AD 375 – 475) without there being made a chronological differentiation between subtypes D1 and D2. Instead, a transitional type is identified which forms a bridge between triangular combs with sinuous cresting and those

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<sup>922</sup> Online collection search engine ([www.rmo.nl](http://www.rmo.nl)); Wagner *et al.* 2011, 620, 630.

<sup>923</sup> Aufleger 1996, 642.

<sup>924</sup> Böhme 1974, 123-24.

with a straight top edge. This subtype is dated between approximately AD 450 and 550<sup>925</sup>. For southern Germany, Böhme's type D combs are dated between c. AD 430 – 510 whilst Petitjean, in a more general research into the development of bone combs postulates an end date no later than AD 460/70<sup>926</sup>.

**Occurrence in the Netherlands:**

*Rhenen: 842, 846.*

**Identification in other typologies:**

Franken AG: -

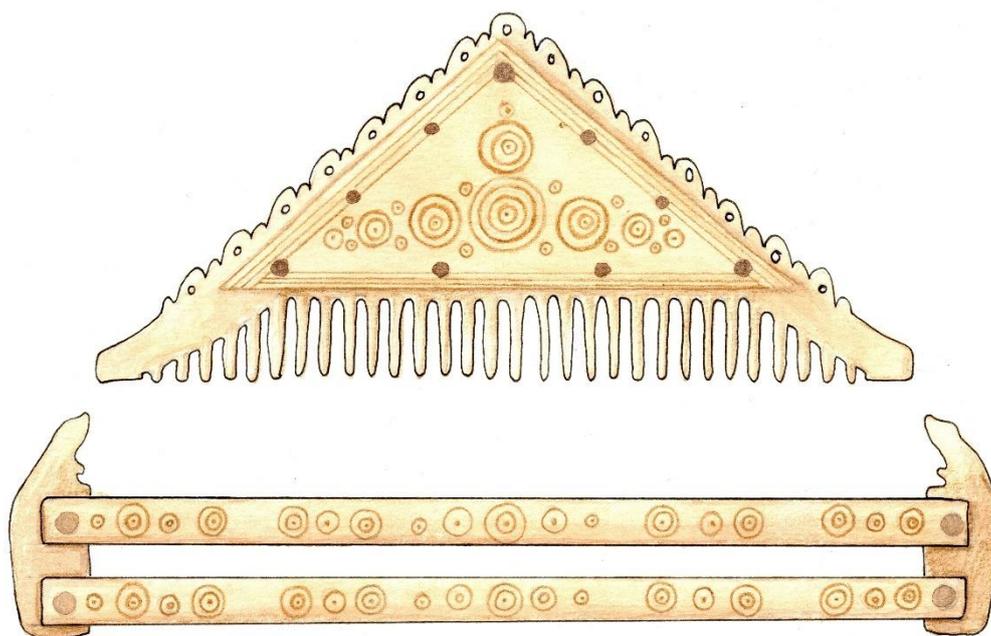
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 1-2 (pre 400 – 460/80).



CO-1a

<sup>925</sup> Riddler *et al.* 2013, 109-10, 141 and Figure 2.61.

<sup>926</sup> Koch 2001, 299-300 and Figs. 12, 18; Schach-Döriges 1994, 694; Petitjean 1995, 151.

## **CO-1b Composed triangular combs with a plain crestring**

Bone or antler combs of this type have a triangular shape and are characterised by their straight top edge. In some cases, the apex of the comb is pointy whilst in other cases a more rounded shape can be seen.

The comb from Oosterbeintum grave A is made of antler, likely originating from a red deer<sup>927</sup>. The specimen is composed of three layers and the core layer consists of three or five individual segments. The outer layers are decorated with bundles of incised lines which run parallel to the edges of the comb, forming a border. The area inside of the border is decorated with a pattern of concentric circles and dot-in-circles. The teeth of the comb are severely damaged, and the terminals are drawn out. The crestring of the comb is intact and neither decorated nor profiled. The comb was found in combination with a case which is decorated in a similar style, including borders and concentric circles.

The comb from Rhenen grave 833 is fragmentary and it is unclear whether it belongs to this group or group CO-1a. On the basis of the decorative pattern, which bears similarities to that of the Oosterbeintum comb, the specimen is provisionally placed in this group.

Combs of this type do not occur in the typological schemes from Germany, France and England usually consulted for this research and also Böhme does not list them as a separate type. The type is much more common in England. In the publication of the Spong Hill cemetery, triangular combs with plain crestring are dated to approximately AD 450-550. This date agrees with findings from the West Stow Anglo-Saxon village excavation (Suffolk) and the Alwalton cemetery excavation (Cambridgeshire)<sup>928</sup>. In Oosterbeintum grave A, the comb is found in combination with a small-long brooch with a rectangular head plate (BR-1e) and a cruciform brooch of type BR-1l. Both brooch types are also more common in England than in the Netherlands but occur in northern Germany as well.

### **Occurrence in the Netherlands:**

*Oosterbeintum: A.*

*Rhenen: (833).*

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<sup>927</sup> Knol *et al.* 1995, 333-34.

<sup>928</sup> Riddler *et al.* 2013, 112; West 1985, Gibson 2007; Sudds 2007, 258-59.

**Identification in other typologies:**

Franken AG: -

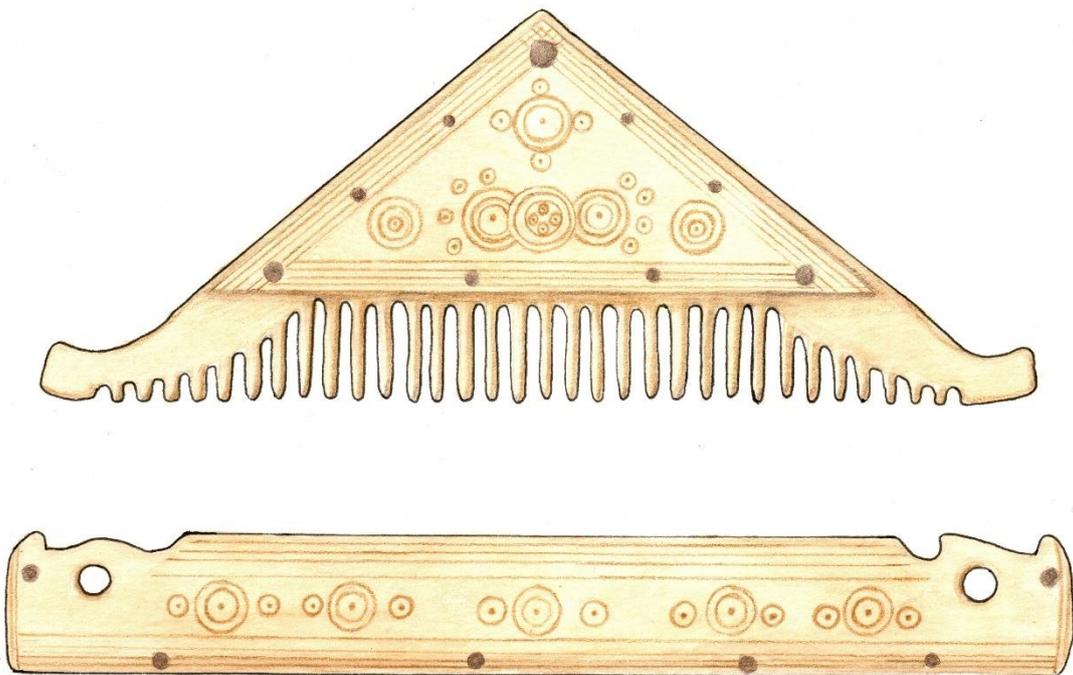
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 2-3 (430/35 – 510/25).



*CO-1b*

## CO-2: STRAIGHT COMBS

Straight combs are more common in Dutch graves than their triangular counterparts but are still considered a relative rarity. The type can be divided into two subtypes, namely combs with a single row of teeth and those with a double row of teeth. The latter is more commonly

found in Merovingian graves in general and is sometimes associated with a case<sup>929</sup>. Whilst combs are considered a non-gender specific artefact type, some variants seem to be closer related to either the male or female gender<sup>930</sup>. Straight combs with cases in this sample are exclusively found in suspected female-gender graves.

### **CO-2a Composed single sided comb**

Bone or antler combs with a single row of teeth. Combs of this type are composed and consist of a core plate which is sandwiched between two decorative outer plates. The outer plates are usually decorated with incised linear patterns, (concentric) circles or dot-in-circle motifs and the back of the comb is arch-shaped.

For the German Rhineland, Siegmund distinguishes four single sided comb types of which one is asymmetrical (Ger 3.13) and one is decorated in a specific style (Ger 3.14). Both these types have not been found as part of this sample. The remaining single-sided Rhineland combs are divided into two more commonly found categories on the basis of the curvature of the back. Group Ger 3.11 contains combs with no- or only a light curvature whilst group Ger 3.12 consists of combs with a more strongly curved back. This division is maintained by the Franken AG (Ger 3.1A and 3.1B) whilst LPV only identifies one general group of single sided combs (325)<sup>931</sup>. The Spong Hill excavation in England (Norfolk) which has returned a large quantity of combs did not yield any composed straight single sided specimens<sup>932</sup>. A study specifically focussed on the combs from the Maastricht region, provides specimens of this type with a general seventh century date<sup>933</sup>.

As no clear definition is provided by Siegmund and the Franken AG regarding the level of curvature needed for a comb to be placed in either group 3.11/3.1A or 3.12/3.1B, the classification of the comb from Maastricht grave 313 remains arbitrary. As the curvature is clearly visible, a placement in Ger 3.12/3.1B is arguably more likely. As the current sample from the Netherlands contains so few combs belonging to this group, the German division

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<sup>929</sup> Siegmund 1998, 115.

<sup>930</sup> Aufleger 1996, 642.

<sup>931</sup> Siegmund 1998, 115-16; Mússemeier *et al.* 2003, 55; Legoux *et al.* 27, 47.

<sup>932</sup> Riddler *et al.* 2013, 108.

<sup>933</sup> Dijkman *et al.* 1998, 70.

into two subgroups is not maintained in this typology. Future findings may, however, create a revival of the need to subdivide.

**Occurrence in the Netherlands:**

*Hoogeloon: 6.*

*Lent: 7220.*

*Maastricht: 313.*

*Oosterbeintum: 438.*

**Identification in other typologies:**

Franken AG: **Ger 3.1A** – (phase 5-9 > 565 - 710). **Ger 3.1B** – (phase 7-9 > 610/20 - 710).

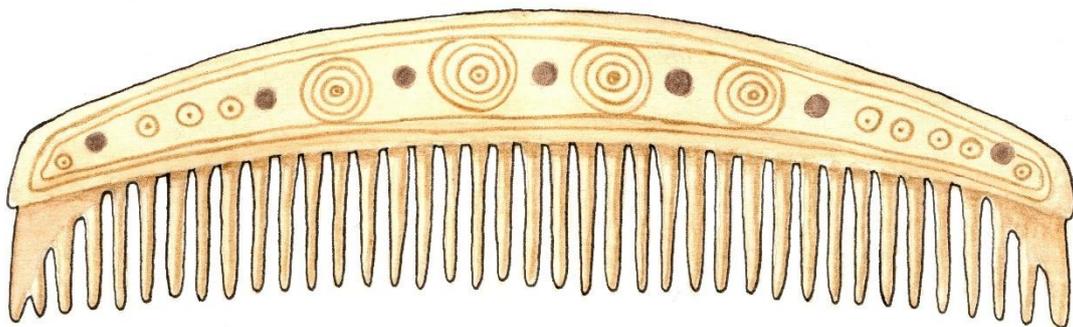
Siegmund: **Ger 3.11** – (no date provided). **Ger 3.12** – (phase 10 > 670 - 705).

LPV: **325** (phase MA1 – MA3 and possibly later > 470/80 – 600/10).

Hines: -

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50). An earlier start or later end cannot be ruled out.



CO-2a

**CO-2b Composed double sided comb**

Bone or antler combs with a double row of teeth. In most cases, there is a row of fine teeth and one of more coarse teeth. Combs of this type are composed and consist of a core plate which is sandwiched between two decorative outer plates. The outer layers are strip-like and

usually decorated with incised linear patterns, (concentric) circles or dot-in-circle motifs. Plain outer layers, however, occur as well. Some combs (e.g. Maastricht grave 76) has a perforation through one of the narrow sides. This perforation is likely for suspension. Double sided combs are sometimes found in combination with a case which is usually decorated in a similar style to the comb. Combs with cases seem to be indicative for a female gender context.

For the German Rhineland, Siegmund indicated that double sided composed combs are difficult to place chronologically<sup>934</sup>. He categorises three types on the basis of a specific shape or decorative characteristic. None of these characteristics could be found in the combs from the Dutch sample. A fourth type categorised by Siegmund are double sided composed combs with a case (Ger 3.23). Within the current sample, two combs from this group were found in combination with a case and in one grave, Maastricht 97, a fragment of a case was found. When viewing the chronology of the Dutch graves which hold a comb from this group, there is no indication that the presence of a case narrows the dating down significantly.

The Franken AG largely confirms the typological division by Siegmund, except for combs with convex outer layers. This feature is not regarded chronologically relevant by the Franken AG<sup>935</sup>. LPV divide double sided composed combs in two groups, on the basis of the presence of either straight or profiled short sides<sup>936</sup>.

Dijkman and Ervynck, who researched bone and antler combs from the Maastricht area, agree with Siegmund regarding the chronological significance of convex outer layers and indicate that the length to width ratio may also be chronologically indicative. It is thought that the teeth-length of combs decreases during the early medieval period, leading to narrower combs. In reaction, the length-width ratio is restored by shortening the combs. Later combs have more plano-convex outer layers than their earlier counterparts. The lack of decoration on some combs is regarded irrelevant although a chronological development from sparse to elaborate decoration can be expected<sup>937</sup>.

The Spong Hill excavation in England (Norfolk) yielded a total of eighteen double sided composed combs which could be divided into five typological groups on the basis of style characteristics and/or decoration. The first and second types consist of combs with profiled and concave terminals respectively. Types 3 and 4 distinguish between a rectangular and a cylindrical section respectively. This distinction is equivalent to the division by Siegmund and

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<sup>934</sup> Siegmund 1998, 116.

<sup>935</sup> Müssemeier *et al.* 2003, 55-56.

<sup>936</sup> Legoux *et al.* 27, 47

<sup>937</sup> Dijkman *et al.* 1998, 69-70.

Dijkman between combs with and without convex outer layers. When convex outer plates are present, a cylindrical cross section is approached. In Spong Hill the rectangular section is related to linear decoration whilst combs with a cylindrical cross section are undecorated. The fifth group consists of combs decorated only with a dot-in-circle motif<sup>938</sup>. The groups are dated as follows: type 1 > Roman period up to AD 450, type 2 > AD 400 – 500, type 3 > AD 450 – 550, type 4 > AD 475 – 625, type 5 > not specified<sup>939</sup>.

The combs in the Dutch sample of which the terminals are preserved are all straight. As many combs are heavily damaged, it is not possible to establish if profiled or concave terminals were present in the current sample. The Maastricht area in the southern Netherlands is home to various late Roman double-sided composed combs with profiled terminals, but these are not found in the Vrijthof cemetery<sup>940</sup>. These combs are typologically linked to Spong Hill type 1, LPV type 323 and Siegmund/Franken AG type GER 3.21 and are also in the Netherlands likely to date within the fifth century, roughly to phases 1-3 (c. pre 400 – 510/25).

The three combs for which the cross-section of the outer layers can still be determined (Maastricht graves 76, 95 and 230) all have concave plates and thus a 'cylindrical' cross section. The majority of these combs, however, are decorated, in contrast to those from Spong Hill. The presence of a comb with a rectangular cross section could not be proven, making it impossible to verify a chronological difference between the types in the Netherlands. The decoration of combs from the sample consists of incised straight lines, incised straight lines in combination with dot-in-circle motifs, incised straight lines in combination with bended lines and dot-in-circle motifs and dot-in-circle motifs in combination with larger (concentric) circles. Unlike in Spong Hill is a dot-in-circle motif not uncommon and does not occur as the only form of decoration on any one comb.

The contexts of the combs in this sample can all be broadly dated between phases 4 and 7. On the basis of the preserved characteristics, it is currently not possible to make a further typological division. It is clear however, that the presence or absence of a case is not chronologically relevant, and neither is the exact decorative style. Unfortunately, this sample does not allow for chronological analyses of sparse or elaborate decoration.

#### **Occurrence in the Netherlands:**

*Maastricht: 76, 95, (97), 178, 230.*

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<sup>938</sup> Riddler *et al.* 2013, 134-40.

<sup>939</sup> Riddler *et al.* 2013, 141 (fig. 2.61).

<sup>940</sup> Dijkman *et al.* 1998, 28-31

Sittard: 11.

**Identification in other typologies:**

Franken AG: **Includes S-Ger 3.23** – (no date provided).

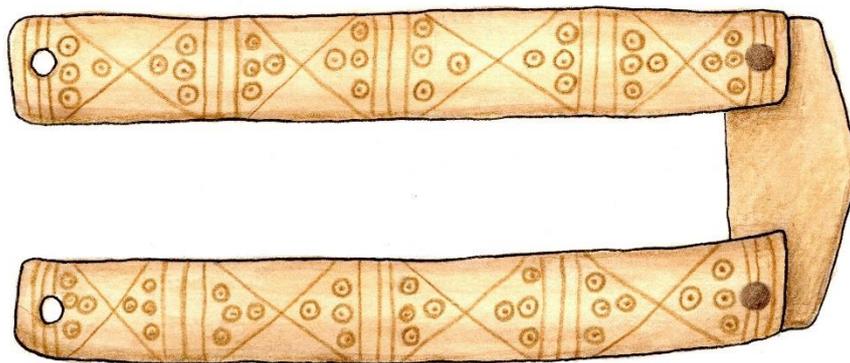
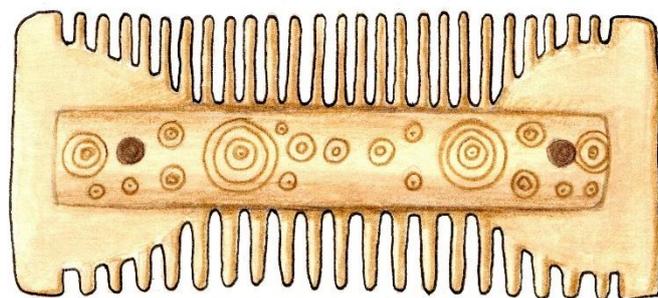
Siegmund: **Includes Ger 3.23** – (phase 4-7 > 530 - 610).

LPV: **324** (phase MA1 – MR1 and possibly later > 470/80 – 630/40).

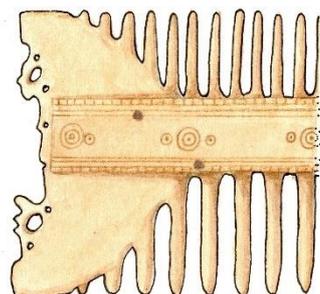
Hines: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50). Specimen with profiled terminals: Phase 1-3 (pre 400 – 510/25).



*CO-2b and an example of a similar comb with profiled sides.*



# TWEEZERS

Tweezers occasionally occur in graves from the early medieval period. In undisturbed contexts, they are usually found near the waist, indicating they were suspended from a belt. This idea is supported by the frequent presence of a ring for suspension. Tweezers are often found in graves which house an individual of presumed male gender. They occasionally occur in suspected female-gender graves as well.

## TW-1: TWEEZERS

The tweezer types from the sample are summarised in a single category. There are groups for tweezers made of copper alloy and iron and those made in different styles. Tweezers with tapered arms are most common, followed by an instantly recognisable type with a broad tip.

### **TW-1a Copper alloy tweezers with tapered arms and extensive decoration**

Copper alloy tweezers with tapered arms which are bent inwards at the tips. The arms, created from a folded strip of metal, widen towards the tips. Tweezers of this type are elaborately decorated with deep incised lines and notches which form various patterns. A ring for suspension is often attached at the back.

#### **Occurrence in the Netherlands:**

*Elst: (249).*

*Rhenen: 834, 842.*

#### **Identification in other typologies:**

Franken AG: **S-Ger 2.5** – (phase 2-3 > 435/40 – 510/25).

Siegmund: **Ger 2.5** – (phase 2-3 > 440 - 530).

LPV: -

Hines: -

### Dating in the Netherlands:

Phase 1-2 (400 – 460/80).



*TW-1a (National Museum of Antiquities of the Netherlands)*

### **TW-1b** Copper alloy tweezers with tapered arms

Copper alloy tweezers with tapered arms which are bent inwards at the tips. The arms, created from a folded strip of metal, widen towards the tips and are plain or decorated with simple incised lines. A ring for suspension is often attached at the back. The degree of tapering varies and is occasionally quite strong (e.g. Rhenen grave 30) but usually gradual (e.g. Maastricht grave 210). In any case is the transition from arms to tip smooth and gradual and therefore virtually invisible. This distinguishes tweezers belonging to group TW-1b from those belonging to group TW-1c. It could be argued that the tweezers from Rhenen grave 30 should be placed in group TW-1c. The smooth transition from arms to tip, however, was decisive for classification as type TW-1b.

The type listed by Siegmund and the Franken AG which is most like the tweezers from the sample is Ger 2.6 (S-Ger 2.6) This type is described as having relatively short and broad arms which are hardly or not at all tapered<sup>941</sup>. Given the length-width ratio of the tweezers in the sample, they do not fit this description. It can be suggested that TW-1b is a typological successor of TW-1a.

### **Occurrence in the Netherlands:**

*Elst: 133, 163.*

*Hoogeloon: 9.*

*Maastricht: 101, 210.*

*Rhenen: 30, 445, 708.*

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<sup>941</sup> Siegmund 1998, 114; Müsseseimer *et al.* 2003, 54-55.

*Wageningen: 114.*

**Identification in other typologies:**

Franken AG: **related to S-Ger 2.6** – (indifferent, no date provided).

Siegmund: **related to Ger 2.6** – (phase 8-9 > 610 – 670).

LPV: **322** (phase MA2-MA3 > 520/30 – 600/10).

Hines: -

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).



*TW-1b (National Museum of Antiquities of the Netherlands)*

**TW-1c Copper alloy tweezers with a broad and distinguished tip**

Copper alloy tweezers with straight or slightly tapered arms which widen abruptly near the tip. The arms are usually decorated with dot-in-circles or incised lines in various patterns. A ring for suspension is often attached at the back.

The widened tip can have straight or profiled sides and therefore appears in various shapes such as rectangular, triangular or shield shaped. In all cases is the tip clearly distinguished from the rest of the tweezers whilst for group TW-1b the transition from arms to tip is gradual and therefore virtually invisible. It could be argued that the tweezers from Rhenen grave 376

should be placed in group TW-1b. The profiled sides of the tip, however, was decisive for classification as type TW-1c.

Siegmund and the Franken AG distinguish between tweezers with a broad-short and a broad-long tip<sup>942</sup>. No definition of 'long' and 'short', however, is provided. This group consists of tweezers which tip measures one third of the total length or less. It can be assumed that these specimens belong to the German category for tweezers with a broad-short tip.

**Occurrence in the Netherlands:**

*Elst: 12.*

*Rhenen: 376, 526, 593.*

**Identification in other typologies:**

Franken AG: **S-Ger 2.2** – (phase 3-6 > 460/80 – 610/20).

Siegmund: **Ger 2.2** – (phase 3-7 > 485 - 610).

LPV: **320** (phase PM-MA2 > 440/50 – 560/70. Most commonly in MA1-MA2 > 470/80 – 560/70).

Hines: -

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).



*TW-1c (National Museum of Antiquities of the Netherlands)*

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<sup>942</sup> Siegmund 1998, 113; Müssemeier *et al.* 2003, 54.

## **TW-1d Iron tweezers with tapered arms**

Iron tweezers with tapered arms which are bent inwards at the tips. The arms, created from a folded strip of metal, widen towards the tips and are plain or decorated with incised lines.

A ring for suspension, sometimes made of copper alloy, is often attached at the back.

Most tweezers listed by Siegmund and the Franken AG are explicitly described as made of copper-alloy. The only iron type listed is Ger 2.7 (S-Ger 2.7) which is described as having relatively short and broad arms which are hardly or not at all tapered<sup>943</sup>. Given the length-width ratio of the tweezers from the sample, they do not fit this description. LPV list a general group for mainly iron tweezers. The illustration related to the LPV type shows specimen with various size ratios<sup>944</sup>.

### **Occurrence in the Netherlands:**

*Obbicht: 5, 51b*

*Rhenen: 510, 600, 699*

*Stein: 57*

### **Identification in other typologies:**

Franken AG: **related to S-Ger 2.7** – (phase 6-8 > 580/90 – 670/80).

Siegmund: **related to Ger 2.7** – (phase 8 > 610 - 640).

LPV: **322** (phase MA2-MA3 > 520/30 – 600/10).

Hines: -

### **Dating in the Netherlands:**

Phase 3-6 (460/80 – 610/20).



*TW-1d (National Museum of Antiquities of the Netherlands)*

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<sup>943</sup> Siegmund 1998, 114; Müssemeier *et al.* 2003, 55.

<sup>944</sup> Legoux *et al.* 2016, 27, 47.

### **TW-1e Tweezers with three arms**

Iron or copper-alloy tweezers with straight or tapered arms which are bent inwards at the tips. If tapered, the arms widen towards the tips and are usually plain. A third strip of metal is placed centrally between the arms and has the same length. It is unclear what the purpose of the third 'arm' was.

Whilst the arms of early medieval tweezers are usually formed out of a folded metal strip, the specimen from Maastricht grave 259 has a fused back. Attached to the fused back is a short metal rod of which the purpose is unknown.

Tweezers with a third arm are not listed in the typologies by Siegmund and the Franken Arbeitsgruppe. LPV list the type as part of group 322 and indicate that they are usually, but not always, made of iron. The specimens listed by LPV do not show the fused back with rod as seen in Maastricht<sup>945</sup>. Tweezers with a third arm in various designs and made of iron or copper-alloy are known from, amongst other places, grave 61 of the Unteren Wied cemetery near Koblenz (Rheinland-Pfalz) in Germany and grave 110 of the Lavoye cemetery (Meuse) in France<sup>946</sup>.

#### **Occurrence in the Netherlands:**

*Elst: 117.*

*Maastricht: 259.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund-

LPV: **322** (phase MA2-MA3 > 520/30 – 600/10).

Hines: -

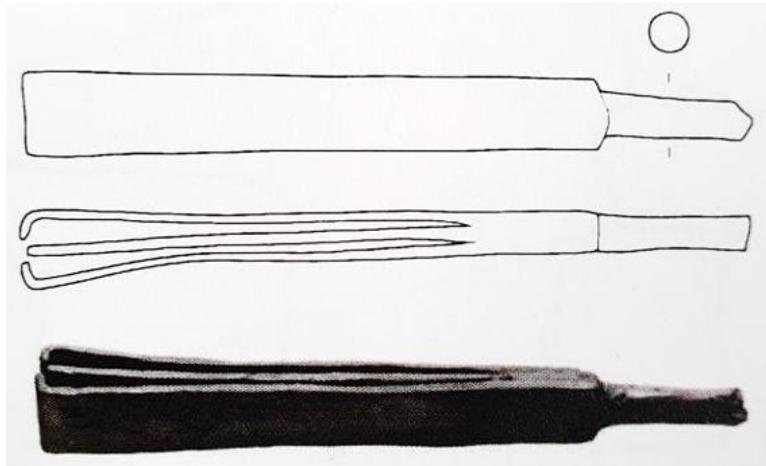
#### **Dating in the Netherlands:**

Phase 3-4 (460/80 - 565). Occasionally in phase 5.

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<sup>945</sup> Legoux *et al.* 2016, 27, 47.

<sup>946</sup> Grünewald 2001, table 78; Joffroy 1974, 34-35, figure 15.



*TW-1e (Theuws et al. 2017, 515).*

### **TW-1f Copper alloy tweezers with a strongly tapered tip**

Copper alloy tweezers with relatively narrow arms which widen sharply towards the tip. Due to the strong tapering, the tip has a somewhat triangular shape. The tweezers can be plain or decorated with incised lines and/or dot-in-circles. The specimen from Katwijk grave 32 is equipped with a third arm, similar to tweezers of type TW-1e.

#### **Occurrence in the Netherlands:**

*Katwijk: 32.*

*Zweeloo: 17, 57.*

#### **Identification in other typologies:**

Franken AG: **S-Ger 2.8** – (phase 9-10 > 670/80 – 750).

Siegmund: **Ger 2.8** – (phase 10-11 > 670 – 740).

LPV: -

Hines: -

#### **Dating in the Netherlands:**

Phase 8-10 (640/50 - 750).



*TW-1f (National Museum of Antiquities of the Netherlands)*

### **TW-1g Iron tweezers with a strongly tapered tip**

Iron tweezers with relatively narrow arms which widen sharply towards the tip. Due to the strong tapering, the tip has a somewhat triangular shape. The tweezers from Zweeloo grave 76 are not decorated.

#### **Occurrence in the Netherlands:**

*Zweeloo: 76.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

#### **Dating in the Netherlands:**

Phase 9b-10 (700 - 750). Possibly continuing up to 800/50.



*TW-1g (National Museum of Antiquities of the Netherlands)*

# RINGS AND CHATELAINES

Loose rings and chain links are a relatively common find in male as well as female gender graves from the early medieval period. It is often unclear how these elements should be interpreted. As a starting point, it is helpful to separate loose and lone rings from those found linked together or in small groups. Multiple rings found close together or linked can indicate the presence of a chatelaine or another form of chain. A chatelaine is a metal chain girdle of which the ends hang down from the hips. Utensils such as combs but also decorative elements and amulets were hung from the chatelaine. Occasionally, graves contain a chain divider (RC-1c), which is a clear indicator for the presence of a chatelaine. Whilst chatelaines occur in female gender graves, chains also occur in male gender context and are traditionally interpreted as riding gear or a sword- or weapon belt. Two basic types of chatelaine have been identified in the Netherlands. The first type (RC-1a) consists of relatively large and coarse iron chain links. In male graves, such rings may indicate the presence of the aforementioned weapon or riding gear. The second type consists of smaller and more refined copper-alloy chain links (RC-1b). Across the sample, this type has only been found in female gender graves.

Loose rings are more problematic and can be interpreted in various ways and following different criteria. Probably the best starting point is the position of the ring relative to the body. If the ring is found next to the skull, (part of) an earring can be expected. Earrings often occur in pairs. A ring in the chest area may be related to a necklace or pendant. Small wire rings with twisted ends which are found in the chest or neck area can be identified as individual pendants (see group PA-1f). In some cases, the rings were used to suspend another element of a necklace, such as a bead or a tube pendant.

Most rings are found in the pelvic area or on or around the upper legs. Depending on the placement of the hands and the diameter of the ring, the specimen may be interpreted as a simple bracelet or finger ring. Most finger rings from the early medieval period have a diameter of 3 centimetres or less. Siegmund demonstrates that bracelets from the German Rhineland have a diameter between 6.2 and 8.0 centimetre<sup>947</sup>. This range is equally applicable to the Dutch sample.

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<sup>947</sup> Siegmund 1998, 80-81.

Bracelets and finger rings which can be clearly interpreted in this way on the basis of form, inlay or other decoration are grouped together in the respective categories. Rings without these convincing characteristics but which qualify to be interpreted as a simple bracelet occur in iron or copper alloy. The iron specimens are usually solid rings (group RC-2f) whilst the copper alloy examples are often made of wire with ends twisted or hooked together (group RC-2d). In this sample, potential finger rings only occur in copper-alloy and have a triangular, ovoid, round or roughly D-shaped section.

Rings of copper-alloy or iron and of any size which are found in the pelvic area or near the upper legs can also be interpreted as belt appendages. It is thought that these rings connected utensils and amulets such as combs and ornamental discs to a belt or chatelaine. In case of the latter, however, it is likely that multiple elements of the chatelaine itself are found too. In case of the former, the belt of organic material is usually perished. In some cases, rings have remaining bits of metal or other residue attached to them, indicating the remains of suspended items. Belt appendages can be made of copper-alloy or iron and also combinations of both occur in single contexts. The rings can have various thicknesses, diameters and sections. For rings with a diameter of between 3.0 and 6.0 centimetre, it is especially likely that they are related to a girdle, as their size makes them unlikely candidates for finger rings or bracelets. In some cases, the coarseness of the ring can also be indicative, as a finger ring may be expected to look more refined than a general ring for suspension.

Another alternative interpretation of rings in the pelvic area or near the upper legs is for it to be the fastener of a purse flap. This interpretation becomes unlikely when also a purse buckle and a strap end are found.

For this typology it is decided to place rings which can be interpreted with a great degree of certainty in a corresponding category (e.g. bracelets, finger rings, pendants). Rings for which the interpretation is ambiguous are grouped in this category, together with chatelaines.

## RC-1: CHAINS AND CHATELAINES

This section includes various chain types which are occasionally found in early medieval graves as well as elements belonging to a chatelaine.

## **RC-1a Chains or chatelaines made of iron**

Chains made of iron rings or chain links. In female context, such chains could often be identified as chatelaines. In male contexts, they are traditionally identified as sword- or weaponry belts. Chains or chatelaines of this type are often found as a number of rings linked- or in close proximity to each other. The find of loose individual rings in the pelvic area or around the upper legs can be indicative of a chain or chatelaine, but it is often impossible to classify the item as such with sufficient certainty (see introduction to this section). The iron chains or chatelaines are often coarser than their copper-alloy counterparts and consist of larger rings.

### **Occurrence in the Netherlands:**

*Maastricht: 166.*

*Oosterbeintum: 374a.*

*Posterholt: 91.*

*Rhenen: 670.*

*Sittard: 11, 43, 87.*

### **Identification in other typologies:**

Franken AG:

Siegmund: -

LPV: **357** – (phase MA2-MR1 > (520/30 – 630/40, possibly continuing into MR2).

Hines: -

### **Dating in the Netherlands:**

Phase 3-6 (460/80 – 610/20).





*RC-1a (National Museum of Antiquities of the Netherlands)*

### **RC-1b Chains or chatelaines made of copper-alloy**

Chains made of copper-alloy rings or chain links. The only specimen known from this sample is found in a female-gender grave. Chains or chatelaines of this type are often found as a number of rings linked- or in close proximity to each other. The find of loose individual rings in the pelvic area or around the upper legs can be indicative of a chain or chatelaine, but it is often impossible to classify the item as such with sufficient certainty (see introduction to this section). The copper-alloy chains or chatelaines are often more refined than their iron counterparts and consist of smaller rings.

#### **Occurrence in the Netherlands:**

*Maastricht: 48.*

#### **Identification in other typologies:**

Franken AG:

Siegmund: -

LPV: **356** – (phase MR2-MR3 > (630/40 – 700/10, most commonly in MR3 > 660/70 – 700/10).

Hines: -

#### **Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).



RC-1b (National Museum of Antiquities of the Netherlands)

### **RC-1c Chain divider belonging to a chatelaine**

Chain dividers made of copper-alloy or iron. The chain divider was worn as part of a girdle or chatelaine and held various tools and/or amulets. Chain dividers occur in different forms and can be plain or (elaborately) decorated. As chain dividers occur infrequently in the Netherlands, they are included as a single typological category. An exception is made for the more frequently found ornamental discs (RC-1d and RC-1e) which can also be used to suspend various attributes from. In the typology for northern France, LPV list three decorative elements of a chatelaine which were used as a divider or decoration. Furthermore, a complete divider is listed including small chains hanging down<sup>948</sup>. A similar complete divider is also listed by Siegmund and the Franken AG<sup>949</sup>. One of the decorative elements listed by LPV is the discs of groups RC-1d and RC-1e and a second element is a decorative divider consisting of two pieces. The third element listed has a zoomorphic decoration and includes tags which were used to aid suspension. The latter two types have not been found as part of this sample.

The specimen from Lent grave 7222 has a roughly triangular plate which is decorated with small, stamped motifs. The hanger is tapered and decorated with incised linear and zigzag patterns.

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<sup>948</sup> Legoux *et al.* 2016, 27, 49.

<sup>949</sup> Siegmund 1998, 83; Müssemeier *et al.* 2003, 40-41.

The decorative copper-alloy element found in Maastricht grave 138 also belongs to a chain divider from a chatelaine. The ornament consists of a strip of metal with a central perforation. On one side, the strip has a single protrusion which is perforated to allow suspension. On the other side, the strip shows three protrusions which are perforated and once held chains for the suspension of utensils or other items. The element is decorated with dot in circle motifs. A direct parallel for this particular piece is unknown but a part of a divider from the Coulommies-et-Marqueny cemetery (Ardennes) in France is very similar. The French piece, however, is equipped with two extra protrusions.

**Occurrence in the Netherlands:**

*Lent: 7222*

*Maastricht: 138*

*Obbicht: 36*

**Identification in other typologies:**

Franken AG: **S-Ggh 6** – (phase 6-8 > 580/90 – 670/80)

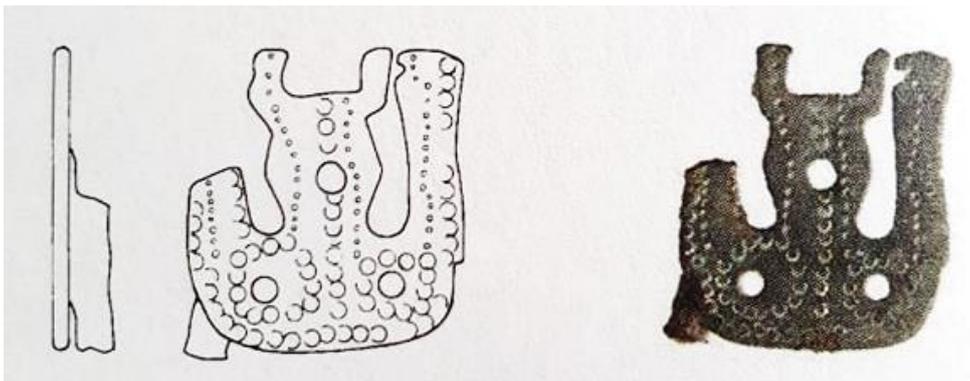
Siegmund: **Ggh 6** – (phase 8 > 610 - 640)

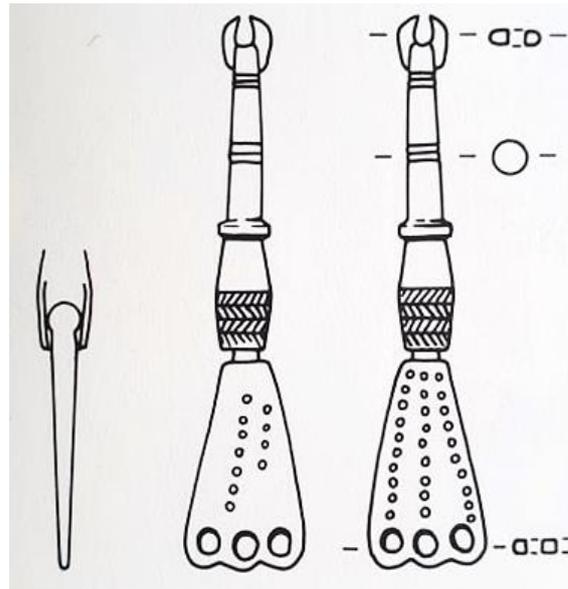
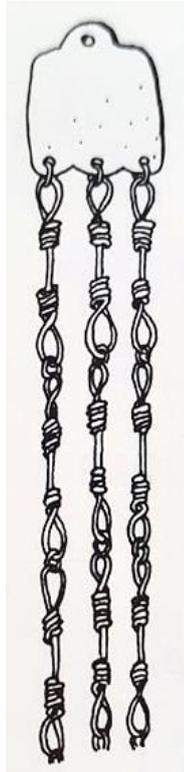
LPV: **366** – (phase MR2-MR3 > (630/40 – 700/10, most commonly in MR3 > 660/70 - 700/10). Related to **related to 364**– (phase MA3b-MR2a > (580/90 – 640/50, most commonly in MR1 > 600/10 – 630/40). **related to 365**– (phase MA3b-MR2a > (580/90 – 640/50, most commonly in MR1 > 600/10 – 630/40).

Hines: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).





RC-1c (Kars et al. 2016, 422; Müssemeier et al. 2003, 106; van Es et al. 1991, 269; Theuvs et al. 2017, 474).

### RC-1d Large ornamental discs (Austrasian style)

Large ornamental discs, usually made of copper-alloy, with cut-away decoration. In some cases, the discs are further decorated with incised lines and/or punch marks. The discs were worn by women as part of a chatelaine. The decoration, often in the form of (stylised) animals or a cross is created by cutting away metal in various shapes. Decorative discs of this type are

likely to originate from Austrasia, the eastern part of the Frankish empire. Sizes vary, but a diameter of approximately 10 centimetres or more is common. The discs are therefore larger than their counterparts from group RC-1e, which likely originate from Neustrasia, the western part of the Frankish empire.

The disc from Lent grave 7222 has a circular central cut-out surrounded by four irregularly shaped cut-outs. These cut-outs are roughly kidney-shaped but very angular. Around this, another row of holes is present, this time consisting of eight irregularly shaped cut-outs. Each cut-out in the disc has a border of small punch marks. The space between the outer and central rows of cut-outs forms four animal heads, four small dot-in-circles are added to indicate the eyes. The disc from Lent was found surrounded by a snugly fitting ring of ivory. The ring consists of two separate layers which are riveted together. No mention of such rings is made in the typologies by Siegmund, the Franken AG or LPV. A large ivory ring listed by Hines is suggested to belong to a purse and does not have the two clamped-together halves<sup>950</sup>. Renner, who classified a variety of ornamental discs from northwestern Europe places the Lent specimen in group VII B1 which is dated to the seventh century<sup>951</sup>.

The disc from Wijster was a stray find and its decoration consists of what is best described as a forked cross or a moline cross. The disc has a central circular cut-out. From there, the arms of the cross stretch out and are separated by a further four cut-outs. Near the edge, four more cut-outs split the ends of the arms in two. No ivory ring or further decoration is present. The Wijster cross can be placed in group IV A2 of the typology by Renner and is also given a seventh century date<sup>952</sup>. It may well be that the large disc from Wijster is a locally made eighth century imitation of a Frankish disc. This would be in line with the dating of the small discs which are found in the northern provinces. For a discussion, please see group RC-1e.

#### **Occurrence in the Netherlands:**

*Lent: 7222*

*Wijster: stray find*

#### **Identification in other typologies:**

Franken AG: **S-Ggh 3** - (Phase 5 - 7 > 565 – 640/50, occasionally between AD 650 and 700).

Siegmund: **Ggh 3** - (phase 8 > 610 – 640).

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<sup>950</sup> Hines *et al.* 2013, 227.

<sup>951</sup> Renner 1970, 24-25, 65.

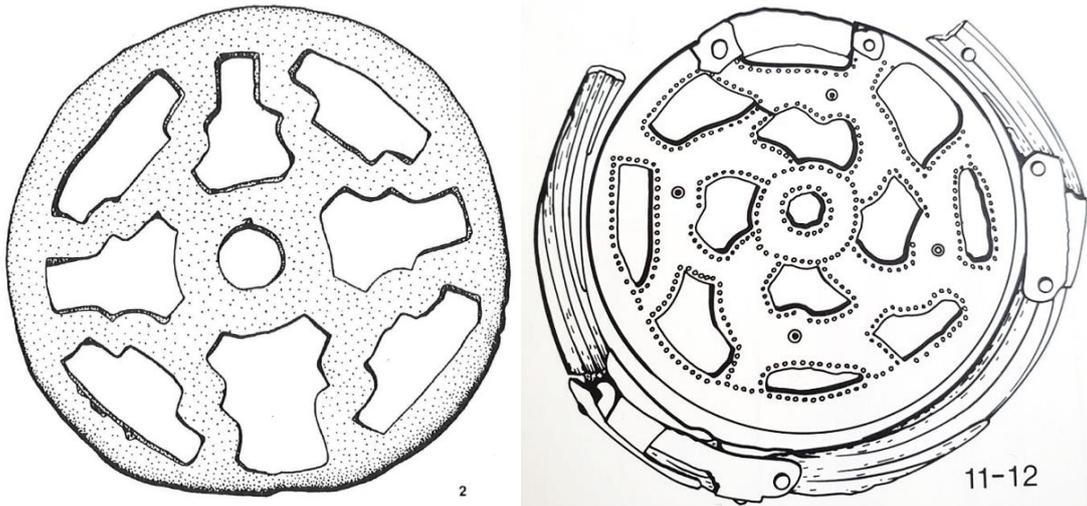
<sup>952</sup> Renner 1970, 14.

LPV: **363** – (phase MA3-MR2 > (560/70 – 660/70, most commonly in MA3b-MR1 > 590/90 – 630/40).

Hines: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).



*RC-1d (van Es 1967, 507; van Es et al. 1991, 269).*

**RC-1e Small ornamental discs (Neustrasian style)**

Decorative discs, usually made of copper-alloy, with cut-away decoration. The discs were usually worn by women as part of a chatelaine. The decoration, usually in the form of a cross, is created by cutting away metal in various shapes. Additionally, discs occur with cut-away circles. The metal between the cut-outs does not represent a recognisable pattern. Decorative discs of this type are likely to originate from Neustrasia, the western part of the Frankish empire. Given the dating of especially the discs from the northern Netherlands, it is questionable whether they were still made in the Frankish realm. The tradition of using ornamental discs in graves had already ceased to exist there during the seventh century. It is possible therefore that the discs found in the north are local or semi local products inspired by older discs with a Frankish origin. Sizes vary, but a diameter of approximately 3 centimetres

is common. The discs are therefore much smaller than their counterparts from group RC-1d, which likely originate from Austrasia, the eastern part of the Frankish empire.

Small ornamental discs are relatively rare in the southern Netherlands. A fragment of a possible specimen is known from cremation grave 47 in Katwijk<sup>953</sup>. A complete example is in the collection of the National Museum of Antiquities and was found in Dorestad during the nineteenth century<sup>954</sup>. This specimen shows the same decoration of a forked- or moline cross as the much larger disc from Wijster (see RC-1d).

Whilst ornamental discs are usually associated with female gender inhumations, the specimen from Elst grave 96 was found in a male gender grave. The disc differs in some respects from any of the other small specimens found in the Netherlands. It has a central boss and a raised edge. The space between the edge and the boss is equipped with four kidney-shaped cut-outs. The edges of the 'kidneys' are also raised. The space between the cut-outs represents a cross. The disc was once equipped with a protruding piece of metal on four sides, placed in line with the arms of the cross. One such protrusion was perforated to allow for suspension. When considering the protrusions as part of the cross, the idea of a Celtic-style cross is created.

In the north of the Netherlands, small ornamental discs are much more numerous. The specimen from Zweeloo grave 29 shows a relatively simple equal armed cross and can be placed in Renners' group IA-2, dating to the sixth and seventh centuries<sup>955</sup>. Renner indicates that this type is especially common in southern Germany and northern Switzerland. Van Es notes that the closest parallels to the specific disc from Zweeloo grave 29 were found in Obermöllern (Sachsen-Anhalt) in Germany and in Geudertheim (Bas-Rhin) in north-eastern France<sup>956</sup>. The way the latter is produced differs substantially from the other ornamental discs and it is debatable whether the item should be regarded as such in the traditional sense of the word. The disc from Zweeloo grave 29 was found in the chest area of the deceased, which is also atypical. It is possible that these simple ornamental discs had a function other than the traditional ornamental discs listed in this group<sup>957</sup>.

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<sup>953</sup> Dijkstra 2011, 243.

<sup>954</sup> Holwerda *et al.* 1908.

<sup>955</sup> Renners 1970, 51

<sup>956</sup> Van Es 2007, 833.

<sup>957</sup> Van Es 2007, 833.

The disc from Zweeloo grave 9 shows a similar forked- or moline cross as the other small specimen from Wijk bij Duurstede and the large specimen from Wijster (RC-1d). This decorative pattern is relatively common in the northern Netherlands and neighbouring German state of Niedersachsen with further specimens known from a female gender inhumation in Emmen (Drenthe), grave 21 of the Onnen cemetery (Groningen), Cornjum (Friesland) and grave 553 of the Zetel cemetery (Niedersachsen)<sup>958</sup>. The only specimen of this type (IV A2) that can be dated by Renner is placed in the seventh century<sup>959</sup>.

The remaining two discs from Zweeloo, found in graves 11 and 60, have a pattern of circular cut-outs. This type is not listed by Renner and parallels are only known from graves 19, 23, 45, 48 of the Onnen cemetery in Groningen<sup>960</sup>. The seemingly limited area of distribution contributes to the theory that this a locally or semi locally produced type.

Dating the small ornamental discs is complex. The specimen from Wijk bij Duurstede seems to date approximately to the second half of the sixth century, which is in line with the early circulation period of the larger discs. Renner notes that examples with a forked- or moline cross date to the seventh century, but this statement is only based on the dating of a single specimen. Furthermore, similar discs with a simple cross, such as the one from Zweeloo grave 29 are placed in both the sixth and seventh centuries. It is well possible that the same applies to the disc with forked- or moline crosses. The specimen from Elst, which may have had a different purpose than the other discs, can be placed in phase 4 or 5, which is roughly in line with the date for Wijk bij Duurstede and the larger discs. The possible disc from Katwijk is likely to date to the early seventh century.

For the discs from Drenthe, Groningen, Friesland and possibly Niedersachsen, the date given to the southern discs is likely too early. In Zweeloo graves 11 and 29, the discs occur with brooches of type BR-1h which start to circulate around the turn to the eighth century and continue into the Carolingian period. In graves 9 and 60, the discs occur together with keys of KE-1i and needle cases of TU-1c which can also be placed in the eighth century at the earliest. The discs from Onnen and Emmen are found in combination with similar items, especially with keys and needle cases<sup>961</sup>. It may be that the discs are made in the seventh century and should be interpreted as heirlooms in the graves. This should probably only apply to the discs

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<sup>958</sup> Van Es 2007, 833 (Emmen); Renner 1970, 14 (Cornjum and Wijk bij Duurstede); Van Giffen, 1927, fig. 21 (Onnen); Marschalleck 1978, fig. 27 (Zetel).

<sup>959</sup> Renner 1970, 14.

<sup>960</sup> Van Giffen, 1927, fig. 21.

<sup>961</sup> Van Es 2007, 834.

with the crosses, as they are known from the sixth and seventh centuries in the Frankish realm. For the discs with the circular cut-outs, no such early circulation has been evidenced. It seems more likely, however, that the discs form a separate fashion in the north which occurs later than in the south. This may indicate that the discs are made locally or semi locally and that the design of at least the forked- or moline cross is inspired on then already antique Frankish discs. It may well be that the large specimen from Wijster also belongs to this eight-century wave of fashion.

#### **Occurrence in the Netherlands:**

*Cornjum: (not in this sample).*

*Elst: (96).*

*Emmen – N-H Kerk: (not in this sample).*

*Katwijk: (47).*

*Onnen: (not in this sample) 19, 21, 23, 45, 48.*

*Wijk bij Duurstede: (not in this sample).*

*Zweeloo: 9, 11, 29, 60.*

#### **Identification in other typologies:**

Franken AG: **S-Ggh 3** - (Phase 5 - 7 > 565 – 640/50, occasionally between AD 650 and 700).

Siegmund: **Ggh 3** - (phase 8 > 610 – 640).

LPV: **363** – (phase MA3-MR2 > (560/70 – 660/70, most commonly in MA3b-MR1 > 590/90 – 630/40).

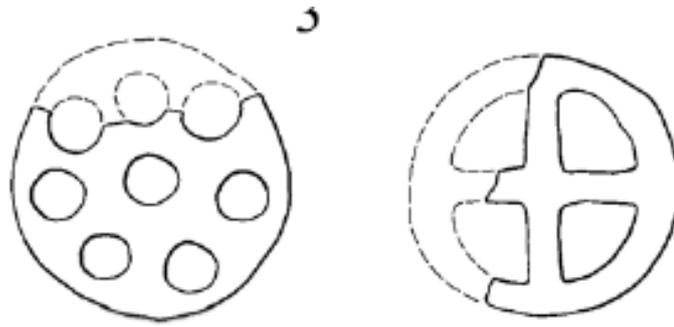
Hines: -

#### **Dating in the Netherlands:**

Southern Netherlands: phase 5-7 (565 – 640/50).

Northern Netherlands: Phase 9b – 10 (700 – 750) possibly continuing up to c. 800/50.





RC-1e (National Museum of Antiquities of the Netherlands; van Es et al. 2007, 889, 894).

## RC-2: RINGS

This category contains various rings made of iron and copper-alloy and in various sizes. For a more detailed information on the rings, please see the introduction to this category.

### RC-2a Copper-alloy rings with a triangular section and a diameter up to 3.5 cm.

Relatively coarse rings made of copper-alloy. The section is triangular, and the rings are not decorated. For rings with a different section, see RC-2b. Rings of this type have a maximum diameter of approximately 3.0 or 3.5 centimetres.

The rings of this type are interpreted as finger rings in their publications, but this classification is debatable. Besides the fact that they do not seem as refined as any of the other finger rings known from the early medieval period, doubt is sown by the placement of the rings in the graves. In Meerveldhoven grave 9, the ring was found centrally in the burial chamber. In grave 37 and 52, the rings were located in the belly area and on the right side of the chest respectively<sup>962</sup>. Whilst the three graves in Meerveldhoven are male gender on the basis of their content, Bergeijk grave 89 contains a significant number of beads which indicates a female gender context. In this case, the ring was placed where the right hip bone of the deceased once was<sup>963</sup>. The somewhat odd placement for a finger ring was noticed by Theuws and attributed to possible disturbance of the grave by animals or otherwise. In comparison to the contexts from Meerveldhoven, however, it may be suggested that this placement is

<sup>962</sup> Verwers 1978, 264.

<sup>963</sup> Theuws et al. 2012, 266-69.

'normal'. Placement in the pelvic area can still mean that the rings were worn as finger rings. However, it is also a possibility that they represent belt appendages (please see the introduction to this section).

**Occurrence in the Netherlands:**

*Bergeijk: 89.*

*Meerveldhoven: 9, (37), 52.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: **WR3** – (no date provided).

**Dating in the Netherlands:**

Phase 7-9 (610/20 - 710).



*RC-2a (Theuws et al. 2012, 266).*

**RC-2b Copper-alloy rings with a non-triangular section and a diameter up to 3.5 cm.**

Rings made of copper alloy with a round, ovoid, square or D-shaped section. The rings can have any size up to approximately 3.0 or 3.5 centimetres.

**Occurrence in the Netherlands:**

*Maastricht: 194.*

*Stein: 64, 65.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).



*RC-2b (National Museum of Antiquities of the Netherlands)*

**RC-2c Copper-alloy rings with a diameter between 3.5 and 6.0 cm.**

Rings made of copper alloy with any shape of section. The rings can have any size between approximately 3.5 or 6.0 centimetres.

**Occurrence in the Netherlands:**

*Maastricht: 110, 258*

*Obbicht: 36*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*RC-2c (National Museum of Antiquities of the Netherlands)*

**RC-2d Rings of copper-alloy wire with a diameter of more than 6.0 centimetres**

Simple rings made of thin copper-alloy wire. The ends are twisted together to close the ring. These rings are often classified as bracelets but may have had other applications too such as belt appendages. Rings like this also occur as earrings (ER-1a) with or without decorative elements attached. Indicative for a classification as earring is the fact that they usually occur in pairs. Furthermore in most cases, earrings are located near the head of the deceased rather than in the chest or pelvic areas.

**Occurrence in the Netherlands:**

*Maastricht: 110, 230.*

*Oosterbeintum: 160, 295, 398.*

*Rhenen: 696.*

**Identification in other typologies:**

Franken AG: -

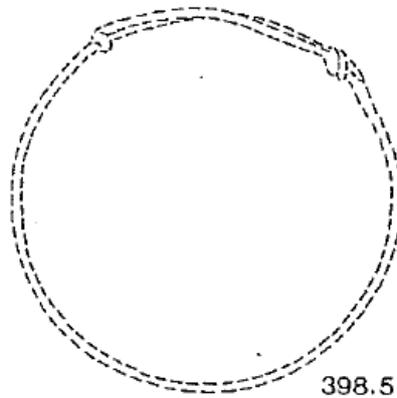
Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 2-5 (435/40 – 580/90).



*RC-2d (Knol et al. 1995, 394).*

**RC-2e Iron rings with a diameter up to 6.0 cm.**

Rings made of iron with any shape of section. The rings can have any size up to approximately 6.0 centimetres.

**Occurrence in the Netherlands:**

*Maastricht: 97, 110, 274.*

*Obbicht: 4, 8, 35.*

*Sittard: 59, 77.*

*Stein: 18, 51.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

### Dating in the Netherlands:

Phase 4-7 (510/25 – 640/50).



*RC-2e (National Museum of Antiquities of the Netherlands)*

### **RC-2f** Iron rings with a diameter of more than 6.0 cm.

Rings made of iron with any shape of section. The rings can have any size over approximately 6.0 centimetres.

Rings of this type are often identified as bracelets, for example by Siegmund<sup>964</sup>. Similar rings are known to have been worn as bracelets in fifth to seventh century northern Italy and the Alps and are found there and in the Rhineland in combination with decorative pins<sup>965</sup>. The bracelets are also linked to the Pannonian Avars through the cemetery of Sömmerein am Leithagebirge (Niederösterreich) in eastern Austria, but without a recognisable relationship with decorative pins<sup>966</sup>. As the rings are rare in the German Rhineland and indeed in the Netherlands, it is debatable whether the usage in these areas was similar. It was therefore decided to place the rings in this category rather than with bracelets. In Maastricht grave 110, the ring is found in combination with a decorated bone pin.

### Occurrence in the Netherlands:

*Maastricht: 110.*

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<sup>964</sup> Siegmund 1998, 80.

<sup>965</sup> Siegmund 1998, 80 and footnote 66; Martin 1976, 84f and footnote 79; Bierbrauer 1979; Schneider-Schnekenburger 1980, 32f and footnotes 135-136. Martin 1976a, plates 29-a2, 29-b1, 34c1, 40c1; Knaut 1993, 78 and fig. 32

<sup>966</sup> Daim *et al.* 1984, 78.

**Identification in other typologies:**

Franken AG: -

Siegmund: **Rng 2.1** – (no date provided)

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*RC-2f (National Museum of Antiquities of the Netherlands)*

# KEYS

Keys are a relative rarity in early medieval graves in the southern Netherlands. Most keys occurring during the late fifth and sixth centuries are either rather rough iron specimens or more refined types modelled on Roman predecessors. Around the turn to the seventh century, keys seem to disappear from grave inventories. In the cemeteries in Drenthe (e.g. Zweeloo) and on the Veluwe (e.g. Putten), however, a seemingly new fashion of interring keys occurs from approximately AD 700. Excavations in Dorestad have also revealed a larger number of eighth century keys.

## KE-1: KEYS

All keys found as part of this sample are brought together in a single category. For many types, a long period of circulation can be evidenced with a different dating in the north and south of the Netherlands. The dates given to the keys in the south are roughly in agreement with those provided by LPV, indicating that the situation was more or less similar in northern France and likely also in Belgium. The dates from Dorestad and the northern provinces are closely related to those generated for the neighbouring German state of Niedersachsen.

### **KE-1a** Ring keys without a stem

Ring keys made of copper alloy. Keys of this type consist of a ring to which the bit of a key is attached. In some cases, the bit is fused (e.g. Rhenen grave 595) whilst in other cases the bit has a perforation through which the ring is placed. Keys of this type do not have a proper stem. A small piece of stem often forms the connection between bit and ring.

#### **Occurrence in the Netherlands:**

*Maastricht: 166.*

*Rhenen: 160, 595.*

**Identification in other typologies:**

Franken AG: -

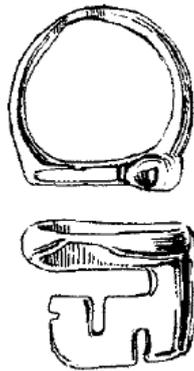
Siegmund: **part of Ggh 7** – (400 – 740).

LPV: **related to 350** – (MA1-MA3 > 470/80 – 600/10).

Hines: -

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).



*KE-1a (Wagner et al. 2011, 147).*

**KE-1b Short copper-alloy keys in Roman style with a round bow and a one-sided bit**

Short keys made of copper alloy. The keys have a one-sided bit and a relatively short stem. The bow is round or slightly ovoid and often relatively large in comparison to the stem. In some cases, a small metal protrusion is situated on the top of the bow (e.g. Maastricht grave 99).

Whilst this type of key has similarities to those grouped in KE-1h, their dating is very different. In addition, keys of type KE-1b are predominantly found in the southern and central Netherlands whilst keys of group KE-1h are dominant in Dorestad and the Netherlands north of the central river basin. KE-1b keys are made of copper-alloy, whilst most of the KE-1h are made of iron.

**Occurrence in the Netherlands:**

*Maastricht: 99, 230.*

**Identification in other typologies:**

Franken AG: -

Siegmund: **part of Ggh 7** – (400 – 740).

LPV: **350** – (MA1-MA3 > 470/80 – 600/10).

Hines: -

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).



*KE-1b (National Museum of Antiquities of the Netherlands)*

**KE-1c Long and fine hooked keys in iron or copper-alloy – pairs or groups**

Long keys with a hooked bit. The keys are made of copper alloy or iron and look more refined than their counterparts from group KE-1e. Keys of this type usually occur in groups of two or more and are attached to a ring with an open loop. The keys usually measure between 10 and 15 to 20 centimetres. The design of the keys in this group is not homogeneous. The specimens from Rhenen grave 595 are made of iron and have a thin stem with a round section. The shape of the hooked bit is reminiscent of a dental probe and the metal is bent outwards first before terminating in a rounded hook. On the opposite end, the iron is simply folded over in order to create an open loop for suspension. The keys from Rhenen grave 380 are made of copper-alloy and have a long, twisted stem. Where the twisted metal stops, the stem bends sharply outwards to form a relatively square bucket-shaped hook. On the opposite end, the twisted metal stops just before the stem is folded double into an open loop with a curled end. The specimens in Zweeloo grave 87 are found as a pair and are made of copper alloy. They have

a flat band-shaped stem which is decorated with a border of half dot-in-circle patterns. Both ends have broken off, but a hook shape similar to the keys from Rhenen grave 380 is likely.

**Occurrence in the Netherlands:**

*Rhenen: (13), 380, 595.*

*Zweeloo: 87.*

**Identification in other typologies:**

Franken AG: -

Siegmund: **part of Ggh 7** – (400 – 740).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).



*KE-1c (National Museum of Antiquities of the Netherlands)*

**KE-1d Iron keys in Roman style with a broad flat stem and a complex bit**

Keys made of iron. The keys have a stem with a more or less right-angled bend and a one-sided bit with wards and ward-cuts. The stem usually starts off thin round or thin flat from the bit and widens sharply at about a third of the key's total length. The stem then continues as a broad flat strip. The bow is usually round or slightly ovoid and has a similar width as the broad part of the stem. The right-angled bend ensures that the bit is perpendicular to the

stem. In the case of the key from Rhenen grave 546, the bit is also flipped upwards under a 90-degree angle.

As is the case with some other keys (e.g. KE-1e and KE-1f), this type seems to have circulated in the Netherlands for a long time. The specimen from Rhenen can be placed in phase 3 or 4 and one example from Dorestad is dated to the Roman period<sup>967</sup>. As the Rhenen key is the only specimen known from graves in the sample, it is unlikely that this type was very numerous during the Merovingian period. It may be that the key from Rhenen should be interpreted as a Roman heirloom. During the Roman period, however, keys of this type were predominantly made of copper-alloy whilst all examples from Dorestad as well the key from Rhenen are made of iron. It may be possible that the Dorestad key is dated incorrectly and that the iron specimens should be interpreted as early medieval copies after Roman example. Besides the specimen with a Roman date mentioned above, excavations at Dorestad returned various other keys belonging to this group. These keys are also made of iron and can all be placed in the eighth century. Based on this pattern which is very similar to that of keys from groups KE-1e and KE-1f, it is likely that there was a small Merovingian phase during the late fifth and early sixth century, followed by a revival in Dorestad during the eighth century.

#### **Occurrence in the Netherlands:**

*Dorestad: various locations.*<sup>968</sup>

*Rhenen: 546.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: **part of Ggh 7** – (400 – 740).

LPV: **related to 350** – (MA1-MA3 > 470/80 – 600/10).

Hines: -

#### **Dating in the Netherlands:**

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<sup>967</sup> Keys known from the online collections database of the Dutch national Museum of Antiquities in Leiden, e.g. inventory number WD 600.1.69.

<sup>968</sup> Keys known from the online collections database of the Dutch national Museum of Antiquities in Leiden, e.g. inventory number WD 561.2.36, WD 592.1.33 and WD 592.2.86.

Phase 3-4 (460/80 - 565). Revival from c. AD 700 to 800/850 in Dorestad and possibly further north.



*KE-1d (National Museum of Antiquities of the Netherlands)*

### **KE-1e Simple keys with a J-shaped bit and a round or slightly ovoid bow**

Simple J-shaped or hooked keys made of iron. Occasionally, copper-alloy specimens are found. This type usually has a long and tapered stem with a round or square section. At the narrow end, the stem is bent in order to create the shape of a capital letter J. At the opposite end, the stem terminates in a round or slightly ovoid loop which can be open or closed.

Keys of this type occur in the Netherlands over a long period of time. The period of circulation, however, varies between the north and the south of the country. In the central river basin and the south, specimens were found which date to the sixth century. After approximately 580/90, the type does not seem to occur anymore in these areas. Around the start of the eighth century, similar keys begin to be interred with people in the northern half of the country as well as along the North Sea coast. From the Netherlands, examples of this late variant are known from Zweeloo and Katwijk whilst many more are found in the nearby German cemeteries of Dunum and Zetel (Niedersachsen)<sup>969</sup>.

#### **Occurrence in the Netherlands:**

*Hoogeloon: 26.*

*Katwijk: 32.*

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<sup>969</sup> Schmid 1967 (Dunum); Marschalleck 1978 (Zetel).

*Meerveldhoven: 43.*

*Obbicht: (4).*

*Sittard: 76.*

*Zweeloo: 9.*

**Identification in other typologies:**

Franken AG: -

Siegmund: **part of Ggh 7** – (400 – 740).

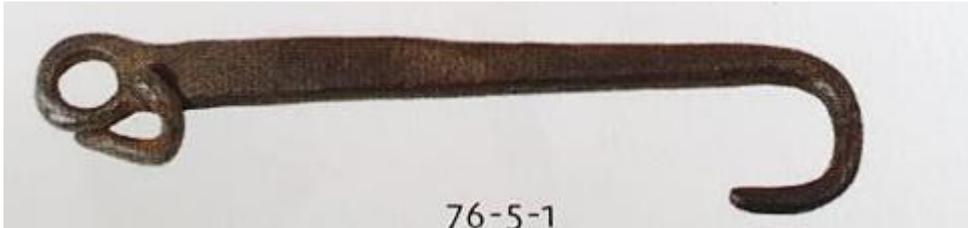
LPV: **Related to 351** – (MA1-MA3 > 470/80 – 600/10). **Related to 353** – (MA2-MR3 > 520/30 – 700/10).

Hines: -

**Dating in the Netherlands:**

Southern Netherlands: Phase 4-6 (510/25 – 610/20).

Northern Netherlands and coastal zone: Phase 8-10 (640/50 – 750). Continuing up to c. AD 800.



*KE-1e (Kars et al. 2016, 376)*

**KE-1f Keys with a T-shaped bit and a round or slightly ovoid bow**

Simple T-shaped keys or latch lifters made of iron or copper alloy. This type is equipped with a long and somewhat tapered stem with a round or square section. At one end, the bit is formed by two pieces of iron which are bent in opposite directions, perpendicular to the stem, to create a T-shape. Each side is then bent backwards, under a straight angle, and ends parallel to the stem. The eventual shape could be described as a letter T with serifs or a traditional anchor. At the opposite end, the stem terminates in an open or closed loop. Occasionally, the bit is more complex than only the T-shape and has more warts. In such a case, the bit can be best described as rake shaped.

Keys of this type occur in the Netherlands over a long period of time. The period of circulation, however, varies between the north and the south of the country. In the central river basin and the south, specimens were found which date to the sixth century. After approximately 580/90, the type does not seem to occur anymore in these areas. A T-shaped key similar to the specimen from Maastricht grave 230 is found in grave 952 of the Cutry cemetery (Meurthe-et-Moselle) in France. This key is dated between 520/30 and 600/10<sup>970</sup>. The sixth century keys from the Netherlands are predominantly made of iron.

Around the start of the eighth century, similar keys begin to be interred with people in the northern half of the country. From the Netherlands, examples of this late variant are known from Zweeloo and Wijster. Whilst most sixth century southern counterparts measure roughly between 10 and 20 centimetres, the keys from Zweeloo grave 58 and Wijster grave 81 are both very short (c. 6.5 centimetres). Finds of long keys in Dorestad dating from the middle of the eighth century onwards, however, contradict the theory that the keys get shorter over time<sup>971</sup>. It can be suggested that the share of copper-alloy keys is higher amongst specimens from the eighth century. In grave 107 of the Dunum cemetery (Niedersachsen) in Germany, a specimen was found with a decorated bow<sup>972</sup>. This animal-style motif does not occur on any of the keys from the Dutch sample.

#### **Occurrence in the Netherlands:**

*Maastricht: 230.*

*Wijster: 81.*

*Zweeloo: 58.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: **part of Ggh 7** – (400 – 740).

LPV: **351** – (MA1-MA3 > 470/80 – 600/10).

Hines: **T-key** – (AS-FD – AS-FE > 580/640 – 660/85).

#### **Dating in the Netherlands:**

Southern Netherlands: Phase 4-5 (510/25 – 580/90).

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<sup>970</sup> Legoux 2005, 123, grave 952, planche 143; Theuws *et al.* 2017, 282.

<sup>971</sup> Keys known from the online collections database of the Dutch national Museum of Antiquities in Leiden, e.g. inventory number WD 967.

<sup>972</sup> Schmid 1967, plate 1b, fig 9.

Northern Netherlands: Phase 9b-10 (700 – 750). Continuing up to c. AD 800/50.



*KE-1f (National Museum of Antiquities of the Netherlands)*

### **KE-1g Long keys with a L-shaped bit and a round or slightly ovoid bow**

L-shaped keys which are usually made of iron. Occasionally, a copper alloy specimen occurs. This type is equipped with a long and straight or somewhat tapered stem with a round or square section. At one end, the bit is formed by bending the stem under a 90-degree angle. The straight angle distinguishes this type from keys in group KE-1e. The terminal of the bit is again bent under a straight angle so that it runs parallel to the stem. The eventual shape could be described as a letter L with serifs or a square hook. At the opposite end, the stem terminates in an open or closed loop which is round or slightly ovoid. Occasionally, the bit is more complex than only the L-shape and has more warts.

#### **Occurrence in the Netherlands:**

*Dorestad: various locations.*<sup>973</sup>

*Oosterbeintum: stray find.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund-

LPV: **351** – (MA1-MA3 > 470/80 – 600/10).

Hines: -

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<sup>973</sup> Keys known from the online collections database of the Dutch national Museum of Antiquities in Leiden, e.g inventory numbers WD 957 and WD 347.3.49a.

### Dating in the Netherlands:

Phase 9b-10 (700 – 750). Continuing up to c. AD 800/50.



KE-1g (National Museum of Antiquities of the Netherlands)

### KE-1h Small keys with a one-sided bit and a round or slightly ovoid bow

Small keys which are usually made of iron. Occasionally, a copper-alloy specimen occurs. The keys have a short stem, mainly with a round section. The bow is round or slightly ovoid. The bit is usually relatively high and complex with more than one wart.

Whilst this type of key has similarities to those grouped in KE-1b, their dating is very different. In addition, keys of type KE-1b are predominantly found in the southern and central Netherlands whilst keys of group KE-1h are dominant in Dorestad and the Netherlands north of the central river basin. KE-1b keys are made of copper-alloy, whilst most of the KE-1h are made of iron.

### Occurrence in the Netherlands:

*Dorestad: various locations.*<sup>974</sup>

*Onnen: 26, 46, 48 (not in this sample).*<sup>975</sup>

*Putten: 28 (not in this sample).*<sup>976</sup>

*Zeijen: 32, 101, 107 (not in this sample).*<sup>977</sup>

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<sup>974</sup> Keys known from the online collections database of the Dutch national Museum of Antiquities in Leiden, e.g inventory numbers WD 987 and WD 988.

<sup>975</sup> Van Giffen, 1927.

<sup>976</sup> Ypey 1962/63, 108-109.

<sup>977</sup> Van Giffen 1940a, fig. 22.

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 9b-10 (700 – 750). Continuing up to c. AD 800/50.



*KE-1h (National Museum of Antiquities of the Netherlands)*

**KE-1i Small keys with a pointed-oval bow**

Small keys which are made of iron or copper-alloy. The keys have a short stem, mainly with a round section. The bow is a large and pointed-oval or balloon shaped hoop which is usually made of a flat metal band. Occasionally, the bow is created as a solid piece of metal and elements are cut-out to reveal a decorative element in its centre. The bit is usually relatively high and complex with more than one wart and cut-away elements. Keys of this type can be plain or decorated. The copper-alloy examples sometimes have three or more ridges at the top of the stem<sup>978</sup>. The specimen from Wijster grave 2 is elaborately decorated with a cut-away cross motif centrally in the balloon-shaped bow. The bow, bit and cross are decorated with dot-in-circles. The pair of keys from Zweeloo grave 11 is decorated with dot-in-circles on the bow and bit.

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<sup>978</sup> Keys known from the online collections database of the Dutch national Museum of Antiquities in Leiden, e.g inventory numbers WD 770.

This late type is mainly known from Dorestad and the northern Netherlands and is relatively common in graves which date to the Carolingian period. In inhumations, the keys sometimes occur in pairs and often in combination with ornamental discs of type RC-1d and needle cases of type TU-1c.

**Occurrence in the Netherlands:**

*Dorestad: various locations.*<sup>979</sup>

*Dorkwerd: (not in this sample).*<sup>980</sup>

*Drouwen: 5, 9, 14 (not in this sample).*<sup>981</sup>

*Emmen – N-H Kerk: (not in this sample).*<sup>982</sup>

*Wijster: 2, 140.*

*Zweeloo: 11, 23, 60.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 9b-10 (700 – 750). Continuing up to c. AD 800/50.



*KE-1i (National Museum of Antiquities of the Netherlands)*

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<sup>979</sup> Keys known from the online collections database of the Dutch national Museum of Antiquities in Leiden, e.g inventory numbers WD 770, WD 975 and WD 980.

<sup>980</sup> Stein 1967, plate 67.4.

<sup>981</sup> Stein 1967, plate 67.6/7/10/12.

<sup>982</sup> Van Es *et al.* 2007, 835.

# TOOLS AND UTENSILS

This section includes various tools and utensils which can often be classified as one group throughout the early medieval period, with little typological variation. The artefacts are mainly related to craft, fire making and personal care.

## TU-1: TOOLS AND UTENSILS

### **TU-1a Pottery spindle whorls**

Spindle whorls made of unglazed pottery clay. They often have a terra cotta shade, but many other colours occur. The spindle whorls often have a characteristic conical or somewhat biconical shape whilst some examples are rougher and more compressed globular. Simple decoration is occasionally present.

#### **Occurrence in the Netherlands:**

*Bergeijk: (19).*

*Elst: 135, 159, 238.*

*Maastricht: 105.*

*Meerveldhoven: 21.*

*Obbicht: 1, 45.*

*Oosterbeintum: D, 372, 527.*

*Posterholt: 8, 31, 76, 85.*

*Rhenen: 166, 168, 180, 670.*

*Sittard: 80.*

*Wageningen: 93a, 96, 105, 202, stray find.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **347** – (MA1-MR1 > 470/80 – 630/40).

Hines: **spindle whorls** – (no date provided).

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).



*TU-1a (National Museum of Antiquities of the Netherlands)*

**TU-1b Bone spindle whorls**

Spindle whorls made of bone. The spindle whorls often have a characteristic conical or somewhat biconical shape. Most bone spindle whorls are decorated with dot in circles and/or linear patterns. The specimens from Elst graves 24 and 149, for example, are decorated with a flower-like pattern with pointy oval petals. Dot-in-circles are present between the petals.

**Occurrence in the Netherlands:**

*Elst: 8, 24, 149.*

*Oosterbeintum: 241, 424, 606.*

### Identification in other typologies:

Franken AG: -

Siegmund: -

LPV: **related to 346** – (MA1-MA3 > 470/80 – 600/10). **related to 347** – (MA1-MR1 > 470/80 – 630/40).

Hines: **spindle whorls** – (no date provided).

### Dating in the Netherlands:

Phase 3-7 (460/80 – 640/50).



*TU-1b (National Museum of Antiquities of the Netherlands)*

### **TU-1c** Needle case

Tube shaped needle cases made of a rolled-up piece of copper-alloy plate. Specimens made of iron are rare in the Netherlands but prevail in northern Germany. The needle cases are often decorated with equally spaced bundles of incised lines or ridges and are approximately 8.5 to 10 centimetres in length. There is little evidence for the presence of a perforation which allowed for suspension which suggests that the pieces were probably carried in a purse. The needle cases usually have one open side, although closed examples are known from Germany (e.g. Maschen (Niedersachsen) grave 148)<sup>983</sup>. The cases are normally found near the waist area of the deceased and often in combination with keys of type KE-1i and ornamental disks of type RC-1e. The needle cases usually contain fragments of fabric which likely belong to a

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<sup>983</sup> Wegewitz 1968, 29, plate 4-148.

small pouch, as evidenced in Zweeloo grave 58. Inside the fabric, remains are usually present of iron needles or pins.

Needle cases are a relatively common find in cemeteries in the northern Netherlands such as Zweeloo, Wijster, Emmen, Drouwen, Rhee and Onnen<sup>984</sup>. They also occur in various cemeteries in the neighbouring German state of Niedersachsen including Dunum, Zetel, Dörverden, Maschen, Ketzendorf, Rehrhof, Jever-Clevers, Oldendorf and Schortens<sup>985</sup>. The type which dominates in Zweeloo and Wijster can be placed in Kleemann's category 2d on the basis of its decoration. The type is dated for Germany between AD 760/70 and 800/10<sup>986</sup>.

In their design, the needle cases are reminiscent of the Merovingian tube pendants of folded sheet metal (PA-1a) which are mainly found in the central Netherlands. One of the key differences is the fact that the pendants are usually circa 5 or 6 centimetres in length and always equipped with a perforation and/or a loop for suspension. Furthermore, the pendants are found in the chest area rather than near the waist or legs and the tubes contain remains of wood rather than fabric.

#### **Occurrence in the Netherlands:**

*Wijster: 2, 125.*

*Zweeloo: 11, 58, 59, 60.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

#### **Dating in the Netherlands:**

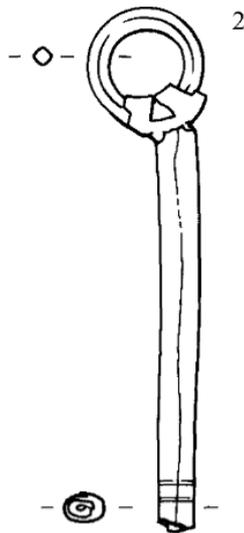
Phase 9-10 (670/80 – 750). Continuing up to approximately AD 800/50.

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<sup>984</sup> Van Es *et al.* 2007, 839 (Emmen); Van Giffen, 1930; Stein 1967 (Drouwen); Van Giffen, 1927 (Rhee and Onnen)

<sup>985</sup> Schmid 1967 (Dunum); Marschalleck 1978 (Zetel); Genrich 1963 (Dörverden); Wegewitz 1968 (Maschen); Ahrens 1976/77; Ahrens 1978/80 (Ketzendorf); Laux 1980 (Rehrhof); Rötting 1977 (Jever-Clevers); Laux 1978/80 (Oldendorf); Schmid 1972, 224–25, fig. 9 (Schortens).

<sup>986</sup> Kleemann 1991, 210.



*TU-1c (van Es 2007, 894).*

### **TU-1d Small tools for personal care**

Small tools for personal hygiene and care, often found as a small group attached to a ring. The set from Zweeloo grave 87 was made of gilded silver and consisted of three tools. The tools have a thin stem of twisted metal and are equipped with a simple folded loop for attachment to a ring. One tool has a small spoon-shaped end. The second specimen is equipped with a flat and roughly triangular end and the third tool terminates in a straight flat strip. Each tool has a maximum length of circa 5 centimetres. In Zweeloo grave 87, the tools were found in the chest area of the deceased, suggesting suspension from a necklace.

#### **Occurrence in the Netherlands:**

*Zweeloo: 87.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **352** – (MA2-MA3 > 520/30 – 600/10, most commonly in MA3 > 560/70 – 600/10).

Hines: -

### Dating in the Netherlands:

Phase 3 (460/80 – 510/25).



*TU-1d (Drents Museum - Assen)*

### **TU-1e Purse – set of fittings belonging to a rectangular purse**

A set of copper-alloy fittings belonging to a rectangular purse. Early medieval purse fittings occur in various form and in the majority of cases, only a buckle and/or strap end are found. For loose purse buckles, please see the various categories in the belt fittings section.

This group contains a specific set of purse fittings consisting of multiple elements. The elements usually include four to six corner fittings, two plates in the shape of a (stylised) bird, a round plate, a buckle and a strap end. From specimens found in northern France it is known that the above set is sometimes supplemented with three rectangular plates and two cross-shaped plates<sup>987</sup>.

In Maastricht grave 166, all but the rectangular- and cross-shaped plates were discovered. The buckle has a rectangular shape with a fixed mushroom-shaped plate. The plate and all the other parts of the purse are decorated with dot-in-circle motifs. The discoid plate has cut-away decoration creating a central cross pattée.

Elaborate purse fittings such as these are rare in the Netherlands. Similar fittings are most commonly found in Belgium, northern France and the German Rhine valley north of Mainz

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<sup>987</sup> Legoux *et al.* 2016, 49.

but occur occasionally elsewhere<sup>988</sup>. Werner first described the type when an example was found in the so-called princely grave of Wittislingen (Bayern) in Germany and his research showed a great variety in decorative styles<sup>989</sup>. Despite decorative- and shape differences, the sets of fittings usually contain similar components. A very close parallel to the specific set from Maastricht was found in Niederzier (Nordrhein-Westfalen) in Germany<sup>990</sup>. The fittings from this purse have the same dot-in-circle decoration but the shape of the birds is slightly different. The German buckle has a triangular rather than a mushroom-shaped plate. The purse from Niederzier could be lifted in situ and showed that the dimensions were 12x12 centimetres. The set of fittings was identified as coming from the front flap of the purse. The corner pieces belonged in their expected place whilst the birds each decorated a side of the flap, looking outwards. The circular fitting had a prominent place centrally on the lower half of the flap. The top half was reserved for the buckle and, when fastened, the strap end. In some cases, two more corner pieces are present which belong to the body of the purse. These pieces are not found in Maastricht and only one was present in Niederzier. Evidence from northern France places three rectangular plates along the top edge of the flap, equally spaced between the two corner fittings. Two plates are present in the shape of a cross pattée and were likely situated on either side of the circular plate<sup>991</sup>.

#### **Occurrence in the Netherlands:**

*Maastricht: 166.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **361** – (MR1-MR2 > 600/10 – 660/70).

Hines: -

#### **Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

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<sup>988</sup> Becker *et al.* 1994, 49.

<sup>989</sup> Werner 1950, 52-57.

<sup>990</sup> Becker *et al.* 1994.

<sup>991</sup> Legoux *et al.* 2016, 27, 49.



*TU-1e (Theuws et al. 2017, 482).*

## **TU-1f Shears**

Shears often made of iron. The shears consist of a bent metal strip with a blade on each end. When pushing the metal strip together, the blades meet and cut.

### **Occurrence in the Netherlands:**

*Elst: (85).*

*Maastricht: 96, 230, 283.*

*Posterholt: 90.*

*Rhenen: 95, 131, 157, 670, 696, 832.*

*Sittard: 5, 37, 38, 41.*

*Wageningen: 153.*

### **Identification in other typologies:**

Franken AG: -

Siegmund: **Scheren** – (no date provided).

LPV: **355** – (MA1-MR3 > 470/80 – 700/10).

Hines: **shears** – (no date provided).

#### **Dating in the Netherlands:**

Phase 3-6 (460/80 – 610/20). Occasionally in phase 2 (435/40 – 460/80) and phase 7 (610/20 – 640/50).



*TU-1f (National Museum of Antiquities of the Netherlands).*

#### **TU-1g Late antique fire steel**

Fire steel made of iron (steel). Specimens from the late antique period are occasionally found in the earliest phases of the medieval period. The late antique specimens have a straight blade for striking and a handle which is folded upwards and down, forming a loop to go around a finger and giving the tool its characteristic d-shape (e.g. Rhenen grave 841). In some cases, the hand goes upwards and down and is then bent upwards and down again in order to create two loops. Fire steels of this type have a B-shape (e.g. Rhenen grave 818).

The fire steel from Rhenen grave 834 has a shape which is much more like the specimens from group TU-1h. The blade, however, is higher than is the case for the later specimens and the shape is more angular and trapezoid. Whilst this fire steel is found as part of a late antique assemblage, it can be suggested that it is a transitional type, likely the oldest early medieval-style fire steel in the sample. Whilst the B- and d-shaped designs do not feature in the typologies from the German Rhineland or northern France, the specimen from grave 834 is most closely related to LPV type 328, which includes fire steels with straight edges and a high blade.

**Occurrence in the Netherlands:**

*Rhenen: 818, 829, (834), 841*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Ger 5** – (long circulation, no date provided).

LPV: **related to 328** – (PM-MA1 > 440/50 – 520/30).

Hines: -

**Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).



*TU-1g (National Museum of Antiquities of the Netherlands; Wagner et al. 2011, 605).*

**TU-1h Early medieval fire steel**

Fire steel made of iron (steel). The general design of the fire steel consists of a long and narrow iron blade which is used for striking. In the centre, the back of the blade protrudes, and a small buckle is attached. This buckle was used to secure the tool to a girdle. The buckle is not found archaeologically in all cases. Within the perimeters of this basic design variations in

style can be seen. The blade is in some cases more elongated than in others and the underside of the blade can be either straight or rounded. In case of a shorter blade, the central protrusion is often triangular. The terminals of the blade are seldom straight and usually tapered into a point or a rounded point. The terminals are often folded upwards. The degree of folding can be minimal but also roughly under a 90-degree angle. Occasionally, the tips of the blade are folded backwards under an approximate 180-degree angle. The strongly bended tips are often interpreted as stylised animal heads (e.g. Rhenen grave 168). Occasionally, specimens occur with circular terminals with a perforation (e.g. Maastricht grave 96). This style is placed by LPV in their early group 328 which also includes fire steels with a high blade (see TU-1g)<sup>992</sup>. In the Netherlands, specimens with round and perforated terminals occur at least up to and including phase 4 or 5. Fire steels with garnet or glass inlay, as listed by LPV, have not been found as part of the sample from the Netherlands. LPV further distinguish chronologically between specimens with a long and a shorter blade<sup>993</sup>. This chronological difference could not be evidenced for the Netherlands. The one exception to this is the fire steels from Rhenen grave 834, with a high blade with straight edges (see TU-1g). Fire strikes are often found in combination with one or more pieces of flint.

#### **Occurrence in the Netherlands:**

*Bergeijk: 64.*

*Den Haag: (483).*

*Elst: 92, 96, 160, 250.*

*Maastricht: 13, 73, 79, 96, 105, 205, 259, 288.*

*Obbicht: 5, 46.*

*Rhenen: 143, 168, 266, 349, 376, 418, 445, 450, 476, 503, 513, 553, 594, 675, 699, 783, 806, 814.*

*Sittard: 5, 31, 37.*

*Stein: 8, 15, 60, stray find.*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: **Ger 5** – (long circulation, no date provided).

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<sup>992</sup> Legoux *et al.* 2016, 48

<sup>993</sup> Legoux *et al.* 2016, 27, 48, 62.

LPV: **part of 328** – (PM-MA1 > 440/50 – 520/30), **331** (PM-MA2 > 440/50 – 560/70), **332** (MA1-MA3 > 470/80 – 600/10, most commonly in MA1-MA2 > 470/80 – 560/70).

Hines: -

#### **Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50).



*TU-1h (National Museum of Antiquities of the Netherlands).*

#### **TU-1i Awl**

Awls made of iron. The specimen from Elst has a rectangular section and a loop on one side. The suspected awl from Oosterbeintum grave 435 was found in a leather sheath together with a knife. The specimens from Rhenen grave 450 and 609 have a wooden handle.

#### **Occurrence in the Netherlands:**

*Den Haag: (463).*

*Elst: 146.*

*Oosterbeintum: 435.*

*Rhenen: (376), 450, 609, 699, 809, 841.*

*Sittard: 5, (86).*

#### **Identification in other typologies:**

Franken AG: -

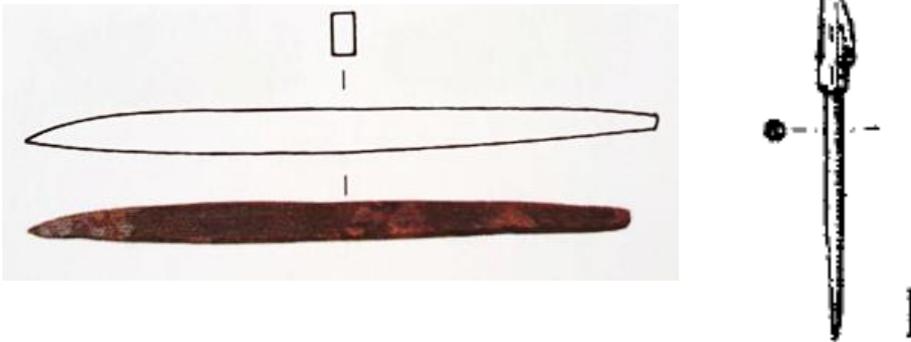
Siegmund: -

LPV: -

Hines: -

### Dating in the Netherlands:

Phase 4-6 (510/25 – 610/20). Occasionally starting earlier, in phase 2 or 3 (435/40 – 510/25).



*TU-1i (Kars et al. 2016, 319; Wagner et al. 2011, 433).*

### **TU-1j** Iron ring rod

Iron pins which are shaped into a ring at one end. The other end is usually pointy. The exact purpose of the ring rods is unknown. Due to their pointy terminal, they are sometimes classified as an awl variant, although they seem rather coarse for this purpose.

This group also contains various iron rods with a ring of which the other end has broken off. Although these items are likely to belong to this group, it is also possible that they were originally equipped with a bit and that they should belong in one of the simple iron key groups (KE-1e and KE-1f).

### Occurrence in the Netherlands:

*Elst: (87), (91), 146.*

*Maastricht: (15), (168), (259).*

*Obbicht: (8).*

*Sittard: 11, 77, 84.*

**Identification in other typologies:**

Franken AG: -

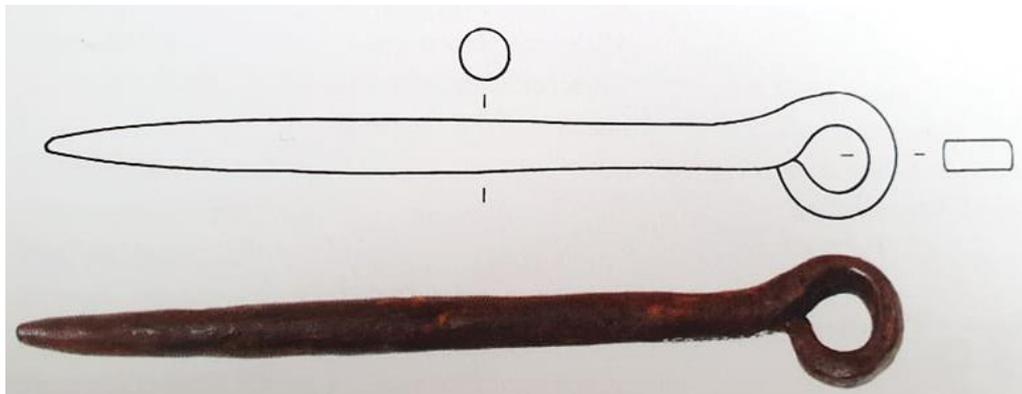
Siegmund: -

LPV: **353** – (MA2-MR3 > 520/30 – 700/10).

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20). Possibly starting in phase 4 (510/25 – 565).



*TU-1j (Kars et al. 2016, 377).*

# METAL VESSELS

Metal vessels are a rare find in early medieval graves from the Netherlands and are usually found in generally rich contexts. Most metal vessels are relatively large bowls, and their exact use is unclear. It is suggested that the bowls were present on tables during banquets to allow people to wash their hands<sup>994</sup>. It cannot be ruled out, however, that the bowls were used in a more general manner for personal hygiene, like a basin. In most cases, the bowls are relatively simple in shape and decoration is usually absent. More luxury bowls with elaborate decoration may have a more ceremonial or symbolic purpose

## MV-1: METAL BOWLS

As mentioned previously, most metal bowls found in early medieval graves have a relatively basic shape, and decoration is usually absent. Exceptions, with more a luxury appearance, occur occasionally (e.g. the Ewijk bowl<sup>995</sup>). Hanging bowls were not found as part of this sample but occur occasionally in the German Rhineland<sup>996</sup>. The bowls from the sample were divided into four groups on the basis of the rim build and the presence or absence of feet and/or handles.

### **MV-1a** Copper-alloy bowl with a flat rim

Copper alloy bowl with a simple flat rim which overhangs slightly. Bowls of this type do not have a foot or handle.

#### **Occurrence in the Netherlands:**

*Sittard: 14.*

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<sup>994</sup> Ellmers 1964/65, 21-43.

<sup>995</sup> van Dijk 2019, 100, 153.

<sup>996</sup> Müssemeier *et al.* 2003, 72.

**Identification in other typologies:**

Franken AG: **BrgF** – (phase 4-5 > 510/25 – 580/90).

Siegmund: **Bronzebecken** (no date provided).

LPV: **part of 457** (phase PM-MA3 > 440/50 – 600/10).

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*MV-1a (Kars et al. 2016, 332).*

**MV-1b Copper-alloy bowl with a beaded rim**

Copper alloy bowl with a beaded rim which overhangs slightly. Bowls of this type do not have a foot or handle. The Franken AG indicates that early specimens are characterised by a

broader rim and buckled metal<sup>997</sup>. Due to the small sample from the Netherlands, this could not be verified.

**Occurrence in the Netherlands:**

*Rhenen: 763.*

**Identification in other typologies:**

Franken AG: **BrgB** – (phase 4-6 > 510/25 – 610/20).

Siegmund: **Bronzebecken** (no date provided).

LPV: **part of 457** (phase PM-MA3 > 440/50 – 600/10).

Hines: -

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).



*MV-1b (National Museum of Antiquities of the Netherlands).*

**MV-1c Copper-alloy bowl with a simple flat rim and handles**

Copper alloy bowl with a simple flat rim which overhangs slightly. Just below the rim, two loops are attached on either side. A simple metal handle is placed through the loops. This bowl does not have feet.

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<sup>997</sup> Müssemeier *et al.* 2003, 73.

**Occurrence in the Netherlands:**

*Borgharen: 2.*

*Lent: 7224.*

*Obbicht: 20.*

**Identification in other typologies:**

Franken AG: **BrgE** – (phase 5-6 > 565 – 610/20).

Siegmund: **Bronzebecken** (no date provided).

LPV: **part of 457** (phase PM-MA3 > 440/50 – 600/10).

Hines: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).



*MV-1c (National Museum of Antiquities of the Netherlands).*

## **MV-1d Copper-alloy bowl with a foot ring or three feet and handles**

Copper alloy bowl with a foot ring or three feet. The bowl has no particular rim build and the handles are usually roughly omega shaped. The handles go through two simple metal loops. In some cases, bowls of this type only have a foot ring. In those cases where three individual feet are present, they are either attached to a small ring on the bottom of the bowl or directly onto the surface of the bowl itself.

There seems to be no chronological difference between bowls with a foot ring and those with individual feet. This group includes simple examples, as also found in the cemeteries of Junkersdorf, Jülich and the Kölner Dom (Nordrhein-Westfalen) in Germany<sup>998</sup>. More elaborately decorated specimen, such as the so-called Coptic bowl from Ewijk near Nijmegen (Gelderland) are very rare but are expected to circulate for a longer period, up to the end of the seventh century<sup>999</sup>.

### **Occurrence in the Netherlands:**

*Putten: (not in this sample).*

### **Identification in other typologies:**

Franken AG: **BrgC** – (phase 4-6 > 510/25 – 610/20). **BrgD** – (phase 4-6 > 510/25 – 610/20).

Siegmund: **Bronzebecken** (no date provided).

LPV: **part of 457** (phase PM-MA3 > 440/50 – 600/10).

Hines: -

### **Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90). Possibly also in phase 6 (580/90 – 610/20).

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<sup>998</sup> Müssemeier *et al.* 2003, 73.

<sup>999</sup> van Dijk 2019, 100, 153



*MV-1d (National Museum of Antiquities of the Netherlands).*

**MV-1e Copper-alloy plate with a foot ring**

Copper alloy plate with a foot ring. The plate has a flat rim. The specimen from Elst grave 178 has an approximate diameter of 20 centimetres.

**Occurrence in the Netherlands:**

*Elst: 178*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).



*MV-1d (Verwers et al. 2015, 244).*

# WOODEN VESSELS

Given the fact that wood is an organic material, not many wooden vessels have been preserved in Dutch graves from the early medieval period. The most commonly found wooden vessels are buckets. Buckets occur in both male and female gender graves and are often elaborately decorated.

## WV-1: BUCKETS

In graves from the early medieval period in the Netherlands, two main types of bucket can be distinguished. The oldest type are buckets with iron fittings. These buckets are not decorated and relatively simple. The later buckets with copper-alloy fittings are much more elaborately decorated and showcase skilled craftsmanship.

### **WV-1a** Wooden bucket with iron fittings

Wooden bucket with simple iron fittings of any kind. The handle is usually made of a round iron bar which is sometimes twisted. The handle is attached through two eyes, which are connected to the top hoop of the bucket. The bucket from Rhenen grave 846 has two hoops which are made of a round iron bar. The bottom hoop is a flat iron strip. No decoration could be recovered from the metalwork on any of the buckets in the sample.

#### **Occurrence in the Netherlands:**

*Borgharen: 47.*

*Elst: 174.*

*Rhenen: 842, 846.*

*Veldhoven: (6).*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **456** – (phase PM-MA1 > 440/50 – 520/30, sporadically in MA2-MA3 > 520/30 – 600/10).

Hines: **Bucket, FE frame** – (no date provided).

**Dating in the Netherlands:**

Phase 1-3 (pre 400 – 510/25). Occasionally up to phase 6 (580/90 – 610/20).



*WV-1a (National Museum of Antiquities of the Netherlands).*

**WV-1b Wooden bucket with copper-alloy fittings**

Wooden bucket with copper alloy fittings. The bucket has a thickened edge fitting which is attached to a broad copper-alloy strip. The strip runs around the bucket and is held in place at its bottom edge by a narrower copper-alloy strip which is placed on top. The narrower strip is often decorated in the same pattern as the handle, usually with a motif of punched or incised concentric circles. Below the narrower copper-alloy strip, the decorative element terminates in a row of triangular plates which are decorated. The decoration usually consists of incised geometric patterns or stylised masks. To the broad copper-alloy strip, the usually

elaborate fittings for the handle are attached. The handle consists of a flat strip of metal, often decorated with concentric circles or dot-in-circles. Most buckets have three further hoops, often made of iron. One is usually situated about halfway the bucket's length and the two others close together near the base. The specimen from Elst grave 178 is made of yew wood<sup>1000</sup>.

**Occurrence in the Netherlands:**

*Elst: 178.*

*Obbicht: 36.*

*Rhenen: 758, 763, 775.*

*Veldhoven: 6.*

**Identification in other typologies:**

Franken AG: **EimA** – (phase 3-5 > 460/80 – 580/90).

Siegmund: **Holzeimer** – (no date provided).

LPV: **456** – (phase PM-MA1 > 440/50 – 520/30, sporadically in MA2-MA3 > 520/30 – 600/10).

Hines: **Bucket, AE frame** – (no date provided).

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).



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<sup>1000</sup> Verwers *et al.* 2015, 240



WV-1b (National Museum of Antiquities of the Netherlands).

## WV-2: BOWLS AND BOXES

### WV-2a Wooden box with iron or copper-alloy fittings

Small wooden boxes with fittings made of iron or copper-alloy. In most cases, the metal is all that remains from the box. The fittings often consist of corner and/or edge fittings, elements of the lock and handles. The metal is sometimes decorated with dot-in-circle patterns. Not all the above metal elements are always present. The wooden boxes in the Meerveldhoven cemetery, for example, could only be recognised through soil discolouration.

Occasionally, wooden boxes are more elaborately decorated and covered with copper-alloy or antler plates<sup>1001</sup>. Two of these boxes are known from the Pleidelsheim cemetery (Baden-Württemberg) in southern Germany. Distribution of these elaborately decorated boxes is

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<sup>1001</sup> Dijkman *et al.* 1998, 42-43.

mainly limited to the German Rhine valley, with some exceptions found in southern Belgium and northern France<sup>1002</sup>.

**Occurrence in the Netherlands:**

*Borgharen: 2.*

*Meerveldhoven: 11, (15), 32, 46, 50, 51.*

*Posterholt: 85.*

*Sittard: (5), 14, (16), 71.*

**Identification in other typologies:**

Franken AG: **Kast1** – (phase 3-4 > 460/80 – 565, later in southern Germany and northern Switzerland).

Siegmund: **Kastenbesläge** – (no date provided).

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**WV-2b Wooden bowl**

Simple wooden bowls with a convex shape and no particular rim build. Largest diameters usually vary between 10 and 25 centimetres with heights of between approximately 3 and 10 centimetres. As most wooden bowls found are in a fragmented state, the exact shape and typological variations are often hard to determine.

It is thought that the specimen from Elst grave 127 had a bevelled rim. The specimen from Bergeijk grave 52 was equipped with iron and copper-alloy sheets which were folded over the rim and attached with small copper-alloy nails. The sheets were spaced along the rim at regular intervals leaving parts uncovered. It is unclear what the purpose of the metal sheets is, and the combination is a rare occurrence. A close parallel, however, is known from Sontheim an der Brenz (Baden-Württemberg) in Germany. The grave which contained the

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<sup>1002</sup> Koch 2001, 241-244, figs. 99, 563, list 22.

bowl is not individually dated but is likely to belong to a group of graves which can roughly be placed in phases 5 or 6<sup>1003</sup>. In Bergeijk grave 106, a combination of decayed wood and metal was found. During the excavation, these remains were interpreted as a bowl<sup>1004</sup>.

**Occurrence in the Netherlands:**

*Bergeijk: 52, (106).*

*Elst: 127.*

*Meerveldhoven: 7, 9, 10, 18, 21, 40, 44, 45, 49, 51.*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

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<sup>1003</sup> Neuffer-Müller 1966, 15-17, 40.

<sup>1004</sup> Theuws *et al.* 2012, 95.

# BEADS

Beads are the largest find category in early Medieval cemeteries in the Netherlands and for the creation of this typology, thousands have been analysed and classified. Due to the sheer number of beads and other practical reasons, it was unfortunately not possible to analyse every bead first-hand. In most cases, classification took place on the basis of the information provided in the publications of the twenty-one cemeteries which are part of this research. From two cemeteries, Elst and Borgharen, the beads could not be (fully) included. In Borgharen, the beads were not yet fully analysed and described at the moment of publication<sup>1005</sup>. Description and depiction of beads in the publication of the Elst 't Woud cemetery is of such a low standard that inclusion on the basis of the publication was impossible.

Whilst most publications note shape, colour, decoration, size, material and level of translucency/opacity, the manufacturing method is often not included. As the method of fabrication cannot always be seen from photos or illustrations, it was chosen not to classify the sample on this basis. There are, of course, some exceptions here, for instance in the case of mosaic beads and reticella beads. Besides some very specific methods of production, it became clear from other typologies that the manufacturing process of beads is not particularly relevant in a chronological sense<sup>1006</sup>. In those cases where the method of fabrication is considered relevant, this has been considered.

The beads analysed for this typology have been divided into six main categories which are indicated with a code B1 to B6.

- B1 – Monochrome glass beads
- B2 – Metal foil beads
- B3 – Polychrome glass beads
- B4 – Millefiori beads
- B5 – Non-glass beads
- B6 – Large beads (whorls)

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<sup>1005</sup> Lauwerier *et al.* 2011, 101.

<sup>1006</sup> For example: Siegmund 1988, Müssemeier *et al.* 2003, Koch 1977, Koch 2001.

During the classification of the beads it was attempted to connect the Dutch typology as much as possible with existing schemes from surrounding countries. For the beads from all six categories goes that, where possible, relationships are highlighted between this typology and the schemes by Siegmund and the Franken AG (German Rhineland), Hines (England), LPV (northern France) and VMP (Belgium)<sup>1007</sup>. For the beads from categories B3, B4 and B6, comparisons have also been made with the extensive typologies for southern Germany by Ursula Koch<sup>1008</sup>. Part of the beads from category B4 have a relatively late date and are less well studied. For these types, it was attempted to establish a connection with the beads from Dorestad in the central Netherlands, the typology of Carolingian-period mosaic beads from across Europe by Andrae and the typology of beads from Scandinavian Viking graves by Callmer<sup>1009</sup>. Most of the beads from category B6 are very rare and parallels are difficult to find. The chapter on the grave of the 'Princess of Zweeloo' by Van Bommel-van der Sluijs in the Zweeloo publication provides an initial idea of how various large beads, or whorls, from the Netherlands are connected with those found in surrounding countries. It was possible to further explore these relationships with help of the typology of Roman and early Migration period beads from northwestern and eastern Europe by Tempelmann-Mączyńska and the typology of Roman period beads from Augst in northern Switzerland<sup>1010</sup>. Parallels in the German states of Mecklenburg-Vorpommern, Niedersachsen and Schleswig-Holstein could be further explored through the catalogues by Voss and Erdreich<sup>1011</sup>.

Whilst this typology is as comprehensive as possible on the basis of the twenty-one cemeteries studied, it is clear that not every early medieval bead type from the Netherlands is covered. In order to allow for the typology to be supplemented in the future, without the need for an overhaul of the existing group numbers, there is chosen to work with a flexible coding system which is based on various characteristics of the beads.

Each unique code consists of three groups of two or three characters, for example B1-T1-A1. The first group indicates the main category (i.e. B1 to B6). The other two groups represent more detailed characteristics of the beads and are slightly different for each main category:

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<sup>1007</sup> Siegmund 1988; Mússemeier *et al.* 2003; Hines *et al.* 2013; Legoux *et al.* 2016; Vrielynck *et al.* 2018.

<sup>1008</sup> Koch 1977; Koch 2001.

<sup>1009</sup> Langbroek 2021; Andrae 1973; Callmer 1977.

<sup>1010</sup> Tempelmann 1985; Liha 1990.

<sup>1011</sup> Voss 1998; Erdreich 2002; Erdreich 2004.

### **B1 and B2 – Monochrome glass beads and metal foil beads:**

For bead codes which start with B1 or B2, the second group always consists of a T for translucent or an O for opaque, supplemented by a single- or double-digit number. These numbers are indicative for the colour of the bead and are assigned as follows:

1 – blue, 2 – green, 3 – yellow, 4 – orange, 5 – red, 6 – white, 7 – brown, 8 – grey, 9 – black, 10 – colourless, 11 – all colours are possible.

The bead with the example code of B1-T1-A1 is thus a monochrome bead made of translucent blue glass.

The third group always consists of a letter followed by a one- or two-digit number. The letter indicates the shape of the bead and the same letter codes are used throughout the beads typology. The letters are assigned as follows:

**A** – round cylinder, **B** – faceted or ribbed cylinder, **C** – biconical, **D** – discoid, **E** – barrel-shaped, **F** – double or multi segmented, **G** – oblate globular, **H** – wound or twisted manufacture, **I** – trapezoid, **J** – cone-shaped, **K** – cube-shaped, **L** – rectangular, **M** – globular, **N** – almond-shaped, **O** – faceted, **P** – droplet-shaped, **Q** – flower-shaped, **R** – ring, **S** – quatrefoil, **T** – diabolo, **U** – metal foil beads, **V** – polyhedron, **W** – melon (ribbed, but not cylindrical), **X** – irregular, **Y** – any shape is possible.

The bead with the example code of B1-T1-A1 is thus a monochrome bead made of translucent blue glass in a round cylindrical shape. The number following the shape letter is the serial number.

### **B3 – Polychrome glass beads:**

For bead codes which start with B3, the second group always consists of a letter and a single-digit number. The letter represents the main category of decorative pattern:

**A** – Beads with dots, **B** – Beads with eyes, **C** – Crumb beads, **D** – Beads with individual lines, **E** – Beads with spiral lines, **F** – Beads with wavy lines, **G** – Beads with plaited bands, **H** – Beads with combed lines, **I** – Beads with serpentine lines, **J** – Beads with flowers or leaves, **K** – Reticella beads, **L** – Ribbed beads with decoration, **M** – Quatrefoil beads with decoration.

The number indicates a subcategory of decorative pattern:

B3 – A1: Beads with a central row of dots

B3 – A2: Beads with multiple dots in one or two colours

B3 – A3: Rectangular beads with a central dot and dots in each corner

B3 – A4: Beads with a central row of dots and borders

B3 – A5: Beads with dots, borders and at least one central line

B3 – A6: Rectangular beads with dots, borders and two or more lines

B3 – B1: Plain beads with bichrome eyes

B3 – B2: White beads with polychrome eyes and dots

B3 – B3: Beads with eyes, borders and occasionally dots

B3 – B4: Beads with red-white-blue mosaic eyes

B3 – B5: Plain beads with raised eyes

B3 – B6: Beads with raised eyes, borders and occasionally dots

B3 – C1: Crumb beads

B3 – D1: Beads with one central individual line decoration

B3 – D2: Beads with multiple individual lines and/or borders

B3 – D3: Beads with multiple individual lines and/or borders and speckles

B3 – D4: Beads with multiple individual lines placed in bundles

B3 – D5: Mosaic beads with a central bundle of lines

B3 – D6: Ribe beads

B3 – D7: Beads with multiple individual lines which run parallel to the perforation

B3 – E1: Beads with one spiral line in a single colour

B3 – E2: Beads with two or more spiral lines in multiple colours

B3 – E3: Beads with a plaited band over one or more spiral lines

B3 – E4: Beads with a raster-like pattern of crossing lines

B3 – F1: Beads with a single wavy line

B3 – F2: Beads with multiple wavy lines

B3 – F3: Beads with a single wavy line and dots

- B3 – F4: Beads with one or more wavy line(s) between straight lines or borders
- B3 – F5: Beads with a wavy line between borders and dots
- B3 – F6: Beads with wavy lines overlaying a central line, spiral line or borders
- B3 – F7: Beads with wavy line underlaying a central line
- B3 – F8: Beads with a plaited band overlaying a wavy line
- B3 – G1: Beads with a single plaited band
- B3 – G2: Beads with a single plaited band and dots in the same colour
- B3 – G3: Beads with a single or double plaited band and dots or eyes in different colours
- B3 – G4: Beads with a plaited band and raised dots or eyes
- B3 – G5: Beads with a plaited band and a central line
- B3 – G6: Beads with a plaited band and borders
- B3 – G7: Beads with a double plaited band
- B3 – H1: Beads with a combed line pattern in a single direction
- B3 – H2: Beads with a combed line pattern in multiple directions
- B3 – H3: Beads with a combed line pattern and dots
- B3 – H4: Beads with a combed line pattern and raised dots
- B3 – I1: Beads with serpentine lines
- B3 – I2: Beads with serpentine lines, a central line and/or borders
- B3 – I3: Beads with serpentine lines, a central line and dots
- B3 – I4: Cube-shaped beads with serpentine lines, borders and dots
- B3 – J1: Beads with a flower or leaf pattern
- B3 – K1: Beads with borders and diagonal lines made using the ‘reticella’ (or ‘twisted rod’) technique
- B3 – K2: Beads with a linear or herringbone pattern decoration made using the ‘reticella’ (or ‘twisted rod’) technique
- B3 – L1: Ribbed beads decorated in various styles
- B3 – M1: Quatrefoil-shaped beads decorated in various styles

For example, a bead with code B3-G2-E1 is a polychrome glass bead with a single plaited band and dots in the same colour.

The third part of the code always consists of a letter followed by a one- or two-digit number. The letter indicates the shape of the bead and the same letter codes are used throughout the beads typology. The letters are assigned as follows:

**A** – round cylinder, **B** – faceted or ribbed cylinder, **C** – biconical, **D** – discoid, **E** – barrel-shaped, **F** – double or multi segmented, **G** – oblate globular, **H** – wound or twisted manufacture, **I** – trapezoid, **J** – cone-shaped, **K** – cube-shaped, **L** – rectangular, **M** – globular, **N** – almond-shaped, **O** – faceted, **P** – droplet-shaped, **Q** – flower-shaped, **R** – ring, **S** – quatrefoil, **T** – diabolo, **U** – metal foil beads, **V** – polyhedron, **W** – melon (ribbed, but not cylindrical), **X** – irregular, **Y** – any shape is possible.

The bead with the example code of B3-G2-E1 is thus a barrel-shaped polychrome glass bead with a single plaited band and dots in the same colour. The number following the shape letter is the serial number.

#### **B4 – Millefiori beads:**

For bead codes which start with B4, the second group always consists of an A for southern style millefiori beads or a B for northern style millefiori beads. The A or B is supplemented by a single-digit number. The numbers are indicative for the decoration and are assigned as follows:

B4 – A1: Millefiori beads in southern style

B4 – B1: Millefiori beads in northern style with a checkerboard pattern

B4 – B2: Millefiori beads in northern style with a watercolour design

B4 – B3 Millefiori beads in northern style with a decoration of spirals

B4 – B4: Millefiori beads in northern style with eyes, suns and crosses

For example, a bead with a code of B4-B3-A1 is a millefiori bead in northern style with a decoration of spirals.

The third part of the code always consists of a letter followed by a one- or two-digit number. The letter indicates the shape of the bead and the same letter codes are used throughout the beads typology. The letters are assigned as follows:

**A** – round cylinder, **B** – faceted or ribbed cylinder, **C** – biconical, **D** – discoid, **E** – barrel-shaped, **F** – double or multi segmented, **G** – oblate globular, **H** – wound or twisted manufacture, **I** –

trapezoid, **J** – cone-shaped, **K** – cube-shaped, **L** – rectangular, **M** – globular, **N** – almond-shaped, **O** – faceted, **P** – droplet-shaped, **Q** – flower-shaped, **R** – ring, **S** – quatrefoil, **T** – diabolo, **U** – metal foil beads, **V** – polyhedron, **W** – melon (ribbed, but not cylindrical), **X** – irregular, **Y** – any shape is possible.

The bead with the example code of B4-B3-A1 is thus a round cylindrical millefiori bead in northern style with a decoration of spirals. The number following the shape letter is the serial number. The various types of millefiori beads are further introduced at the beginning of the section containing beads of category B4.

### **B5 – Non-glass beads:**

For bead codes which start with B5, the second group always consists of an A for beads made of material other than glass or metal, or a B for beads made of metal. The A or B is supplemented by a single-digit number. In the current typology, only the combinations B5 - A1 and B5 - B1 occur, but it is possible to add more subcategories for specific types of material in the future.

For example, a bead with a code of B5-B1-A4 is a metal bead.

The third part of the code always consists of a letter followed by a one- or two-digit number. The letter indicates the shape of the bead and the same letter codes are used throughout the beads typology. The letters are assigned as follows:

**A** – round cylinder, **B** – faceted or ribbed cylinder, **C** – biconical, **D** – discoid, **E** – barrel-shaped, **F** – double or multi segmented, **G** – oblate globular, **H** – wound or twisted manufacture, **I** – trapezoid, **J** – cone-shaped, **K** – cube-shaped, **L** – rectangular, **M** – globular, **N** – almond-shaped, **O** – faceted, **P** – droplet-shaped, **Q** – flower-shaped, **R** – ring, **S** – quatrefoil, **T** – diabolo, **U** – metal foil beads, **V** – polyhedron, **W** – melon (ribbed, but not cylindrical), **X** – irregular, **Y** – any shape is possible.

The bead with the example code of B5-B1-A4 is thus a round cylindrical bead made of metal. The number following the shape letter is the serial number.

### **B6 – Large beads (whorls):**

For bead codes which start with B6, the second group currently always consists of the combination A1 as a further subdivision is currently not relevant. The single category can be supplemented by others if future research necessitates this.

The third part of the code always consists of a letter followed by a one- or two-digit number. The letter indicates the shape of the bead and the same letter codes are used throughout the beads typology. The letters are assigned as follows:

**A** – round cylinder, **B** – faceted or ribbed cylinder, **C** – biconical, **D** – discoid, **E** – barrel-shaped, **F** – double or multi segmented, **G** – oblate globular, **H** – wound or twisted manufacture, **I** – trapezoid, **J** – cone-shaped, **K** – cube-shaped, **L** – rectangular, **M** – globular, **N** – almond-shaped, **O** – faceted, **P** – droplet-shaped, **Q** – flower-shaped, **R** – ring, **S** – quatrefoil, **T** – diabolo, **U** – metal foil beads, **V** – polyhedron, **W** – melon (ribbed, but not cylindrical), **X** – irregular, **Y** – any shape is possible.

## **B1: MONOCHROME GLASS BEADS**

### *B1-T1: Monochrome beads made of translucent blue glass*

#### **B1-T1-A1 Tiny cylindrical or globular bead – translucent blue**

A very small bead which is usually round cylindrical. Occasionally, the shape is more or less globular. Made of translucent blue glass.

*See Plate 1.*

#### **Occurrence in the Netherlands:**

*Lent: 7218*

*Maastricht: 95, 124, 166, 187, 285*

*Meerveldhoven: 10, 11, 19, 35, 42*

*Oosterbeintum: 362*

*Rhenen: 222, 372, 413, 470, 510, 696, 712, 753, 799*

*Sittard: 2, 11*

*Stein: 23*

*Wageningen: 104*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 47.1** – (Group A > pre 400 – 555, most commonly pre-400).

LPV: -

Hines: -

VMP: **related to A1.2-1** – (P1 > 470/80 – 530/40).

**Dating in the Netherlands:**

Phase 2-6 (435/40 – 610/20).

**B1-T1-A2 Round cylindrical bead – translucent blue**

A round cylindrical bead made of translucent blue glass.

*See Plate 1.*

**Occurrence in the Netherlands:**

*Lent: 7528*

*Meerveldhoven: 32, 43*

*Rhenen: 7, 82, 222, 323, 345, 397, 436, 587, 667, 669, 769, 816*

*Wijster: 17*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: **BE1-CylRound** – (AS-FB – AS-FD > 510/45 – 625/50).

VMP: **A1.2-1** – (P1 > 470/80 – 530/40), **A3.2-1** – (no date provided), **A3.3-2** – (P0 > pre-450/60), **B1.4-4a** – (P3 > 550/60 – 630/40, most commonly between 560/70 – 600/10).  
**B1.4-6a** – (P3 > 550/60 – 630/40, most commonly between 560/70 – 600/10).

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50). Sporadically earlier. In the north: continuing into phase 8 (640/50 – 670/80).

**B1-T1-B1 Long thin cylindrical bead with longitudinal ribs – translucent blue**

A long and thin bead with round cylindrical cross section. The bead is made of translucent blue glass and is decorated with longitudinal ribs.

*See Plate 1.*

**Occurrence in the Netherlands:**

*Sittard: 80*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

**Dating in the Netherlands:**

Phase 5 (565 – 580/90).

**B1-T1-B2 Thick five-sided cylindrical bead – translucent blue**

A thick and course bead with a five-sided cylindrical cross section. The bead is made of translucent blue glass.

**Occurrence in the Netherlands:**

*Rhenen: 169, 661, 667, 722*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: **BE1-CylPen** – (AS-FB – AS-FC > 510/45 – 580/640).

VMP: -

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

**B1-T1-C1 Biconical bead – translucent blue**

A broad biconical bead made of translucent blue glass.

*See Plate 1.*

**Occurrence in the Netherlands:**

*Bergeijk: 9, 19, 27, 28, 122*

*Meerveldhoven: 18, 19*

*Obbicht: 8*

*Rhenen: 13, 71, 160, 166, 669*

*Sittard: 59*

**Identification in other typologies:**

Franken AG: **S-Per 47.3** – (Group 4-5 > 610/20 – 750)

Siegmund: **Per 47.3** – (Group I > 610 – 705, most commonly between 670 – 705)

LPV: -

Hines: **BE1-WoundSp** – (AS-FD – AS-FE > 580/640 – 660/85).

VMP: **B1.3-5** – (P3 > 550/60 – 630/40, most commonly between 560/70 – 600/10). **B1.3-6** – (P5 > 620/30 – 660/70, most commonly between 630/40 – 660/70).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50). Occasionally in phase 8 (640/50 – 670/80).

**B1-T1-C2 Small truncated biconical bead – translucent blue**

A small truncated biconical bead made of translucent blue glass.

*See Plate 1.*

**Occurrence in the Netherlands:**

*Rhenen: 152, 799*

*Wijster: 209*

**Identification in other typologies:**

Franken AG: **S-Per 47.2** – (Group 1 > 460/80 – 510/25)

Siegmund: **Per 47.2** – (Group A > pre 400 – 555, most commonly pre-400)

LPV: -

Hines: -

VMP: -

**Dating in the Netherlands:**

Phase 2-4 (435/40 - 565).

**B1-T1-C3 Thin elongated biconical bead – translucent blue**

A thin and elongated biconical bead made of translucent blue glass.

The bead from Wijster grave 211 is likely to be a similar but pre-medieval specimen given its early date in phase 1 (400 – 435/40).

*See Plate 1.*

**Occurrence in the Netherlands:**

*Maastricht: 166*

*Rhenen: 158, 436*

*Wijster: 211*

**Identification in other typologies:**

Franken AG: **S-Per 47.5** – (Group 4 > 610/20 – 750).

Siegmund: **Per 47.5** – (Group F-G > 555 – 670, most commonly between 570 and 640)

LPV: -

Hines: -

VMP: **B1.13-1** – (no date provided).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

**B1-T1-C4 Broad elongated biconical bead – translucent blue**

A broad and elongated biconical bead made of translucent blue glass.

*See Plate 1.*

**Occurrence in the Netherlands:**

*Rhenen: 667*

**Identification in other typologies:**

Franken AG: **related to S-Per 47.5** – (Group 4 > 610/20 – 750).

Siegmund: **related to Per 47.5** – (Group F-G > 555 – 670, most commonly between 570 and 640).

LPV: -

Hines: -

VMP: **related to B1.13-1** – (no date provided).

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20).

### **B1-T1-D1** Discoid bead with a rounded edge – translucent blue

A discoid bead with a rounded edge, made of translucent blue glass.

*See Plate 1.*

#### **Occurrence in the Netherlands:**

*Bergeijk: 122*

*Oosterbeintum: A, 60, 362, 398*

*Posterholt: 22, 59, 85*

*Rhenen: 182, 195, 423, 438, 510, 528, 546, 577, 578, 708, 716, 803*

*Wageningen: 153*

*Wijster: 1, 7, 119, 138, 148, 163, 209*

*Zweeloo: 29*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: **B1.1-12c** – (no date provided). **B1.1-7** – (P1a > 470/80 – 520/30, most commonly between 470/80 – 490/500). **B1.1-6b** – (P0-P3 > pre-450/60 – 630/40).

#### **Dating in the Netherlands:**

Phase 1-7 (400 – 640/50). Most commonly in phases 3-4 (460/80 – 565).

### **B1-T1-E1** Barrel-shaped bead – translucent blue

A barrel-shaped bead made of translucent blue glass.

*See Plate 1.*

#### **Occurrence in the Netherlands:**

*Bergeijk: 122*

*Lent: 7218*

*Meerveldhoven: 11, 26, 32*

*Oosterbeintum: 398*

*Posterholt: 22, 49, 55, 85*

*Rhenen: 166, 168, 170, 270, 320, 345, 394, 470, 712, 816*

*Wijster: 15, 155*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: **A3.1-1b** – (P2 > 490/500 – 600/10, most commonly between 520/30 – 570/80). **B1.1-6a** – (P3 > 550/60 – 630/40, most commonly between 560/70 – 600/10).

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

**B1-T1-E2 Barrel-shaped bead with longitudinal ribs – translucent blue**

A barrel-shaped bead made of translucent blue glass. The bead is decorated with longitudinal ribs. In Wijster grave 124, two transversal ribs are also present around the perforated edges.

*See Plate 1.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 21*

*Wijster: 124*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: **related to BE1-MelonB1** – (AS-FB > 510/45 – 555/85).

VMP: **B1.5-2b** – (P2 > 490/500 – 600/10, most commonly between 520/30 – 570/80).

**Dating in the Netherlands:**

Southern Netherlands: Phase 5-6 (565 – 610/20).

Northern Netherlands: Phase 8-10 (640/50 – 750). Possibly continuing up to AD 800.

**B1-T1-F1 Multi segmented bead – translucent blue**

A single bead made up of multiple segments directly adjacent to each other. The number of segments varies but two or three are most common. The individual segments are usually biconical or barrel shaped, but variations occur. The bead is made of translucent blue glass.

Please note: In some cases, the segments are clearly separated by an intermediate piece of glass, sometimes called a collar. Beads with this specific characteristic occur in various colours of translucent glass and are separately classified as group B2-T10-Y1.

*See Plate 1.*

**Occurrence in the Netherlands:**

*Bergeijk: 7, 19, 45, 53*

*Lent: 7218*

*Maastricht: 277*

*Meerveldhoven: 18, 19, 28, 29, 30, 50*

*Oosterbeintum: 362*

*Posterholt: 7, 9, 85*

*Rhenen: 7, 87, 169, 270, 320, 374, 403, 404, 469, 610, 630, 816*

*Sittard: 8, 71*

*Stein: 23*

*Veldhoven: 10*

*Wageningen: 99, 124*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 47.7** – (Group G-H > 570 – 705).

LPV: -

Hines: -

VMP: **B1.2-4b/c** – (P4 > 590/600 – 660/70, most commonly between 600/10 – 630/40).

**B1.2-5** – (P4 > 590/600 – 660/70, most commonly between 600/10 – 630/40). **B1.2-6** – (P4 > 590/600 – 660/70, most commonly between 600/10 – 630/40). **B1.4-4b** – (P4 > 590/600 – 660/70, most commonly between 600/10 – 630/40). **B1.4-6b** – (P4 > 590/600 – 660/70, most commonly between 600/10 – 630/40).

**Dating in the Netherlands:**

Phase 2-8 (435/40 – 670/80). Most commonly in phase 6-7 (580/90 – 640/50).

**B1-T1-F2 Double segmented bead with a single longitudinal rib – translucent blue**

A single bead made up of two segments. The individual segments are barrel shaped, and a single longitudinal rib runs along the bead. The bead is made of translucent blue glass.

*See Plate 1.*

**Occurrence in the Netherlands:**

*Bergeijk: 122*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50).

**B1-T1-G1 Oblate globular shaped bead – translucent blue**

An oblate globular shaped bead made of translucent glass.

*See Plate 1.*

**Occurrence in the Netherlands:**

*Den Haag: 1020*

*Lent: 7218*

*Oosterbeintum: 60, 360, 398, 501*

*Rhenen: 7, 93, 138, 152, 158, 166, 182, 219, 270, 275, 345, 397, 530, 600, 601, 610, 799, 808*

*Sittard: 11, 23*

*Stein: 32*

*Wijster: 141, 160*

*Zweeloo: 54, 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: **A3.1-1a** – (P1 > 470/80 – 560/70). VMP: **B1.1-5a** – (P3 > 550/60 – 630/40, most commonly between 560/70 – 600/10). **B1.1-6a** – (P3 > 550/60 – 630/40, most commonly between 560/70 – 600/10). **B1.1-7** – (P1a > 470/80 – 520/30, most commonly between 470/80 – 490/500).

**Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50). Continuing in the northern Netherlands up to at least phase 10 and possibly beyond, up to approximately AD 800/50.

**B1-T1-H1 Wound bead with a stepped shape – translucent blue**

Wound bead of which one side is wider than the other. Traces of winding are clearly visible.

The bead is made of translucent blue glass.

*See Plate 1.*

**Occurrence in the Netherlands:**

*Rhenen: 71, 158, 160, 328*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: **B1.1-12a** – (no date provided).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B1-T1-H2 Obliquely wound and thin cylindrical bead – translucent blue**

A thin cylindrical bead made up of obliquely wound glass. The windings of glass thread are clearly visible. The bead is made of translucent blue glass.

*See Plate 1.*

**Occurrence in the Netherlands:**

*Bergeijk: 27, 45, 88, 89*

*Meerveldhoven: 10, 18, 19, 27, 28, 29, 35, 46, 48*

*Obbicht: 8*

*Stein: 22*

*Veldhoven: 10*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 47.4** – (Group F-I > 555 – 705, most commonly between 610 – 705).

LPV: **374** – (PM-MA2 > 440/50 – 560/70, most commonly between 440/50 – 520/30).

Hines: -

VMP: **B1.8-6b** – (P1a > 470/80 – 520/30, most commonly between 470/80 – 490/500).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

### **B1-T1-I1 Broad trapezoid shaped bead – translucent blue or green**

A translucent blue bead with a broad trapezoid shape. Occasionally, beads of this type occur in green.

*See Plate 1.*

#### **Occurrence in the Netherlands:**

*Rhenen: 7, 769, 816*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

#### **Dating in the Netherlands:**

Phase 7 (610/20 – 640/50).

### **B1-T1-J1 Conical shaped bead – translucent blue**

A conical shaped bead with a flattened tip, made of translucent blue glass.

From the German Rhineland, only two examples of this type are known. The specimen from Krefeld-Gellep can be dated between 530-555<sup>1012</sup>. Schneider-Schneckenburger identifies the bead as an Alpine type which is also very rare in the cemeteries of southern Germany<sup>1013</sup>.

*See Plate 1.*

#### **Occurrence in the Netherlands:**

*Wijster: 211*

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<sup>1012</sup> Siegmund 1998, 76.

<sup>1013</sup> Schneider-Schneckenburger 1980, 36.

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 47.6** – (Single find > 530 – 555).

LPV: -

Hines: -

VMP: -

**Dating in the Netherlands:**

Phase 1-2 (400 – 460/80).

**B1-T1-M2 Globular bead – translucent blue**

A globular bead made of translucent blue glass.

*See Plate 1.*

**Occurrence in the Netherlands:**

*Sittard: 43, 44*

*Stein: 30, 32*

*Zweeloo: 46*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: **B1.1-6a** – (P3 > 550/60 – 630/40, most commonly between 560/70 – 600/10).

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50). In the north continuing throughout phases 8-10 and up to approximately AD 800.

### **B1-T1-N1** Bead with an elongated almond shape – translucent blue

A bead with an elongated almond shape and a circular cross section, made of translucent blue glass.

*See Plate 2.*

#### **Occurrence in the Netherlands:**

*Meerveldhoven: 10*

*Rhenen: 413, 469, 601*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: **B1.7-4** – (P5 > 620/30 – 660/70, most commonly between 630/40 – 660/70). **B1.13-1** – (no date provided). **C1.4-1** – (P2 > 490/500 – 600/10, most commonly between 520/30 – 570/80).

#### **Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

### **B1-T1-P1** Droplet-shaped bead – translucent blue

Droplet-shaped bead made of translucent blue glass. The sides of the bead are strongly defined which makes a case for naming the shape 'asymmetrical biconical' or 'conical'. The cross section, however, is not round, which is different to conical and biconical beads.

*See Plate 2.*

#### **Occurrence in the Netherlands:**

*Posterholt: 85*

*Wijster: 131, 148*

*Zweeloo: 54*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: **B1.14-2** – (no date provided).

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50). In the north continuing throughout phases 8-10 and up to approximately AD 850/900.

**B1-T1-Q1 ‘Sunflower’ shaped bead – translucent blue**

A bead in the shape of a sunflower with five or more ‘petals’, made of translucent blue glass.

*See Plate 2.*

**Occurrence in the Netherlands:**

*Wijster: 148*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: **B1.5-2a** – (no date provided). **B1.5-2c** – (P1 > 470/80 – 560/70).

**Dating in the Netherlands:**

In the northern Netherlands: Carolingian period (c. 775 – 900).

**B1-T1-R1 Ring-shaped bead – translucent blue**

Ring-shaped bead with large hole, made of translucent blue glass.

*See Plate 2.*

**Occurrence in the Netherlands:**

*Rhenen: 423*

*Sittard: 43*

*Wageningen: 116*

*Zweeloo: 70*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

**B1-T1-V1 Polyhedron shaped bead – translucent blue**

A polyhedron shaped bead made of translucent blue glass. This group includes the non-decorated specimen. Some decorated specimens are grouped in B3-A2-V1.

In the German Rhineland, other dark colours occur occasionally such as green or brown<sup>1014</sup>.

*See Plate 2.*

**Occurrence in the Netherlands:**

*Lent: 7218*

*Maastricht: 187*

*Rhenen: 564, 669*

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<sup>1014</sup> Siegmund 1998, 76.

**Identification in other typologies:**

Franken AG: **S-Per 47.9** – (Group 1 > 460/80 – 510/25).

Siegmund: **Per 47.9** – (Group A-C > pre 400 – 555, most commonly pre-485).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4 (510/25 - 565). One example was found in a context dating to phase 6 (580/90 – 610/20).

**B1-T2-W1 Melon bead – translucent blue**

A ribbed globular, globular compressed or barrel shaped bead made of translucent blue glass. This shape is traditionally indicated with the term 'Melon bead', after the usually turquoise-coloured faience beads with the same shape which date to the Roman period (B1-O2-W1).

*See Plate 2.*

**Occurrence in the Netherlands:**

*Wijster: 148*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Carolingian period (c. 775 – 900).

### **B1-T1-X1 Translucent blue beads with an irregular shape**

Beads made of translucent blue glass in any non-definable shape.

*See Plate 2.*

#### **Occurrence in the Netherlands:**

*Maastricht: 64, 68*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 1-5 (400 – 580/90). Dating uncertain, but occurrence seems limited to the fifth and sixth centuries.

### *B1-T2: Monochrome beads made of translucent green or turquoise glass*

### **B1-T2-A1 Short cylindrical bead – translucent green or turquoise**

Short cylindrical beads made of translucent green or turquoise glass.

*See Plate 2.*

#### **Occurrence in the Netherlands:**

*Maastricht: 48, 85, 187, 315*

*Meerveldhoven: 21*

*Obbicht: 36*

*Rhenen: 95, 182, 270, 328, 403, 413, 470*

*Sittard: 11*

*Wijster: 156*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50). Occasionally in phase 3 (460/80 – 510/25).

**B1-T2-A2 Long and broad cylindrical bead – translucent green or turquoise**

Long cylindrical beads made of translucent green or turquoise glass.

*See Plate 2.*

**Occurrence in the Netherlands:**

*Elst: 59*

*Maastricht: 178*

*Rhenen: 73, 397, 647*

*Sittard: 11*

**Identification in other typologies:**

Franken AG: **S-Per 46.3** – (Group 4 > 610/20 – 750).

Siegmund: **Per 46.3** – (Group H-I > 610 – 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90). One example was found in a context dating to phase 7 or 8 (610/20 – 670/80).

**B1-T2-A3 Long and thin cylindrical bead – translucent green or turquoise**

Long and thin cylindrical beads made of translucent green or turquoise glass.

*See Plate 2.*

**Occurrence in the Netherlands:**

*Maastricht: 110*

*Oosterbeintum: 362*

*Rhenen: 546*

*Sittard: 80*

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: **S-Per 46.2** – (Group 1 > 460/80 – 510/25).

Siegmund: **Per 46.2** – (Group A > pre 400 – 555, most commonly pre-400).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-6 (460/80 – 610/20).

**B1-T2-B1 Long five- or six-sided cylindrical bead – translucent green or turquoise**

A long cylindrical bead with a five- or six-sided cross section. The bead is made of translucent green or turquoise glass.

*See Plate 2.*

**Occurrence in the Netherlands:**

*Maastricht: 235*

*Rhenen: 152*

**Identification in other typologies:**

Franken AG: **S-Per 46.4** – (Group 1 > 460/80 – 510/25).

Siegmund: **Per 46.4** – (Group A > pre 400 – 555, most commonly pre-400).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B1-T2-B2 Long thin cylindrical bead with a central notch and tapered ends –  
translucent green or turquoise**

A long and thin cylindrical bead with a central notch. Both ends are tapered. The bead is made of translucent green or turquoise glass.

*See Plate 2.*

**Occurrence in the Netherlands:**

*Rhenen: 546*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4 (510/25 - 565).

Phase 6-7 (580/90 – 640/50).

**B1-T2-C1 Biconical bead – translucent green or turquoise**

A biconical bead made of translucent green or turquoise glass.

*See Plate 2.*

**Occurrence in the Netherlands:**

*Rhenen: 13, 313*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 610/20)

**B1-T2-C2 Small truncated biconical bead – translucent green or turquoise**

A small truncated biconical bead made of green or turquoise glass.

*See Plate 2.*

**Occurrence in the Netherlands:**

*Maastricht: 85, 95, 235, 285*

*Rhenen: 470, 712*

**Identification in other typologies:**

Franken AG: **S-Per 46.1** – (Group 1 > 460/80 – 510/25).

Siegmund: **Per 46.1** – (Group A > pre 400 – 555, most commonly pre-400).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

**B1-T2-C3 Elongated Biconical bead – translucent green or turquoise**

An elongated biconical bead made of translucent green or turquoise glass.

*See Plate 2.*

**Occurrence in the Netherlands:**

*Rhemen: 661*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4 (510/25 – 565).

### **B1-T2-D1** Discoid bead with a rounded edge – translucent green or turquoise

Discoid beads with a rounded edge made of translucent green or turquoise glass.

*See Plate 3.*

#### **Occurrence in the Netherlands:**

*Lent: 7202*

*Oosterbeintum: 60*

*Posterholt: 31*

*Rhenen: 79, 152, 219, 266, 397, 423, 438, 565, 595, 601*

*Veldhoven: 14*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 3-6 (460/80 – 610/20).

### **B1-T2-E1** Barrel-shaped bead – translucent green or turquoise

Barrel-shaped bead made of translucent green or turquoise glass.

*See Plate 3.*

#### **Occurrence in the Netherlands:**

*Lent: 7211*

*Meerveldhoven: 47*

*Oosterbeintum: 360*

*Rhenen: 71, 73, 97b, 99, 270, 313, 630, 653, 781, 815, 816*

*Sittard: 79*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-8 (460/80 – 670/80). Most commonly in phases 6-8 (580/90 – 670/80).

**B1-T2-F1 Multi-segmented bead – translucent green or turquoise**

A single bead made up of multiple segments directly adjacent to each other. The number of segments varies but two or three are most common. The individual segments are usually biconical or barrel shaped, but variations occur. The bead is made of translucent green or turquoise glass.

*See Plate 3.*

Please note: In some cases, the segments are clearly separated by an intermediate piece of glass, sometimes called a collar. Beads with this specific characteristic occur in various colours of translucent glass and are separately classified as group B2-T10-Y1. The segments of these beads are often globular or discoid.

**Occurrence in the Netherlands:**

*Bergeijk: 45*

*Rhenen: 769*

*Veldhoven: 14*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B1-T2-G1 Oblate globular shaped bead – translucent green or turquoise**

An oblate globular shaped bead made of green or turquoise glass.

*See Plate 3.*

**Occurrence in the Netherlands:**

*Bergeijk: 9, 19*

*Elst: 59*

*Obbicht: 19*

*Rhenen: 99, 182, 270, 380, 438, 808*

*Sittard: 11*

*Stein: 23*

*Wijster: 161*

*Zweeloo: 42*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-8 (460/80 – 670/80). Most commonly in phases 3-5 (460/80 – 580/90).

### **B1-T2-H1 Wound bead with a stepped shape – translucent green or turquoise**

Wound bead of which one side is wider than the other. Traces of winding are clearly visible.

The bead is made of green or turquoise glass.

*See Plate 3.*

#### **Occurrence in the Netherlands:**

*Rhenen: 182, 394, 397, 423, 562, 716*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).

### **B1-T2-H2 Obliquely wound and thin cylindrical bead – translucent green or turquoise**

A thin cylindrical bead made up of obliquely wound glass. The windings of glass thread are clearly visible.

*See Plate 3.*

#### **Occurrence in the Netherlands:**

*Posterholt: 7, 46*

*Rhenen: 163, 816*

**Identification in other typologies:**

Franken AG: **S-Per 46.5** – (Group 4 > 610/20 – 750).

Siegmund: **Per 46.5** – (Group H-I > 610 – 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B1-T2-M1 Tiny globular bead – translucent green or turquoise**

A very small globular bead made of green or turquoise glass. The oldest specimen, found in Rhenen grave 799, are more barrel shaped.

*See Plate 3.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 47*

*Rhenen: 270, 431, 530, 799*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50). Some slightly barrel shaped specimens: phase 2 (435/40 – 460/80).

### **B1-T2-S1** Quatrefoil shaped bead – translucent green or turquoise

A quatrefoil shaped bead made of translucent green or turquoise glass. The shape is sometimes also described as a flower with four petals.

*See Plate 3.*

#### **Occurrence in the Netherlands:**

*Rhenen: 423*

*Zweeloo: 87*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

### **B1-T2-W1** Melon bead – translucent green or blueish green

A ribbed globular, globular compressed or barrel shaped bead made of translucent green glass. This shape is traditionally indicated with the term 'Melon bead', after the usually turquoise-coloured faience beads with the same shape which date to the Roman period (B1-O2-W1).

*See Plate 3.*

#### **Occurrence in the Netherlands:**

*Rhenen: 781, 799*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).

*B1-T3: Monochrome beads made of translucent yellow glass*

**B1-T3-A1 Short cylindrical bead – translucent yellow**

Short cylindrical bead made of translucent yellow glass.

*See Plate 3.*

**Occurrence in the Netherlands:**

*Rhenen: 7, 10, 345, 423, 546, 605, 647, 667, 670, 793*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

**B1-T3-A2 Long and thin cylindrical bead – translucent yellow**

Long and thin cylindrical bead made of translucent yellow glass.

*See Plate 3.*

**Occurrence in the Netherlands:**

*Rhenen: 152, 166, 413, 423*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B1-T3-B1 Thick five-sided cylindrical bead – translucent yellow**

A long cylindrical bead with a five-sided cross section. The bead is made of translucent yellow glass.

*See Plate 3.*

**Occurrence in the Netherlands:**

*Rhenen: 166, 396, 589, 661, 667*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

**B1-T3-B2 Thick six-sided cylindrical bead – translucent yellow**

A long cylindrical bead with a six-sided cross section. The bead is made of translucent yellow glass.

*See Plate 3.*

**Occurrence in the Netherlands:**

*Rhenen: 722*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

### **B1-T3-C1 Elongated biconical bead – translucent yellow**

An elongated biconical bead made of translucent yellow glass.

*See Plate 3.*

#### **Occurrence in the Netherlands:**

*Wijster: 156*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 7 (610/20 – 640/50). A later end date may be possible.

### **B1-T3-D1 Discoid bead with rounded edge – translucent yellow**

A discoid bead with a rounded edge made of translucent yellow glass.

*See Plate 3.*

#### **Occurrence in the Netherlands:**

*Bergeijk: 122*

*Rhenen: 182, 195, 266, 423, 510, 528, 546, 577, 578, 589, 601, 667*

*Veldhoven: 10*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565). As heirlooms in contexts up to phase 7 (-640/50).

**B1-T3-E1 Barrel shaped bead – translucent yellow**

A barrel shaped bead made of translucent yellow glass.

*See Plate 4.*

**Occurrence in the Netherlands:**

*Rhenen: 166, 168, 266, 270, 275, 345, 642, 722, 816*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-5 (410/25 – 580/90).

**B1-T3-F1 Multi-segmented bead – translucent yellow**

A single bead made up of multiple segments directly adjacent to each other. The number of segments varies but two or three are most common. The individual segments are usually biconical or barrel shaped, but variations occur. The bead is made of translucent yellow glass.

*See Plate 4.*

Please note: In some cases, the segments are clearly separated by an intermediate piece of glass, sometimes called a collar. Beads with this specific characteristic occur in various colours of translucent glass and are separately classified as group B2-T10-Y1. The segments of these beads are often globular or discoid.

**Occurrence in the Netherlands:**

*Rhenen: 7, 138, 160, 168, 275, 413, 423, 769, 791, 816*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

**B1-T3-G1 Oblate globular shaped bead – translucent yellow**

Oblate globular shaped bead made of translucent yellow glass.

The two oldest beads (Rhenen graves 82 and 799, phase 2) are relatively large in comparison to the others.

*See Plate 4.*

**Occurrence in the Netherlands:**

*Rhenen: 82, 138, 166, 169, 182, 219, 345, 600, 670, 799*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 2-6 (435/40 – 610/20).

**B1-T3-H1 Wound bead with a stepped shape – translucent yellow**

Wound bead of which one side is wider than the other. Traces of winding are clearly visible.

The bead is made of translucent yellow glass.

*See Plate 4.*

**Occurrence in the Netherlands:**

*Rhenen: 270, 396*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5 (565 – 580/90).

### **B1-T3-H2** Obliquely wound and thin cylindrical bead – translucent yellow

A thin cylindrical bead made up of obliquely wound glass. The windings of glass thread are clearly visible. The bead is made of translucent yellow glass.

*See Plate 4.*

#### **Occurrence in the Netherlands:**

*Rhenen: 816*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

### **B1-T3-M1** Globular shaped bead – translucent yellow

Globular shaped bead made of translucent yellow glass.

*See Plate 4.*

#### **Occurrence in the Netherlands:**

*Rhenen: 396, 546, 579, 605, 667, 769*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

**B1-T3-M2 Small globular or truncated biconical bead – translucent yellow**

A small globular or truncated biconical bead made of translucent yellow glass. The beads are often honey-coloured.

*See Plate 4.*

**Occurrence in the Netherlands:**

*Rhenen: 670, 712, 791*

**Identification in other typologies:**

Franken AG: **S-Per 43.1** – (Group 1 > 460/80 – 510/25).

Siegmund: **Per 43.1** – (Group A > pre 400 – 555, most commonly pre 400).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

**B1-T3-W1 Melon bead – translucent yellow**

A ribbed globular, globular compressed or barrel shaped bead made of translucent yellow glass. This shape is traditionally indicated with the term 'Melon bead', after the usually

turquoise-coloured faience beads with the same shape which date to the Roman period (B1-O2-W1).

*See Plate 4.*

**Occurrence in the Netherlands:**

*Rhenen: 195, 332, 431, 438, 808*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).

*B1-T4: Monochrome beads made of translucent orange glass*

**B1-T4-D1 Thick discoid bead – translucent orange**

Thick discoid bead made of translucent orange glass.

*See Plate 4.*

**Occurrence in the Netherlands:**

*Maastricht: 315*

*Rhenen: 438*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25). Possibly continuing beyond 510/25.

**B1-T4-E1 Barrel shaped bead – translucent orange**

Barrel shaped bead made of translucent orange glass.

*See Plate 4.*

**Occurrence in the Netherlands:**

*Rhenen: 7*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

No date available.

### **B1-T4-G1 Oblate globular shaped bead – translucent orange**

Oblate globular shaped bead made of translucent orange glass.

*See Plate 4.*

#### **Occurrence in the Netherlands:**

*Maastricht: 247*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 6 (580/90 – 610/20).

### *B1-T5: Monochrome beads made of translucent red glass*

### **B1-T5-A1 Short cylindrical bead – translucent red**

A short cylindrical bead made of translucent red glass.

*See Plate 4.*

#### **Occurrence in the Netherlands:**

*Rhenen: 414*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

No date available.

**B1-T5-A2 Long thin cylindrical bead – translucent red**

A long thin cylindrical bead made of translucent red glass. This type of bead often has a very high transparency.

*See Plate 4.*

**Occurrence in the Netherlands:**

*Oosterbeintum: 362*

*Rhenen: 328*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

### **B1-T5-C1 Biconical bead – translucent red**

A biconical bead made of translucent red glass. Occasionally, the red approaches brown.

*See Plate 4.*

#### **Occurrence in the Netherlands:**

*Rhenen: 546, 669, 712*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

### **B1-T5-E1 Ribbed barrel-shaped bead – translucent**

A biconical bead made of translucent red glass. Occasionally, the red approaches brown.

*See Plate 4.*

#### **Occurrence in the Netherlands:**

*Sittard: 32*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5 (565 – 580/90).

**B1-T5-M1 Small globular or truncated biconical bead – translucent red**

A small globular or truncated biconical bead made of translucent red glass.

*See Plate 4.*

**Occurrence in the Netherlands:**

*Rhenen: 712, 753*

**Identification in other typologies:**

Franken AG: **S-Per 45.1** – (Group 1 > 460/80 – 510/25).

Siegmund: **Per 45.1** – (Group A > pre 400 – 555, most commonly pre 400).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

*B1-T6: Monochrome beads made of translucent white glass*

**B1-T6-A1 Short cylindrical bead – translucent white**

A short cylindrical bead made of translucent white glass.

*See Plate 4.*

**Occurrence in the Netherlands:**

*Maastricht: 48*

*Rhenen: 313, 345, 470, 546, 610, 642, 645, 667, 669, 722, 769, 793*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 - 640/50).

**B1-T6-A2 Long thin cylindrical bead – translucent white**

Long thin cylindrical bead made of translucent white glass.

*See Plate 5.*

**Occurrence in the Netherlands:**

*Rhenen: 93*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 42.3** – (Group C-D > 485 – 585).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

### **B1-T6-B1** Five-sided cylindrical bead – translucent white

A five-sided cylindrical bead made of translucent white glass.

*See Plate 5.*

#### **Occurrence in the Netherlands:**

*Rhenen: 13, 396*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 5 (565 – 580/90).

### **B1-T6-C1** Biconical bead – translucent white

A biconical bead made of translucent white glass.

*See Plate 5.*

#### **Occurrence in the Netherlands:**

*Rhenen: 71, 138, 160, 647, 670, 722, 769*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

**B1-T6-D1 Discoid bead with rounded edge – translucent white**

A discoid bead with a rounded edge made of translucent white glass.

*See Plate 5.*

**Occurrence in the Netherlands:**

*Rhenen: 79, 95, 138, 152, 219, 270, 275, 470, 510, 546*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-6 (460/80 – 610/20).

**B1-T6-E1 Barrel shaped bead – translucent white**

A discoid bead with a rounded edge made of translucent white glass.

*See Plate 5.*

**Occurrence in the Netherlands:**

*Rhenen: 7, 13, 71, 75, 97b, 138, 160, 168, 270, 404, 642, 669, 781, 791, 816*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B1-T6-F1 Multi-segmented bead – translucent white**

A single bead made up of multiple segments directly adjacent to each other. The number of segments varies but two or three are most common. The individual segments are usually biconical or barrel shaped, but variations occur. The bead is made of translucent white glass.

*See Plate 5.*

Please note: In some cases, the segments are clearly separated by an intermediate piece of glass, sometimes called a collar. Beads with this specific characteristic occur in various colours of translucent glass and are separately classified as group B2-T10-Y1. The segments of these beads are often globular or discoid.

**Occurrence in the Netherlands:**

*Rhenen: 7, 138, 170, 404, 610, 791, 816*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B1-T6-G1 Oblate globular shaped bead – translucent white**

An oblate globular bead made of translucent white glass.

*See Plate 5.*

**Occurrence in the Netherlands:**

*Maastricht: 235, 258*

*Rhenen: 71, 138, 168, 169, 647*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

**B1-T6-H1 Cylindrical shaped wound bead – translucent white (T198)**

A cylindrical shaped bead with clear traces of a wound manufacture. The bead is made of translucent white glass.

*See Plate 5.*

**Occurrence in the Netherlands:**

*Rhenen: 647*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4 (510/25 – 565).

**B1-T6-M1 Small globular or truncated biconical bead – translucent white**

A small globular or truncated biconical bead made of translucent white glass.

*See Plate 5.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 30*

*Rhenen: 166, 219, 625*

**Identification in other typologies:**

Franken AG: **S-Per 42.1** – (Group 1 > 460/80 – 510/25).

Siegmund: **Per 42.1** – (Group A > pre 400 – 555, most commonly pre 400).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

### **B1-T6-W1 Melon bead – translucent white**

A ribbed globular, globular compressed or barrel shaped bead made of translucent white glass. This shape is traditionally indicated with the term 'Melon bead', after the usually turquoise-coloured faience beads with the same shape which date to the Roman period (B1-O2-W1).

The specimen from Rhenen grave 696 is described as white to colourless.

*See Plate 5.*

#### **Occurrence in the Netherlands:**

*Maastricht: 187*

*Rhenen: 696*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

*B1-T10: Monochrome beads made of translucent colourless glass*

### **B1-T10-M1 Globular bead – translucent colourless**

A globular bead made of translucent colourless glass.

*See Plate 5.*

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

*B1-T11: Monochrome beads made of opaque glass in various colours*

**B1-T11-F1 Multi segmented beads – various colours**

Multi segmented bead made of translucent glass in various colours. The shape of the bead is similar to the Überfangperlen, with a tiny cylindrical piece of glass on either side of each segment. The connecting pieces of glass are sometimes referred to as collars. In some cases, only individual segments are recovered from inhumation contexts. The segments are often globular, but cylindrical or barrel-shaped segments occur occasionally.

Siegmund's group 42.2 only consists of beads made of translucent white or yellowish glass<sup>1015</sup>.

In the Netherlands, however, more different colours were found. The colour is not chronologically indicative.

*See Plate 5.*

**Occurrence in the Netherlands:**

*Rhenen: 413, 423, 433, 510, 753, 799*

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<sup>1015</sup> Siegmund 1998, 74.

**Identification in other typologies:**

Franken AG: **Includes S-Per 42.2** – (Group 1 > 460/80 – 510/25)

Siegmund: **Includes Per 42.2** – (Group A > pre-400 - 555, most commonly pre 400)

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

*B1-O1: Monochrome beads made of opaque blue glass*

**B1-O1-A1 Small cylindrical bead – opaque blue**

A small cylindrical bead made of opaque blue glass. The shade of blue can vary between cobalt and sea blue/dark turquoise.

*See Plate 5.*

**Occurrence in the Netherlands:**

*Hoogeloon: 26*

*Obbicht: 8*

*Rhenen: 181, 660*

*Stein: 30*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50).

**B1-O1-A2 Tiny cylindrical bead – opaque blue**

A very small cylindrical bead made of opaque blue glass. The shade of blue can vary between cobalt and sea blue/dark turquoise.

*See Plate 5.*

**Occurrence in the Netherlands:**

*Hoogeloon: 26*

*Obbicht: 8*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B1-O1-A3 Short cylindrical bead – opaque blue**

A short cylindrical bead made of opaque blue glass.

*See Plate 5.*

**Occurrence in the Netherlands:**

*Rhenen: 181, 328, 646, 660, 669, 803*

*Stein: 30*

*Wageningen: 101, 104*

*Wijster: 127, 163, 166*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-6 (460/80 – 610/20).

**B1-O1-C1 Biconical bead – opaque blue**

A biconical bead made of opaque blue glass.

*See Plate 5.*

**Occurrence in the Netherlands:**

*Bergeijk: 19*

*Maastricht: 48, 85*

*Obbicht: 36, 49*

*Posterholt: 83*

*Rhenen: 10, 169, 323*

*Sittard: 11, 23, 25, 44, 59, 80*

*Wijster: 168*

**Identification in other typologies:**

Franken AG: **S-Per 37.1** – (Group 4-5 > 610/20 – 750).

Siegmund: **Per 37.1** – (Group H-I > 610 – 705, most commonly between 670 and 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50). Most commonly in phase 7 (610/20 – 640/50).

**B1-O1-C2 Elongated biconical bead – opaque blue**

An elongated biconical bead made of opaque blue glass.

*See Plate 5.*

**Occurrence in the Netherlands:**

*Oosterbeintum: 501*

*Rhenen: 323*

*Stein: 22*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

### **B1-O1-D1** Discoid bead with a rounded edge – opaque blue

A discoid bead with a rounded edge, made of opaque blue glass.

*See Plate 6.*

#### **Occurrence in the Netherlands:**

*Hoogeloon: 26*

*Rhenen: 152, 181, 270, 328, 332, 343, 394, 423, 470, 530, 600, 669*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 3-6 (460/80 – 610/20). Most commonly in phase 4-5 (510/25 – 580/90).

### **B1-O1-E1** Barrel shaped bead – opaque blue

A barrel-shaped bead made of opaque blue glass.

*See Plate 6.*

#### **Occurrence in the Netherlands:**

*Rhenen: 95, 222, 660*

*Sittard: 60, 80*

*Stein: 51*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50).

**B1-O1-E2 Barrel shaped bead with longitudinal ribs – opaque blue**

A barrel shaped bead with longitudinal ribs, made of opaque blue glass. There are usually four ribs which create a more or less quatrefoil shaped cross section of the bead.

*See Plate 6.*

**Occurrence in the Netherlands:**

*Sittard: 80*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5 (565 – 580/90).

### **B1-O1-F1 Multi segmented bead – opaque blue**

A single bead made up of multiple segments directly adjacent to each other. The number of segments varies but two or three are most common. The individual segments are usually biconical, barrel, discoid or cylindrical shaped, but other variations occur. The bead is made of opaque blue glass.

Siegmund notes a difference between larger examples, made up of discoid beads with a wound manufacture and smaller examples made up of mainly cylindrical beads. On the basis of Krefeld-Gellep grave 929, it may be possible that the latter should be assigned an earlier date within the given range<sup>1016</sup>. The Franken AG does not mention a similar difference. Beads with both larger and smaller segments are found in the Netherlands, but no clear chronological distinction can be made between them on the basis of the available evidence from this sample. Sittard grave 25 contains beads of this type with small cylindrical segments. The grave, however, dates later than, for example Wijster 210 in which the segmented bead has more rounded segments.

*See Plate 6.*

#### **Occurrence in the Netherlands:**

*Hoogeloon: 23, 26*

*Maastricht: 100, 166, 187, 247*

*Obbicht: 8, 35, 36*

*Rhenen: 169, 320, 659*

*Sittard: 16, 25, 43*

*Stein: 22*

*Wijster: 210*

#### **Identification in other typologies:**

Franken AG: **S-Per 37.2** – (Group 4 > 610/20).

Siegmund: **Per 37.2** – (Group F-I > 555 – 705).

LPV: -

Hines: -

VMP: -

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<sup>1016</sup> Siegmund 1998, 74.

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50). Most commonly in phase 5-6 (565 – 610/20).

**B1-O1-G1 Oblate globular shaped bead – opaque blue (T65)**

An oblate globular shaped bead made of opaque blue glass.

*See Plate 6.*

**Occurrence in the Netherlands:**

*Hoogeloon: 23, 26*

*Obbicht: 8, 19*

*Rhenen: 88, 178, 601*

*Sittard: 11*

*Stein: 22*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

**B1-O1-M1 Globular shaped bead – opaque blue**

A globular shaped bead made of opaque blue glass.

*See Plate 6.*

**Occurrence in the Netherlands:**

*Sittard: 11*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5 (565 – 580/90).

**B1-O1-N1 Broad almond shaped bead – opaque blue**

A broad almond shaped bead made of opaque blue glass.

*See Plate 6.*

**Occurrence in the Netherlands:**

*Obbicht: 57*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50).

**B1-O1-Q1 'Sunflower' shaped bead – opaque blue**

A bead in the shape of a sunflower with five or more 'petals', made of opaque blue glass.

*See Plate 6.*

**Occurrence in the Netherlands:**

*Lent: 7528*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

No date available.

*B1-O2: Monochrome beads made of opaque green or turquoise glass*

**B1-O2-A1 Small short cylindrical bead – opaque green or turquoise**

A small and short cylindrical bead made of opaque green or turquoise glass.

*See Plate 6.*

**Occurrence in the Netherlands:**

*Bergeijk: 122*

*Maastricht: 110*

*Meerveldhoven: 10, 27, 29, 35, 47, 48, 50*

*Rhenen: 323*

*Wijster: 5*

*Zweeloo: 59*

**Identification in other typologies:**

Franken AG: **S-Per 36.1** – (Group 2-3 > 435/40 – 580/90, most commonly after 460/80).

Siegmund: **Per 36.1** – (Group C-G > 485 – 640, most commonly between 485 – 555).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B1-O2-A2 Large short cylindrical bead – opaque green or turquoise**

A large and short cylindrical bead made of opaque green or turquoise glass.

*See Plate 6.*

**Occurrence in the Netherlands:**

*Lent: 7201, 7218, 7519, 7528*

*Meerveldhoven: 11, 35*

*Posterholt: 50*

*Rhenen: 323*

*Sittard: 32, 44, 59, 60*

*Stein: 22, 23, 32*

*Wijster: 1, 5, 7, 10, 11, 15, 120, 207, 211*

*Zweeloo: 46, 49, 75, 70*

**Identification in other typologies:**

Franken AG: **S-Per 36.2** – (Group 4-5 > 610/20 – 750).

Siegmund: **Per 36.2** – (Group F-I > 555 – 705, most commonly between 610 – 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 1-8 (400 – 670/80). Most commonly in phase 7-8 (610/20 – 670/80).

**B1-O2-A3 Long thin cylindrical bead – opaque green or turquoise**

A long and thin cylindrical bead made of opaque green or turquoise glass.

*See Plate 6.*

**Occurrence in the Netherlands:**

*Wijster: 211*

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 1-3 (400 – 510/25).

**B1-O2-C1 Small biconical bead – opaque green or turquoise**

A small biconical bead made of opaque green or turquoise glass.

*See Plate 6.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 10, 40, 42*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B1-O2-C2 Thin elongated biconical bead – opaque green or turquoise**

A thin bead with an elongated biconical shape, made of opaque green or turquoise glass.

*See Plate 6.*

**Occurrence in the Netherlands:**

*Bergeijk: 88*

*Meerveldhoven: 48*

*Obbicht: 8, 49*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B1-O2-C3 Elongated biconical bead – opaque green or turquoise**

An elongated biconical bead made of opaque green or turquoise glass.

*See Plate 6.*

**Occurrence in the Netherlands:**

*Maastricht: 17*

*Rhenen: 338, 343, 345, 803*

*Wijster: 210*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B1-O2-D1 Discoid bead with rounded edge – opaque green or turquoise**

A discoid bead with a rounded edge, made of opaque green or turquoise glass.

*See Plate 6.*

**Occurrence in the Netherlands:**

*Rhenen: 438, 696*

*Veldhoven: 16*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B1-O2-E1 Barrel shaped bead – opaque green or turquoise**

A barrel shaped bead made of opaque green or turquoise glass.

*See Plate 6.*

**Occurrence in the Netherlands:**

*Bergeijk: 19*

*Lent: 7211*

*Meerveldhoven: 26, 29, 32, 39, 40*

*Posterholt: 9*

*Rhenen: 71, 323, 659*

*Wijster: 160*

*Zweeloo: 46, 59, 66*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

### **Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

### **B1-O2-F1 Multi segmented bead – opaque green or turquoise**

A single bead made up of multiple segments directly adjacent to each other. The number of segments varies but two or three are most common. The individual segments are usually biconical, barrel, discoid or cylindrical shaped, but other variations occur. The bead is made of opaque green or turquoise glass.

Siegmund notes a difference between larger examples, made up of discoid shaped beads or beads of a wound manufacture and smaller examples made up of mainly short cylindrical beads. The smaller examples are postulated to have a long lifespan and occur in earlier graves than their larger counterparts in the German Rhineland<sup>1017</sup>. The Franken AG does not mention a similar difference. The difference between larger and smaller segments in relation to chronology does not stand out in the Netherlands. The beads from Wageningen for instance are of similar size, despite one grave being placed in phase 4 and the other in phase 6. Posterholt grave 8 contains a bead with relatively small and cylindrical segments and is dated earlier than grave 9, which contains a bead with larger segments. This is within the sample the only possible indication for the validity of Siegmund's theory for the Netherlands.

*See Plate 6.*

### **Occurrence in the Netherlands:**

*Bergeijk: 19, 89*

*Hoogeloon: 23*

*Meerveldhoven: 29*

*Obbicht: 8*

*Posterholt: 8, 9, 46, 85, 86*

*Rhenen: 433*

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<sup>1017</sup> Siegmund 1998, 74.

*Wageningen 69, 99*

**Identification in other typologies:**

Franken AG: **S-Per 36.4** – (Group 4 > 610/20 – 750).

Siegmund: **Per 36.4** – (Group G-I > 570 – 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-8 (510/25 – 670/80). Most commonly in phase 6-7 (580/90 – 640/50).

**B1-O2-G1 Oblate globular shaped bead – opaque green or turquoise**

An oblate globular shaped bead made of opaque green or turquoise glass.

*See Plate 6.*

**Occurrence in the Netherlands:**

*Lent: 7218, 7222, 7519*

*Maastricht: 12, 85, 100, 178, 258, 277, 313*

*Meerveldhoven: 35*

*Oosterbeintum: A, 60, 295*

*Posterholt: 9*

*Rhenen: 93, 343, 433, 438, 469, 470, 577, 696, 708*

*Wijster: 161*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50).

**B1-O2-G2 Oblate globular bead with a single notch – opaque green or turquoise**

An oblate globular bead with a single notch in one of the perforated sides. Due to the notch, the bead has a somewhat heart shaped appearance. The bead is made of translucent green or turquoise glass.

Siegmund and the Franken Arbeitsgruppe both included similarly shaped beads in their typologies<sup>1018</sup>. The specimens from the German Rhineland, however, are translucent and occur in various colours. As part of the sample from the Netherlands, beads with this particular shape are only known in opaque green.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Maastricht: 64, 110*

**Identification in other typologies:**

Franken AG: **Related to S-Per 1.1** – (Group 1 > 460/80 – 510/25).

Siegmund: **Related to Per 1.1** – (Group A > 400 – 555, most commonly pre-400).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20).

**B1-O2-H1 Wound bead with a stepped shape – opaque green or turquoise**

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<sup>1018</sup> Siegmund 1998, 64; Müssemeier *et al.* 2003, 36.

Wound bead of which one side is wider than the other. Traces of winding are clearly visible.

The bead is made of opaque green or turquoise glass.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 48*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 36.3** – (Group H-I > 610 – 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20).

**B1-O2-H2 Twisted glass wire bead – opaque green or turquoise**

A bead made up of twisted or wound glass wire. The beads are made of opaque green or turquoise glass.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 29*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20).

**B1-O2-M1 Tiny globular or discoid bead – opaque green or turquoise**

Very small beads with a globular or discoid shape. The beads are made of opaque green or turquoise glass.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Posterholt: 86*

*Rhenen: 87, 350, 374*

*Wageningen: 104*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).

**B1-O2-Q1 'Sunflower' shaped bead – opaque green or turquoise**

A bead in the shape of a sunflower with five or more 'petals', made of opaque green or turquoise glass.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Sittard: 2*

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25). The end date for this bead is unclear and may be later.

**B1-O2-W1 Melon bead – opaque green, turquoise or blue**

Roman melon beads made of faience. The beads often have a characteristic opaque turquoise or blueish-green colour but bright blue specimens are also known.

Beads of this type are made in Egypt during the first and second centuries AD and are prominent in Roman material culture. As one of very few Roman beads, they remained in circulation until well into the Merovingian period<sup>1019</sup>.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Elst: 112, 249*

*Hoogeloon: 9*

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<sup>1019</sup> Pion 2014, 174-76.

*Maastricht 95, 178*

*Sittard: 11*

*Wageningen: 153*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Roman period. (Occurrence in Merovingian graves up to at least phase 5 > 565 – 580/90).

*B1-O3: Monochrome beads made of opaque yellow glass*

**B1-O3-A1 Small short cylindrical bead – opaque yellow**

A small and short cylindrical bead made of opaque yellow glass.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Bergeijk: 28, 122*

*Hoogeloon: 26*

*Maastricht: 100, 110*

*Meerveldhoven: 10, 11, 19*

*Oosterbeintum: 342*

*Rhenen: 181, 320, 345, 394, 659, 660, 803*

*Sittard: 32*

*Veldhoven: 10*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 33.1** – (Group D-G > 485 – 640).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50).

**B1-O3-A2 Short cylindrical bead – opaque yellow**

A short cylindrical bead made of opaque yellow glass.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Hoogeloon: 23*

*Oosterbeintum: 428*

*Rhenen: 222, 320, 394, 646, 803*

*Stein: 23*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

**B1-O3-B1 Long thin cylindrical bead with a central notch and tapered ends – opaque yellow**

A long and thin cylindrical bead with a central notch. Both ends are tapered. The bead is made of opaque yellow glass.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Rhenen: 343, 345*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B1-O3-C1 Biconical bead – opaque yellow**

A biconical bead made of opaque yellow glass.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Bergeijk: 7, 19, 89*

*Lent: 7218*

*Maastricht: 277*

*Rhenen: 320, 328, 394, 646, 790, 803*

*Sittard: 23*

*Veldhoven: 6*

*Wijster: 168*

**Identification in other typologies:**

Franken AG: **S-Per 33.5** – (Group 4-5 > 610/20 – 750).

Siegmund: **Per 33.5** – (Group H-I > 610 – 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-8 (565 – 670/80).

**B1-O3-D1 Discoid bead with a rounded edge – opaque yellow**

A discoid bead with a rounded edge made of opaque yellow glass.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Lent: 7218*

*Oosterbeintum: 398*

*Rhenen: 270, 332, 338, 345, 372, 669, 708, 803*

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-6 (460/80 – 610/20).

**B1-O3-E1 Small barrel shaped bead – opaque yellow**

A barrel shaped bead which is significantly smaller than those grouped in B1-O3-E2. The beads are made of opaque yellow glass.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 29, 32*

*Posterholt: 78, 82, 85, 86*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B1-O3-E2 Barrel shaped bead – opaque yellow**

A barrel shaped bead which is significantly larger than those grouped in B1-O3-E1. The beads are made of opaque yellow glass.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 29, 32*

*Posterholt: 78, 82, 85, 86*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B1-O3-F1 Multi segmented bead – opaque yellow**

A single bead made up of multiple segments directly adjacent to each other. The number of segments varies but two or three are most common. The individual segments are usually biconical, barrel, discoid or cylindrical shaped, but other variations occur. The bead is made of opaque yellow glass.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Bergeijk: 19, 22, 27, 45, 53*

*Hoogeloon: 23*

*Lent: 7519*

*Maastricht: 100, 152, 306*

*Meerveldhoven: 18, 19, 28, 29, 30, 35, 46, 48*

*Obbicht: 35, 49*

*Posterholt: 7*

*Rhenen: 179, 320, 323, 328, 403, 469, 659, 669*

*Sittard: 16, 25*

*Veldhoven: 10, 14*

*Wageningen: 99*

**Identification in other typologies:**

Franken AG: **S-Per 33.6** – (Group 4 > 610/20 – 750).

Siegmund: **Per 33.6** – (Group G-H > 570 – 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-8 (510/25 – 670/80). Most commonly in phase 6-7 (580/90 – 640/50).

**B1-03-G1 Oblate globular bead – opaque yellow**

An oblate globular bead made of opaque yellow glass.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Hoogeloon: 26*

*Maastricht: 250*

*Obbicht: 8*

*Oosterbeintum: A, 398*

*Rhenen: 170, 222, 266, 332, 338, 394, 438, 469, 646, 669, 696, 803*

*Zweeloo: 65*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 1-7 (400 – 640/50). Most commonly in phases 4-6 (510/25 – 610/20).

**B1-O3-H1 Wound bead with a stepped shape – opaque yellow**

Wound bead of which one side is usually wider than the other. Traces of winding are clearly visible. The bead is made of opaque yellow glass. The overall shape of the bead is usually more or less discoid or barrel shaped.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Bergeijk: 19*

*Meerveldhoven: 30, 35, 46, 50*

*Rhenen: 71, 394*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 33.2** – (Group D-G > 485 – 640, most commonly in phases D-E > 485 - 610).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50). One specimen from phase 4 (510/25 – 565).

**B1-O3-H2 Twisted glass wire bead – opaque yellow**

A bead made up of twisted or wound glass wire. The beads are made of opaque yellow glass.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Bergeijk: 45, 88, 89*

*Meerveldhoven: 10, 18, 19, 23, 28, 29, 46*

*Posterholt: 7, 46*

*Rhenen: 328*

*Stein: 22, 23*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B1-O3-J1 Small conical bead – opaque yellow**

A small conical bead made of opaque yellow glass. This type often shows traces of a wound manufacture.

*See Plate 7.*

**Occurrence in the Netherlands:**

*Rhenen: 343, 669*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

**B1-O3-M1 Small globular bead – opaque yellow**

A small globular or spherical bead made of opaque yellow glass.

One specimen is found in a grave dating to phases 1 and 3 each (400 – 435/40 and 460/80 – 510/25). It is unclear whether these beads belong to B1-O3-M1 or that they are a similar late antique type.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Bergeijk: 19, 30, 45, 53*

*Hoogeloon: 23, 26*

*Lent: 7218*

*Maastricht: 68, 95, 100, 110, 124, 166, 178, 187, 214, 247, 314*

*Meerveldhoven: 18, 19, 21, 29, 47, 48*

*Obbicht: 19, 35, 36, 49*

*Oosterbeintum: A, 398*

*Rhenen: 168, 179, 181, 222, 320, 423, 431, 436, 595, 608, 659, 669, 790*

*Sittard: 11, 16, 23, 71*

*Stein: 22, 23, 30, 51*

*Veldhoven: 14*

*Wageningen: 99*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 33.3** – (Group D-H > 485 – 705, most commonly in phases E-G > 530 – 640).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50). Most commonly in phase 6 (580/90 – 610/20).

**B1-O3-M2 Large globular bead – opaque yellow**

A large globular or spherical bead made of opaque yellow glass.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Sittard: 11*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5 (565 – 580/90).

**B1-O3-R1 Ring shaped bead – opaque yellow**

A ring-shaped bead made of opaque yellow glass.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Hoogeloon: 23, 26*

*Rhenen: 328, 414*

*Sittard: 43*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

*B1-O4: Monochrome beads made of opaque orange glass*

**B1-O4-C1 Biconical bead – opaque orange**

A biconical bead made of opaque orange glass. In a minority of cases, the shape is more cylindrical.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Bergeijk: 36, 89, 122*

*Hoogeloon: 26*

*Lent: 7218, 7519, 7528*

*Maastricht: 48, 95, 178*

*Meerveldhoven: 18, 21, 29, 30, 32, 40, 47*

*Obbicht: 8, 35, 36, 49, 57*

*Posterholt: 9, 22, 46, 50, 77, 78, 85, 86*

*Rhenen: 7, 13, 71, 160, 178, 270, 313, 328, 565, 587, 630, 642, 669, 815*

*Sittard: 2, 11, 16, 43, 44, 46, 71, 80*

*Stein: 32, 51*

*Wijster: 7, 131, 138, 186, 203*

*Zweeloo: 59, 66, 81, 96*

**Identification in other typologies:**

Franken AG: **S-Per 34.1** – (Group 4-5 > 610/20 – 750).

Siegmund: **Per 34.1** – (Group G-I > 570 – 705, most commonly in groups H-I > 610 - 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50). Most commonly in phase 7 (610/20 – 640/50).

**B1-O4-M1 Small globular or discoid – opaque orange**

Small beads made of opaque orange glass. The beads are either globular or discoid in shape and can be ochre rather than orange in some cases.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 32*

*Rhenen: 152, 669*

**Identification in other typologies:**

Franken AG: **S-Per 34.2** – (Group 3 > 485 – 580/90, most commonly between 510/25 – 580/90).

Siegmund: **Per 34.2** – (Group D-E > 485 – 610).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

*B1-O5: Monochrome beads made of opaque red glass*

**B1-O5-A1 Long thin cylindrical bead – opaque red**

A long and thin cylindrical bead made of opaque red glass.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Posterholt: 59*

*Rhenen: 160, 320*

*Wijster: 10, 11, 156, 163*

*Zweeloo: 45*

**Identification in other typologies:**

Franken AG: **S-Per 35.1** – (Group 3 > 485 – 580/90, most commonly between 510/25 – 580/90).

Siegmund: **Per 35.1** – (Group B-F > 440 – 670).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

### **B1-O5-A2 Small short cylindrical bead – opaque red**

A small and short cylindrical bead made of opaque red glass.

*See Plate 8.*

#### **Occurrence in the Netherlands:**

*Bergeijk: 43*

*Hoogeloon: 26*

*Meerveldhoven: 10, 19, 29, 47, 50*

*Posterholt: 46*

*Rhenen: 320, 394, 438, 601*

*Veldhoven: 10*

*Wijster: 210*

#### **Identification in other typologies:**

Franken AG: **S-Per 35.2** – (Group 3 > 485 – 580/90, most commonly between 510/25 – 580/90).

Siegmund: **Per 35.2** – (Group C-F > 485 – 670).

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50).

### **B1-O5-A3 Short cylindrical bead – opaque red**

A short cylindrical bead made of opaque red glass.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Bergeijk: 43*

*Lent: 7218, 7519*

*Maastricht: 95, 100, 110, 277*

*Meerveldhoven: 10, 32, 50*

*Oosterbeintum: 360*

*Posterholt: 78*

*Rhenen: 7, 13, 92a, 170, 178, 179, 181, 270, 433, 469, 642, 645, 646, 649, 667, 669, 769, 791, 803*

*Sittard: 11, 43*

*Stein: 32*

*Wageningen: 101*

*Wijster: 10, 11, 19, 30, 74, 138, 139, 148, 163, 186, 203*

*Zweeloo: 50, 79, 85, 89*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-8 (460/80 – 670/80). Most commonly in phases 6-7 (580/90 – 640/50).

**B1-O5-B1 Ribbed long cylindrical bead – opaque red**

A long cylindrical bead made of opaque red glass. The ends of the bead are tapered, and the bead shows various ribs. The ribs give the overall impression of various barrel shaped beads attached to each other.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Rhenen: 423*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4 (510/20 – 565).

**B1-O5-C1 Biconical bead – opaque red**

A biconical bead made of opaque red glass.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Bergeijk: 7, 19, 27, 45*

*Lent: 7211, 7218, 7222*

*Maastricht: 100, 110, 124, 277*

*Meerveldhoven: 19*

*Obbicht: 8, 35, 36, 49*

*Posterholt: 83, 87*

*Rhenen: 13, 71, 160, 323, 328, 647, 669*

*Sittard: 11, 16, 23, 44, 59, 80*

*Stein: 32*

*Wageningen: 69*

*Wijster: 17*

*Zweeloo: 96*

**Identification in other typologies:**

Franken AG: **S-Per 35.6** – (Group 4 > 610/20 - 750).

Siegmund: **Per 35.6** – (Group G-I > 570 – 705, most commonly in group H-I > 610 – 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-8 (510/25 – 670/80). Most commonly in phase 7 (610/20 – 640/50).

**B1-05-C2 Small biconical bead – opaque red**

A small biconical bead made of opaque red glass.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 40, 42, 50*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50).

**B1-05-C3 Elongated biconical bead – opaque red**

An elongated biconical bead made of opaque red glass.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 19*

*Rhenen: 669*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

**B1-O5-D1 Discoid bead with rounded edges – opaque red**

A discoid bead with rounded edges, made of opaque red glass. Beads of this type are often relatively small.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Bergeijk: 19, 122*

*Hoogeloon: 26*

*Oosterbeintum: A, 398*

*Rhenen: 138, 270, 323, 332, 343, 394, 396, 414, 470, 546, 595, 646, 669*

*Zweeloo: 86*

**Identification in other typologies:**

Franken AG: **S-Per 35.6** – (Group 4 > 610/20 - 750).

Siegmund: **Per 35.6** – (Group G-I > 570 – 705, most commonly in group H-I > 610 – 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50). Occasionally before phase 4 (pre 510/25).

**B1-O5-D2 Discoid bead with a conical profile – opaque red**

A discoid bead with rounded edges, made of opaque red glass. The disc is slightly thicker than B1-O5-D1 and is broader on one side than on the other, creating a slightly conical profile.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Rhemen: 166, 423*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B1-O5-E1 Small barrel shaped bead – opaque red**

A very small barrel shaped bead made of opaque red glass. Occasionally, the bead has a more globular shape.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 19, 47*

*Rhenen: 608*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

**B1-O5-E2 Barrel shaped bead – opaque red**

A barrel shaped bead made of opaque red glass.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Bergeijk: 9*

*Lent: 7211, 7218, 7519*

*Maastricht: 248*

*Meerveldhoven: 29, 35, 39, 40*

*Oosterbeintum: 342, 360, 398*

*Posterholt: 50, 55, 85*

*Rhenen: 71, 73, 97b, 170, 222, 270, 313, 413, 565, 642, 653, 669, 791, 815, 816*

*Wijster: 140*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-8 (460/80 – 670/80). Most commonly in phases 6-7 (580/90 – 640/50).

**B1-O5-F1 Multi segmented bead – opaque red**

A single bead made up of multiple segments directly adjacent to each other. The number of segments varies but two or three are most common. The individual segments are usually biconical, barrel, discoid or cylindrical shaped, but other variations occur. The bead is made of opaque red glass.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Bergeijk: 19*

*Obbicht: 49*

*Posterholt: 7, 46, 85*

*Rhenen: 7, 165, 320, 601, 791, 816*

*Sittard: 44, 71, 80*

*Stein: 22*

*Veldhoven: 10*

**Identification in other typologies:**

Franken AG: **S-Per 35.7** – (Group 4 > 610/20 – 750).

Siegmund: **Per 35.7** – (Group H > 610 – 705, most commonly between 610 and 670).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50). Most commonly in phase 6-7 (580/90 – 640/50).

**B1-O5-G1 Oblate globular shaped bead – opaque red**

An oblate globular shaped bead made of opaque red glass.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Lent: 7222*

*Obbicht: 35*

*Oosterbeintum: 248, 398, 501*

*Rhenen: 71, 73, 97b, 158, 166, 168, 178, 179, 222, 423, 433, 546, 565, 799*

*Zweeloo: 85*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50). One example known from phase 3 (460/80 – 510/20).

**B1-O5-H1 Wound bead with a stepped shape – opaque red**

Wound bead of which one side is usually wider than the other. Traces of winding are clearly visible. The bead is made of opaque red glass. The overall shape of the bead is usually more or less discoid or barrel shaped.

*See Plate 8.*

**Occurrence in the Netherlands:**

*Hoogeloon: 26*

*Rhenen: 396, 403*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.5** – (Group H > 610 – 705, most commonly between 610 and 670).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B1-O5-H2 Twisted glass wire bead – opaque red**

A bead made up of twisted or wound glass wire. The beads are made of opaque red glass.

*See Plate 9.*

**Occurrence in the Netherlands:**

*Bergeijk: 88*

*Lent: 7218*

*Meerveldhoven: 18, 19*

*Stein: 22*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B1-O5-J1 Conical bead – opaque red**

A conical bead made of opaque red glass.

*See Plate 9.*

**Occurrence in the Netherlands:**

*Rhenen: 565, 669*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20).

**B1-O5-X1 Small irregularly shaped bead – opaque red**

A small irregularly shaped bead made of opaque red glass.

*See Plate 9.*

**Occurrence in the Netherlands:**

*Bergeijk: 19*

*Lent: 7218*

*Maastricht: 12, 68, 100, 110, 178, 187, 247*

*Meerveldhoven: 48*

*Oosterbeintum: 60, 248*

*Rhenen: 138, 181, 350, 394, 423, 431, 440, 546, 646, 659, 667, 669, 708, 781, 790, 799, 803*

*Sittard: 11*

*Wageningen: 99*

*Wijster: 119*

*Zweeloo: 49, 65, 70, 96*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.4** – (Group D-G > 485 – 640).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50). Most commonly in phases 4-6 (510/25 – 610/20)

*B1-O6: Monochrome beads made of opaque white glass*

### **B1-O6-A1 Short cylindrical bead – opaque white**

A short cylindrical bead made of opaque white glass.

*See Plate 9.*

#### **Occurrence in the Netherlands:**

*Bergeijk: 19*

*Maastricht: 95, 110, 235, 314*

*Oosterbeintum: 342, 428*

*Posterholt: 63*

*Rhenen: 168, 222, 320, 323, 394, 469, 595, 646, 660, 669, 803*

*Sittard: 11, 43*

*Stein: 23*

*Wageningen: 69, 101*

*Wijster: 155*

*Zweeloo: 51, 85*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 3-8 (460/80 – 670/80). Most commonly in phases 5-6 (565 – 610/20).

### **B1-O6-C1 Biconical bead – opaque white**

A biconical bead made of opaque white glass.

*See Plate 9.*

**Occurrence in the Netherlands:**

*Bergeijk: 19, 27, 36, 45, 89*

*Maastricht: 100*

*Meerveldhoven: 19*

*Obbicht: 8, 49*

*Oosterbeintum: 342*

*Posterholt: 78*

*Rhenen: 179, 270, 328, 646, 669, 803*

*Sittard: 11, 16, 23, 44, 79, 80, 88*

*Stein: 32*

*Wijster: 168*

**Identification in other typologies:**

Franken AG: **S-Per 32.3** – (Group 4 > 610/20 – 750).

Siegmund: **Per 32.3** – (Group G-I > 570 – 705, most commonly in phases H-I > 610 – 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50). Sporadically in phase 8 (640/50 – 670/80).

**B1-O6-D1 Discoid bead with rounded edge – opaque white**

A discoid bead with a rounded edge, made of opaque white glass.

*See Plate 9.*

**Occurrence in the Netherlands:**

*Bergeijk: 19, 88, 89*

*Maastricht: 152*

*Meerveldhoven: 19*

*Oosterbeintum: 398*

*Posterholt: 22, 63*

*Rhenen: 222, 350, 372, 438, 708*

*Sittard: 44*

*Wageningen: 153*

*Zweeloo: 86*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-8 (460/80 – 670/80).

**B1-O6-E1 Barrel shaped bead – opaque white**

A barrel shaped bead made of opaque white glass.

*See Plate 9.*

**Occurrence in the Netherlands:**

*Bergeijk: 19, 89*

*Lent: 7218, 7519*

*Meerveldhoven: 16, 27, 32, 40*

*Posterholt: 7, 22, 46, 85*

*Rhenen: 222, 323, 328, 578, 659, 669*

*Stein: 23, 32*

*Zweeloo: 42*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-8 (460/80 – 670/80). Most commonly in phases 6-7 (580/90 – 640/50).

**B1-O6-F1 Multi segmented bead – opaque white**

A single bead made up of multiple segments directly adjacent to each other. The number of segments varies but two or three are most common. The individual segments are usually biconical, barrel, discoid or cylindrical shaped, but other variations occur. The bead is made of opaque white glass.

*See Plate 9.*

**Occurrence in the Netherlands:**

*Bergeijk: 19, 53*

*Maastricht: 277*

*Meerveldhoven: 19*

*Posterholt: 49*

*Rhenen: 659*

*Sittard: 71*

*Stein: 22*

*Veldhoven: 10*

**Identification in other typologies:**

Franken AG: **S-Per 32.2** – (Group 4 > 610/20 – 750).

Siegmund: **Per 32.2** – (Group H-I > 610 – 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B1-O6-G1 Oblate globular bead – opaque white**

An oblate globular shaped bead made of opaque white glass.

*See Plate 9.*

**Occurrence in the Netherlands:**

*Bergeijk: 43*

*Lent: 7218, 7519*

*Maastricht: 110, 258, 314*

*Obbicht: 8*

*Oosterbeintum: 295, 398*

*Rhenen: 530, 646*

*Stein: 23*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20). Sporadically in phases 7 (610/20 – 640/50).

### **B1-O6-H1 Small twisted glass wire bead – opaque white**

A small bead with clear traces of a wound manufacture. Beads of this type are usually made of twisted glass wire and have a roundish shape. The colour of the beads is opaque white.

*See Plate 9.*

#### **Occurrence in the Netherlands:**

*Bergeijk: 19*

#### **Identification in other typologies:**

Franken AG: **S-Per 32.1** – (Group 4 > 610/20 – 750).

Siegmund: **Per 32.1** – (Group H > 610 – 705, most commonly between 610 and 670).

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 7 (610/20 – 640/50).

### **B1-O6-H2 Twisted glass wire bead – opaque white**

A bead made up of twisted or wound glass wire. The beads are made of opaque white glass.

*See Plate 9.*

#### **Occurrence in the Netherlands:**

*Meerveldhoven: 18, 19*

*Posterholt: 7*

*Stein: 22*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B1-O6-J1 Conical bead – opaque white**

A conical bead made of opaque white glass.

*See Plate 9.*

**Occurrence in the Netherlands:**

*Rhenen: 646*

*Zweeloo: 50*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

**B1-O6-X1 Irregular shaped bead – opaque white**

An irregularly shaped bead made of opaque white glass.

*See Plate 9.*

**Occurrence in the Netherlands:**

*Maastricht: 68, 235*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5 (565 – 580/90).

*B1-O7: Monochrome beads made of opaque brown glass*

**B1-O7-A1 Short cylindrical bead – opaque brown**

A short cylindrical bead made of opaque brown glass.

*See Plate 9.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 11*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50).

**B1-O7-D1 Small discoid or globular bead – opaque brown**

A small bead which is usually discoid. In some cases, a more globular shape can be recognised.

The bead is made of opaque brown glass.

*See Plate 9.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 19, 29, 35, 48*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

**B1-O7-E1 Barrel shaped bead – opaque brown**

A barrel shaped bead made of opaque brown glass.

*See Plate 9.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 11*

*Rhenen: 13*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Dating unclear, one occurrence in phase 7 (610/20 – 640/50).

**B1-O7-F1 Multi segmented bead – opaque brown**

A single bead made up of multiple segments directly adjacent to each other. The number of segments varies but two or three are most common. The individual segments are usually biconical, barrel, discoid or cylindrical shaped, but other variations occur. The bead is made of opaque brown glass.

*See Plate 9.*

**Occurrence in the Netherlands:**

*Hoogeloon: 23*

*Meerveldhoven: 29, 30*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B1-O7-W1 Melon bead – opaque brown**

A ribbed globular, globular compressed or barrel-shaped bead made of opaque brown glass. This shape is traditionally indicated with the term 'Melon bead', after the usually turquoise-coloured faience beads with the same shape which date to the Roman period (B1-O2-W1).  
*See Plate 9.*

**Occurrence in the Netherlands:**

*Rhenen: 696*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

*B1-O8: Monochrome beads made of opaque grey glass*

### **B1-O8-A1 Short cylindrical bead – opaque grey**

A short cylindrical bead made of opaque grey glass.

*See Plate 9.*

#### **Occurrence in the Netherlands:**

*Lent: 7201*

*Meerveldhoven: 30*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 7 (610/20 – 640/50). Possibly also in phase 8 (640/50 – 670/80).

### **B1-O8-E1 Barrel shaped bead – opaque grey**

A barrel shaped bead made of opaque grey glass.

*See Plate 10.*

#### **Occurrence in the Netherlands:**

*Meerveldhoven: 35, 50*

*Rhenen: 669*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B1-O8-F1 Multi segmented bead – opaque grey**

A single bead made up of multiple segments directly adjacent to each other. The number of segments varies but two or three are most common. The individual segments are usually biconical, barrel, discoid or cylindrical shaped, but other variations occur. The bead is made of opaque grey glass.

*See Plate 10.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 29*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20).

**B1-O8-M1 Globular shaped bead – opaque grey**

A globular shaped bead made of opaque grey glass.

*See Plate 10.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 29*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20).

*B1-O9: Monochrome beads made of opaque black glass*

**B1-O9-A1 Small cylindrical bead – opaque black**

A small cylindrical bead made of opaque black glass. Occasionally, other shapes occur but the bead remains very small.

*See Plate 10.*

**Occurrence in the Netherlands:**

*Bergeijk: 53*

*Maastricht: 12, 95, 187*

*Rhenen: 394, 413, 470, 546, 799*

*Sittard: 11*

**Identification in other typologies:**

Franken AG: **S-Per 31.1** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 31.1** – (Group C-D > 485 – 585).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 2-6 (435/40 – 610/20). Most commonly in phase 4 (510/25 – 565).

**B1-O9-D1 Discoid bead with a rounded edge – opaque black**

A discoid bead with a rounded edge made of opaque black glass.

*See Plate 10.*

**Occurrence in the Netherlands:**

*Hoogeloon: 26*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

**B1-O9-E1 Barrel shaped bead – opaque black**

A barrel shaped bead made of opaque black glass.

*See Plate 10.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 40, 42*

*Oosterbeintum: 60*

*Posterholt: 22*

*Sittard: 32, 44*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B1-O9-F1 Multi segmented bead – opaque black**

A single bead made up of multiple segments directly adjacent to each other. The number of segments varies but two or three are most common. The individual segments are usually biconical, barrel, discoid or cylindrical shaped, but other variations occur. The bead is made of opaque black glass.

*See Plate 10.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 30*

*Posterholt: 86*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 31.2** – (Group H-I > 610 – 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50). Possibly also in phases 6 (580/90 – 610/20) and 8 (640/50 – 670/80).

**B1-09-G1 Oblate globular bead – opaque black**

An oblate globular shaped bead made of opaque black glass.

*See Plate 10.*

**Occurrence in the Netherlands:**

*Obbicht: 19*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5 (565 – 580/90).

**B1-09-H1 Twisted glass wire bead – opaque black**

A bead made up of twisted or wound glass wire. The beads are made of opaque black glass.

*See Plate 10.*

**Occurrence in the Netherlands:**

*Stein: 22*

*Wijster: 211*

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 1-3 (400 – 510/20). One find from approximately phase 6 (580/90 – 610/20).

**B1-09-L1 Rectangular bead – opaque black**

A rectangular bead with a square cross section, made of opaque black glass.

*See Plate 10.*

**Occurrence in the Netherlands:**

*Wijster: 19*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

**B1-09-Q1 'Sunflower' shaped bead – opaque black**

A bead in the shape of a sunflower with five or more 'petals', made of opaque black glass.

**Occurrence in the Netherlands:**

*Posterholt: 86*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 6-8 (580/90 – 670/80).

**B1-09-R1 Ring shaped bead – opaque black**

A ring-shaped bead made of opaque black glass.

*See Plate 10.*

**Occurrence in the Netherlands:**

*Rhenen: 563 600*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

*B1-O11: Monochrome beads made of opaque glass in various colours*

**B1-O11-B1 Large five-sided cylindrical bead – opaque glass in various colours**

A large five-sided cylindrical bead made of opaque glass. This type of bead occurs in various colours. The colour is not chronologically significant.

*See Plate 10.*

**Occurrence in the Netherlands:**

*Maastricht: 258, 277*

*Meerveldhoven: 46*

*Posterholt: 9*

*Rhenen: 166, 169, 266, 323, 350, 394, 423, 595, 646, 661, 667, 671a, 769, 803, 816*

*Sittard: 11*

*Veldhoven: 10*

*Wageningen: 69*

*Zweeloo: 70*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 1.3** – (Group D-I > 485 – 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

**B1-O11-B2 Small six-sided cylindrical bead – opaque glass in various colours**

A small six-sided cylindrical bead made of opaque glass. This type of bead occurs in various colours. The colour is not chronologically significant.

*See Plate 10.*

**Occurrence in the Netherlands:**

*Rhenen: 169, 423, 667*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 1.4** – (Group A > Pre 400 – 555, most commonly pre-400).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

*B1-X1: Monochrome beads made of opaque or translucent blue glass*

**B1-X1-A1 Long and thin cylindrical bead – opaque or translucent blue glass**

A long and thin cylindrical bead made of opaque or translucent blue glass.

*See Plate 11.*

**Occurrence in the Netherlands:**

*Lent: 7218*

*Maastricht: 85, 152, 187*

*Meerveldhoven: 30, 48*

*Posterholt: 59*

*Rhenen: 75, 79, 93, 152, 157, 328, 345, 372, 397, 413, 423, 469, 470, 546, 595, 791*

*Sittard: 11*

*Stein: 32, 51*

*Wijster: 211*

*Zweeloo: 32, 87*

**Identification in other typologies:**

Franken AG: **S-Per 1.2** – (Group 2 > 435/40 – 580/90, most commonly between 460/80 and 565).

Siegmund: **Per 1.2** – (Group A-C > pre 400 – 555).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 1-8 (400 – 670/80). Most commonly in phases 3-6 (460/80 – 610/20).

**B1-X1-M1 Tiny globular bead – translucent or opaque blue**

A very small bead made of opaque or translucent blue glass. The beads are usually globular but occasionally have a more discoid shape.

This type seems to be most common in phases 5 to 7. In the grave of the so-called 'Princess of Zweeloo', however, the beads already occur as early as phase 3. There is a possibility, however, that the Zweeloo 87 beads, which are predominantly discoid, are in fact heirlooms from an earlier time period.

*See Plate 11.*

**Occurrence in the Netherlands:**

*Hoogeloon: 26*

*Meerveldhoven: 28, 29, 30*

*Rhenen: 222*

*Wijster: 210*

*Zweeloo: 59, 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50). Occasionally as early as phase 3 (460/80 – 510/25).

*B1-X11: Monochrome beads made of opaque or translucent glass in various colours*

**B1-X11-L1** Long and thin rectangular bead – opaque or translucent glass in various colours

A long and thin rectangular bead made of opaque or translucent glass. This type of bead occurs in various colours. The colour is not chronologically significant. The cross section of the bead is square.

*See Plate 11.*

**Occurrence in the Netherlands:**

*Bergeijk: 9*

*Meerveldhoven: 10, 47*

*Rhenen: 803*

*Wijster 119, 120, 127*

**Identification in other typologies:**

Franken AG: **S-Per 1.5** – (Group 1 > 460/80 – 510/25).

Siegmund: **Per 1.5** – (Group A > pre 400 – 555, most commonly pre 400).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-8 (510/25 – 670/80).

**B1-X11-L2 Large square or rectangular bead – opaque or translucent glass in various colours**

A large square or rectangular bead made of opaque or translucent glass. This type of bead occurs in various colours. The colour is not chronologically significant. The cross section of the bead is square.

*See Plate 11.*

**Occurrence in the Netherlands:**

*Maastricht: 68, 85, 235*

*Meerveldhoven: 11, 18*

*Rhenen: 169, 270, 350, 423, 661*

*Wageningen: 124*

*Wijster: 119, 148, 156, 163*

*Zweeloo: 51, 59, 70, 85, 87, 89, 96*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 1.6** – (Group A and H-I > pre 400 – 555, most commonly pre 400. And 610 - 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 2-8 (435/40 – 670/80). Most commonly in phases 5-7 (565 – 640/50).

**B1-X11-N1 Almond shaped bead – opaque or translucent glass in various colours**

An almond shaped bead made of opaque or translucent glass. This type of bead occurs in various colours. The colour is not chronologically significant, but green is most frequently found. This type distinguishes itself from other almond shaped beads, which are separately specified, by the flat or diamond shaped cross section.

*See Plate 11.*

**Occurrence in the Netherlands:**

*Bergeijk: 9, 19, 45, 88, 89, 122*

*Maastricht: 68, 152, 166, 187, 314*

*Meerveldhoven: 18, 19, 28, 29, 32, 42, 46, 48, 50*

*Obbicht: 49*

*Posterholt: 46*

*Rhenen: 816*

*Stein: 23, 32*

*Zweeloo: 46*

**Identification in other typologies:**

Franken AG: **S-Per 1.8** – (Group 4-5 > 610/20 - 750).

Siegmund: **Per 1.8** – (Group H-I > 610 – 705).

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 4-8 (510/25 – 670/80). Most commonly in phases 6-7 (580/90 – 640/50).

## B2: METAL FOIL BEADS

*B2-T1: Metal foil beads*

**B2-T10-F1** Metal foil beads - Gold

Translucent beads of colourless glass with a core of gold foil. Metal foil beads, also commonly known as *Überfangperlen* are multi segmented beads with a tiny cylindrical piece of glass on either side of each globular segment. The connecting pieces of glass are sometimes referred to as collars. In some cases, only individual segments are recovered from inhumation contexts.

Metal foil beads with gold are less common than their silver counterparts but are in use for many decades. The beads occasionally occur in Roman necklaces and are frequently found in Merovingian contexts from phases 1 to 4 (400 – 565). One specimen from this sample could be placed in phase 5 (565 – 580/90). Usage seems to dip in phases 6 and 7 with no occurrences in the sample, but from phase 8 (640/50 – 670/80) the type is present again (e.g. Wijster grave 16) and continues well into the Carolingian period, possibly up to approximately AD 900.

*See Plate 11.*

#### **Occurrence in the Netherlands:**

*Lent: 7218*

*Rhenen: 95, 99, 157, 394, 413, 510, 696*

*Wijster: 16, 125, 166, 210, 211*

*Zweeloo: 29*

#### **Identification in other typologies:**

Franken AG: **S-Per 40** – (Phase 2-5 > 435/40 – 580/90, most commonly in phase 3-4 > 460/80 - 565).

Siegmund: **Per 40.2** – (Group C-E > 485 – 610, occasionally in groups A-B > pre-400 - 485).

LPV: -

Hines: -

VMP: **related to A1.2-1** – (Group P1 > pre 470/80 – 520/30, possibly as early as 440/50).

Koch: -

#### **Dating in the Netherlands:**

Early group: Phase 1-4 (400 – 565) Sporadically in phase 5 (565 – 580/90).

Late group: Phase 8-10 (640/50 – 750) Continuing into the Carolingian period, possibly up to AD 900.

## **B2-T10-F2 Metal foil beads - Silver**

Translucent bead of colourless glass with a core of silver foil. Metal foil beads, also commonly known as *Überfangperlen* are multi segmented beads with a tiny cylindrical piece of glass on either side of each globular segment. The connecting pieces of glass are sometimes referred to as collars. In some cases, only individual segments are recovered from inhumation contexts.

Metal foil beads with silver are more common than their golden counterparts and are in use for many decades. The beads occasionally occur in Roman necklaces and are frequently found in Merovingian contexts from phases 1 to 5 (400 – 580/90). They are most frequently encountered in inhumations dating to phase 4 (510/25 – 565). Usage seems to dip in phases 6 and 7 with no occurrences in the sample, but from phase 8 (640/50 – 670/80) the type is present again (e.g. Wijster grave 204) and continues well into the Carolingian period, possibly up to approximately AD 900.

*See Plate 11.*

### **Occurrence in the Netherlands:**

*Maastricht: 48, 68, 178, 187*

*Rhenen: 75, 79, 152, 157, 165, 372, 394, 397, 413, 423, 433, 438, 510, 546, 591, 696, 753*

*Wijster: 2, 5, 204, 210, 211*

### **Identification in other typologies:**

Franken AG: **S-Per 40** – (Phase 2-5 > 435/40 – 580/90, most commonly in phase 3-4 > 460/80 - 565).

Siegmund: **Per 40.1** – (Group C-E > 485 – 610, occasionally in groups A-B > pre-400 - 485)

LPV: -

Hines: -

VMP: **related to A1.2-1** – (Group P1 > pre 470/80 – 520/30, possibly as early as 440/50)

Koch: -

### **Dating in the Netherlands:**

Early group: Phase 1-5 (400 – 580/90) Most commonly in phase 4 (510/25 - 565).

Late group: Phase 8-10 (640/50 – 750) Continuing into the Carolingian period, possibly up to AD 900.

### **B2-T10-Y1 Metal foil beads – Other colours**

This is a general group for any metal foil beads, or *Überfangperlen*, which are not predominantly gold or silver. The beads are often multi segmented with a tiny cylindrical piece of glass on either side of each globular segment. The connecting pieces of glass are sometimes referred to as collars. In some cases, only individual segments are recovered from inhumation contexts. In addition, metal foil beads from this group are occasionally found as individual non-segmented specimens, usually with a globular or barrel shape.

In Rhenen graves 397 and 433, beads are present consisting of silver foil and green glass. In Zweeloo grave 87, metal foil beads were found which are yellowish-brown. The same grave also contains various pseudo-metal foil beads which have the characteristic globular shape and collars, but no metal foil present. As the beads are made in the same tradition, they are also incorporated in this group. Rhenen grave 338 contains a second potential pseudo-metal foil bead which combines brownish-red glass with a green core.

*See Plate 11.*

#### **Occurrence in the Netherlands:**

*Rhenen: 338, 397, 433*

*Zweeloo: 87*

#### **Identification in other typologies:**

Franken AG: **related to S-Per 40** – (Phase 2-5 > 435/40 – 580/90, most commonly in phase 3-4 > 460/80 - 565).

Siegmund: **related to Per 40.1** – (Group C-E > 485 – 610, occasionally in groups A-B > pre-400 - 485). **related to Per 40.2** – (Group C-E > 485 – 610, occasionally in groups A-B > pre-400 - 485).

LPV: -

Hines: -

VMP: **related to A1.2-1** – (Group P1 > pre 470/80 – 520/30, possibly as early as 440/50).

Koch: -

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).

## B3: POLYCHROME GLASS BEADS

### *B3-A1: Beads with a single row of dots*

#### **B3-A1-A1 Cylindrical bead – red with yellow dots**

A cylindrical bead with a single row of three or four yellow dots on a red background.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Posterholt: 22*

**Identification in other typologies:**

Franken AG: **S-Per 2.9** – (Group 4-5 > 610/20 - 750)

Siegmund: **Per 2.9** – (Group G-I > 570 - 705, most commonly between 610 and 705)

LPV: -

Hines: -

VMP:

Koch: **(2001) 1.33** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50)

### **B3-A1-A2 Cylindrical bead – blue with yellow dots**

A cylindrical bead with a single row of three or four yellow dots on a blue background.

*See Plate 12.*

#### **Occurrence in the Netherlands:**

*Lent: 7201*

#### **Identification in other typologies:**

Franken AG: **S-Per 2.9** – (Group 4-5 > 610/20 - 750)

Siegmund: **Per 2.9** – (Group G-I > 570 - 705, most commonly between 610 and 705)

LPV: -

Hines: -

VMP:

Koch: **(2001) 1.41** – (Stufe 4-6 > 590/600 – 680)

#### **Dating in the Netherlands:**

Dating unknown.

### **B3-A1-D1 Discoid bead with a rounded edge – brown with yellow dots**

A discoid bead with rounded edges and a single row of three or four yellow dots on a brown background.

*See Plate 12.*

#### **Occurrence in the Netherlands:**

*Rhenen: 696*

**Identification in other typologies:**

Franken AG: **S-Per 2.8** – (Group 2-3 > 435/40 – 580/90)

Siegmund: **Per 2.8** – (Group C-D > 485 - 585)

LPV: -

Hines: -

VMP:

Koch: **(1977) 1.9** – (Stufe 2-3 > 545/50 – 590/600)

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-A1-E1 Barrel shaped bead – red with white dots**

A barrel shaped bead with a single row of three or four white dots on a red background.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Wijster: 182*

**Identification in other typologies:**

Franken AG: **S-Per 2.9** – (Group 4-5 > 610/20 - 750)

Siegmund: **Per 2.9** – (Group G-I > 570 - 705, most commonly between 610 and 705)

LPV: -

Hines: -

VMP:

Koch: **(2001) 1.23** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50). Possibly also in phase 8 (640/50 – 670/80).

**B3-A1-E2 Barrel shaped bead – red with yellow dots**

A barrel shaped bead with a single row of three or four yellow dots on a red background.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Posterholt: 9*

**Identification in other typologies:**

Franken AG: **S-Per 2.9** – (Group 4-5 > 610/20 - 750)

Siegmund: **Per 2.9** – (Group G-I > 570 - 705, most commonly between 610 and 705)

LPV: -

Hines: -

VMP:

Koch: **(2001) 1.27** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50). Possibly also in phases 6 and 8 (580/90 – 610/20 and 640/50 – 670/80).

**B3-A1-E3 Barrel shaped bead – yellow with blue dots**

A barrel shaped bead with a single row of three or four blue dots on a yellow background.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Rhenen: 270*

**Identification in other typologies:**

Franken AG: **S-Per 2.9** – (Group 4-5 > 610/20 - 750)

Siegmund: **Per 2.9** – (Group G-I > 570 - 705, most commonly between 610 and 705)

LPV: -

Hines: -

VMP:

Koch: **Not identified > Group 1**

**Dating in the Netherlands:**

Phase 5 (565 – 580/90).

**B3-A1-E4 Barrel shaped bead – black with white or yellow dots**

A barrel shaped bead with a single row of three or four white or yellow dots on a black background.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 32*

**Identification in other typologies:**

Franken AG: **S-Per 2.9** – (Group 4-5 > 610/20 - 750)

Siegmund: **Per 2.9** – (Group G-I > 570 - 705, most commonly between 610 and 705)

LPV: -

Hines: -

VMP:

Koch: **Not identified > Group 1**

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50).

**B3-A1-F1 Multi segmented bead – red with yellow dots**

A multi segmented bead with a single row of three or four yellow dots on a red background on each segment. The segments are usually barrel shaped, cylindrical or oblate globular.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 50*

**Identification in other typologies:**

Franken AG: **S-Per 2.9** – (Group 4-5 > 610/20 - 750)

Siegmund: **Per 2.9** – (Group G-I > 570 - 705, most commonly between 610 and 705)

LPV: -

Hines: -

VMP:

Koch: **(1977) 1.7** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50). Possibly also in phase 6 (580/90 – 610/20)

**B3-A1-F2 Multi segmented bead – brown with yellow dots**

A multi segmented bead with a single row of three or four yellow dots on a brown background on each segment. The segments are usually barrel shaped, cylindrical or oblate globular.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 50*

**Identification in other typologies:**

Franken AG: **S-Per 2.9** – (Group 4-5 > 610/20 - 750)

Siegmund: **Per 2.9** – (Group G-I > 570 - 705, most commonly between 610 and 705)

LPV: -

Hines: -

VMP:

Koch: **Not identified > Group 1**

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50). Possibly also in phase 6 (580/90 – 610/20)

**B3-A1-F3 Multi segmented bead – blue with yellow dots**

A multi segmented bead with a single row of three or four yellow dots on a blue background on each segment. The segments are usually barrel shaped, cylindrical or oblate globular.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 50*

**Identification in other typologies:**

Franken AG: **S-Per 2.9** – (Group 4-5 > 610/20 - 750)

Siegmund: **Per 2.9** – (Group G-I > 570 - 705, most commonly between 610 and 705)

LPV: -

Hines: -

VMP:

Koch: **(2001) 1.39** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50). Possibly also in phase 6 (580/90 – 610/20)

**B3-A1-G1 Oblate globular bead – red with yellow dots**

An oblate globular bead with a single row of three or four yellow dots on a red background.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Lent: 7218*

*Meerveldhoven: 18, 19, 40, 50*

**Identification in other typologies:**

Franken AG: **S-Per 2.8** – (Group 2-3 > 435/40 – 580/90)

Siegmund: **Per 2.8** – (Group C-D > 485 - 585)

LPV: -

Hines: -

VMP:

Koch: **(1977) 1.4** – (Stufe 2-3 > 545/50 – 590/600)

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-A1-G2 Oblate globular bead – brown with yellow dots**

An oblate globular bead with a single row of three or four yellow dots on a brown background.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 29, 35*

*Oosterbeintum: 342, 360*

**Identification in other typologies:**

Franken AG: **S-Per 2.8** – (Group 2-3 > 435/40 – 580/90)

Siegmund: **Per 2.8** – (Group C-D > 485 - 585)

LPV: -

Hines: -

VMP:

Koch: **(1977) 1.10** – (Stufe 2-3 > 545/50 – 590/600)

**Dating in the Netherlands:**

Phase 3-6 (460/80 – 610/20).

**B3-A1-G3 Large oblate globular bead – green with blue dots**

A large oblate globular bead with a single row of three or four blue dots on a green background.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Maastricht: 314*

**Identification in other typologies:**

Franken AG: **S-Per 2.8** – (Group 2-3 > 435/40 – 580/90)

Siegmund: **Per 2.8** – (Group C-D > 485 - 585)

LPV: -

Hines: -

VMP:

Koch: **(1977) 1.13** – (Stufe 2-3 > 545/50 – 590/600)

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

*B3-A2: Beads covered in dots in one or two colours*

**B3-A2-A1 Short cylindrical bead – red with yellow dots**

A short cylindrical bead made of red glass and covered with yellow dots. The dots can be randomly distributed or placed in more than one row.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Rhenen: 667*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 3.14** – (Stufe 3-4 > 565 – 620/30, most commonly in Stufe 4 > 590/600 – 620/30)

**Dating in the Netherlands:**

Date unknown.

**B3-A2-A2 Long thin cylindrical bead – red with white dots**

A long and thin cylindrical bead made of red glass and covered with white dots. The dots can be randomly distributed or placed in more than one row.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Rhenen: 670*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 3.32** – (Stufe 3-4 > 565 – 620/30, most commonly in Stufe 4 > 590/600 – 620/30)

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

**B3-A2-A3 Long thin cylindrical bead – brown with yellow dots**

A long and thin cylindrical bead made of brown glass and covered with yellow dots. The dots can be randomly distributed or placed in more than one row.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 50*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 3.38** – (Stufe 3-4 > 565 – 620/30, most commonly in Stufe 4 > 590/600 – 620/30)

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50). Possibly also in phase 6 (580/90 – 610/20).

**B3-A2-A4 Long thin cylindrical bead – blue with yellow dots**

A long and thin cylindrical bead made of blue glass and covered with yellow dots. The dots can be randomly distributed or placed in more than one row.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 50*

*Posterholt: 62*

*Stein: 32*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 3.38** – (Stufe 3-4 > 565 – 620/30, most commonly in Stufe 4 > 590/600 – 620/30)

**Dating in the Netherlands:**

Phase 7-8 (610/20 – 670/80). Possibly also in phase 6 (580/90 – 610/20).

**B3-A2-A5 Long thin cylindrical bead – white with blue dots**

A long and thin cylindrical bead made of white glass and covered with blue dots. The dots can be randomly distributed or placed in more than one row.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Zweeloo: 85*

**Identification in other typologies:**

Franken AG: **S- Per 32.4** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 32.4** – (Group D-F > 485 - 670).

LPV: -

Hines: -

VMP:

Koch: **(2001) 3.38** – (Stufe 3-4 > 565 – 620/30, most commonly in Stufe 4 > 590/600 – 620/30)

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20). Possibly also in phase 7 (610/20 – 670/80).

**B3-A2-C1 Biconical bead – red with white dots**

A biconical bead made of red glass and covered with white dots. The dots can be randomly distributed or placed in more than one row.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Rhenen: 394, 397*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 2.6** – (Group E-G > 530 – 640, most commonly in group F > 555 - 640).

LPV: -

Hines: -

VMP:

Koch: **(1977) 3.12** – (Stufe 3-4 > 565 – 620/30, most commonly in Stufe 4 > 590/600 – 620/30)

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-A2-C2 Elongated biconical bead – red with yellow dots**

An elongated biconical bead made of red glass and covered with yellow dots. The dots can be randomly distributed or placed in more than one row.

*See Plate 12.*

**Occurrence in the Netherlands:**

*Zweeloo: 46*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 2.6** – (Group E-G > 530 – 640, most commonly in group F > 555 - 640).

LPV: -

Hines: -

VMP:

Koch: **(1977) 3.15** – (Stufe 3-4 > 565 – 620/30, most commonly in Stufe 4 > 590/600 – 620/30)

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50).

**B3-A2-C3 Elongated biconical bead – red with yellow dots**

An elongated biconical bead made of white glass and covered with red and green dots. The dots can be randomly distributed or placed in more than one row. In the case of this particular type, the decoration usually consists of a row of green dots around the carination of the bead and a row of red dots on either side thereof.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Oosterbeintum: 374b*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 2.6** – (Group E-G > 530 – 640, most commonly in group F > 555 - 640).

LPV: -

Hines: -

VMP:

Koch: **(1977) 3.6** – (Stufe 3-4 > 565 – 620/30, most commonly in Stufe 4 > 590/600 – 620/30)

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-A2-E1 Small barrel-shaped bead – red with white dots**

A small barrel shaped bead made of red glass and covered with white dots. The dots can be randomly distributed or placed in more than one row.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Rhenen: 166*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 3.30** – (Stufe 3-4 > 565 – 620/30, most commonly in Stufe 4 > 590/600 – 620/30)

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-A2-E2 Large barrel-shaped bead – red with white dots**

A large barrel shaped bead made of red glass and covered with white dots. The dots can be randomly distributed or placed in more than one row.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Rhenen: 166*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 3.31** – (Stufe 3-4 > 565 – 620/30, most commonly in Stufe 4 > 590/600 – 620/30)

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-A2-V1 Polyhedron shaped bead – translucent blue, with red dots**

A polyhedron shaped bead made of translucent blue glass. Each large side is decorated with a centrally placed red dot.

Decorated polyhedron shaped beads exist in various forms but are rare in the Netherlands. A common decoration in the German Rhineland is an eye consisting of a blue dot in a white field<sup>1020</sup>. The dating of this group is purely based on the type with the red dot decoration.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Zweeloo: 89*

**Identification in other typologies:**

Franken AG: -

Siegmund: **related to Per 47.10** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 2-3 (435/40 – 510/25).

**B3-A2-G1 Oblate globular bead – white with red dots**

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<sup>1020</sup> Siegmund 1998, 76.

An oblate globular bead made of white glass and covered with red dots. The dots can be randomly distributed or placed in more than one row.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Rhemen: 168*

*Wageningen: 148*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 3.1** – (Stufe 3-4 > 565 – 620/30, most commonly in Stufe 4 > 590/600 – 620/30)

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

*B3-A3: Rectangular beads with a central dot and dots in each corner*

**B3-A3-L1 Rectangular bead – red with yellow dots**

A rectangular bead with yellow dots on a red background. The décor consists of a central dot on each long side and dots in the four corners. The cross section of the bead is square.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Bergeijk: 22, 89*

*Meerveldhoven: 27, 28, 29, 47, 48, 50*

*Posterholt: 46*

*Stein: 11*

**Identification in other typologies:**

Franken AG: **S-Per 2.5** – (Group 4-5 > 610/20 - 750).

Siegmund: **Per 2.5** – (Group H-I > 610 – 705).

LPV: -

Hines: -

VMP:

Koch: **(1977) 4.2** – (Stufe 4-6 > 590/600 - 680)

**Dating in the Netherlands:**

Phase 6-8 (580/90 – 670/80).

**B3-A3-L2 Rectangular bead – blue with yellow dots**

A rectangular bead with yellow dots on a blue background. The décor consists of a central dot on each long side and dots in the four corners. The cross section of the bead is square.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Maastricht: 110*

**Identification in other typologies:**

Franken AG: **S-Per 2.5** – (Group 4-5 > 610/20 - 750).

Siegmund: **Per 2.5** – (Group H-I > 610 – 705).

LPV: -

Hines: -

VMP:

Koch: **(1977) 4.6** – (Stufe 4-6 > 590/600 - 680)

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20).

*B3-A4: Beads with a central row of dots and borders*

**B3-A4-A1 Cylindrical bead – red with yellow dots and borders**

A cylindrical bead with yellow dots and borders on a red background. The décor consists of a central row of dots flanked on both sides by a border.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Rhenen: 345*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 2.4** – (Group F-H > 555 – 705).

LPV: -

Hines: -

VMP:

Koch: **(1977) 16.3** – (Stufe 3-6 > 565 – 680)

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-A4-A2 Cylindrical bead – white with red dots and green borders**

A cylindrical bead with red dots and green borders on a white background. The décor consists of a central row of dots flanked on both sides by a border.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Rhenen: 97b*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 2.4** – (Group F-H > 555 – 705).

LPV: -

Hines: -

VMP:

Koch: **(2001) 16.6** – (Stufe 3-6 > 565 – 680)

**Dating in the Netherlands:**

Date unknown

**B3-A4-G1 Oblate globular bead – red with yellow dots and white borders**

An oblate globular bead with yellow dots and white borders on a red background. The décor consists of a central row of dots flanked on both sides by a border.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Rhenen: 565*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 16.9** – (Stufe 3-6 > 565 – 680)

**Dating in the Netherlands:**

Date unknown

**B3-A4-G2 Oblate globular bead – white with red dots and green borders**

An oblate globular bead with red dots and green borders on a white background. The décor consists of a central row of dots flanked on both sides by a border.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Obbicht: 35*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **Not identified > Group 16**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

*B3-A5: Beads with dots, borders and one or more central lines*

**B3-A5-G1 Oblate globular bead – black with white dots and red lines and borders**

An oblate globular bead with white dots and red lines and borders on a black background. The décor consists of a central row of dots under or over a red line, flanked on both sides by a border.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Oosterbeintum: 60*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **Not identified > Group 65**

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

*B3-A6: Rectangular beads with dots, two or more lines and borders*

**B3-A6-L1** Rectangular bead – white with red, white and yellow dots, green lines and red borders

A rectangular bead with white, yellow and red dots, green lines and red borders on a white background. The décor consists of white fields surrounded by red borders. The white fields are divided into four triangles by two crossed green lines. A red dot sits in every triangle. The borders are decorated with white dots on each corner and a yellow dot centrally on each edge.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Bergeijk: 19*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 67.2** – (No date provided)

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

*B3-B1: Plain beads with bichrome eyes*

**B3-B1-E1 Barrel shaped bead – red with white and blue eyes**

A barrel shaped bead with eyes made up of a blue or green dot with a white circle on a red background.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Lent: 7519*

**Identification in other typologies:**

Franken AG: **S-Per 2.10** – (Group 4 > 610/20 – 750).

Siegmund: **Per 2.10** – (Group G-H > 570 – 705, most commonly between 570 and 670).

LPV: -

Hines: -

VMP:

Koch: **(2001) 6.25** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B3-B1-E2 Barrel shaped bead – blue with white and red eyes**

A barrel shaped bead with eyes made up of a red dot with a white circle on a blue background.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Rhenen: 138*

**Identification in other typologies:**

Franken AG: **S-Per 2.10** – (Group 4 > 610/20 – 750).

Siegmund: **Per 2.10** – (Group G-H > 570 – 705, most commonly between 570 and 670).

LPV: -

Hines: -

VMP:

Koch: **(2001) 7.8** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

### **B3-B1-E3 Large barrel shaped bead – blue with white and red eyes**

A large barrel shaped bead with eyes made up of a red dot with a white circle on a blue background.

*See Plate 13.*

#### **Occurrence in the Netherlands:**

*Rhenen: 670*

#### **Identification in other typologies:**

Franken AG: **S-Per 2.10** – (Group 4 > 610/20 – 750).

Siegmund: **Per 2.10** – (Group G-H > 570 – 705, most commonly between 570 and 670).

LPV: -

Hines: -

VMP:

Koch: **(2001) 7.18** – (Stufe 4-6 > 590/600 – 680)

#### **Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

### **B3-B1-G1 Large oblate globular shaped bead – blue or green with white and red eyes**

A large oblate globular shaped bead with eyes made up of a red dot with a white circle on a blue or green background.

*See Plate 13.*

#### **Occurrence in the Netherlands:**

*Wijster: 32*

**Identification in other typologies:**

Franken AG: **S-Per 2.10** – (Group 4 > 610/20 – 750).

Siegmund: **Per 2.10** – (Group G-H > 570 – 705, most commonly between 570 and 670).

LPV: -

Hines: -

VMP:

Koch: **(2001) 8.5** – (No date provided)

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-B1-G2 Oblate globular shaped bead – black with white and red eyes**

An oblate globular shaped bead with eyes made up of a red dot with a white circle on a black background.

*See Plate 13.*

**Occurrence in the Netherlands:**

*Wijster: 163*

**Identification in other typologies:**

Franken AG: **S-Per 2.10** – (Group 4 > 610/20 – 750).

Siegmund: **Per 2.10** – (Group G-H > 570 – 705, most commonly between 570 and 670).

LPV: -

Hines: -

VMP:

Koch: **Not identified > Group 8**

**Dating in the Netherlands:**

Date unknown

### **B3-B1-G3 Oblate globular shaped bead – black with white and blue eyes**

An oblate globular shaped bead with eyes made up of a blue dot with a white circle on a black background.

*See Plate 13.*

#### **Occurrence in the Netherlands:**

*Wijster: 163*

#### **Identification in other typologies:**

Franken AG: **S-Per 2.10** – (Group 4 > 610/20 – 750).

Siegmund: **Per 2.10** – (Group G-H > 570 – 705, most commonly between 570 and 670).

LPV: -

Hines: -

VMP:

Koch: **Not identified > Group 8**

#### **Dating in the Netherlands:**

Date unknown

### *B3-B2: White beads with polychrome eyes and dots*

### **B3-B2-B1 Five-sided cylindrical bead – white with red, white and green eyes and red and white eyes**

A five-sided cylindrical bead with two types of eyes on a white background. Each side of the bead shows a central eye made up of a red dot with a white circle and a red circle. The central eye is flanked on both sides by an eye made up of a red dot with a white circle and a green circle.

*See Plate 14.*

**Occurrence in the Netherlands:**

*Bergeijk: 19*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **Not identified > Group 15**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-B2-E1 Barrel shaped bead – white with red, white and green eyes and red dots**

A barrel shaped bead made of white glass with a central row of red dots. The central row is flanked on both sides by a row of eyes made up of a red dot with a white ring and a green ring.

*See Plate 14.*

**Occurrence in the Netherlands:**

*Maastricht: 100*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 15.34** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

*B3-B3: Beads with eyes, borders and occasionally dots*

**B3-B3-A1 Cylindrical bead – Black with white and blue eyes and white borders**

A cylindrical bead made of black glass. The bead shows a white border on both sides and a central row of eyes consisting of a white dot with a blue circle within a white circle.

*See Plate 14.*

**Occurrence in the Netherlands:**

*Sittard: 44*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **Not identified > Group 64**

**Dating in the Netherlands:**

Date unknown.

**B3-B3-A2 Cylindrical bead – Red with white and blue eyes, yellow dots and yellow borders**

A cylindrical bead made of red or brown-red glass. The bead shows a yellow border on both sides and a central row of eyes consisting of a blue dot within a white circle. The eyes are alternated by plain yellow dots.

*See Plate 14.*

**Occurrence in the Netherlands:**

*Sittard: 16*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **Not identified > Group 64**

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20).

*B3-B4: Beads with red-white-blue mosaic eyes*

**B3-B4-A1 Cylindrical bead – Blue with red-white-blue eyes**

A cylindrical bead made of blue glass. The bead features a central row of eyes consisting of a blue dot with a white circle within a red circle.

*See Plate 14.*

**Occurrence in the Netherlands:**

*Wijster: 163*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **Not identified > Group 9**

**Dating in the Netherlands:**

Date unknown.

*B3-B5: Plain beads with raised eyes*

**B3-B5-G1 Oblate globular bead – Black with white and blue raised eyes**

An oblate globular bead made of black glass. In some cases, the shape may approach discoid with a rounded edge. The bead features a central row of eyes consisting of a raised light blue dot within a raised white circle.

*See Plate 14.*

**Occurrence in the Netherlands:**

*Rhenen: 530*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 24.9** – (late Stufe 4 > c. 610 – 620/30).

**Dating in the Netherlands:**

Phase 4 (510/25 – 565).

*B3-B6: Beads with raised eyes, borders and occasionally dots*

**B3-B6-E1 Barrel shaped bead – Red with white and blue eyes, yellow dots and yellow borders**

A barrel shaped bead made of red glass. In some cases, the shape can be more cylindrical. The bead shows a yellow border on both sides and a central row of raised eyes consisting of a blue dot within a white circle. The eyes are alternated by plain yellow dots.

*See Plate 14.*

**Occurrence in the Netherlands:**

*Sittard: 80*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **Not identified > Group 68**

**Dating in the Netherlands:**

Phase 6 (580/90 – 610/20). Possibly as early as phase 5 (565 – 580/90).

### *B3-C1: Crumb beads*

#### **B3-C1-E1 Large barrel-shaped bead – white with red speckles**

A large barrel shaped bead made of white glass. The bead features randomly placed speckles in red.

*See Plate 14.*

#### **Occurrence in the Netherlands:**

*Rhenen: 166*

#### **Identification in other typologies:**

Franken AG: **S-Per 2.7** – (Group 4 > 610/20 - 750).

Siegmund: **Per 2.7** – (Group H > 610 – 705, most commonly between 610 - 670).

LPV: -

Hines: -

VMP: -

Koch **Not identified > Group 11**

#### **Dating in the Netherlands:**

Phase 4b-5 (535/40 – 580/90).

#### **B3-C1-E2 Barrel shaped bead – Black with white, green and red speckles**

A barrel shaped bead made of black glass. The bead features randomly placed speckles in white, green and red or brownish red.

*See Plate 14.*

**Occurrence in the Netherlands:**

*Veldhoven: 6*

**Identification in other typologies:**

Franken AG: **S-Per 2.15** – (Group 5 > 640/50 - 750).

Siegmund: **Per 2.15** – (Group H-I > 610 – 705, most commonly between 670 and 705).

LPV: -

Hines: -

VMP:

Koch: **(2001) 11.13** – (Stufe 2-3 > 545/50 – 590/600).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

**B3-C1-F1 Multi segmented bead – Blue with yellow speckles**

A multi segmented bead made of blue glass. The bead features randomly placed speckles in yellow. The individual segments are usually barrel shaped or oblate globular.

*See Plate 14.*

**Occurrence in the Netherlands:**

*Den Haag: 1020*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 11)**

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B3-C1-G1 Oblate globular shaped bead – creme with yellow, green and red speckles**

An oblate globular to discoid shaped bead made of crème coloured or whitish glass. The bead features randomly placed speckles in yellow, green and red or brownish red.

*See Plate 14.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 10, 11*

**Identification in other typologies:**

Franken AG: **S-Per 2.15** – (Group 5 > 640/50 - 750).

Siegmund: **Per 2.15** – (Group H-I > 610 – 705, most commonly between 670 and 705).

LPV: -

Hines: -

VMP:

Koch: **(2001) 11.12** – (Stufe 2-3 > 545/50 – 590/600).

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B3-C1-G2 Oblate globular shaped bead – green with red and white speckles**

An oblate globular shaped bead made of green glass. The bead features randomly placed speckles in red and white.

*See Plate 14.*

**Occurrence in the Netherlands:**

*Zweeloo: 51*

**Identification in other typologies:**

Franken AG: **S-Per 2.15** – (Group 5 > 640/50 - 750).

Siegmund: **Per 2.15** – (Group H-I > 610 – 705, most commonly between 670 and 705).

LPV: -

Hines: -

VMP:

Koch: **(1977) 11.10** – (Stufe 2-3 > 545/50 – 590/600).

**Dating in the Netherlands:**

Phase 5-8 (565 – 670/80).

**B3-C1-G3 Oblate globular bead – green with red, white and yellow speckles**

An oblate globular bead made of green glass. The bead features randomly placed speckles in yellow, red and white. The bead is relatively similar to type Koch type 11.6 but is smaller and has more clearly defined white speckles.

*See Plate 14.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 26, 40, 42, 47*

**Identification in other typologies:**

Franken AG: **S-Per 2.15** – (Group 5 > 640/50 - 750).

Siegmund: **Per 2.15** – (Group H-I > 610 – 705, most commonly between 670 and 705).

LPV: -

Hines: -

VMP:

Koch: **Related to (1977) 11.6** – (Stufe 2-3 > 545/50 – 590/600).

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50).

### *B3-D1: Beads with one central individual line decoration*

#### **B3-D1-A1 Cylindrical bead – red with a single green line**

A cylindrical bead made of red glass. The bead is decorated with a centrally placed single green line.

*See Plate 14.*

#### **Occurrence in the Netherlands:**

*Lent: 7519*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

#### **Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

#### **B3-D1-C1 Elongated biconical bead – green with a single blue line**

An elongated biconical bead made of green glass. The bead is decorated with a centrally placed single blue line.

*See Plate 14.*

**Occurrence in the Netherlands:**

*Rhenen: 338*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-C1-G1 Oblate globular shaped bead – green with red and white speckles**

An oblate globular shaped bead made of blue glass. The bead is decorated with a centrally placed single white line.

*See Plate 14.*

**Occurrence in the Netherlands:**

*Sittard: 59*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 40.3** – (No date provided).

**Dating in the Netherlands:**

Phase 8 (640/50 – 670/80).

### **B3-D1-G2 Oblate globular bead – grey with a single broad yellow line**

An oblate globular bead made of grey glass. The bead is decorated with a centrally placed single yellow line. The yellow line is very wide, leaving only small areas of grey glass around the hole.

*See Plate 14.*

#### **Occurrence in the Netherlands:**

*Rhenen: 660*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

#### **Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

### **B3-D1-G3 Oblate globular bead – black with a single red line**

An oblate globular bead made of black glass. The bead is decorated with a centrally placed single red line.

*See Plate 14.*

#### **Occurrence in the Netherlands:**

*Zweeloo: 49*

#### **Identification in other typologies:**

Franken AG: -  
Siegmund: -  
LPV: -  
Hines: -  
VMP:  
Koch: -

**Dating in the Netherlands:**

Phase 3-6 (460/80 – 610/20).

*B3-D2: Beads with multiple individual lines and/or borders*

**B3-D2-A1 Long thin cylindrical bead – red, with green borders**

A long thin cylindrical bead made of red glass. The bead is decorated with a green border on each side.

*See Plate 15.*

**Occurrence in the Netherlands:**

*Wijster: 16*

**Identification in other typologies:**

Franken AG: -  
Siegmund: -  
LPV: -  
Hines: -  
VMP:  
Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 – 750). The type likely occurs occasionally up to AD 800.

**B3-D2-A2 Long thin cylindrical bead – red, with a blue line and blue borders**

A long thin cylindrical bead made of red glass. The bead is decorated with a blue border on both sides and a central blue line.

*See Plate 15.*

**Occurrence in the Netherlands:**

*Wijster: 148*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 10 (700/10 – 750). Potentially continuing up to approximately 825/850.

**B3-D2-A3 Long thin cylindrical bead – red, with a yellow line and yellow borders**

A long thin cylindrical bead made of red glass. The bead is decorated with a yellow border on both sides and a central yellow line or rib.

The bead from Rhenen grave 73 looks very similar to those classified in group B3-D2-A4 and it may be possible that both groups should be merged. Group B3-D2-A4 contains black beads with yellow borders and a central line from the sample, but from excavations at Dorestad, it is known that these beads also exist with a green or deep red base colour<sup>1021</sup>. There are subtle differences, however, which create uncertainty about the classification of the bead from Rhenen grave 73 as a type B3-D2-A4. First of all, grave 73 is dated to phase 6 to 8 (580/90 – 670/80) on the basis of belt fittings of types BU-5d and BU-5e. This dating is relatively early for a potential group B3-D2-A4 bead, which is expected to start circulating from approximately 650/700 onwards. Secondly, the yellow borders and central line are not raised. This does occur occasionally in beads of group B3-D2-A4, but ribs and raised borders are much more common. In addition, the dimensions ratio of the Rhenen bead is somewhat different to most of the group B3-D2-A4 beads. The bead seems longer, with more space between the yellow elements.

From the Voorwijk excavations in Dorestad, a red bead is known with yellow borders and a yellow central line<sup>1022</sup>. This bead is cylindrical but broader than the Rhenen bead and the characteristic group B3-D2-A4 beads. The yellow borders are placed right on the edge of the bead, whilst in the case of Rhenen some space is left. It is clear that this Voorwijk bead is not a wasp bead and it is also not classified as such. An alternative classification, however, could not be given as no parallels are known.

For the bead from Rhenen grave 73, this leaves three options. It is either an independent type, it belongs to group B3-D2-A4, or it forms a type together with the Voorwijk bead. In case of the former, a date in phase 6 to 8 is most likely. In case of the remaining two options, a phase 9 date or later is likely.

*See Plate 15.*

#### **Occurrence in the Netherlands:**

*Rhenen: 73*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

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<sup>1021</sup> Langbroek 2021, 91-99.

<sup>1022</sup> Langbroek 2021, 73, 93.

Hines: -

VMP:

Koch: -

### **Dating in the Netherlands:**

Conditional: Phase 6-8 (580/90 – 670/80). Please see text.

### **B3-D2-A4 Cylindrical bead – black, red or green with three yellow ribs or lines**

A cylindrical bead made of black glass, but green and deep red are occasionally found too (see below). The specimen from Wijster grave 141 has a square cross section. The bead is usually decorated with a raised yellow border on both sides and a central yellow rib. In some cases, however, the central line and borders are not raised. Due to its colour combination, this bead type is often indicated with the nickname 'wasp bead'.

In Wijster grave 67, this bead is associated with a brooch of type BR-5c which dates to phase 7 or 8 (610/20 – 670/80). In Zweeloo grave 49, the bead is found together with so-called checkerboard beads (B4-B1) which date between 650 and 750/800. The Domburg brooch in grave 49 is of the older variant and dates to phase 6 (580/90 – 610/20) at the latest. It is likely that the brooch should be considered an heirloom. One bead in this grave belongs to the so-called Ribe beads which are named after their likely place of production in Denmark (Jutland)<sup>1023</sup>. The Ribe beads are dated to the early or middle eight century<sup>1024</sup>.

The largest cluster of wasp beads found in the Netherlands to date, twenty-one specimens, originates from various excavations in Dorestad<sup>1025</sup>. From this cluster it becomes clear that thin cylindrical is the most common shape, but oblate globular and barrel-shaped examples occur too. Whilst most beads have a black base colour, some examples are deep red or green, but always with yellow lines or ribs. The central line or rib is occasionally wavy or zigzagged<sup>1026</sup>. The fact that beads of this type occur with a red base colour makes it possible that the bead classified as group B3-D2-A3 actually belongs to this group. The yellow lines of this bead are not raised, and the bead is larger than most wasp beads, with more space between the yellow

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<sup>1023</sup> Sode 2004, 90-91.

<sup>1024</sup> Langbroek 2021, 59.

<sup>1025</sup> Langbroek 2021, 69-90.

<sup>1026</sup> Langbroek 2021, 91-99.

lines. The grave (Rhenen 73) is difficult to date but based on traces of belt fittings of types BU-5d and BU-5e, a placement in phase 6 to 8 is most likely (580/90 – 670/80).

In his study of beads from Scandinavian Viking graves, Callmer classifies wasp beads, amongst other criteria, according to their colour. The most common type, black base colour with straight yellow lines or ribs, is classified as type B060 and dates to Scandinavia phases 2-7 (820 – 935)<sup>1027</sup>. Other related types (e.g. B072), however, start before 820. A start date as late as the second quarter of the ninth century is unlikely for the Netherlands, as the contexts in Wijster, Zweeloo and possibly Rhenen all point in the direction of the eighth century or even the second half of the seventh century. The mosaic beads from section B4-B4, which occur in Scandinavia as well as in Wijster and Zweeloo and which are the only types in this typology to date fully to the Carolingian period in the Netherlands (775-900) are not found in combination with wasp beads. An initial continuation of the wasp beads beyond 800 is therefore unlikely. It cannot be ruled out, however, that the type saw a later revival under the influence of contact with Vikings. The find of many wasp beads in Ribe (Jutland) in Denmark has previously led to the conclusion that the type must have been produced there<sup>1028</sup>. Also for some beads from category B4-B4 goes that the Scandinavian date is very late for application in the Netherlands and incorrect in relation to the find context of the beads. The fact that both wasp beads and these B4-B4 beads with a green base colour occur in Dorestad may strengthen the revival theory. Carolingian period examples of wasp beads are known from as far south as southern Germany, for example from Oberpfalz (Bayern)<sup>1029</sup>. The excavation of what is suspected to be the Viking emporium of Reric, near Groß Strömkendorf (Mecklenburg-Vorpommern) in northern Germany also revealed wasp beads<sup>1030</sup>.

*See Plate 15.*

**Occurrence in the Netherlands:**

*Rhenen: (73) (see group B3-D2-A3)*

*Wijchen: 44 (not in this sample)*

*Wijster: 67, 141*

*Zweeloo: 49*

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<sup>1027</sup> Callmer 1977,

<sup>1028</sup> Sode 2004, 95; Langbroek 2021, 59.

<sup>1029</sup> Stroh 1954, colour plate 95

<sup>1030</sup> Pöche 2005.

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 9 - 10 (670/80 - 750). Continuing up to c. 800 and beyond.

**B3-D2-B1 Six-sided cylindrical bead – white with green borders and a central red line**

A six-sided cylindrical bead made of white glass. The bead is decorated with a centrally placed single red line which is flanked on both sides by a green border line.

*See Plate 15.*

**Occurrence in the Netherlands:**

*Rhenen: 397*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

### **B3-D2-E1 Barrel shaped bead – red with two yellow lines**

A barrel shaped bead made of red or brownish red glass. The bead is decorated with two singular yellow lines.

*See Plate 15.*

#### **Occurrence in the Netherlands:**

*Rhenen: 138*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 41)**

#### **Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

### **B3-D2-E2 Barrel shaped bead – yellow, with one red and two green lines**

A barrel shaped bead made of yellow glass. The bead is decorated with a central red line which is flanked on both sides by a singular green line.

*See Plate 15.*

#### **Occurrence in the Netherlands:**

*Rhenen: 166*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 41)**

**Dating in the Netherlands:**

Phase 4b-5 (535/40 – 580/90).

**B3-D2-L1 Rectangular bead – black, with green borders**

A rectangular shaped bead made of black glass. The bead is decorated with a green border on each side. The cross section of the bead is square.

*See Plate 15.*

**Occurrence in the Netherlands:**

*Wijster: 32*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 – 750). The type likely occurs occasionally up to AD 800.

*B3-D3: Beads with multiple individual lines and/or borders and speckles*

**B3-D3-E1 Barrel shaped bead – black, with red borders a red line and green and yellow speckles**

A barrel shaped bead made of black glass. The bead is decorated with a red border on each side and a centrally placed red line. Green and yellow speckles are placed randomly across the bead.

*See Plate 15.*

**Occurrence in the Netherlands:**

*Wijster: 160*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 7-8 (610/20 – 670/80).

*B3-D4: Beads with multiple individual lines placed in bundles*

**B3-D4-A1** Long thin cylindrical bead – red, with three bundles of white and green lines

A long and thin cylindrical bead made of red glass. The bead is decorated with three bundles of lines, each made up of four white and three green lines.

*See Plate 15.*

**Occurrence in the Netherlands:**

*Zweeloo: 81*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

No date available.

**B3-D4-A2 Long thin cylindrical bead – green, with two bundles of red, white, blue and yellow lines**

A long and thin cylindrical bead made of green glass. The bead is decorated with two bundles of lines, each made up of a red, white, blue and yellow line. The order of colours of both bundles is opposite, resulting in both yellow lines being on the inside and both red lines being on the outside.

*See Plate 15.*

**Occurrence in the Netherlands:**

*Wijster: 124*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

No date available.

**B3-D4-E1 Barrel shaped bead – red, with two bundles of yellow and black lines**

A barrel shaped bead made of red glass. The decoration consists of two bundles of three lines each which are placed seemingly randomly on the bead. The lines are yellow-black-yellow.

*See Plate 15.*

**Occurrence in the Netherlands:**

*Wijster: 156*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 7-8 (610/20 – 670/80).

*B3-D5: Mosaic beads with a central bundle of lines*

**B3-D5-C1 Elongated biconical bead – blue, with a central bundle of white and red lines**

An elongated biconical bead made of blue glass and decorated using the mosaic technique. The decoration consists of a bundle of three lines which is placed centrally on the bead. The lines are white-red-white. In some cases the shape of the bead is more short biconical or barrel shaped.

*See Plate 15.*

**Occurrence in the Netherlands:**

*Den Haag: 479*

*Maastricht: 95, 166*

*Rhenen: 343, 394, 397, 530, 601*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) M67** – (Stufe 2-4 > 545/50 – 620/30, most commonly in stufe 3 > 565 – 590/600, as heirlooms only in stufe 5 > 620/30 – 650/60).

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20). Possibly as early as phase 3 (460/80 – 510/25).

**B3-D5-C2 Elongated biconical bead – green, with a central bundle of white and red lines**

An elongated biconical bead made of green glass and decorated using the mosaic technique. The decoration consists of a bundle of three lines which is placed centrally on the bead. The lines are white-red-white.

*See Plate 15.*

**Occurrence in the Netherlands:**

*Rhenen: 660*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) M93/M94** – (Stufe 2-4 > 545/50 – 620/30, most commonly in stufe 3 > 565 – 590/600, as heirlooms only in stufe 5 > 620/30 – 650/60).

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25). Possibly also in the phases thereafter, up to phase 5 or 6.

*B3-D6: Ribe beads***B3-D6-A1 Long thin cylindrical bead – blue, with a central bundle of white and red lines**

A long and thin cylindrical bead made of blue glass. The decoration consists of a broad bundle of nine lines which is placed centrally on the bead. The lines are alternately white and red with a total of five white and four red lines.

It is not completely clear whether this bead belongs to the category of Ribe beads, as the shape and patterning is uncommon, but the characteristic blue translucent glass is present. Various Ribe beads, however, were found in Wijster and the nearby Zweeloo cemetery. Grave 19 of the Wijster cemetery contains a late variant of the Domburg brooch (BR-1f) which dates between 640/50 – 750. Further beads in the grave cannot be dated accurately. Production of Ribe beads is dated to between approximately AD 700 and 760/70<sup>1031</sup>.

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<sup>1031</sup> Sode 2004, 90-91; Langbroek 2021, 59.

As an alternative to a classification as a Ribe bead, the specimen from Wijster grave 19 can be related to beads from category B3-D2, especially groups B3-D2-A1 and B3-D2-A2. These beads date to 640/50 – 800 and 700/10 – 825/850 respectively and are only found in Wijster as part of this sample.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Wijster: 19*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 9b – 10 (c. 700 – 750) Possibly continuing up to 800.

**B3-D6-A2 Cylindrical bead – blue, with bundles of red and white lines and a single red band**

A cylindrical bead made of translucent blue glass. The decoration consists of a single broad red band on the left half of the bead. The right half of the bead is decorated with two bundles of three lines in the colours white-red-white. The white lines are scalloped, and the red lines are straight.

Production of Ribe beads is dated to between approximately AD 700 and 760/70<sup>1032</sup>. In Zweeloo grave 59, the bead occurs with various mosaic beads including those of categories B4-B1 (c. 650 – 750/800) and B4-B4 (c. 775 – 900).

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<sup>1032</sup> Sode 2004, 90-91; Langbroek 2021, 59.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Zweeloo: 59*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 9b – 10 (c. 700 – 750) Continues beyond 750 and possibly up to 900.

**B3-D6-A3 Cylindrical bead – blue, with a central wavy bundle of red and white lines**

A cylindrical bead made of translucent blue glass. The decoration consists of a centrally placed wavy bundle of five lines. Three white lines are divided by two red lines.

Production of Ribe beads is dated to between approximately AD 700 and 760/70<sup>1033</sup>. In Zweeloo grave 70, the beads occur with various mosaic beads including those of categories B4-B1 (c. 650 – 750/800) and B4-B2 (c. 700 – 825). A bead very similar to the ones from Zweeloo grave 70 was excavated in Dorestad during the nineteenth century<sup>1034</sup>.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Zweeloo: 70*

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<sup>1033</sup> Sode 2004, 90-91; Langbroek 2021, 59.

<sup>1034</sup> Langbroek 2021, 98.

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 9b – 10 (c. 700 – 750) Continues beyond 750 and possibly up to 825.

**B3-D6-G1 Oblate globular bead – blue, with four bundle of red and white lines**

An oblate globular bead made of translucent blue glass. The decoration consists of four equally spaced bundles of alternating red and white lines. The number of lines differs per bundle.

Production of Ribe beads is dated to between approximately AD 700 and 760/70<sup>1035</sup>. In Zweeloo grave 50, the beads occur with various mosaic beads including those of categories B4-B1 and B4-B3 (c. 650 – 750/800).

*See Plate 16.*

**Occurrence in the Netherlands:**

*Zweeloo: 50*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

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<sup>1035</sup> Sode 2004, 90-91; Langbroek 2021, 59.

**Dating in the Netherlands:**

Phase 9b – 10 (c. 700 – 750) Continues beyond 750 and possibly up to 800.

**B3-D6-G2 Oblate globular bead – blue, with three bundle of red and white lines of which two are crossed**

An oblate globular bead made of blue glass. The decoration consists of three bundles of three lines. Each bundle is made up of a broad red line with a small white line on either side it. One bundle, on the right side of the bead, is straight and the other two bundles, on the left half of the bead, cross each other.

Production of Ribe beads is dated to between approximately AD 700 and 760/70<sup>1036</sup>. In Zweeloo grave 50, the beads occur with various mosaic beads including those of categories B4-B1 and and B4-B3 (c. 650 – 750/800).

*See Plate 16.*

**Occurrence in the Netherlands:**

*Zweeloo: 50*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 9b – 10 (c. 700 – 750) Continues beyond 750 and possibly up to 800.

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<sup>1036</sup> Sode 2004, 90-91; Langbroek 2021, 59.

*B3-D7: Beads with multiple singular lines running parallel to the perforation*

**B3-D7-G1 Oblate globular bead – colourless glass with red lines parallel to the hole**

A small oblate globular bead made of colourless glass. The bead is decorated with various singular red lines which run parallel to the hole.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Rhenen: 530*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 41)**

**Dating in the Netherlands:**

Phase 4 (510/25 - 565).

**B3-D7-N1 Almond shaped bead – white glass with red, yellow and green lines parallel to the hole**

An almond shaped bead made of white glass and decorated using the mosaic technique. The bead is decorated with various bundles of three singular lines which run parallel to the hole.

The lines are alternating red, yellow and green. In some cases, the green lines are replaced by blue lines and the bead occasionally has a somewhat cylindrical shape.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Wijster: 7*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) M76** – (Stufe 2-4 > 545/50 – 620/30, most commonly in stufe 3 > 565 – 590/600, as heirlooms only in stufe 5 > 620/30 – 650/60).

**Dating in the Netherlands:**

Phase 7-8 (610/20 – 670/80). Possibly also beyond this date.

*B3-E1: Beads with a single spiral line decoration*

**B3-E1-A1 Cylindrical bead – red, with a white spiralling line**

A cylindrical bead made of red glass. The bead is decorated with a single white spiral line.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Rhenen: 71, 394, 546, 667*

*Stein: 30*

*Veldhoven: 14*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.13** – (Group D-H > 485 - 705).

LPV: -

Hines: -

VMP:

Koch: **(1977) 42.13** – (Stufe 1-6 > 525/35 – 680, most commonly in stufe 1-3 > 525/35 – 590/600).

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

**B3-E1-A2 Short cylindrical bead – red, with a yellow spiralling line**

A cylindrical bead made of red glass. The bead is decorated with a single yellow spiral line and is smaller than those grouped in B3-E1-A3.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Rhenen: 413, 423, 530, 708, 712, 769*

*Stein: 22*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.14** – (Group C-F > 485 - 670).

LPV: -

Hines: -

VMP:

Koch: **(1977) 42.13** – (Stufe 1-6 > 525/35 – 680, longer specimen most commonly in stufe 1-3 > 525/35 – 590/600, shorter specimen most commonly in stufe 4 > 590/600 – 620/30).

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20). Most commonly in phase 4 (510/25 – 565).

### **B3-E1-A3 Long cylindrical bead – red, with a yellow spiralling line**

A cylindrical bead made of red glass. The bead is decorated with a single yellow spiral line and is larger than those grouped in B3-E1-A2.

*See Plate 16.*

#### **Occurrence in the Netherlands:**

*Rhenen: 195*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.14** – (Group C-F > 485 - 670).

LPV: -

Hines: -

VMP:

Koch: **(2001) 42.44** – (Stufe 1-6 > 525/35 – 680, most commonly in stufe 1-3 > 525/35 – 590/600).

#### **Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

### **B3-E1-A4 Short cylindrical bead – white, with a blue spiralling line**

A short cylindrical bead made of white glass. The bead is decorated with a single blue or turquoise spiral line.

*See Plate 16.*

#### **Occurrence in the Netherlands:**

*Oosterbeintum: 398*

*Posterholt: 85*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 32.10** – (Group F-H > 555 - 705).

LPV: -

Hines: -

VMP:

Koch: **(1977) 42.2** – (Stufe 1-6 > 525/35 – 680, most commonly in stufe 4 > 590/600 – 620/30).

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B3-E1-A5 Long cylindrical bead – white, with a blue spiralling line**

A long cylindrical bead made of white glass. The bead is decorated with a single blue or turquoise spiral line.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Rhenen: 605*

*Wageningen: 101*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 32.10** – (Group F-H > 555 - 705).

LPV: -

Hines: -

VMP:

Koch: **(1977) 42.2** – (Stufe 1-6 > 525/35 – 680, most commonly in stufe 1-3 > 525/35 – 590/600).

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B3-E1-A6 Long cylindrical bead – blue, with a white spiralling line**

A long cylindrical bead made of blue glass. The bead is decorated with a single white spiral line.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Rhenen: 601*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 42)**

**Dating in the Netherlands:**

Phase 4 (510/25 - 565).

**B3-E1-A7 Short cylindrical bead – dark blue, with a white spiralling line**

A short cylindrical bead made of dark blue or greyish blue glass. The bead is decorated with a single white spiral line.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 50*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 42.48** – (Stufe 1-6 > 525/35 – 680, most commonly in stufe 1-3 > 525/35 – 590/600).

**Dating in the Netherlands:**

Phase 7 (610/20 – 640/50).

**B3-E1-A8 Long cylindrical bead – dark green, with a white spiralling line**

A long cylindrical bead made of dark green or brownish green glass. The bead is decorated with a single white spiral line.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Rhenen: 404*

*Sittard: 11*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 42.46** – (Stufe 1-6 > 525/35 – 680, most commonly in stufe 1-3 > 525/35 – 590/600).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

**B3-E1-A9 Cylindrical bead – black, with a yellow spiralling line**

A cylindrical bead made of black glass. The bead is decorated with a single yellow spiral line.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Sittard: 59*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 42)**

**Dating in the Netherlands:**

Phase 7-8 (610/20 – 670/80).

**B3-E1-B1 Five-sided cylindrical bead – yellow, with a red spiralling line**

A five-sided cylindrical bead made of yellow glass. The bead is decorated with a single red spiral line.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Rhenen: 722*

**Identification in other typologies:**

Franken AG: **S- Per 33.10** – (Group 4 > 610/20 – 750).

Siegmund: **Per 33.10** – (Group F > 555 – 670, most commonly between 570 and 640).

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 42)**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-E1-C1 Biconical bead – red, with a white spiralling line**

A biconical bead made of red glass. The bead is decorated with a single white spiral line.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Rhenen: 166, 645, 669, 722*

*Wageningen: 101*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.13** – (Group D-H > 485 - 705).

LPV: -

Hines: -

VMP:

Koch: **(1977) 42.9** – (Stufe 1-6 > 525/35 – 680, most commonly in stufe 3 > 565 – 590/600).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

**B3-E1-C2 Biconical bead – yellow, with a red spiralling line**

A biconical bead made of yellow glass. The bead is decorated with a single red spiral line.

*See Plate 16.*

**Occurrence in the Netherlands:**

*Rhenen: 396, 722, 793*

**Identification in other typologies:**

Franken AG: **S- Per 33.10** – (Group 4 > 610/20 – 750).

Siegmund: **Per 33.10** – (Group F > 555 – 670, most commonly between 570 and 640).

LPV: -

Hines: -

VMP:

Koch: **(1977) 42.5** – (Stufe 1-6 > 525/35 – 680, most commonly in stufe 3 > 565 – 590/600).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-E1-E1 Barrel shaped bead – red, with a white spiralling line**

A barrel shaped bead made of red glass. The bead is decorated with a single white spiral line.

*See Plate 17.*

**Occurrence in the Netherlands:**

*Rhenen: 168, 178*

*Sittard: 11*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.13** – (Group D-H > 485 - 705).

LPV: -

Hines: -

VMP:

Koch: **(1977) 42.7** – (Stufe 1-6 > 525/35 – 680, most commonly in stufe 3 > 565 – 590/600).

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

**B3-E1-E2 Barrel shaped bead – red, with a yellow spiralling line**

A barrel shaped bead made of red or brownish red glass. The bead is decorated with a single yellow spiral line.

*See Plate 17.*

**Occurrence in the Netherlands:**

*Rhenen: 413, 803*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.14** – (Group C-F > 485 - 670).

LPV: -

Hines: -

VMP:

Koch: **(2001) 42.40** – (Stufe 1-6 > 525/35 – 680, most commonly in stufe 3 > 565 – 590/600).

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

### **B3-E1-E3 Barrel shaped bead – green, with a yellow spiralling line**

A barrel shaped bead made of green glass. The bead is decorated with a single yellow spiral line.

*See Plate 17.*

#### **Occurrence in the Netherlands:**

*Zweeloo: 87*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 42)**

#### **Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

### **B3-E1-E4 Barrel shaped bead – blue, with a red spiralling line**

A barrel shaped bead made of blue or greenish blue glass. The bead is decorated with a single red spiral line.

*See Plate 17.*

#### **Occurrence in the Netherlands:**

*Rhenen: 160, 413*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 42)**

**Dating in the Netherlands:**

**B3-E1-F1 Multi segmented bead – brown, with a yellow spiralling line**

A multi segmented bead made of brown glass. The bead is decorated with a single yellow spiral line on each segment. The individual segments are barrel shaped, oblate globular or cylindrical.

*See Plate 17.*

**Occurrence in the Netherlands:**

*Posterholt: 85*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 42)**

**Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

**B3-E1-G1 Oblate globular bead – red, with a white spiralling line**

An oblate globular bead made of red or brownish red glass. The bead is decorated with a single white spiral line.

*See Plate 17.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 50*

*Oosterbeintum: 374b*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.13** – (Group D-H > 485 - 705).

LPV: -

Hines: -

VMP:

Koch: **(2001) 42.33** – (Stufe 1-6 > 525/35 – 680).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-E1-G2 Oblate globular bead – red, with a yellow spiralling line**

An oblate globular bead made of red or brownish red glass. The bead is decorated with a single yellow spiral line.

*See Plate 17.*

**Occurrence in the Netherlands:**

*Rhenen: 696*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.14** – (Group C-F > 485 - 670).

LPV: -

Hines: -

VMP:

Koch: **(2001) 42.39** – (Stufe 1-6 > 525/35 – 680).

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-E1-G3 Oblate globular bead – yellow, with a red spiralling line**

An oblate globular bead made of yellow glass. The bead is decorated with a single red spiral line.

*See Plate 17.*

**Occurrence in the Netherlands:**

*Rhenen: 546*

**Identification in other typologies:**

Franken AG: **S- Per 33.10** – (Group 4 > 610/20 – 750).

Siegmund: **Per 33.10** – (Group F > 555 – 670, most commonly between 570 and 640).

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 42)**

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-E1-G4 Oblate globular bead – yellow, with a green spiralling line**

An oblate globular bead made of yellow glass. The bead is decorated with a single green spiral line.

*See Plate 17.*

**Occurrence in the Netherlands:**

*Rhenen: 423*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 42.32** – (Stufe 1-6 > 525/35 – 680).

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).

**B3-E1-G5 Oblate globular bead – white, with a blue spiralling line**

An oblate globular bead made of white glass. The bead is decorated with a single blue spiral line.

*See Plate 17.*

**Occurrence in the Netherlands:**

*Rhenen: 160, 403*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

Hines: -

VMP:

Koch: **(1977) 42.1** – (Stufe 1-6 > 525/35 – 680).

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

### **B3-E1-G6 Large oblate globular bead – green, with a white spiralling line**

A large oblate globular bead made of green to yellowish green glass. The bead is decorated with a single white spiral line.

*See Plate 17.*

#### **Occurrence in the Netherlands:**

*Rhenen: 808*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

Hines: -

VMP:

Koch: **(2001) 42.45** – (Stufe 1-6 > 525/35 – 680).

#### **Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

### **B3-E1-G7 Oblate globular bead – green, with a red spiralling line**

An oblate globular bead made of green glass. The bead is decorated with a single red spiral line.

*See Plate 17.*

#### **Occurrence in the Netherlands:**

*Zweeloo: 87*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 42)**

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

**B3-E1-G8 Oblate globular bead – blue, with a red spiralling line**

An oblate globular bead made of blue glass. The bead is decorated with a single red spiral line.

*See Plate 17.*

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 42)**

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

**B3-E1-L1 Rectangular bead – red, with a yellow spiralling line**

A rectangular bead with a square cross section made of red or brownish red glass. The bead is decorated with a single yellow spiral line.

*See Plate 17.*

**Occurrence in the Netherlands:**

*Rhenen: 803*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.14** – (Group C-F > 485 - 670).

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 42)**

**Dating in the Netherlands:**

Phase 5 (565 – 580/90).

**B3-E1-L2 Rectangular bead – blue, with a red spiralling line**

A rectangular bead with a square cross section made of blue glass. The bead is decorated with a single red spiral line.

*See Plate 17.*

**Occurrence in the Netherlands:**

*Sittard: 44*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 42)**

**Dating in the Netherlands:**

Date unknown.

*B3-E2: Beads with multiple spiral lines in different colours*

**B3-E2-A1 Cylindrical bead – red, with white and yellow spiralling lines**

A cylindrical bead made of red glass. The bead is decorated with white and yellow spiral lines.

*See Plate 17.*

**Occurrence in the Netherlands:**

*Rhenen: 413*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 45.6** – (Stufe 1-3 > 525/35 – 590/600, most commonly in stufe 2 > 545/50 – 565/70).

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-E2-A2 Cylindrical bead – brown, with white and yellow spiralling lines**

A cylindrical bead made of brown glass. The bead is decorated with white and yellow spiral lines. In some cases, the yellow line has a more ochre or orange colour.

*See Plate 17.*

**Occurrence in the Netherlands:**

*Rhenen: 413, 696*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 45.5** – (Stufe 1-3 > 525/35 – 590/600, most commonly in stufe 2 > 545/50 – 565/70).

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-E2-B1 Five-sided cylindrical bead – red, with white and green spiralling lines**

A five-sided cylindrical bead made of red glass. The bead is decorated with white and green spiral lines.

*See Plate 17.*

**Occurrence in the Netherlands:**

*Rhenen: 722*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 45)**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

*B3-E3: Beads with a plaited band over one or more spiral lines*

**B3-E3-E1 Barrel shaped bead – red, with a translucent blue plaited band over a white spiralling line**

A barrel shaped bead made of red glass. The bead is decorated with a translucent blue plaited band over a white spiral line.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Rhenen: 166*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 32.24** – (Stufe 3-4 > 565 – 620/30).

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-E3-G1 Oblate globular bead – red, with a translucent blue plaited band over white and blue spiralling lines**

An oblate globular bead made of red glass. The bead is decorated with a translucent blue plaited band over white and blue spiral lines.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Bergeijk: 19*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 32 or 45)**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

*B3-E4: Beads with a raster-like pattern of crossing lines*

**B3-E4-A1 Cylindrical bead – brown, with a raster-like pattern of yellow lines**

A cylindrical bead made of brown glass. The bead is decorated with a raster-like pattern of crossing yellow lines.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Rhenen: 195*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 38.5** – (Stufe 2-3 > 545/50 – 590/600).

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-E4-G1 Oblate globular bead – green, with a raster-like pattern of red and white lines**

An oblate globular bead made of green glass. The bead is decorated with a raster-like pattern of crossing red and white lines.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Oosterbeintum: 398*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 37/38)**

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

### *B3-F1: Beads decorated with a single wavy line*

#### **B3-F1-A1 Thin cylindrical bead – brown, with a white wavy line**

A cylindrical bead made of brown glass. The bead is decorated with a white wavy line.

*See Plate 18.*

#### **Occurrence in the Netherlands:**

*Rhenen: 394*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: **Related to Per 35.15** – (Group G-H > 570 - 705).

LPV: -

Hines: -

VMP:

Koch: **(2001) 27.27** – (entire sixth and seventh century).

#### **Dating in the Netherlands:**

Phase 4 (510/25 - 565).

#### **B3-F1-A2 Cylindrical bead – green, with a yellow wavy line**

A cylindrical bead made of green glass. The bead is decorated with a single yellow wavy line.

The green colour usually approaches olive green, and the bead is often translucent.

Siegmund places this bead in his group 2.1 which includes specimen made of translucent green, yellow or colourless glass. The German beads are decorated with an opaque wavy line

in green, yellow or white<sup>1037</sup>. As part of the sample from the Netherlands, only green specimen with a yellow wavy line were discovered.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Rhenen: 438*

*Sittard: 11*

**Identification in other typologies:**

Franken AG: **S- Per 2.1** – (Group 4-5 > 610/20 - 750).

Siegmund: **Per 2.1** – (Group G-I > 570 - 705).

LPV: -

Hines: -

VMP:

Koch: **(2001) 27.32** – (entire sixth and seventh century).

**Dating in the Netherlands:**

Phase 3-6 (460/80 – 610/20).

**B3-F1-C1 Biconical bead – yellow, with a red wavy line**

A biconical bead made of yellow glass. The bead is decorated with a red wavy line.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Rhenen: 667*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

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<sup>1037</sup> Siegmund 1998, 65.

VMP:

Koch: **(Not identified > Group 27)**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50)

**B3-F1-C2 Elongated biconical bead – yellow, with a red wavy line**

An elongated biconical bead made of yellow glass. The bead is decorated with a red wavy line.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Rhenen: 790*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 27)**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50)

**B3-F1-E1 Barrel shaped bead – red, with a white wavy line**

A barrel shaped bead made of red glass. The bead is decorated with a white wavy line.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Wijster: 207*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 27)**

**Dating in the Netherlands:**

Date unknown.

**B3-F1-E2 Barrel shaped bead – red, with a yellow wavy line**

A barrel shaped bead made of red glass. The bead is decorated with a single yellow wavy line.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Rhenen: 397, 708*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 27.29** – (entire sixth and seventh century).

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).

**B3-F1-E3 Barrel shaped bead – white, with a blue wavy line**

A barrel shaped bead made of white glass. The bead is decorated with a single blue wavy line.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Rhenen: 275*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 27.22** – (entire sixth and seventh century).

**Dating in the Netherlands:**

Date unknown.

**B3-F1-E4 Barrel shaped bead – black, with a green wavy line**

A barrel shaped bead made of black glass. The bead is decorated with a single green wavy line.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Rhenen: 79, 82*

**Identification in other typologies:**

Franken AG: **S- Per 31.7** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 31.7** – (Group B > 440 - 485).

LPV: -

Hines: -

VMP:

Koch: **(1977) 27.19** – (entire sixth and seventh century).

**Dating in the Netherlands:**

Phase 2-4 (435/40 - 565).

**B3-F1-F1 Multi segmented bead – black, with a white wavy line**

A multi segmented bead made of black glass. Each segment is decorated with a white wavy line. Beads of this type usually consist of two oblate globular or discoid segments, but other shapes occur.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Rhenen: 438*

**Identification in other typologies:**

Franken AG: **S- Per 31.7** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 31.7** – (Group B > 440 - 485).

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 27)**

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-F1-G1 Small oblate globular bead – white, with a blue wavy line**

A small oblate globular bead made of white glass. The bead is decorated with a single blue wavy line.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 23*

*Rhenen: 669*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 27.1** – (entire sixth and seventh century).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-F1-G2 Large oblate globular bead – white, with a blue wavy line**

A large oblate globular bead made of white glass. The bead is decorated with a blue wavy line.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Rhenen: 641*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 27)**

**Dating in the Netherlands:**

Phase 5-6 (565 – 610/20).

### **B3-F1-G3 Small oblate globular bead – green, with a white wavy line**

A small oblate globular bead made of green glass. The bead is decorated with a single white wavy line.

By far most beads of this type occur in graves dating to phases 3 and 4. Occasionally, however, the beads occur as late as phase 7. It is unclear whether these late occurrences should be considered heirlooms.

*See Plate 18.*

#### **Occurrence in the Netherlands:**

*Meerveldhoven: 40, 42*

*Rhenen: 438, 600, 696, 753, 808*

*Wijster: 156*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977/2001) 27.5/27.37** – (entire sixth and seventh century).

#### **Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50). Most commonly in phases 3-4 (460/80 – 565).

### **B3-F1-G4 Large oblate globular bead – green, with a white wavy line**

A large oblate globular bead made of green glass. The bead is decorated with a single white wavy line.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Rhenen: 803*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 27.6** – (entire sixth and seventh century).

**Dating in the Netherlands:**

Phase 5 (565 – 580/90).

**B3-F1-G5 Oblate globular bead – green, with a yellow wavy line**

An oblate globular bead made of green or blueish-green glass. The bead is decorated with a single yellow wavy line.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Rhenen: 380*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 27.35** – (entire sixth and seventh century).

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-F1-G6 Oblate globular bead – green, with a blue wavy line**

An oblate globular bead made of green glass. The bead is decorated with a blue wavy line.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Rhenen: 600*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 27)**

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-F1-G7 Oblate globular bead – black, with a white wavy line**

An oblate globular shaped bead made of black glass. The bead is decorated with a single white wavy line.

*See Plate 18.*

**Occurrence in the Netherlands:**

*Lent: 7218*

*Meerveldhoven: 47*

*Rhenen: 166, 332, 413, 438, 470, 595*

*Zweeloo: 87 (large, see B6-A1-G13)*

**Identification in other typologies:**

Franken AG: **S- Per 31.7** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 31.7** – (Group B > 440 - 485).

LPV: -

Hines: -

VMP:

Koch: **(1977) 27.12/27.13** – (entire sixth and seventh century).

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90). Sporadically in phases 6-7 (580/90 – 640/50).

**B3-F1-G8 Oblate globular bead – black, with a yellow wavy line**

An oblate globular shaped bead made of black glass. The bead is decorated with a single yellow wavy line.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Rhenen: 332, 413, 562*

**Identification in other typologies:**

Franken AG: **S- Per 31.7** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 31.7** – (Group B > 440 - 485).

LPV: -

Hines: -

VMP:

Koch: **(1977) 27.17/27.18** – (entire sixth and seventh century).

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).

**B3-F1-R1 Ring shaped bead – yellow, with a red wavy line**

A ring-shaped bead made of yellow glass. The bead is decorated with a single red wavy line.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Sittard: 44*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 27)**

**Dating in the Netherlands:**

Date unknown.

*B3-F2: Beads decorated with multiple wavy lines*

**B3-F2-C1 Biconical bead – red, with two yellow wavy lines**

A biconical bead made of red glass. The bead is decorated with two yellow wavy lines.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Rhenen: 667*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 29.2** – (Stufe 2-3 > 545/50 – 590/600, most commonly in stufe 3 > 565 – 590/600)

**Dating in the Netherlands:**

Date unknown

*B3-F3: Beads decorated with a single wavy line and dots*

**B3-F3-E1 Barrel shaped bead – red, with a blue wavy line and white dots**

A barrel shaped bead made of red glass. The bead is decorated with a combination of a blue wavy line and white dots.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Rhenen: 166*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 19)**

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90)

**B3-F3-G1 Oblate globular bead – red, with a yellow wavy line and yellow dots**

An oblate globular bead made of red glass. The bead is decorated with a combination of a yellow wavy line and yellow dots.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Rhenen: 546*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 19.3** – (Stufe 2 > 545/50 – 565/70)

**Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).

*B3-F4: Beads decorated with one or more wavy lines between straight lines or borders*

### **B3-F4-A1 Cylindrical bead – red, with a white wavy line between yellow borders**

A cylindrical bead made of red glass. The bead is decorated with a white wavy line between yellow borders.

*See Plate 19.*

#### **Occurrence in the Netherlands:**

*Veldhoven: 6*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 70)**

#### **Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

### **B3-F4-E1 Barrel shaped bead – black, with two white wavy lines between red borders and a red central line**

A barrel shaped bead made of black glass. The bead is decorated with two white wavy lines between red borders and a red central line.

*See Plate 19.*

#### **Occurrence in the Netherlands:**

*Bergeijk: 19*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 70)**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

*B3-F5: Beads decorated with a wavy line between borders and dots*

**B3-F5-G1 Oblate globular bead – blue, with a white wavy line between white borders and red dots**

An oblate globular bead made of blue glass. The bead is decorated with a white wavy line between white borders. Further decoration consists of red dots.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Related to group 18)**

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

**B3-F5-G2 Oblate globular bead – green, with a white wavy line between white borders and red dots**

An oblate globular bead made of green glass. The bead is decorated with a white wavy line between white borders. Further decoration consists of red dots.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Related to group 18)**

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

*B3-F6: Beads decorated with wavy lines over a central line, spiral line or borders.*

**B3-F6-A1 Cylindrical bead – red, with yellow wavy lines over a white central line**

A cylindrical bead made of red glass. The bead is decorated with yellow wavy lines which are placed over a central white line.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Rhenen: 413*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Related to group 31)**

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).

**B3-F6-A2 Cylindrical bead – red, with a translucent blue wavy line over a white spiral line**

A cylindrical bead made of red glass. The bead is decorated with a translucent blue wavy line which is placed over a white spiral line.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Rhenen: 166*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 32.19** – (Stufe 3-4 > 565 – 620/30)

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

*B3-F7: Beads decorated with a central line over a wavy line.*

**B3-F7-G1 Oblate globular bead – black, with a white central line over a white wavy line**

An oblate globular bead made of black glass. The bead is decorated with a white central line which is placed over a white wavy line.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Rhenen: 99, 753*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 30.1** – (No date provided)

**Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).

**B3-F7-G2 Oblate globular bead – brown, with a yellow central line over a yellow wavy line**

An oblate globular bead made of brown glass. The bead is decorated with a yellow central line which is placed over a yellow wavy line.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Rhenen: 753*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 30.5** – (No date provided)

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

*B3-F8: Beads decorated with a plaited band over a wavy line.*

**B3-F8-G1 Oblate globular bead – red, with a white plaited band over a yellow wavy line**

An oblate globular bead made of red glass. The bead is decorated with a white plaited band which is placed over a yellow wavy line.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Rhenen: 413*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).

*B3-G1: Beads with a single plaited band.*

**B3-G1-A1 Cylindrical bead – white, with a green plaited band**

A cylindrical bead made of white glass. The bead is decorated with a green plaited band.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Obbicht: 35*

*Rhenen: 222*

*Sittard: 11, 44*

*Stein: 22*

**Identification in other typologies:**

Franken AG: **S- Per 32.6** – (Group 4 > 610/20 – 750).

Siegmund: **Per 32.6** – (Group F-H > 555 – 705, most commonly between 570 and 705).

LPV: -

Hines: -

VMP:

Koch: **(1977) 34.7** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-G1-A2 Cylindrical bead – white, with a blue plaited band (Koch 34.39)**

A cylindrical bead made of white glass. The bead is decorated with a blue plaited band. In some cases the blue could be described as greenish blue.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 43*

*Posterholt: 85*

*Rhenen: 270*

**Identification in other typologies:**

Franken AG: **S- Per 32.7** – (Group 4 > 610/20 – 750).

Siegmund: **Per 32.7** – (Group E-H > 530 – 705, most commonly between 570 and 705).

LPV: -

Hines: -

VMP:

Koch: **(2001) 34.35/34.37/34.39** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

### **B3-G1-C1 Biconical bead – red, with a white plaited band**

A biconical bead made of red glass. The bead is decorated with a white plaited band.

*See Plate 19.*

#### **Occurrence in the Netherlands:**

*Rhenen: 328*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.8** – (Group F-H > 555 – 705, occasionally earlier).

LPV: -

Hines: -

VMP:

Koch: **(2001) 34.55** – (Stufe 4-6 > 590/600 – 680)

#### **Dating in the Netherlands:**

Phase 5 (565 – 580/90).

### **B3-G1-C2 Biconical bead – red, with a yellow plaited band**

A biconical bead made of red glass. The bead is decorated with a yellow plaited band.

*See Plate 19.*

#### **Occurrence in the Netherlands:**

*Rhenen: 423*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.11** – (Group D-H > 485 – 705, most commonly in groups F-G > 555 - 670).

LPV: -

Hines: -

VMP:

Koch: **(2001) 34.69** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-G1-C3 Biconical bead – yellow, with a red plaited band**

A biconical bead made of yellow glass. The bead is decorated with a red plaited band.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Rhenen: 345, 696*

**Identification in other typologies:**

Franken AG: **S- Per 33.7** – (Group 3 > 485 – 580/90, most commonly between 510/25 – 580/90).

Siegmund: **Per 33.7** – (Group D-H > 485 – 705, most commonly in groups E-F > 530 - 670).

LPV: -

Hines: -

VMP:

Koch: **(2001) 34.45** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-G1-E1 Barrel shaped bead – red, with a white plaited band**

A barrel shaped bead made of red glass. The bead is decorated with a white plaited band.

*See Plate 19.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 50*

*Obbicht: 8, 35*

*Sittard: 11, 16, 46*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.8** – (Group F-H > 555 – 705, occasionally earlier).

LPV: -

Hines: -

VMP:

Koch: **(1977/2001) 34.11/34.12/34.47** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-G1-E2 Large barrel shaped bead – red, with a white plaited band**

A large barrel shaped bead made of red glass. The bead is decorated with a white plaited band.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Sittard: 11*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.8** – (Group F-H > 555 – 705, occasionally earlier).

LPV: -

Hines: -

VMP:

Koch: **(1977) 34.15** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-G1-E3 Barrel shaped bead – red, with a yellow plaited band**

A barrel shaped bead made of red or brownish red glass. The bead is decorated with a yellow plaited band.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Obbicht: 35*

*Rhenen: 270*

*Sittard: 11, 16, 43*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.11** – (Group D-H > 485 – 705, most commonly in groups F-G > 555 - 670).

LPV: -

Hines: -

VMP:

Koch: **(1977) 34.18** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-G1-E4 Barrel shaped bead – white, with a red plaited band**

A barrel shaped bead made of white glass. The bead is decorated with a red plaited band.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Oosterbeintum: 342*

*Wijster: 16*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 32.5** – (Group D-H > 485 - 705).

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 32)**

**Dating in the Netherlands:**

Phase 4-8 (510/25 – 670/80).

**B3-G1-F1 Multi-segmented bead – red, with a white plaited band**

A multi-segmented bead made of red glass. The bead is decorated with a white plaited band on each segment. The individual segments are usually barrel-shaped, cylindrical or oblate globular.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Posterholt: 78*

*Rhenen: 7, 138, 659*

*Sittard: 11, 16*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.8** – (Group F-H > 555 – 705, occasionally earlier).

LPV: -

Hines: -

VMP:

Koch: **(1977) 34.16** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-G1-F2 Multi-segmented bead – brown, with a yellow plaited band**

A multi-segmented bead made of brown glass. The bead is decorated with a yellow plaited band on each segment. The individual segments are usually barrel-shaped, cylindrical or oblate globular.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Obbicht: 35*

*Rhenen: 769*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 34.74** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-G1-F3 Multi-segmented bead – white, with a green plaited band**

A multi-segmented bead made of white glass. The bead is decorated with a green or turquoise plaited band on each segment. Occasionally, the plaited band is blue. The individual segments are usually barrel-shaped, cylindrical or oblate globular.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Posterholt: 85*

*Rhenen: 659*

*Sittard: 11*

**Identification in other typologies:**

Franken AG: **S- Per 32.6** – (Group 4 > 610/20 – 750).

Siegmund: **Per 32.6** – (Group F-H > 555 – 705, most commonly between 570 and 705).

LPV: -

Hines: -

VMP:

Koch: **(1977) 34.6** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-G1-G1 Oblate globular bead – red, with a yellow plaited band which crosses three times**

An oblate globular bead made of red glass. The bead is decorated with a yellow plaited band made up of two lines which cross no more than three times. Specimens with a plaited band with more than three crossings were not discovered as part of this sample. Such beads, however, are likely to date to phases 5-7 (565 – 640/50) whilst those with three crossings are significantly earlier.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Rhenen: 82*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.11** – (Group D-H > 485 – 705, most commonly in groups F-G > 555 - 670).

LPV: -

Hines: -

VMP:

Koch: **(1977) 33.13** – (Stufe 1-4 > 525/35 – 620/30, most commonly in stufe 1-3 > 525/35 – 590/600)

#### **Dating in the Netherlands:**

Phase 1-3 (400 – 510/25).

#### **B3-G1-G2 Oblate globular bead – yellow, with a red plaited band which crosses three times**

An oblate globular bead made of yellow glass. The bead is decorated with a red plaited band made up of two lines which cross no more than three times. Specimens with a plaited band with more than three crossings were not discovered as part of this sample. Such beads, however, are likely to date to phases 5-7 (565 – 640/50) whilst those with three crossings are somewhat earlier.

*See Plate 20.*

#### **Occurrence in the Netherlands:**

*Sittard: 80*

#### **Identification in other typologies:**

Franken AG: **S- Per 33.7** – (Group 3 > 485 – 580/90, most commonly between 510/25 – 580/90).

Siegmund: **Per 33.7** – (Group D-H > 485 – 705, most commonly in groups E-F > 530 - 670).

LPV: -

Hines: -

VMP:

Koch: **(1977) 33.7** – (Stufe 1-4 > 525/35 – 620/30, most commonly in stufe 1-3 > 525/35 – 590/600)

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

**B3-G1-G3 Oblate globular bead – yellow, with a green plaited band**

An oblate globular bead made of yellow glass. The bead is decorated with a green plaited band.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Rhenen: 166, 394*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 33.9** – (Group D-F > 485 – 670).

LPV: -

Hines: -

VMP:

Koch: **(1977/2001) 34.10/34.46** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-G1-G4 Oblate globular bead – yellow, with a black plaited band**

An oblate globular bead made of yellow glass. The bead is decorated with a black plaited band.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Obbicht: 35*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 32)**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-G1-G5 Oblate globular bead – white, with a green plaited band**

An oblate globular bead made of white glass. The bead is decorated with a green plaited band.

In some cases, the plaited band is blueish.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Meerveldhoven: 11*

*Posterholt: 85*

*Sittard: 11*

**Identification in other typologies:**

Franken AG: **S- Per 32.6** – (Group 4 > 610/20 – 750).

Siegmund: **Per 32.6** – (Group F-H > 555 – 705, most commonly between 570 and 705).

LPV: -

Hines: -

VMP:

Koch: **(1977/2001) 34.1/34.2/34.25** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

### **B3-G1-G6 Oblate globular bead – white, with a brown plaited band**

An oblate globular bead made of white glass. The bead is decorated with a brown plaited band.

*See Plate 20.*

#### **Occurrence in the Netherlands:**

*Zweeloo: 66*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 32)**

#### **Dating in the Netherlands:**

Phase 6-7 (580/90 – 640/50).

### **B3-G1-G7 Oblate globular bead – green, with a white plaited band**

An oblate globular bead made of green glass. The bead is decorated with a white plaited band.

*See Plate 20.*

#### **Occurrence in the Netherlands:**

*Rhenen: 669*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 32)**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-G1-G8 Oblate globular bead – green, with a yellow plaited band**

An oblate globular bead made of green glass. The bead is decorated with a yellow plaited band.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 32)**

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

**B3-G1-G9 Oblate globular bead – black, with a white plaited band**

An oblate globular bead made of black glass. The bead is decorated with a white plaited band.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Rhenen: 166*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 34.22** – (Stufe 4-6 > 590/600 – 680)

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

*B3-G2: Beads with a single plaited band and dots in the same colour.*

**B3-G2-A1 Cylindrical bead – red, with a white plaited band and white dots**

A cylindrical bead made of red glass. The bead is decorated with a white plaited band and white dots.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Rhenen: 166, 413, 669, 670*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.9** – (Group D-H > 485 – 705, most commonly in group F > 555 – 670).

LPV: -

Hines: -

VMP:

Koch: **(1977/2001) 20.2/20.19/20.21** – (Stufe 3b-6 > 575 – 680, most commonly in stufe 4a > 590 - 610)

**Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50).

**B3-G2-C1 Biconical bead – red, with a white plaited band and white dots**

A biconical bead made of red glass. The bead is decorated with a white plaited band and white dots.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Rhenen: 670*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.9** – (Group D-H > 485 – 705, most commonly in group F > 555 – 670).

LPV: -

Hines: -

VMP:

Koch: **(1977) 20.20** – (Stufe 3-6 > 565 – 680)

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-G2-E1 Barrel shaped bead – red, with a white plaited band and white dots**

A barrel shaped bead made of red glass. The bead is decorated with a white plaited band and white dots.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Rhenen: 546*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.9** – (Group D-H > 485 – 705, most commonly in group F > 555 – 670).

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 20)**

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-G2-E2 Barrel shaped bead – red, with a yellow plaited band and yellow dots**

A barrel shaped bead made of red glass. The bead is decorated with a yellow plaited band and yellow dots. In some cases, the red appears as brownish red.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Posterholt: 9, 85*

*Rhenen: 345, 646, 667*

*Sittard: 11, 59*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.12** – (Group F-G > 555 – 670).

LPV: -

Hines: -

VMP:

Koch: **(1977/2001) 20.7/20.26** – (Stufe 3b-6 > 575 – 680, most commonly in stufe 4a > 590 - 610). **(2001) 20.25** - (Stufe 3-6 > 565 – 680).

**Dating in the Netherlands:**

Phase 4-7 (510/25 – 640/50).

**B3-G2-E3 Barrel shaped bead – yellow, with a red plaited band and red dots**

A barrel shaped bead made of yellow glass. The bead is decorated with a red plaited band and red dots. In some cases, the red is brownish red.

*See Plate 20.*

**Occurrence in the Netherlands:**

*Rhenen: 394*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 33.8** – (Group D-F > 485 – 670).

LPV: -

Hines: -

VMP:

Koch: **(2001) 20.9** – (Stufe 3b-6 > 575 – 680, most commonly in stufe 4a > 590 - 610)

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-G2-E4 Barrel shaped bead – white, with a blue plaited band and blue dots**

A barrel shaped bead made of white glass. The bead is decorated with a blue plaited band and blue dots.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Oosterbeintum: A, 360*

*Rhenen: 166*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 20.8** – (Stufe 3b-6 > 575 – 680, most commonly in stufe 4a > 590 - 610)

**Dating in the Netherlands:**

Phase 2-5 (435/40 – 580/90).

**B3-G2-E5 Barrel shaped bead – pink, with a blue plaited band and blue dots**

A barrel shaped bead made of pink glass. The bead is decorated with a blue plaited band and blue dots.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Oosterbeintum: 360*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 20)**

**Dating in the Netherlands:**

Phase 2-3 (435/40 – 510/25).

**B3-G2-E6 Barrel shaped bead – black, with a white plaited band and white dots**

A barrel shaped bead made of black glass. The bead is decorated with a white plaited band and white dots.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Rhenen: 270*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 20.33** – (Stufe 3-6 > 565 – 680)

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-G2-F1 Multi-segmented bead – red, with a yellow plaited band and yellow dots**

A barrel shaped bead made of red glass. The bead is decorated with a yellow plaited band and yellow dots on each segment. The individual segments can be biconical, barrel-shaped, cylindrical or oblate globular.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Rhenen: 769*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.12** – (Group F-G > 555 – 670).

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 20)**

**Dating in the Netherlands:**

No date available.

**B3-G2-G1 Oblate globular bead – red, with a yellow plaited band and yellow dots**

An oblate globular bead made of red glass. The bead is decorated with a yellow plaited band and yellow dots.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Rhenen: 645*

*Sittard: 11*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Per 35.12** – (Group F-G > 555 – 670).

LPV: -

Hines: -

VMP:

Koch: **(1977) 20.4** – (Stufe 3b-6 > 575 – 680, most commonly in stufe 3b-4 > 575 – 620/30).

**(1977) 20.6** - (Stufe 3-6 > 565 – 680).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-G2-G2 Oblate globular – white, with a blue plaited band and blue dots**

An oblate globular bead made of white glass. The bead is decorated with a blue plaited band and blue dots.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Rhenen: 413*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 20)**

**Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).

*B3-G3: Beads with a single or double plaited band and dots or eyes in a different colour.*

**B3-G3-A1 Cylindrical bead – white, with a blue plaited band and red dots**

A cylindrical bead made of white glass. The bead is decorated with a blue plaited band and red dots.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Rhenen: 160, 345*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 21.22** – (Stufe 4 > 590/600 – 620/30, possibly earlier)

**Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).

**B3-G3-A2 Cylindrical bead – black, with a blue and white plaited band and yellow and blue eyes**

A cylindrical bead made of black glass. The bead is decorated with a white plaited band over which a blue plaited band is placed. Further decoration consists of blue dots within a yellow field.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Bergeijk: 19*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 21)**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-G3-C1 Biconical bead – white, with a blue plaited band and red dots**

A biconical bead made of white glass. The bead is decorated with a blue plaited band and red dots.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Maastricht: 110*

*Rhenen: 7*

*Sittard: 11*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 21.5** – (Stufe 4 > 590/600 – 620/30, possibly earlier).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-G3-D1 Discoid bead with rounded edge – white, with a blue plaited band and red dots**

A discoid bead with a rounded edge made of white glass. The bead is decorated with a blue plaited band and red dots.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Rhenen: 669*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 21.1** – (Stufe 4 > 590/600 – 620/30, possibly earlier).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

*B3-G4: Beads with a plaited band and raised dots or eyes.*

**B3-G4-E1 Barrel shaped bead – red, with a white plaited band and raised blue dots in white fields**

A barrel shaped bead made of red glass. The bead is decorated with a white plaited band and raised blue dots in white fields. Occasionally, the dots are green.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Sittard: 80*

**Identification in other typologies:**

Franken AG: **S-** Per **35.10** – (Group 4 > 610/20 – 750).

Siegmund: **Per 35.10** – (Group G-I > 570 - 705).

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 25)**

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

*B3-G5: Beads with a plaited band and a central line.*

**B3-G5-E1 Barrel shaped bead – red, with a yellow plaited band and a yellow central line**

A barrel shaped bead made of red glass. The bead is decorated with a yellow plaited band and a yellow central line.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Maastricht: 100*

*Rhenen: 696*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 35.2** – (no date provided).

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

*B3-G6: Beads with a plaited band and borders.*

**B3-G6-E1 Barrel shaped bead – red, with a yellow plaited band and yellow borders**

A barrel shaped bead made of red glass. The bead is decorated with a yellow plaited band and yellow borders.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Rhenen: 138, 343*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 36.3** – (Stufe 4b-5 > 600/10 – 650/60).

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20)

*B3-G7: Beads with a double plaited band.*

**B3-G7-E1 Barrel shaped bead – red, with a yellow and a white plaited band**

A barrel shaped bead made of red glass. The bead is decorated with a yellow plaited band underneath a white plaited band.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Rhenen: 413*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 37)**

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

*B3-H1: Beads with a combed line pattern in one direction.*

**B3-H1-A1 Cylindrical bead – white, with brown lines combed in one direction**

A cylindrical bead made of white glass. The bead is decorated with brown or red-brown combed lines in one direction.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Rhenen: 546*

*Sittard: 71*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 49.9** – (Stufe 3 > 565 – 590/600).

**Dating in the Netherlands:**

Phase 3-7 (460/80 – 640/50).

**B3-H1-A2 Cylindrical bead – red, with coarse yellow lines combed in one direction**

A cylindrical bead made of red glass. The bead is decorated with coarse yellow lines which are combed in one direction.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Rhenen: 413*

**Identification in other typologies:**

Franken AG: **S- Per 35.18** – (Group 3 > 485 – 580/90, most commonly between 510/25 – 580/90).

Siegmund: **Per 35.18** – (Group C-E > 485 - 610).

LPV: -

Hines: -

VMP:

Koch: **(1977) 49.12** – (Stufe 3 > 565 – 590/600).

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-H1-A3 Cylindrical bead – red, with fine yellow lines combed in one direction**

A cylindrical bead made of red glass. The bead is decorated with fine yellow lines which are combed in one direction.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Rhenen: 423*

**Identification in other typologies:**

Franken AG: **S- Per 35.18** – (Group 3 > 485 – 580/90, most commonly between 510/25 – 580/90).

Siegmund: **Per 35.18** – (Group C-E > 485 - 610).

LPV: -

Hines: -

VMP:

Koch: **(1977) 49.11** – (Stufe 3 > 565 – 590/600).

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-H1-A4 Cylindrical bead – red, with yellow and white lines combed in one direction**

A cylindrical bead made of red or brownish red glass. The bead is decorated with yellow and white lines which are combed in one direction.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Rhenen: 530*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 49.28** – (Stufe 3 > 565 – 590/600).

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-H1-A5 Cylindrical bead – red, with yellow and green lines combed in one direction**

A cylindrical bead made of red or brownish red glass. The bead is decorated with yellow and green lines which are combed in one direction.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Sittard: 11*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 49.15** – (Stufe 3 > 565 – 590/600).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-H1-A6 Cylindrical bead – black, with blue lines combed in one direction**

A cylindrical bead made of black glass. The bead is decorated with blue or turquoise blue lines which are combed in one direction.

*See Plate 21.*

**Occurrence in the Netherlands:**

*Rhenen: 328*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 49)**

**Dating in the Netherlands:**

Phase 5 (565 – 580/90).

**B3-H1-C1 Biconical bead – red, with white lines combed in one direction**

A biconical bead made of red or brownish red glass. The bead is decorated with white lines which are combed in one direction.

*See Plate 22.*

**Occurrence in the Netherlands:**

*Wageningen: 101*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 49.6** – (no date provided).

**Dating in the Netherlands:**

No date available.

**B3-H1-C2 Biconical bead – black, with yellow lines combed in one direction**

A biconical bead made of black glass. The bead is decorated with yellow lines which are combed in one direction.

*See Plate 22.*

**Occurrence in the Netherlands:**

*Maastricht: 313*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 49)**

**Dating in the Netherlands:**

No date available.

### **B3-H1-G1 Oblate globular bead – white, with green lines combed in one direction**

An oblate globular bead made of white glass. The bead is decorated with green or blueish green lines which are combed in one direction.

*See Plate 22.*

#### **Occurrence in the Netherlands:**

*Rhenen: 152, 423, 595, 600, 669, 712, 753*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 49.18** – (no date provided).

#### **Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).

*B3-H2: Beads with a combed line pattern in multiple directions.*

### **B3-H2-A1 Long thin cylindrical bead – red, with yellow lines combed in multiple directions**

A long and relatively thin cylindrical bead made of red glass. The bead is decorated with yellow combed lines in multiple directions.

*See Plate 22.*

#### **Occurrence in the Netherlands:**

*Rhenen: 712*

**Identification in other typologies:**

Franken AG: **S- Per 35.18** – (Group 3 > 485 – 580/90, most commonly between 510/25 – 580/90).

Siegmund: **Per 35.18** – (Group C-E > 485 - 610).

LPV: -

Hines: -

VMP:

Koch: **(1977) 50.7** – (Stufe 3 > 565 – 590/600).

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-H2-A2 Short thick cylindrical bead – red, with yellow lines combed in multiple directions**

A short and thick cylindrical bead made of red glass. The bead is decorated with yellow combed lines in multiple directions.

*See Plate 22.*

**Occurrence in the Netherlands:**

*Rhemen: 670*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 50.8** – (no date provided).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-H2-A3 Cylindrical bead – red, with blue and white lines combed in multiple directions**

A cylindrical bead made of red glass. The bead is decorated with blue and white combed lines in multiple directions.

*See Plate 22.*

**Occurrence in the Netherlands:**

*Rhenen: 546*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 50)**

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-H2-A4 Cylindrical bead – white, with blue lines combed in multiple directions**

A cylindrical bead made of white glass. The bead is decorated with blue combed lines in multiple directions.

*See Plate 22.*

**Occurrence in the Netherlands:**

*Wageningen: 101*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 50.13** – (Stufe 3 > 565 – 590/600).

**Dating in the Netherlands:**

No date available.

**B3-H2-B1 Five-sided cylindrical bead – white, with red and yellow lines combed in multiple directions**

A five-sided cylindrical bead made of white glass. The bead is decorated with red and yellow combed lines in multiple directions.

*See Plate 22.*

**Occurrence in the Netherlands:**

*Rhenen: 413*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 50)**

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

### **B3-H2-C1 Biconical bead – red, with yellow lines combed in multiple directions**

A biconical bead made of red or brownish red glass. The bead is decorated with yellow combed lines in multiple directions.

*See Plate 22.*

#### **Occurrence in the Netherlands:**

*Rhenen: 712*

#### **Identification in other typologies:**

Franken AG: **S- Per 35.17** – (Group 2-3 > 435/40 – 580/90)

Siegmund: **Per 35.17** – (Group C > 485 - 555).

LPV: -

Hines: -

VMP:

Koch: **(2001) 50.18** – (Stufe 4 > 590/600 – 620/30).

#### **Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

### **B3-H2-E1 Barrel shaped bead – white, with red, yellow and green lines combed in multiple directions**

A barrel shaped bead made of white glass. The bead is decorated with red, yellow and green combed lines in multiple directions.

*See Plate 22.*

#### **Occurrence in the Netherlands:**

*Rhenen: 413*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 50)**

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-H2-G1 Oblate globular bead – brownish green, with white lines combed in multiple directions**

An oblate globular bead made of olive-coloured or brownish green glass. The bead is decorated with white or cream-coloured combed lines in multiple directions. This bead is typologically related to large bead B6-A1-G18.

*See Plate 22.*

**Occurrence in the Netherlands:**

*Rhenen: 595*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 50.22** – (Stufe 2 > 545/50 – 565/70).

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-H2-G2 Oblate globular bead – brownish red, with yellow lines combed in multiple directions**

An oblate globular bead made of red or brownish red glass. The bead is decorated with yellow combed lines in multiple directions.

*See Plate 22.*

**Occurrence in the Netherlands:**

*Rhenen: 712*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 50.2** – (Stufe 1-3 > 525/35 – 590/600).

**Dating in the Netherlands:**

Phase 4 (510/25 - 565).

**B3-H2-L1 Rectangular bead – red, with yellow lines combed in multiple directions**

A rectangular bead made of red glass. The bead is decorated with yellow combed lines in multiple directions. The cross section of the bead is square.

*See Plate 22.*

**Occurrence in the Netherlands:**

*Rhenen: 530*

**Identification in other typologies:**

Franken AG: **Related to S- Per 35.18** – (Group 3 > 485 – 580/90, most commonly between 510/25 – 580/90).

Siegmund: **Related to Per 35.18** – (Group C-E > 485 - 610).

LPV: -

Hines: -

VMP:

Koch: **(1977) 50.10** – (Stufe 3 > 565 – 590/600).

**Dating in the Netherlands:**

Phase 4 (510/25 – 565).

**B3-H2-L2 Rectangular bead – white, with red and yellow lines combed in multiple directions**

A rectangular bead made of white glass. The bead is decorated with red and yellow combed lines in multiple directions. The cross section of the bead is square.

*See Plate 22.*

**Occurrence in the Netherlands:**

*Rhenen: 397*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 50)**

**Dating in the Netherlands:**

Phase 3-5 (460/80 – 580/90).

*B3-H3: Beads with a combed line pattern and dots.*

**B3-H3-G1 Oblate globular bead – red, with white combed lines and yellow dots**

An oblate globular bead made of red glass. The bead is decorated with white combed lines and yellow dots.

*See Plate 22.*

**Occurrence in the Netherlands:**

*Rhenen: 696*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(1977) 52.1** – (no date provided).

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

*B3-H4: Beads with a combed line pattern and raised dots.*

**B3-H4-G1 Oblate globular bead – red, with white combed lines and raised blue dots**

An oblate globular bead made of red glass. The bead is decorated with white combed lines and a central band of raised blue dots.

*See Plate 22.*

**Occurrence in the Netherlands:**

*Sittard: 11*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

*B3-I1: Beads with serpentine lines.*

**B3-I1-A1 Cylindrical bead – red, with yellow serpentine lines**

A cylindrical bead made of red glass. The bead is decorated with yellow serpentine lines which are randomly placed.

*See Plate 22.*

**Occurrence in the Netherlands:**

*Rhenen: 423*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 55)**

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-I1-A2 Cylindrical bead – red, with yellow and white serpentine lines**

A cylindrical bead made of red glass. The bead is decorated with yellow and white serpentine lines which are randomly placed.

*See Plate 22.*

**Occurrence in the Netherlands:**

*Rhenen: 423*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 55)**

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-I1-C1 Biconical bead – red, with white serpentine lines**

A biconical bead made of red glass. The bead is decorated with white serpentine lines which are randomly placed.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Rhenen: 396, 579*

**Identification in other typologies:**

Franken AG: **Related to S- Per 35.25** – (Group 3 > 485 – 580/90, most commonly between 510/25 and 580/90).

Siegmund: **Related to Per 35.25** – (Group D-F > 485 - 670).

LPV: -

Hines: -

VMP:

Koch: **(1977) 55.1** – (Stufe 3 > 565 – 590/600).

**Dating in the Netherlands:**

Phase 5 (565 – 580/90).

**B3-I1-C2 Biconical bead – red, with yellow serpentine lines**

A biconical bead made of red or brownish red glass. The bead is decorated with yellow serpentine lines which are randomly placed.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Rhenen: 166, 343*

**Identification in other typologies:**

Franken AG: **S- Per 35.25** – (Group 3 > 485 – 580/90, most commonly between 510/25 and 580/90).

Siegmund: **Per 35.25** – (Group D-F > 485 - 670).

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 55)**

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-I1-C3 Biconical bead – red, with yellow and black serpentine lines**

A biconical bead made of red glass and decorated with yellow and black serpentine lines which are randomly placed.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Rhenen: 601*

**Identification in other typologies:**

Franken AG: **Related to S- Per 35.25** – (Group 3 > 485 – 580/90, most commonly between 510/25 and 580/90).

Siegmund: **Related to Per 35.25** – (Group D-F > 485 - 670).

LPV: -

Hines: -

VMP:

Koch: **(1977) 55.9** – (Stufe 3 > 565 – 590/600).

**Dating in the Netherlands:**

Phase 4 (510/25 - 565).

**B3-I1-C4 Biconical bead – green, with red, white, blue and black serpentine lines**

A biconical bead made of green glass and decorated with red, white, blue and black serpentine lines which are randomly placed.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Sittard: 11*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 55)**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50). Possibly made no later than phase 5 (565 – 580/90)

*B3-I2: Beads with serpentine lines, a central line and/or borders.*

**B3-I2-A1 Cylindrical bead – red, with fine white serpentine lines and yellow borders**

A cylindrical bead made of red glass. The bead is decorated with fine white serpentine lines which are randomly placed, and yellow borders. The serpentine lines are finer than those on B3-I2-A2 and the beads are usually somewhat smaller.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Rhenen: 669*

*Sittard: 11*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Related to Per 35.26** – (Group D-H > 485 - 705).

LPV: -

Hines: -

VMP:

Koch: **(1977) 58.1** – (Stufe 3-4 > 565 – 620/30).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-I2-A2 Cylindrical bead – red, with coarse white serpentine lines and yellow borders**

A cylindrical bead made of red glass. The bead is decorated with coarse white serpentine lines which are randomly placed, and yellow borders. The serpentine lines are coarser than those on B3-I2-A1 and the beads are usually somewhat larger.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Bergeijk: 19*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Related to Per 35.26** – (Group D-H > 485 - 705).

LPV: -

Hines: -

VMP:

Koch: **(2001) 58.6** – (Stufe 3-4 > 565 – 620/30).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-I2-A3 Cylindrical bead – red, with white serpentine lines a yellow central line and yellow borders**

A cylindrical bead made of red glass. The bead is decorated with white serpentine lines which are randomly placed. Further decoration consists of a central yellow line and yellow borders.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Rhenen: 166, 423*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Related to Per 35.27** – (Group D-H > 485 - 705).

LPV: -

Hines: -

VMP:

Koch: **(2001) 58.7** – (Stufe 3-4 > 565 – 620/30).

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

**B3-I2-C1 Biconical bead – red, with white serpentine lines a yellow central line and yellow borders**

A biconical bead made of red glass. The bead is decorated with white serpentine lines which are randomly placed. Further decoration consists of a central yellow line and yellow borders.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Sittard: 44, 80*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Related to Per 35.27** – (Group D-H > 485 - 705).

LPV: -

Hines: -

VMP:

Koch: **(1977) 58.5** – (Stufe 3-4 > 565 – 620/30).

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

*B3-I3: Beads with serpentine lines and a central line with dots*

**B3-I3-C1 Biconical bead – black, with white serpentine lines and a blue central line with white dots**

A biconical bead made of black glass. The bead is decorated with white serpentine lines which are randomly placed. Further decoration consists of a translucent blue central line with white dots.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Bergeijk: 19*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 59)**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

*B3-I4: Cube shaped beads with serpentine lines, borders and dots*

**B3-I4-K1 Cube shaped bead – red, with white serpentine lines, yellow borders and yellow dots**

A cube-shaped bead made of red glass. The bead is decorated with white serpentine lines which are randomly placed. Further decoration consists of yellow borders along all edges of the cube and a yellow dot centrally placed on each side.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Sittard: 11*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(2001) 60.1** – (no date provided).

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

### *B3-J1: Beads decorated with a flower or leaf pattern*

#### **B3-J1-A1 Cylindrical bead – red, with a blue dot and white ‘leaves’**

A cylindrical bead made of red or brownish-red glass. The bead is decorated with a large and centrally placed flower-like ornament. The centre of the flower is blue and the ‘leaves’ or ‘petals’ are white. The petals are irregularly shaped.

Zweeloo grave 59 contains various beads, including late types such as those belonging to categories B4-B1, B4-B2 and B4-B4. It is likely that this bead is related to these later types, and probably most closely to B4-B2. A chronological relationship is therefore expected.

*See Plate 23.*

#### **Occurrence in the Netherlands:**

*Zweeloo: 59*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 9b - 10 (700 - 750) The type likely occurs up to AD 800/25. An earlier start date cannot be ruled out.

#### **B3-J1-G1 Oblate globular bead – red, with white cloverleaf-shaped decoration**

An oblate globular bead made of red glass. The bead is decorated with a pattern of randomly placed white cloverleaf shapes.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Rhenen: 413*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

**B3-J1-G2 Oblate globular bead – red, with white flowers**

An oblate globular bead made of red glass. The bead is decorated with a pattern of randomly placed white flowers. The flowers consist of a central dot surrounded by roughly triangular shaped 'petals'.

The flowers are somewhat reminiscent of the millefiori bead flowers known from the southern Netherlands and the bead seems related to type B3-J1-G3. Zweeloo grave 70 contains a relatively large number of so-called checkerboard beads (B4-B1) which date to a later period. It is likely that this flower bead is related to the later types, although it is not impossible that some inspiration was derived from older beads.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Zweeloo: 70*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B3-J1-G3 Oblate globular bead – green, with red flowers**

An oblate globular bead made of green glass. The bead is decorated with a pattern of centrally placed red flowers. The flowers consist of petals in the style known from millefiori bead flowers from the southern Netherlands.

Beads of this type are associated with mosaic beads from categories B4-B1 and B4-B2 and with a brooch of type BR-5c. In Wijster grave 156, the bead is also associated with a suspected early rectangular disc brooch of type BR-5i. It can be assumed that this bead is chronologically related to these items rather than to the older southern millefiori beads.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Wijster: 74, 118, 127, 156*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

*B3-K1: Beads with borders and diagonal lines made using the 'reticella' (or 'twisted rod') technique.*

**B3-K1-A1 Cylindrical bead – red, with yellow borders and black diagonal lines**

A cylindrical bead made of red glass and decorated with yellow borders and black diagonal lines across the central field. The bead is made using the reticella (or 'twisted rod') technique.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Sittard: 80*

**Identification in other typologies:**

Franken AG: **Related to S- Per 2.11** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Related to Per 2.11** – (Group D > 485 - 585).

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 46)**

**Dating in the Netherlands:**

Phase 4-6 (510/25 – 610/20).

**B3-K1-E1 Barrel shaped bead – green, with red borders and yellow diagonal lines**

A barrel shaped bead made of green glass and decorated with red borders and yellow diagonal lines across the central field. The bead is made using the reticella (or 'twisted rod') technique.

See Plate 23.

**Occurrence in the Netherlands:**

*Rhenen: 195*

**Identification in other typologies:**

Franken AG: **Related to S- Per 2.11** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Related to Per 2.11** – (Group D > 485 - 585).

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 46)**

**Dating in the Netherlands:**

Phase 3-4 (460/80 - 565).

*B3-K2: Beads with a linear or herringbone pattern decoration made using the 'reticella' (or 'twisted rod') technique.*

**B3-K2-A1 Cylindrical bead – reticella bead with herringbone pattern**

A cylindrical bead made using the reticella (or 'twisted rod') technique. The patterning usually consists of five zones of coloured diagonal lines which together form a herringbone motif. The outer zone on either side and the central zone are made up of two colours, most commonly red and yellow. The remaining two zones, which divide the others, can be made up of diagonal lines in two or three colours. As part of this sample, the two zones are made up of yellow and green (Rhenen grave 601), yellow, red and green (Rhenen grave 564) and red, yellow and black (Rhenen grave 374).

Whilst the above mentioned are the most common colours, others occur occasionally. The number of zones may differ too as well as the number of colours per zone. Based on the

current sample, there is no reason to suspect a chronological difference between the use of the various known colours and styles.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Maastricht: 187, 258*

*Rhenen: 374, 564, 601*

**Identification in other typologies:**

Franken AG: **S- Per 2.11** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.11** – (Group D > 485 - 585).

LPV: -

Hines: -

VMP:

Koch: **(1977/2001) 48.6 to 48.14/48.15 to 48.18** – (Stufe 2-3 > 545/50 – 590/600, sporadically in stufe 4 > 590/600 – 620/30).

**Dating in the Netherlands:**

Phase 3-4 (460/80 – 565).

**B3-K2-C1 Biconical bead – reticella bead with herringbone pattern**

A biconical bead made using the reticella (or 'twisted rod') technique. The patterning usually consists of three zones of coloured diagonal lines which together form a herringbone motif. The specimen from Rhenen grave 195 is made up of three zones consisting of a pattern of yellow and brownish red lines whilst the Sittard bead consists of the colours red, yellow, white and black. Although other colour combinations are not found as part of this sample, they are listed in the typology for southern Germany by Ursula Koch which is derived from the Schretzheim cemetery<sup>1038</sup>

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<sup>1038</sup> Koch 1977, Farbtafel 4.

Based on the German evidence, there is no reason to suspect a chronological difference between the use of the various known colours and styles. If the same goes for the Netherlands is subject to further study.

*See Plate 23.*

**Occurrence in the Netherlands:**

*Rhenen: 195*

*Sittard: 11*

**Identification in other typologies:**

Franken AG: **S- Per 2.11** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.11** – (Group D > 485 - 585).

LPV: -

Hines: -

VMP:

Koch: **(1977) 48.2 to 48.4** – (Stufe 2-3 > 545/50 – 590/600, sporadically in stufe 4 > 590/600 – 620/30).

**Dating in the Netherlands:**

Phase 3-4 (460/80 – 565). Sporadically in phase 5 (565 – 580/90).

*B3-L1: Ribbed beads decorated in various styles*

**B3-L1-W1 Ribbed barrel shaped bead – red, with white and green spiral lines**

A ribbed barrel shaped bead made of red glass. The bead is decorated with white and green spiralling lines.

*See Plate 24.*

**Occurrence in the Netherlands:**

*Bergeijk: 19*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 54)**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-L1-W2 Ribbed barrel shaped bead – yellow, with a translucent blue or green spiral line**

A ribbed barrel shaped bead made of yellow glass. The bead is decorated with a translucent blue or green spiralling line.

*See Plate 24.*

**Occurrence in the Netherlands:**

*Bergeijk: 19*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 54)**

**Dating in the Netherlands:**

Phase 5-7 (565 – 640/50).

**B3-L1-W3 Ribbed barrel shaped bead – translucent green, with an opaque white spiral line**

A ribbed barrel shaped bead made of translucent green or brownish green glass. The bead is decorated with an opaque white spiralling line.

This group is typologically related to the large beads of type B6-A1-W1.

*See Plate 24.*

**Occurrence in the Netherlands:**

*Rhenen: 595*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 54)**

**Dating in the Netherlands:**

Phase 4-5 (510/25 – 580/90).

*B3-M1: Quatrefoil shaped beads decorated in various styles*

**B3-M1-S1 Quatrefoil shaped bead – green, with red spiral lines**

A quatrefoil shaped bead made of green glass. The bead is decorated with a red spiralling line.

*See Plate 24.*

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: **(Not identified > Group 53)**

**Dating in the Netherlands:**

Phase 3 (460/80 – 510/25).

## B4: MOSAIC BEADS

Beads made using the mosaic technique occur regularly in Dutch graves from the early Medieval period. The most common subtype are the millefiori beads, so called because of their often flower-like patterning. As is the case for many artefact categories in the Netherlands, a clear distinction can be made between mosaic beads found in the north of the country and those found in the south.

**Mosaic beads in 'southern style'**

The mosaic beads which occur in the south mainly belong to the subtype of millefiori beads. Especially in older literature, these beads are often indicated with the German term *Blättchenmillefioriperlen*. The beads are usually faceted-cylindrical or barrel shaped and have a blue base colour with red borders. The central area of the bead is often divided into various fields which are individually decorated. Frequently seen patterns of decoration are so-called eyes and flower like shapes with either split or closed leaves. Southern- or Frankish style millefiori beads are found, amongst other countries in Germany, France, Belgium and the

southern Netherlands<sup>1039</sup>. Andrae created a distribution map of southern style millefiori beads which shows that the type is not found in the northern Netherlands, northern Germany and Scandinavia<sup>1040</sup>. The northernmost cemetery where southern types were found is in Liebenau in Germany (Niedersachsen)<sup>1041</sup>. This location is approximately on the same line with Zwolle (Overijssel) in the Netherlands and therefore further south than the provinces of Drenthe, Groningen and Friesland. Although this is largely correct, it must be noted that southern style millefiori beads are occasionally found further north, amongst other places in Wijster, Zweenloo and in the cemetery of Beetgum-Besseburen (Friesland) which is not part of this sample<sup>1042</sup>. Most southern style millefiori beads in the Netherlands can be dated to phases 4 and 5 (510/25 – 580/90) whilst some types occur already in phase 3 (460/80 – 510/25). The latter are mainly found amongst the (faceted) cylindrical shapes. For the German Rhineland, Siegmund dates large cylindrical and faceted-cylindrical millefiori beads between AD 485 and 585. For the barrel shaped specimens, it is indicated that they have a long lifespan, but an exact date is not specified<sup>1043</sup>. The Franken AG does not specify large cylindrical or barrel shaped millefiori beads. Faceted-cylindrical types are placed between AD 435/40 – 580/90<sup>1044</sup>. For southern Germany, Koch dates millefiori beads, regardless of the shape, between AD 545/50 and 650/60, with a most common occurrence between 565 and 590/600<sup>1045</sup>. For northern France, LPV place the southern millefiori beads, again regardless of the shape, between AD 520/30 – 630/40<sup>1046</sup>.

### **Mosaic beads in 'northern style'**

The mosaic beads which prevail in the north of the Netherlands, in this research specifically in Wijster and Zweenloo, can be divided into four subgroups on the basis of decorative style. The first group could be defined as 'checkerboard beads' as they have in common the occurrence of an often centrally placed field of multi coloured dots or small squares forming a checkerboard effect. The second group could be described as 'watercolour beads'. These beads have a loose watercolour-like decoration of lines, bands and fields in various colours.

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<sup>1039</sup> Siegmund 1998, 67; Müssemeier *et al.* 2003, 37; Koch 1977, 218; Koch 2001, 160-164; Legoux *et al.* 2016, 27, 49.

<sup>1040</sup> Andrae 1973, 159-64.

<sup>1041</sup> Hässler 1983, 95, 127, table 23; Hässler 1985, 54-56, table 22.

<sup>1042</sup> Van Es 1967, 443; Van Es *et al.* 2007, 875; Knol 1993, figure 15.

<sup>1043</sup> Siegmund 1998, 67

<sup>1044</sup> Müssemeier *et al.* 2003, 37.

<sup>1045</sup> Koch 1977, 218.

<sup>1046</sup> Legoux *et al.* 2016, 27, 49, 62.

The third group consists of millefiori beads with a decoration of spirals, usually in yellow. The fourth group contains the so-called 'mosaic eye beads' or 'sun beads' which are characterised by their decorative eyes, often surrounded by 'rays' as if they were suns. The beads of group 4 are sometimes indicated with the German term *Mosaikaugenperlen*.

The checkerboard beads of group 1 are frequently found in the northwestern German state of Niedersachsen (Lower Saxony)<sup>1047</sup> as well as in the neighbouring Dutch province of Drenthe, including in the Wijster and Zweeloo cemeteries<sup>1048</sup>. Van Es classifies the type as *soort 1* in the Zweeloo publication<sup>1049</sup>. In addition to their specific decoration, beads of group 1 are often distinguished by their rectangular shape, which is rare for early medieval beads. Rectangular, however, is not the only shape for group 1 beads. Barrel shapes are found, as well as the occasional discoid or biconical shape.

The limited distribution of group 1 beads, restricted to Niedersachsen and Drenthe, may be indicative for local production and thus a specific Saxon bead type. A provenance in the eastern Mediterranean, as is assumed for southern style millefiori beads as well as for northern beads of decoration group 4, is unlikely as a larger area of distribution would be expected. Stein suggests that checkerboard beads may originate from Ireland, although modern evidence does not seem to support this theory<sup>1050</sup>. In the Zweeloo cemetery publication, it is suggested that checkerboard beads may have been produced in Dorestad. A recently compiled inventory of most of the beads found at Dorestad has not resulted in the discovery of any parallels<sup>1051</sup>. This research also led to the conclusion that there is no evidence of large-scale bead production found in Dorestad to date. Evidence found for occasional bead production could not be linked to a specific type<sup>1052</sup>.

The fact that the beads almost exclusively occur in Drenthe and Niedersachsen and are not present, for instance, in burials along the Dutch north coast in Friesland and Groningen strengthens the idea of a local Saxon type. Van Es points out that the absence along the north coast may be the result of a continuing prevalence of cremation burial in the *terpen* region up to approximately AD 800<sup>1053</sup>. When viewing the situation in the Dunum cemetery in the

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<sup>1047</sup> Wegewitz 1968 (Maschen and Buchholz); Genrich 1963 (Dörverden); Grohne 1953 (Mahndorf); Waller 1938 (Cuxhaven); Thielemann 1957 (Othfresen); Nowothnig 1958 (Rosdorf); Schlüter 1977, 1982 (Osnabrück); Andrae 1973 (Offleben); Facklam 1977/78 (Hoya); Genrich 1972, Cosack 1982, Hässler 1983 (Liebenau); Ahrens 1978-80 (Ketzendorf); Thieme 1985 (Wulfsen).

<sup>1048</sup> Van Es 1967 (Wijster); Van Es *et al.* 2007 (Zweeloo); Van Es 1962 (Oosterhesselen); Van Giffen 1937, 1940a (Rhee).

<sup>1049</sup> Van Es *et al.* 2007, 823.

<sup>1050</sup> Stein 1967, 98-99.

<sup>1051</sup> Langbroek 2021, 55-99.

<sup>1052</sup> Langbroek 2021, 62, 65.

<sup>1053</sup> Van Es 2007, 823.

very north of Niedersachsen, along the German coast, it becomes clear that only one grave contains checkerboard beads whilst multiple graves contain beads from type 4<sup>1054</sup>. The Dunum cemetery shows a mix of cremations and inhumations of which the former are dated between 650/700 and 900. The inhumations are said to have started around the same time but became more frequent from 750 onwards. Whilst it is suggested that the inhumations in the cemetery continued to hold grave furnishings up to c. 900, it seems odd that so few checkerboard beads were found. Van Es interprets this by suggesting that the checkerboard bead may have been at their usage peak in the time that cremation was the most prominent burial custom<sup>1055</sup>. This would suggest a low archaeological visibility and would be comparable to the situation in Friesland and Groningen. A different interpretation, however, would be that the distribution of checkerboard beads only sporadically reached as far north as the coastal zone. Also this interpretation would explain the absence of type 1 in Friesland, Groningen as well as northern Niedersachsen.

Northern style mosaic beads are a much less common find than their southern counterparts and are, as a result, less well studied. Andrae published a study into the mosaic eye beads of type 4, of which he places the production between AD 775 and 825, in 1973<sup>1056</sup>. Four years later, Callmer published a study of beads from Scandinavian Viking graves of the period between c. AD 800 and 1000<sup>1057</sup>. Given the fact that the tradition of furnished burial in the southern parts of the Netherlands and surrounding countries rapidly declines after AD 650, most typologies which focus on the early medieval period only cover bead types which occur roughly until the middle of the seventh century. This means a gap in large scale comparative research of approximately seventy-five to a hundred and fifty years. The corpus of beads found throughout the Dorestad settlement provides some insight into beads from this intermediate period. The corpus, however, does not include all bead types which are supposed to belong to this period, and which occur for example in Wijster and Zweeloo. The interpretation of the chronology therefore remains open to debate and further research. When starting with subtype 1, the checkerboard beads, it becomes clear that they do not occur in the Scandinavian Viking graves. This may be due to local production in Saxony and a small distribution area but it may also indicate that the type had already suffered a decreased popularity by AD 800. The latter suggestion would agree with the previously mentioned idea

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<sup>1054</sup> Schmid 1972, table 35.

<sup>1055</sup> Van Es 2007, 823.

<sup>1056</sup> Andrae 1973.

<sup>1057</sup> Callmer 1977.

that the usage peak of type 1 beads coincides with the prevailing cremation rite in Dunum, up to c. AD 750. This would place the use of type 1 beads between approximately 650 and 750 with a possibly slightly earlier start of production<sup>1058</sup>.

When comparing the occurrence of bead types 1 and 4, it becomes clear that both types are not often mixed in a single necklace or indeed in a single inhumation context. Zweeloo, for example, contains ten graves with type 1 beads and ten graves with type 4 beads. On only four occasions there is some mixing<sup>1059</sup>. In Wijster are sixteen graves with type 1 beads and ten graves with type 4 beads. A mix of the two types is only seen in two or three graves<sup>1060</sup>. If we do not attribute this low level of association to personal taste of the owners, it can be concluded that both types had their usage peak at a different moment, whilst there is some overlap in circulation. When going a step further, it may be possible to suggest that also the period of production differs.

Taking into consideration the expected dating of type 4 beads (see below) as well as the available evidence on beads of type 1, it is reasonable to suggest a dating for the checkerboard beads between c. AD 650 and 750 with a possible continuation of circulation somewhat into the Carolingian period, possibly up to c. 775/800. A ninth century date, as suggested by Schlüter for type 1 beads from the Osnabrück-Schölerberg cemetery in Niedersachsen, however, seems too late<sup>1061</sup>.

When looking purely at the evidence from the Dutch graves with checkerboard beads, it becomes clear that these inhumations are generally poorly furnished. The absence of many artefacts makes it increasingly difficult to place the checkerboard beads in a chronological context. Interesting are five graves in Wijster (graves 11, 16, 119, 120 and 125) in which the beads occur in combination with a composed disc brooch with pressed metal decoration (BR-5c). Within the sample, brooches of this type are only known from Wijster. Siegmund and the Franken AG, however, also recognise similar brooches in the German Rhineland and date them between 640/705 and 640/50-710 respectively<sup>1062</sup>. Similar brooches which were found in northern France are dated by LPV to 600/10 – 700/10 with a most common occurrence between 630/40 – 660/70<sup>1063</sup>. Heeren and Van Der Feijst focus their dating on the brooches'

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<sup>1058</sup> Schmid 1972; Van Es 2007, 823.

<sup>1059</sup> Van Es 2007, 823.

<sup>1060</sup> Van Es 1967, 411-79.

<sup>1061</sup> Schlüter 1982, 125.

<sup>1062</sup> Siegmund 1998, 48-49; Müssemeier *et al.* 2003, 27.

<sup>1063</sup> Legoux *et al.* 2016, 25, 43, 61.

mechanism which is unfortunately missing in case of the Wijster specimens. Dependant on the mechanism, they can be placed between 500-625 or between 775 and 925<sup>1064</sup>.

In Wijster grave 156, the checkerboard beads occur in combination with a rectangular brooch of type BR-5i. Rectangular brooches have a long circulation time which starts in the Rhineland in the seventh century. This earliest type has a length-width ratio of 2.3 to 1.0 or more and circulates until approximately 750. The type is then followed by variant with a length-width ratio of less than 2.3 to 1.0. This second variant is use up to approximately 800<sup>1065</sup>. Eight rectangular brooches occur in Zweeloo and Wijster combined, of which seven belong to type 2. The eighth brooch has a ratio of exactly 2.3 to 1.0 and is the only specimen to occur in combination with checkerboard beads.

In graves 49 and 50 of the Zweeloo cemetery, the beads of type 1 are found in combination with a Domburg brooch (BR-1f). Domburg brooches have a relatively long period of circulation which runs roughly between 460/80 and 610/20. It is unlikely that these brooches were still actively produced and circulated much beyond the start of the seventh century. Their appearance in combination with checkerboard beads would be the only indication for the beads to start before 650, which is unlikely given the other evidence. The Domburg brooches are therefore considered to be heirloom pieces.

Based on the available evidence, the checkered beads are dated in this typology to between AD 650 and 750/800.

Type 2 of the northern mosaic beads are the so-called watercolour beads. The decoration of these beads consists of colourful bands, strikes, dots and fields which do not form a clear pattern. In comparison to the checkerboard beads, watercolour beads are relatively rare. Given its patterning, it can be suggested that the beads of type 2 are related to those from type 1. Especially when the patterning of type 2 beads includes coloured dots, it can cause confusion between the types. It should be noted that the checkerboard of type 1 beads is a prominent feature which is clearly visible centrally on the long side of the bead. Colourful lines and fields go out from the checkered centre to the sides and do not seem to be placed randomly as is the case for type 2.

Given the close typological relationship between the two types, a chronological association is likely. Type 2 beads are absent in Scandinavia, which is again similar to type 1 specimens. Type 2 beads occur in two graves in combination with type 3 beads (see below) in the Ketzendorf

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<sup>1064</sup> Heeren *et al.* 2017, 229.

<sup>1065</sup> Thieme 1978/80, 71-72.

cemetery (Niedersachsen) in Germany<sup>1066</sup>. The same goes for Zweeloo grave 96, in which the type also mixes with checkerboard beads. The distribution of type 2 beads, like type 1, seems to be restricted to the Dutch province of Drenthe and the German state of Niedersachsen where they occur in various cemeteries including Maschen, Buchholz-Vaensen, Dörverden, Wulfen, Offleben, Wijster and Zweeloo. A stray find is also known from Peeloo in Drenthe<sup>1067</sup>. In Zweeloo and Wijster combined, type 2 beads are found in a total of nine graves. When comparing the find of type 2 beads with other artefacts in the same contexts, it becomes clear that in four cases the beads occur with specimens of type 4. This is proportionally much more frequent than for type 1 beads. In Wijster grave 156, watercolour beads occur together with checkerboard beads and the 'Rhineland-style' rectangular brooch which is likely to date between 650 and 750 (see above, type 1). In Wijster graves 148 and 156, the beads are found combined with bracelets of types BT-1f and BT-1g respectively, which are both difficult to date. The types have as far as known no parallels. In two cases, beads of type 2 are found in combination with amber beads, which suggest an early date. Amber beads are usually signalling a sixth century context, which in this case is highly unlikely. It is assumed that the amber beads are heirloom pieces. In addition to amber beads, the necklace in Zweeloo grave 96 also contains southern style millefiori beads (also dating to the sixth century) as well as amethyst beads. In one other occasion, an amethyst bead occurs in combination with a watercolour bead. Amethyst beads are generally placed between 565 and 670/80 with their usage peak between 580/90 and 640/50 and are often seen as indicative for a seventh century context.

From the evidence a mixed picture arises of the dating of type 2 beads. Given the close relationship to type 1 beads in combination with the fact that type 2 and type 4 beads are more commonly found together, it can be suggested that the type should be dated to the eighth century. Whilst a start around 700 is possible, the usage peak probably lies between 750 and 800. It is unlikely that the type continues to circulate in large numbers beyond 825.

Type 3 beads are usually long cylindrical or faceted cylindrical and have a blue base colour and red borders. The decoration consists of spirals, mostly in yellow glass. In overall appearance and decoration, the beads of this type are most similar to the southern millefiori beads or *Blättchenmillefioriperlen*. Whilst the spiral is clearly different from the flowers and

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<sup>1066</sup> Ahrens 1978/80; Van Es 2007, 823

<sup>1067</sup> Wegewitz 1968, table B, C, D (Maschen and Buchholz-Vaensen); Genrich 1963, table 8:1 (Dörverden); Thieme 1985, figure 5 (Wulfen); Andrae 1973, table 10 (Offleben); Stray find Drenthe Provincial Museum in Assen (inventory number 1966/I2) (Peeloo).

eyes which are dominant in the south, the background colour, borders, shape of the beads and placement of the ornament seem to be related. In the sample, beads of type 3 only occur in two graves (50 and 96) of the Zweeloo cemetery. The two beads from grave 50 have a division into fields. Two rows of yellow spirals are divided by a bunch of coloured lines. The division is not present on the specimen from grave 96 and the spirals seem more randomly placed. Southern millefiori beads often have the division into fields too, although not in all cases. Besides Zweeloo, type 3 beads are known from the Rhee cemetery in Drenthe (not in this sample)<sup>1068</sup>. In the neighbouring German state of Niedersachsen, the beads occur in low numbers in the cemeteries of Ketzendorf, Liebenau and Dörverden<sup>1069</sup>. In Wijster grave 32, a very rare bead was found which is divided into various square fields. The fields alternately carry a spiral and a checkerboard pattern. Similar beads are only known from Dörverden and Ketzendorf and seem to be a combined- or transitional type. In Dörverden and Ketzendorf, type 3 beads were also found in combination with another possible transitional type which combines the checkerboard with 'flowers' as known from the southern style millefiori beads<sup>1070</sup>. Beads of this type are not known from the Netherlands, but parallels occur in Wulfen and Maschen in Germany<sup>1071</sup>. The existence of various sub types which combine decorative elements of the main types mentioned in this introduction signal a close typological association which can probably be translated into a chronological relationship. In contrast to checkerboard beads and watercolour beads, specimens closely related to type 3 beads occur in the Viking graves of Scandinavia. The beads are identified by Callmer as part of his group G002 and feature most frequently in Scandinavian bead periods 1 and 2 (c. AD 790 – 845). This early peak is followed by complete absence of the type in phases 3 and 4 and a modest revival in phases 7 and 8 (885-950)<sup>1072</sup>.

When viewing the grave assemblages of which type 3 beads form part in the Netherlands, it becomes clear that the specimen from Zweeloo graves 50 and 96 as well as the related specimen from Wijster grave 32 occur in combination with checkerboard beads. Grave 96 further contains southern style millefiori beads as well as amber and amethyst beads. Assuming that the southern millefiori beads and the amber beads are heirlooms, the amethyst bead indicates a seventh century date. This is in accordance with the suspected start date of checkerboard beads in AD 650. In Zweeloo grave 50, type 3 beads are found in

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<sup>1068</sup> Van Es 2007, 822; Provincial Museum Drenthe, Inventory No. 1935/IV 10.

<sup>1069</sup> Ahrens 1978/80, plates A-C (Ketzendorf); Cosack 1982, table 28:2.1 (Liebenau); Genrich 1963, table 5:6 (Dörverden).

<sup>1070</sup> Van Es 1967, 426; Genrich 1963; Ahrens 1978/80.

<sup>1071</sup> Wegewitz 1968; Thieme 1985.

<sup>1072</sup> Callmer 1977.

combination with a plate Domburg brooch. Type 1 beads are found twice in combination with a Domburg brooch. Once with a cast example in Zweeloo grave 49 and with a plate specimen in grave 50. Based on the available evidence, it is decided to date type 3 beads in a similar way as those belonging to type 1, between AD 650 and 750/800. As became clear that the type continues up to 845 or even 925 in Scandinavia, a continuation in the Netherlands and Germany beyond 800 cannot be ruled out. The presumed Christianisation of the north, however, may have led to continued changes in the burial ritual with a decline in grave goods, including beads.

Type 4 beads are found in relatively large numbers in the Zweeloo and Wijster cemeteries but are relatively uncommon finds in the Netherlands in general. The type occurs on a small scale in the Godlinze cemetery in the northeast of Groningen (not in this sample)<sup>1073</sup>. Recently, a group of fourteen mosaic beads was described which were found in various location across Dorestad. Of these beads, a large number can be counted to the so called *Mosaikaugenperlen* or eye beads<sup>1074</sup>. A total of sixteen of these type 4 beads were found in Zweeloo and a further twelve in Wijster.

In 1973, Andrae published a comprehensive study of eye beads and differentiated between a large number of variants on different levels. The most basic distinction was made between the specimens with a blue and a green base colour. Andrae postulates very short periods of production for both subtypes and suggests that the blue beads are the oldest. The blue specimens are produced between approximately AD 775 and 825 and the green beads between 800 and 825<sup>1075</sup>. These very short periods of production are very unlikely, especially given the very large geographical area of distribution of type 4 beads, which includes large parts of continental Europe, Scandinavia, southeast Asia, the Middle East, parts of Russia and north Africa<sup>1076</sup>. The eye beads from this sample, found in Wijster and Zweeloo all belong to the blue group, except for two beads from Zweeloo grave 59 which are green. In contrast, the beads from Dorestad almost all belong to the green group.

The spread of eye beads in Viking Scandinavia becomes clear from the inventory made by Callmer. The beads found in Zweeloo and Wijster belong to Callmer's types G050 (beads with a blue base colour and a division into fields (one or two) which are decorated with suns, eyes or crosses) and H001 (beads with a blue or green base colour, decorated with multiple eyes,

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<sup>1073</sup> Nicolay *et al.* 2018, 221; van Giffen 1920, plate 10.

<sup>1074</sup> Langbroek 2021, 61.

<sup>1075</sup> Andrae 1973.

<sup>1076</sup> Sode 2019, 186-87.

crosses or suns and without a division into fields)<sup>1077</sup>. Type G050, which can be considered the Scandinavian equivalent of Andrae's blue group, starts to occur in Callmer's phase 1 (c. 790 – 820) and occurs most commonly in phases 2 and 3 (c. 820-875). After this date, the type only occurs sporadically up to c. 990. Type H001, which combines some blue beads with specimens from Andrae's green group, starts in Scandinavia in phase 4 (875-905) and continues up to c. AD 1000<sup>1078</sup>. It is unclear how these dates for Scandinavia should be interpreted in relation to the type 4 beads in Wijster and Zweeloo. A start date of G050 in Drenthe in the second half of the eighth century, as in Scandinavia, seems plausible. The Scandinavian start date for type H001, however, is too late to be applicable in the Netherlands. It is clear that the eye beads originate from the Eastern Mediterranean or the Near East – Egypt, Syria and Mesopotamia are potential places of production – and were imported into Europe and other regions. It is unclear, however, if this import included Scandinavia from the offset. Assuming a longer period of production than postulated by Andrae, it is not unthinkable that Scandinavia developed an interest in the beads at a later stage. They could have imported them via other parts of Europe or Russia. Another option is the movement of beads to Scandinavia from other parts of Europa as part of Viking looting.

Previously, there is touched upon the low number of Zweeloo and Wijster contexts in which type 1 and type 4 beads are found combined. The association between beads of type 2 and type 4 is comparatively higher. It is interesting to note that beads belonging in both Scandinavian categories (G050 and H001) are combined with type 1 as well as type 2 beads on at least one occasion in Wijster and Zweeloo. The only specimens with a green base colour, however, are associated with type 2 beads in Zweeloo grave 59 and not with checkerboard beads of type 1. This would mean that G050 does not necessarily occur earlier in the Netherlands than H001. On the basis of the limited evidence available, however, it upholds Andrae's suggestion that green beads occur later than blue beads.

In five cases, beads of type 1 were found associated with composed disc brooch with pressed metal decoration (BR-5c) whilst this brooch type does not occur in combination with beads of type 4. Type 1 beads are associated on one occasion with a rectangular brooch of type BR-5i. In this case, the brooch is identified as the only 'early' one in the sample on the basis of its dimensions ratio. Type 4 beads are found in association with a 'late' type of rectangular brooch on two occasions. These brooches are expected to date between approximately 750 and 800/25.

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<sup>1077</sup> Callmer 1977, 224.

<sup>1078</sup> Callmer 1977, 170.

Based on this evidence, it was not possible to distinguish chronologically between different subtypes which are part of the type 4 beads (e.g. G050 and H001). Based on its low association with type 1 beads and the association of the bead types with various brooches, I expect a start date for type 4 beads in the Netherlands around AD 775. An end date is unclear, and it is evident that type 4 beads have a very long lifespan in Scandinavia. For the Netherlands, their popularity is not expected to last beyond the ninth century. Given the prevalence of type four beads with a green base colour in Dorestad, it may be that fashion shifts from blue to green during this period of circulation. Given the changing burial custom during the eighth and ninth centuries, it is unlikely to find any bead, including those belonging to type 4 in graves after AD 900.

### *B4-A1: Millefiori beads (southern tradition)*

#### **B4-A1-A1 Cylindrical bead – red borders and green and blue fields with eyes**

A long and thin cylindrical bead created using the mosaic technique. The bead has red borders and the space in between is divided into rows of three square-shaped fields each. The fields are alternately green and blue in a checkerboard pattern. The green fields are decorated with a red dot in a white field and the blue fields are decorated with a red dot in a yellow field.

*See Plate 25.*

#### **Occurrence in the Netherlands:**

*Rhenen: 195*

#### **Identification in other typologies:**

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Related to Per 2.12** – (Group C-D > 485 - 585). **Related to Per 2.13** – (no date provided). **Related to Per 2.14** – (Group C-D > 485 - 585)

LPV: -

Hines: -

VMP:

Koch: **Not identified: Group M** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600)

### Dating in the Netherlands

Phase 3-4 (460/80 – 565).

### **B4-A1-B1 Seven-sided cylindrical bead – red borders and green and blue fields with yellow and white flowers**

A long and thin seven-sided cylindrical bead created using the mosaic technique. The bead has red borders and the space in between is divided into rows of three square-shaped fields each. The fields are alternately green and blue in a checkerboard pattern. The green fields are decorated with a yellow flower with split leaves and the blue fields are decorated with white flowers with split leaves.

*See Plate 25.*

### Occurrence in the Netherlands:

*Rhenen: 195*

### Identification in other typologies:

Franken AG: **S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.14** – (Group C-D > 485 - 585)

LPV: -

Hines: -

VMP:

Koch: **Not identified: Group M** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600)

### Dating in the Netherlands

Phase 3-4 (460/80 – 565).

**B4-A1-B2 Six-sided cylindrical bead – one red border and green and brown fields with yellow and white flowers**

A thin six-sided cylindrical bead created using the mosaic technique. The bead has a red border on one side. The remainder of the bead is divided into rows of two square-shaped fields each. The fields are alternately green and brown in a checkerboard pattern. The green fields are decorated with a yellow flower with split leaves and the brown fields are decorated with white flowers. The white flowers are sometimes outlined in red.

*See Plate 25.*

**Occurrence in the Netherlands:**

*Rhenen: 708*

**Identification in other typologies:**

Franken AG: **S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.14** – (Group C-D > 485 - 585).

LPV: -

Hines: -

VMP:

Koch: **(1977) M60** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600)

**Dating in the Netherlands**

Phase 3-4 (460/80 – 565).

**B4-A1-B3 Seven-sided cylindrical bead – red borders and blue fields with white flowers**

A thick seven-sided cylindrical bead created using the mosaic technique. The bead has red borders and the space in between is divided into rows of one rectangular-shaped fields each. The fields are blue and decorated with a white flower with split leaves.

*See Plate 25.*

### Occurrence in the Netherlands:

*Rhenen: 270, 469*

### Identification in other typologies:

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Related to Per 2.12** – (Group C-D > 485 - 585). **Related to Per 2.13** – (no date provided). **Related to Per 2.14** – (Group C-D > 485 - 585)

LPV: -

Hines: -

VMP:

Koch: **Not identified: Group M** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600)

### Dating in the Netherlands

Phase 4-5 (510/25 – 580/90).

### **B4-A1-B4 Five-sided cylindrical bead – red borders and a blue field with red and white eyes**

A long and thin five-sided cylindrical bead created using the mosaic technique. The bead has irregular red borders and the space in between is blue and not divided into separate fields. Eyes consisting of a red dot in a white field are randomly distributed across the blue zone. Wijster grave 30 in which two beads of this type were found can be dated to phase 7-10 on the basis of a brooch from type BR-5i. An earlier start date for this brooch, in phase 5 or 6, is not excluded. The beads of this type have a very 'southern' or Merovingian appearance and it is unlikely that they belong to the northern style millefiori beads of category B4-C1. On the other hand, the absence of a clear division of the bead into fields is uncommon for 'southern' millefiori beads. It is unclear whether this bead should be interpreted as a transitional type between the southern and the northern traditions, or as a later bead inspired on the southern designs. A third possibility is to interpret the beads in Wijster grave 30 as heirloom pieces which date back to phases 3 to 5.

*See Plate 25.*

**Occurrence in the Netherlands:**

*Wijster: 30*

**Identification in other typologies:**

Franken AG: **S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.14** – (Group C-D > 485 - 585).

LPV: -

Hines: -

VMP:

Koch: **Not identified: Group M** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600)

**Dating in the Netherlands**

No date available.

**B4-A1-B5 Seven-sided cylindrical bead – red borders and blue fields with white and yellow flowers**

A long and thin seven-sided cylindrical bead created using the mosaic technique. The bead has red borders and the space in between is divided into rows of three square-shaped fields each. The fields are blue and decorated with alternating white flower with split leaves and yellow flowers with a red outline.

*See Plate 25.*

**Occurrence in the Netherlands:**

*Rhenen: 195*

**Identification in other typologies:**

Franken AG: **S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.14** – (Group C-D > 485 - 585).

LPV: -

Hines: -

VMP:

Koch: **Not identified: Group M** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600)

#### **Dating in the Netherlands**

Phase 3-4 (460/80 - 565).

#### **B4-A1-B6 Seven-sided cylindrical bead – red borders and blue fields with white flowers and red and white eyes**

A long and thin seven-sided cylindrical bead created using the mosaic technique. The bead has red borders and the space in between is divided into rows of three square-shaped fields each. The fields are blue and decorated with alternating white flower with split leaves and eyes consisting of a red dot in a white field.

*See Plate 25.*

#### **Occurrence in the Netherlands:**

*Zweeloo: 96*

#### **Identification in other typologies:**

Franken AG: **S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.14** – (Group C-D > 485 - 585).

LPV: -

Hines: -

VMP:

Koch: **(2001) M88** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600)

#### **Dating in the Netherlands**

Phase 6-7 (580/90 0 640/50).

**B4-A1-B7 Seven-sided cylindrical bead – red borders and blue and green fields with white flowers and yellow and red eyes**

A long and thin seven-sided cylindrical bead created using the mosaic technique. The bead has red borders and the space in between is divided into rows of three square-shaped fields each. The fields are alternating blue and green, forming a checkerboard pattern. The blue fields are decorated with white flowers with a red outline and the green fields are decorated with eyes consisting of a red dot in a yellow field.

*See Plate 25.*

**Occurrence in the Netherlands:**

*Rhenen: 195*

**Identification in other typologies:**

Franken AG: **S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.14** – (Group C-D > 485 - 585).

LPV: -

Hines: -

VMP:

Koch: **Not identified: Group M** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

**Dating in the Netherlands**

Phase 3-4 (460/80 - 565).

**B4-A1-B8 Six-sided cylindrical bead – red borders and black and white lines**

A long and thin six-sided cylindrical bead created using the mosaic technique. The bead has red borders and the space in between is white with black lines. The lines are irregularly spaced and have a 'combed' look to them, similar to the decoration of beads belonging to category B3-H1.

*See Plate 25.*

**Occurrence in the Netherlands:**

*Rhenen: 166*

Franken AG: **S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.14** – (Group C-D > 485 - 585).

LPV: -

Hines: -

VMP:

Koch: **(1977) M64** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600)

**Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90).

**B4-A1-D1 Discoid bead with rounded edge – green and blue fields with yellow and white flowers**

A broad discoid bead with rounded edge created using the mosaic technique. The bead is decorated with alternating blue and green fields. The blue fields contain a white flower with split leaves and the green fields contain a yellow flower with split leaves.

*See Plate 25.*

**Occurrence in the Netherlands:**

*Rhenen: 716*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Related to Per 2.12** – (Group C-D > 485 - 585). **Related to Per 2.13** – (no date provided). **Related to Per 2.14** – (Group C-D > 485 - 585)

LPV: -

Hines: -

VMP:

Koch: **Not identified: Group M** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

### Dating in the Netherlands

Phase 3 (460/80 – 510/25). Possibly also in phase 4 (510/25 – 565).

### **B4-A1-E1** Barrel shaped bead – blue, with red borders and white flowers

A barrel shaped bead created using the mosaic technique. The bead is blue with red borders. The blue area is decorated with two alternating types of white flowers. The first type consists of split leaves with a red outline. The second type consists of non-split leaves with a red outline. Each leaf is decorated with a central blue line.

*See Plate 25.*

### Occurrence in the Netherlands:

*Rhemen: 195*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **Not identified: Group M** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

### Dating in the Netherlands

Phase 3-4 (460/80 - 565).

### **B4-A1-E2** Barrel shaped bead – blue, with irregular eyes in red, yellow and white

A barrel shaped bead created using the mosaic technique. The bead is blue without borders. The blue area is decorated with polygonal or irregular shaped eyes consisting of a red central field surrounded by a yellow or white line. The eyes seem to be placed randomly on the bead.

*See Plate 25.*

### **Occurrence in the Netherlands:**

*Rhenen: 601*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **Not identified: Group M** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

### **Dating in the Netherlands**

Phase 4 (510/25 - 565).

### **B4-A1-E3 Barrel shaped bead – blue, with red borders, white flowers and eyes**

A barrel shaped bead created using the mosaic technique. The bead is blue and has red borders. The central area is divided into rows of two blue fields. The fields are alternately decorated with a white flower with split leaves and eyes consisting of a red dot surrounded by a white circle.

*See Plate 25.*

### **Occurrence in the Netherlands:**

*Maastricht: 68*

*Rhenen: 166, 708*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **(1977) M33** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

### Dating in the Netherlands

Phase 3-4 (460/80 - 565). Most commonly in phase 4 (510/25 - 565).

### **B4-A1-E4** Barrel shaped bead – blue, with large yellow flowers and small eyes

A barrel shaped bead created using the mosaic technique. The bead is blue without borders. The decoration is dominated by large yellow flowers with split leaves. In between the flowers, small eyes are placed consisting of a red centre surrounded by a white line.

*See Plate 25.*

### Occurrence in the Netherlands:

*Maastricht: 110, 124, 235*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **(2001) M80** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

### Dating in the Netherlands

Phase 4-5 (510/25 – 580/90).

### **B4-A1-E5** Barrel shaped bead – blue, with red border, yellow flowers with closed leaves and eyes

A barrel shaped bead created using the mosaic technique. The bead is blue with red borders. The blue area is decorated with alternating yellow flowers with closed leaves and eyes consisting of a red dot in a white field. Each leaf of the yellow flowers is decorated with a centrally placed blue or green line. This type differs from B4-A1-E6 through the non-split leaves.

*See Plate 25.*

### Occurrence in the Netherlands:

*Wijster: 97*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **Not identified: Group M** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

### Dating in the Netherlands

No date available. A date in phase 4-5 (510/25 – 580/90) is likely.

### **B4-A1-E6** Barrel shaped bead – blue, with red border, yellow flowers with split leaves and eyes

A barrel shaped bead created using the mosaic technique. The bead is blue with red borders. The blue area is decorated with alternating yellow flowers with split leaves and eyes consisting of a red dot in a white field. This type differs from B4-A1-E5 through the split leaves. *See Plate 26.*

### Occurrence in the Netherlands:

*Rhenen: 423*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **(2001) M84** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

### Dating in the Netherlands

Phase 4-5 (510/25 – 580/90).

### **B4-A1-E7** Barrel shaped bead – blue and green, with red border, yellow flowers and eyes

A barrel shaped bead created using the mosaic technique. The bead has red borders, and the central zone is divided into alternating blue and green fields. The green fields are decorated with yellow flowers with split leaves. The blue fields are decorated with eyes consisting of a red dot surrounded by a yellow line.

*See Plate 26.*

### Occurrence in the Netherlands:

*Rhenen: 222*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **(1977) M29** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

### Dating in the Netherlands

No date available.

### **B4-A1-E8** Barrel shaped bead – blue and green with red border, yellow flowers and eyes

A barrel shaped bead created using the mosaic technique. The bead has red borders, and the central zone is divided into rows of two alternating blue and green fields. The green fields are decorated with yellow flowers with split leaves. The blue fields are decorated with eyes consisting of a red dot surrounded by a white line.

*See Plate 26.*

#### **Occurrence in the Netherlands:**

*Rhenen: 166*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **(1977) M34** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

#### **Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90).

#### **B4-A1-E9 Barrel shaped bead – green, with red border, yellow flowers and eyes**

A barrel shaped bead created using the mosaic technique. The bead has red borders. The central green zone is decorated with alternating yellow flowers with split leaves and eyes consisting of a blue dot in a white field surrounded by a red line.

*See Plate 26.*

#### **Occurrence in the Netherlands:**

*Rhenen: 423*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **(1977) M40** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

#### **Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90).

**B4-A1-E10 Barrel shaped bead – blue and green with red border, yellow flowers and multiple eyes**

A barrel shaped bead created using the mosaic technique. The bead has red borders. The central zone is divided into alternating blue and green fields. The green fields are decorated with yellow flowers with split leaves and the blue fields are decorated with a central larger eye surrounded by up to eight smaller eyes. The eyes consist of a red dot surrounded by a white line.

*See Plate 26.*

**Occurrence in the Netherlands:**

*Rhenen: 423*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **(1977) M36** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

**Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90).

**B4-A1-E11 Barrel shaped bead – black and green, with yellow and white flowers**

A barrel shaped bead created using the mosaic technique. The bead has no borders and is divided into multiple rows of two alternating black and green fields. The green fields are decorated with yellow flowers with split leaves and the black fields are decorated with white flowers with split leaves.

*See Plate 26.*

**Occurrence in the Netherlands:**

*Rhenen: 753*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **(1977) M5** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

### **Dating in the Netherlands**

Phase 3 (460/80 – 510/25). Possibly also in phase 4 (510/25 – 565).

### **B4-A1-E12 Barrel shaped bead – black and green, with red borders and yellow and white flowers**

A barrel shaped bead created using the mosaic technique. The bead has red borders, and the central space is divided into alternating black and green fields. The green fields are decorated with yellow flowers with split leaves and the black fields are decorated with white flowers with closed leaves. Each leaf of the white flowers has a centrally placed black marking.

*See Plate 26.*

### **Occurrence in the Netherlands:**

*Rhenen: 595*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **(1977) M22** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

### **Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90).

### **B4-A1-E13 Barrel shaped bead – black and green, with red borders and eyes**

A barrel shaped bead created using the mosaic technique. The bead has red borders, and the central space is divided into alternating black and green fields. The green fields are decorated with eyes consisting of a red dot surrounded by a yellow line. The black fields are decorated with eyes consisting of a red dot surrounded by a white line.

*See Plate 26.*

#### **Occurrence in the Netherlands:**

*Rhenen: 595*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **(1977) M22** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

#### **Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90).

### **B4-A1-E14 Barrel shaped bead – blue, with red border, yellow flowers and complex eyes**

A barrel shaped bead created using the mosaic technique. The bead is blue with red borders. The blue area is decorated with alternating yellow flowers with closed leaves and eyes consisting of a black dot in a white field surrounded by a red line and a white line respectively. Each leaf of the yellow flowers is decorated with a centrally placed blue or green line. The eyes can be round or rectangular.

*See Plate 26.*

#### **Occurrence in the Netherlands:**

*Rhenen: 595*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **Not identified: Group M** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

### **Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90).

### **B4-A1-E15 Barrel shaped bead – black, with red borders, green flowers and complex eyes**

A barrel shaped bead created using the mosaic technique. The bead has red borders. The central area is black and alternately decorated with green flowers with split or closed leaves and complex eyes consisting of a white dot in a red field surrounded by a white line and a blue line respectively. The eyes can be round or rectangular.

*See Plate 26.*

### **Occurrence in the Netherlands:**

*Rhenen: 423*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **(1977) M39** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

### **Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90).

**B4-A1-E16 Barrel shaped bead – black and blue, with red borders, white spirals and eyes**

A barrel shaped bead created using the mosaic technique. The bead has red borders, and the central space is divided into alternating black and blue fields. The black fields are decorated with white spirals and the blue fields are decorated with eyes consisting of a red dot surrounded by a white line.

*See Plate 26.*

**Occurrence in the Netherlands:**

*Rhenen: 595*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **(1977) M39** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

**Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90).

**B4-A1-G1 Oblate globular shaped bead – blue and green, with red borders, white flowers and eyes**

An oblate globular shaped bead created using the mosaic technique. The bead has red borders, and the central space is divided into alternating blue and green fields. The blue fields are decorated with white flowers with split leaves. The green fields are decorated with eyes consisting of a red dot surrounded by a yellow line.

*See Plate 26.*

**Occurrence in the Netherlands:**

*Rhenen: 423*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **(1977) M39** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

### **Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90).

### **B4-A1-P1 Droplet shaped bead – blue, with red borders, yellow flowers and eyes**

A droplet shaped bead created using the mosaic technique. The bead is blue with red borders. The blue area is divided into rows of two fields decorated with alternating yellow flowers with split leaves and eyes consisting of a red dot surrounded by a white line.

*See Plate 26.*

### **Occurrence in the Netherlands:**

*Rhenen: 530*

Franken AG: **Related to S- Per 2.14** – (Group 2-3 > 435/40 – 580/90).

Siegmund: **Per 2.13** – (no date provided).

LPV: -

Hines: -

VMP:

Koch: **Not identified: Group M** – (stufe 2-5 > 545/50 – 650/60, most commonly in stufe 3 > 565 – 590/600).

### **Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90). Possibly as early as phase 3 (460/80 – 510/25).

*B4-B1: Mosaic beads with checkerboard design (northern tradition)*

**B4-B1-A1 Cylindrical bead – red, with yellow and green lines and checkered pattern**

A cylindrical to barrel-shaped bead created using the mosaic technique. The bead is made of red glass and decorated with four bundles of three lines each. The bundles consist of a green line, flanked on both sides by a yellow line. The lines are placed in such a way that they form an equal armed cross. The centre of the cross shape is formed by an area decorated with a yellow and green checkered pattern.

*See Plate 26.*

**Occurrence in the Netherlands:**

*Wijster: 194*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-A2 Cylindrical bead – red, with yellow and green lines and checkered pattern**

A cylindrical bead created using the mosaic technique. The bead is made of red glass and decorated with alternating yellow and green lines. Centrally on the bead, there is a field decorated with a yellow and green checkered pattern.

*See Plate 26.*

**Occurrence in the Netherlands:**

*Zweeloo: 59*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-A3 Cylindrical bead – yellow, with green lines, checkered pattern and eyes**

A cylindrical bead created using the mosaic technique. The bead is made of yellow glass and decorated with paired green lines which are placed crosswise over the bead. The fields formed by the crossing lines are alternately decorated with yellow and green checkered patterns and eyes made up of a red dot in a white field.

*See Plate 26.*

**Occurrence in the Netherlands:**

*Wijster: 97*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-C1 Biconical bead – red, with green, orange, and yellow brushes and a green checkered pattern**

A biconical bead created using the mosaic technique. The bead is made of red glass and is decorated with randomly placed brushes in green, orange and yellow. The overall decoration could be described as a watercolour effect. A small field with a green and light green checkered pattern is placed seemingly randomly on the bead.

*See Plate 26.*

**Occurrence in the Netherlands:**

*Zweeloo: 49*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-E1 Barrel shaped bead – light green, with green and red stripes and a green checkered pattern**

A barrel shaped bead created using the mosaic technique. The bead is made of light green glass and is decorated with a centrally placed green and light green checkered pattern. The space around the checkered pattern is decorated with green and red lines placed around it like sun rays.

*See Plate 26.*

**Occurrence in the Netherlands:**

*Zweeloo: 70*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-E2 Barrel shaped bead – red, with green and white lines and a yellow and green checkered pattern**

A barrel shaped bead created using the mosaic technique. The bead is made of red glass and decorated with a centrally placed yellow and green checkered pattern. The area around the checkered pattern is decorated with regularly spaced bundles of three lines. The bundles are placed around the central field as rays of sunshine and consist of a green line flanked on each side by a white line.

*See Plate 26.*

**Occurrence in the Netherlands:**

*Wijster: 131*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-E3 Barrel shaped bead – red, with green and yellow lines and checkered pattern**

A barrel shaped bead created using the mosaic technique. The bead is made of red glass and decorated with a centrally placed yellow and green checkered pattern. The area around the checkered pattern is decorated with irregularly placed green and yellow lines. The lines are roughly placed around the central field as rays of sunshine.

*See Plate 27.*

**Occurrence in the Netherlands:**

*Wijster: 124*

*Zweeloo: 40, 46, 49, 70*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

#### **B4-B1-E4 Barrel shaped bead – blue, with square eyes and a yellow and green checkered pattern**

A barrel shaped bead created using the mosaic technique. The bead is made of blue glass and its entire surface is divided into two rows of fields. The fields are alternately decorated with a yellow and green checkerboard pattern and square eyes consisting of a yellow centre surrounded by a red and white line respectively.

Beads of this type are not typical for the category of checkerboard beads and are decorated in a more formal style than the average checkerboard bead. Wijster grave 32 contains a similar bead, but this specimen combines the checkerboard with spirals (B4-B1-E5). Further examples of similar beads are known from Dörverden and Ketzendorf (Niedersachsen) in Germany. Beads in a similar style which combine the 'flower' motif, which is characteristic for millefiori beads in the southern tradition, with a checkerboard are known from Dörverden, Ketzendorf, Wulfesen and Maschen (Niedersachsen) in Germany<sup>1079</sup>. It is possible that these beads represent an individual yet very rare style or that they should be interpreted as transitional types. In case of the latter, the bead from Wijster grave 186 is a transitional type between the beads of category B4-B1 and B4-B4.

*See Plate 27.*

#### **Occurrence in the Netherlands:**

*Wijster: 186*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

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<sup>1079</sup> Wegewitz 1968; Thieme 1985; Ahrens 1978/80, plates A-C; Genrich 1963, table 5:6.

VMP: -

Koch: -

### **Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

### **B4-B1-E5 Barrel shaped bead – blue, with white spirals and a yellow and black checkered pattern**

A barrel shaped bead created using the mosaic technique. The bead is made of blue glass and its entire surface is divided into three rows of fields. The fields are divided by a raster of red lines and are alternately decorated with a yellow and black checkerboard pattern and white spirals on a blue background.

Beads of this type are not typical for the category of checkerboard beads and are decorated in a more formal style than the average checkerboard bead. Wijster grave 186 contains a similar bead, but this specimen combines the checkerboard with eyes (B4-B1-E4). Further examples of bead B4-B1-E4 are known from Dörverden and Ketzendorf (Niedersachsen) in Germany. Beads in a similar style which combine the 'flower' motif, which is characteristic for millefiori beads in the southern tradition, with a checkerboard are known from Dörverden, Ketzendorf, Wulfen and Maschen (Niedersachsen) in Germany<sup>1080</sup>. It is possible that these beads represent an individual yet very rare style or that they should be interpreted as transitional types. In case of the latter, the bead from Wijster grave 32 is a transitional type between the beads of category B4-B1 and B4-B3.

*See Plate 27.*

### **Occurrence in the Netherlands:**

*Wijster: 32*

### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

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<sup>1080</sup> Wegewitz 1968; Thieme 1985; Ahrens 1978/80, plates A-C; Genrich 1963, table 5:6.

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-E6 Barrel shaped bead – blue, with yellow and red lines and yellow, blue, red and white checkered pattern**

A barrel shaped bead created using the mosaic technique. The bead is made of blue glass and a large part of its surface is covered by an overall rhomboidal checkered pattern. The diamond-shape is build-up of zones in various colours which are formed by smaller square checkerboard fields. The centre of the pattern consists of yellow fields which are surrounded by a blue, red, blue and white zone respectively. Each of the four sides of the diamond-shape is flanked by bundles of lines. The bundles consist of red-yellow-red lines which are placed with some blue space between them.

Beads of this type are not typical for the category of checkerboard beads and are decorated in a more formal style than the average checkerboard bead. This type is most closely related to groups B4-B1-E4, B4-B1-E5 and their German counterparts (see above). The build-up of the checkered pattern with various coloured zones is somewhat reminiscent of the build-up of the eyes seen on beads from category B4-B4. It may be possible that B4-B1-E6 should be interpreted as a transitional type.

*See Plate 27.*

**Occurrence in the Netherlands:**

*Wijster: 97*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-G1 Oblate globular bead – green, with red lines and a green checkered pattern**

An oblate globular bead created using the mosaic technique. The bead is made of light green glass and is decorated with a centrally placed light green and dark green checkered pattern. The area around the checkered pattern is decorated with regularly spaced red lines. The lines are placed around the central field as rays of sunshine.

*See Plate 27.*

**Occurrence in the Netherlands:**

*Zweeloo: 49*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

### **B4-B1-L1 Rectangular bead – red, with green lines and a green checkered pattern**

A rectangular bead created using the mosaic technique. The bead is made of red glass and is decorated with thick light green lines which run from the centre to the sides in all directions. Dark green dots are distributed across the light green line forming a checkered pattern.

*See Plate 27.*

#### **Occurrence in the Netherlands:**

*Zweeloo: 51*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

### **B4-B1-L2 Rectangular bead – red, with green lines and a blue checkered pattern**

A rectangular bead created using the mosaic technique. The bead is made of red glass and is decorated with thick light green and dark green lines which run from the centre to the four corners. In the centre of the bead, a field with a blue and light green checkered pattern is present.

*See Plate 27.*

#### **Occurrence in the Netherlands:**

*Zweeloo: 51*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-L3 Rectangular bead – red, with yellow lines and a green checkered pattern**

A rectangular bead created using the mosaic technique. The bead is made of red glass and is decorated with thick yellow lines which run from the centre to the four corners. The yellow lines are decorated with regularly placed green dots, creating a checkered pattern effect.

*See Plate 27.*

**Occurrence in the Netherlands:**

*Zweeloo: 51*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-L4 Rectangular bead – red, with green and white lines and a green and yellow checkered pattern**

A rectangular bead created using the mosaic technique. The bead is made of red glass and is decorated with four bundles of three lines which run from the centre to the four sides. The four bundles consist of a green line flanked on both sides by a white line. At the centre of the bead, a yellow and green checkered pattern is present.

*See Plate 27.*

**Occurrence in the Netherlands:**

*Wijster: 207*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-L5 Rectangular bead – red, with green and yellow lines and a green and yellow checkered pattern**

A rectangular bead created using the mosaic technique. The bead is made of red glass and is decorated with green and yellow lines. In some cases, green lines are flanked on both sides by yellow lines. Most lines run from the centre to the sides and corners of the bead. In the centre, a yellow and green checkered pattern is present.

*See Plate 27.*

**Occurrence in the Netherlands:**

*Zweeloo: 59*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-L6 Rectangular bead – yellow, with red and green lines and a green and yellow checkered pattern**

A rectangular bead created using the mosaic technique. The bead is made of yellow glass and is decorated with red and green lines. Most lines are placed as if they were a spiral line pattern. The centre of the bead is decorated with a yellow and green checkered pattern.

*See Plate 27.*

**Occurrence in the Netherlands:**

*Wijster: 156*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-L7 Rectangular bead – yellow, with red, white and green lines and a green and yellow checkered pattern**

A rectangular bead created using the mosaic technique. The bead is made of yellow glass and is decorated with red, white and green lines of which some are broad. The lines generally run from the centre to the edges and/or corners. In the centre of the bead, a yellow and green checkered pattern is present.

*See Plate 27.*

**Occurrence in the Netherlands:**

*Wijster: 16, 32, 119, 120, 125, 163*

*Zweeloo: 46, 50*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-L8 Rectangular bead – red, with yellow bands, green lines and a blue and yellow checkered pattern**

A rectangular bead created using the mosaic technique. The bead is made of red glass and is decorated with broad yellow bands. The bands are running from the centre of the bead to the corners. Across the yellow bands, some more narrow green and blue lines can be found. The centre of the bead is decorated with a yellow and blue checkered pattern.

*See Plate 27.*

**Occurrence in the Netherlands:**

*Zweeloo: 49, 59*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-L9 Rectangular bead – yellow, with red, white and blue lines and checkered pattern**

A rectangular bead created using the mosaic technique. The bead is made of yellow glass and is decorated with irregularly placed bundles of red, white and blue lines. Dots in the same colours are randomly distributed across the bead. The spots do not form a clear checkered pattern. The shape of the bead, however, is indicative for a bead in the same tradition. For this reason it is placed in the category B4-B1.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Wijster: 139*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

**B4-B1-L10 Rectangular bead – white, with red and blue lines and a blue, red and white checkered pattern**

A rectangular bead created using the mosaic technique. The bead is made of white glass and is decorated with red and blue lines, roughly running from the centre of the bead to the sides and corners. The centre of the bead is decorated with a white, red and blue checkered pattern.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Zweeloo: 50, 59, 66*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750). The type likely occurs occasionally up to AD 800.

*B4-B2: Mosaic beads with watercolour design (northern tradition)***B4-B2-A1 Cylindrical bead – white, red, yellow and green brushes**

A cylindrical bead created using the mosaic technique. The bead is decorated with randomly placed lines and fields in the colours white, yellow, red and green.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Wijster: 156*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP:

Koch: -

**Dating in the Netherlands:**

Phase 9b - 10 (700 - 750) The type likely occurs up to AD 800/25.

**B4-B2-A2 Cylindrical bead – yellow, with red borders and dots, green brushes and yellow and green dots**

A cylindrical bead created using the mosaic technique. The bead is made of yellow glass with red borders and is decorated with irregularly placed green brushes. In between the brushes, there are small fields decorated with yellow, green and red dots.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Wijster: 126*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 9b - 10 (700 - 750) The type likely occurs up to AD 800/25.

**B4-B2-A3 Cylindrical bead – yellow, with red, green, white and orange brushes and dots**

A cylindrical bead created using the mosaic technique. The bead is made of yellow glass and has a green border on one side. The bead is further decorated with randomly placed red, white, orange and green brushes. The brushes are irregularly alternated with dots in the same colours.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Wijster: 127*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 9b - 10 (700 - 750) The type likely occurs up to AD 800/25.

**B4-B2-A4 Cylindrical bead – red, with green borders and green, orange, white and blue brushes**

A cylindrical bead created using the mosaic technique. The bead is made of red glass and has green borders. The decoration consists of randomly placed brushes in green, orange, white and blue.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Zweeloo: 96*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 9b - 10 (700 - 750) The type likely occurs up to AD 800/25.

**B4-B2-A5 Cylindrical bead – red, with white, blue, green and yellow lines and speckles**

A cylindrical bead created using the mosaic technique. The bead is made of red glass and is decorated with white, blue, green and yellow lines. Speckles in the same colours are distributed across the bead.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Wijster: 148*

*Zweeloo: 81*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 9b - 10 (700 - 750) The type likely occurs up to AD 800/25.

**B4-B2-A6 Cylindrical bead – green, with red lines and borders and red, yellow and green brushes**

A cylindrical bead created using the mosaic technique. The bead is made of green glass and has a red border on each side. Centrally a bundle of red and green lines is created. The build-up of the lines is red-green-red-green-red. The fields between the bundle and the borders are decorated with red, yellow and green brushes.

The combination of red borders, central lines and fields with decoration deviates from most other beads in this category but can often be seen in B4-B3 and B4-B4. It is possible that this bead should be considered to be a transitional type.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Zweeloo: 59*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 9b - 10 (700 - 750) The type likely occurs up to AD 800/25.

**B4-B2-E1 Barrel shaped bead – yellow, with red, orange and green brushes**

A barrel shaped bead created using the mosaic technique. The bead is made of yellow glass and decorated in a watercolour style with red, orange and green brushes.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Zweeloo: 70*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 9b - 10 (700 - 750) The type likely occurs up to AD 800/25.

**B4-B2-E2 Barrel shaped bead – green, with dark green, red, orange, yellow and blue brushes**

A barrel shaped bead created using the mosaic technique. The bead is made of green glass and decorated with a pattern in watercolour style consisting of dark green, red, orange, yellow and blue brushes.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Zweeloo: 96*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 9b - 10 (700 - 750) The type likely occurs up to AD 800/25.

**B4-B2-E3 Barrel shaped bead – blue, with red lines and dark green, light green and white fields**

A barrel shaped or biconical bead created using the mosaic technique. The bead is made of blue glass and is equipped with two red lines which are placed on each side, a few millimetres from the end of the bead. The zone inside the lines and beyond the lines is decorated with randomly placed and irregularly shaped fields in dark green, light green and white.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Zweeloo: 96*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 9b - 10 (700 - 750) The type likely occurs up to AD 800/25.

*B4-B3: Mosaic beads with spiral design (northern tradition)*

**B4-B3-A1 Cylindrical bead – blue with red borders, red and white stripes and yellow spirals**

A long and thin cylindrical bead created using the mosaic technique. The bead is made of blue glass and has a red border on both sides. Centrally on the bead, three bundles of red and white lines are placed with little blue space in between. The build-up of the bundles is white-red-white. The two blue zones between the bundles and the borders are filled with a line of yellow spirals.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Zweeloo: 50*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750) The type likely occurs occasionally up to AD 800.

**B4-B3-A2 Cylindrical bead – yellow with red borders, red and green stripes and green spirals**

A long and thin cylindrical bead created using the mosaic technique. The bead is made of yellow glass and has a red border on both sides. Centrally on the bead, a bundle of red and green lines are placed with some space between each line. The build-up of the bundle is red-green-red-green-red. The two yellow zones between the bundle and the borders are filled with a line of green spirals.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Wijster: 127*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750) The type likely occurs occasionally up to AD 800.

**B4-B3-A3 Cylindrical bead – Blue with red borders and yellow spirals**

A long and thin cylindrical bead created using the mosaic technique. The bead is made of blue glass and has a red border on both sides. The central zone of the bead is dotted with yellow spirals.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Zweeloo: 96*

**Identification in other typologies:**

Franken AG:

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

Phase 8 - 10 (640/50 - 750) The type likely occurs occasionally up to AD 800.

***B4-B4: Mosaic beads with eyes, suns and crosses (northern tradition)*****B4-B4-A1 Cylindrical bead – blue, with white lines and eyes/suns**

A cylindrical bead created using the mosaic technique. The bead is made of blue glass and is decorated with three equally spaced white lines on each side. Centrally, between the

innermost white lines, an eye is placed consisting of a yellow dot surrounded by a red and white line respectively. White lines run from the eye to the boundaries of the central field like rays around the sun.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Wijster: 166*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

AD 775 – 850/900.

**B4-B4-A2 Cylindrical bead – blue, with red and white lines and eyes/suns**

A cylindrical bead created using the mosaic technique. The bead is made of blue glass and is decorated with three bundles of equally spaced red and white lines. The build-up of the bundles is white-red-white-red-white. The outermost bundles are placed a few millimetres away from the edge, creating the illusion of blue borders. The three bundles create two fields in which eyes are placed consisting of a yellow dot surrounded by a red and white line respectively. White lines run from the eye to the boundaries of the central field like rays around the sun. The 'rays' are connected with a white line, creating the idea of a wheel with spokes.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Wijster: 166*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

AD 775 – 850/900.

**B4-B4-A3 Cylindrical bead – blue, with red and yellow lines and eyes/suns**

A cylindrical bead created using the mosaic technique. The bead is made of blue glass and is decorated with two bundles of equally spaced red and yellow lines. The build-up of the bundles is red-yellow-red. The bundles are placed a few millimetres away from the edge, creating the illusion of blue borders. The two bundles flank a central zone which holds rows of two eyes next to each other. The eyes consist of a yellow dot surrounded by a red and white line respectively. White lines run from the eye to the boundaries of the central field like rays around the sun.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Zweeloo: 59*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

AD 775 – 850/900.

**B4-B4-A4 Cylindrical bead – blue, with red, yellow and white lines and eyes/suns**

A cylindrical bead created using the mosaic technique. The bead is made of blue glass and is decorated with three bundles of equally spaced red, white and yellow lines. The build-up of the bundles is white-red-yellow-red-white. The outermost bundles are placed a few millimetres away from the edge, creating the illusion of blue borders. The three bundles create two fields in which eyes are placed consisting of a yellow dot surrounded by a red and white line respectively. White lines run from the eye to the boundaries of the central field like rays around the sun.

*See Plate 28.*

**Occurrence in the Netherlands:**

*Wijster: 163*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

AD 775 – 850/900.

**B4-B4-A5 Cylindrical bead – blue, with red, yellow and white lines and eyes/suns**

A cylindrical bead created using the mosaic technique. The bead is made of blue glass and is decorated with three bundles of equally spaced red, white and yellow lines. The build-up of

the bundles is white-red-yellow-red-white. The outermost bundles are placed a few millimetres away from the edge, creating the illusion of blue borders. The three bundles create two fields in which eyes are placed consisting of a red dot surrounded by a yellow line which is connected through yellow 'rays' with a larger circular yellow line. The spaces between the 'rays' are blue. The outer circular yellow line is surrounded by a red and white line respectively.

*See Plate 29.*

**Occurrence in the Netherlands:**

*Zweeloo: 42, 65*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

AD 775 – 850/900.

**B4-B4-A6 Cylindrical bead – green, with square eyes**

A cylindrical bead created using the mosaic technique. The bead is made of green glass and is decorated with rows of two eyes. The eyes are square and consist of a blue dot surrounded by a white, red and yellow line respectively. The eyes are not placed in clearly marked fields.

*See Plate 29.*

**Occurrence in the Netherlands:**

*Zweeloo: 59*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

AD 775 – 850/900.

**B4-B4-A7 Cylindrical bead – blue, with red and green lines and eyes**

A cylindrical bead created using the mosaic technique. The bead is made of blue glass and is decorated with two bundles of red and green lines which form the bead's borders. The build-up of the bundles is red-green-red. The central zone is decorated with a single row of eyes. The eyes consist of a blue dot surrounded by a white, red and green line respectively.

*See Plate 29.*

**Occurrence in the Netherlands:**

*Zweeloo: 59*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

AD 775 – 850/900.

#### **B4-B4-A8 Cylindrical bead – blue, with red and green lines and borders and eyes**

A cylindrical bead created using the mosaic technique. The bead is made of blue glass and has one green and one red border. Centrally on the bead, three lines are placed with some space in between. The build-up of the lines is red-green-red. In the zones between the central lines and the borders, a single row of simple eyes is placed consisting of a red dot surrounded by a white field.

Whilst the division into fields with coloured lines is typical for beads in this category, the simple eyes are reminiscent of those seen on southern style millefiori beads.

*See Plate 29.*

#### **Occurrence in the Netherlands:**

*Zweeloo: 96*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

AD 775 – 850/900.

#### **B4-B4-A9 Cylindrical bead – blue, with red and green lines and eyes**

A cylindrical bead created using the mosaic technique. The bead is made of blue glass and is decorated with two bundles of red and green lines. The bundles are placed a few millimetres from both ends of the bead to create the illusion of blue borders. The build-up of the bundles is red-green-red. The central field between the bundles is decorated with a single line of eyes. The eyes consist of a large green field surrounded by a red line.

*See Plate 29.*

**Occurrence in the Netherlands:**

*Zweeloo: 81*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

AD 775 – 850/900.

**B4-B4-A10 Cylindrical bead – blue, with yellow and red lines, green bands and eyes**

A cylindrical bead created using the mosaic technique. The bead is made of blue glass and is decorated with two bundles of yellow and red lines. The bundles are placed a few millimetres from both ends of the bead to create the illusion of blue borders. The build-up of the bundles is yellow-red-yellow-red-yellow. Centrally on the bead, a third bundle of lines is placed consisting of a yellow line flanked by a red line on each side. The central field between the bundles are decorated with a broad green stripe. On the green stripe, a single row of eyes is present consisting of a blue dot surrounded by a white, red and yellow line respectively.

*See Plate 29.*

**Occurrence in the Netherlands:**

*Zweeloo: 59*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

AD 775 – 850/900.

**B4-B4-N1 Almond-shaped bead – blue, with eyes/suns**

An almond-shaped to ovoid bead created using the mosaic technique. The bead is made of blue glass and is decorated with rows of three eyes. The eyes consist of a yellow dot surrounded by a red and white line respectively. White lines run from the eye like rays around the sun. In some cases, the eyes are placed in rows of two or more randomly across the bead.

*See Plate 29.*

**Occurrence in the Netherlands:**

*Wijster: 148*

*Zweeloo: 40*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands:**

AD 775 – 850/900.

### **B4-B4-X1 Irregular-shaped bead – blue, with complex eyes/suns**

An irregular-shaped bead created using the mosaic technique. The bead is made of blue glass and is decorated with large and complex eyes. The core of each eye is formed by a blue dot which is surrounded by a broad ring. The ring is divided into alternating white and red fields and surrounded by a thinner yellowish-green line. The outer circle of the eye is formed by a green band with yellow stripes which are placed as if they were rays of sunshine.

*See Plate 29.*

#### **Occurrence in the Netherlands:**

*Zweeloo: 59*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands:**

AD 775 – 850/900.

## B5: NON-GLASS BEADS

### *B5-A1: Beads made of mineral, plant-based and fauna-based materials*

#### **B5-A1-Y1 Amber beads**

Beads made of amber, in any shape or form. Amber beads are very common in early Medieval graves in the Netherlands. Most amber beads have an irregular shape whilst others are discoid, biconical, almond-shaped, cylindrical, drop-shaped, globular or rectangular. Almost all specimens consist of rough amber, although beads are occasionally polished.

Amber beads are often regarded as a type which is indicative for sixth century contexts. Whilst most amber beads belong to this period, they keep occurring in necklaces dating up to the transition to the Carolingian period, especially in the northern Netherlands (e.g. Wijster and Zweeloo). Amber beads are of limited value for dating.

*See Plate 30.*

#### **Occurrence in the Netherlands:**

*Bergeijk: 19, 53, 77, 89*

*Elst: 135, 175*

*Hoogeloon: 23, 26*

*Maastricht: 68, 85, 95, 110, 166, 178, 187, 247, 258, 274, 277, 314*

*Meerveldhoven: 18, 19, 26, 29, 30, 35, 43, 46, 47*

*Obbicht: 8, 19, 35, 36, 57*

*Oosterbeintum: 248, 295, 360, 398, 402*

*Posterholt: 4, 8, 9, 22, 49, 77, 84, 85, 87*

*Rhenen: 75, 79, 87, 88, 92a, 95, 99, 152, 158, 165, 166, 169, 181, 195, 219, 222, 266, 270, 328, 332, 338, 343, 350, 372, 394, 396, 397, 404, 413, 414, 423, 433, 438, 440, 470, 496, 530, 546, 563, 564, 577, 578, 591, 595, 601, 647, 661, 667, 671a, 696, 712, 716, 753, 799, 803, 808*

*Sittard: 11, 23, 32, 44, 46, 79, 80*

*Stein: 30, 32*

*Veldhoven: 10*

*Wageningen: 104, 153*

*Wijster: 7, 17, 74, 118, 119, 127, 148, 155, 163, 182, 210, 211*

*Zweeloo: 32, 42, 46, 50, 51, 59, 66, 70, 79, 81, 85, 87, 89, 96*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: **BE3-Amber** – (no date provided).

VMP: -

**Dating in the Netherlands**

Phase 1-10 (400 – 750). Most commonly during the sixth century.

**B5-A1-Y2 Antler or bone beads**

Beads made antler or bone. Most specimen are cylindrical, globular or very thin discs with straight or round edges. The bead from Wageningen grave 153 has a decoration of concentric circles. Bot bone beads from Elst are relatively large.

*See Plate 30.*

**Occurrence in the Netherlands:**

*Elst: 175, 239*

*Lent: 7218*

*Rhenen: 565, 716*

*Wageningen: 153*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

### Dating in the Netherlands

Phase 3-5 (460/80 – 580/90).

### **B5-A1-Y3** Shell beads

Beads made of any seashell material, including mother of pearl. Most beads are disc shaped with straight or round edges.

*See Plate 30.*

### Occurrence in the Netherlands:

*Bergeijk: 9*

*Lent: 7201, 7201, 7211, 7218*

### Identification in other typologies:

Franken AG: **includes S- Per 5.5** – (Group 5 > 640/50 - 750).

Siegmund: **includes Per 5.5** – (Group I > 610 – 705, most commonly between 670 and 705).

LPV: -

Hines: **BE1-Disc** – (AS-FE > 625/50 – 660/85).

VMP: -

### Dating in the Netherlands

Phase 7-8 (610/20 – 670/80). Possibly as early as phase 6 (580/90 – 610/20).

### **B5-A1-Y4** Sepiolite and chalk beads

Beads made of sepiolite or chalk. Most beads are cylindrical, discoid or oblate globular in shape.

*See Plate 30.*

**Occurrence in the Netherlands:**

*Rhenen: 152, 413, 608, 716*

**Identification in other typologies:**

Franken AG: **includes S- Per 5.4** – (Group 3 > 485 – 580/90, most commonly between 510/25 and 580/90).

Siegmund: **includes Per 5.4** – (Group C-D > 485 - 585).

LPV: -

Hines: -

VMP: -

**Dating in the Netherlands**

Phase 3-5 (460/80 – 580/90).

**B5-A1-Y5 Flint beads**

Beads made of flint. The specimen from Rhenen grave 790 is cylindrical to barrel shaped.

*See Plate 30.*

**Occurrence in the Netherlands:**

*Rhenen: 790*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

**Dating in the Netherlands**

Phase 5-7 (565 – 640/50).

### **B5-A1-Y6 Jet beads**

Beads made of jet. The specimen from Wageningen grave 153 has a polyhedron shape.

*See Plate 30.*

#### **Occurrence in the Netherlands:**

*Wageningen: 153*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

#### **Dating in the Netherlands**

Phase 3 (460/80 – 510/25).

### **B5-A1-Y7 Rock Crystal beads**

Beads made of rock crystal. Most beads are irregularly shaped or discoid to oblate globular.

*See Plate 30.*

#### **Occurrence in the Netherlands:**

*Maastricht: 308*

*Oosterbeintum: 428*

*Rhenen: 565*

*Wijster: (2)*

#### **Identification in other typologies:**

Franken AG: **S- Per 5.1** – (Group 2 > 435/40 – 580/90, most commonly between 460/80 and 565).

Siegmund: **Per 5.1** – (Group C > 485 - 555).

LPV: -

Hines: -

VMP: -

### **Dating in the Netherlands**

Phase 3-5 (460/80 – 580/90).

### **B5-A1-Y8 Amethyst beads**

Beads made of amethyst, in any shape or form. Most amethyst beads are almond- or drop shaped, but other forms occur.

In the southern Netherlands, amethyst beads mainly occur in graves dating to phases 6 and 7 or potentially phase 5. In the north eastern cemeteries of Wijster and Zweeloo, no amethyst bead dates to before phase 8. The combination with brooches of types BR-5h and BR-5i as well as with mosaic beads from categories B4-B2 and B4-B4 indicates that no amethyst bead in Wijster can be dated before the start of the Carolingian period.

*See Plate 30.*

### **Occurrence in the Netherlands:**

*Maastricht: 48, 85, 110, 285, 315*

*Posterholt: 85*

*Sittard: 16*

*Wijster: 5, 7, 138, 148*

*Zweeloo: 96*

### **Identification in other typologies:**

Franken AG: **S- Per 5.2** – (Group 4 > 610/20 – 750).

Siegmund: **Per 5.2** – (Group H > 610 – 705, most commonly between 610 and 670).

LPV: -

Hines: **BE1-Amethyst** – (AS-FC – AS-FE > 555/85 – 660/85).

VMP: -

### **Dating in the Netherlands**

Southern Netherlands: Phase 5-7 (565 – 640/50). Most commonly in phase 6 (580/90 – 60/20)

Northern Netherlands: Phase 8-10 (640/50 – 750) Continuing into the Carolingian period, possibly up to AD 850/900.

### *B5-B1: Metal beads*

#### **B5-B1-A1 Cylindrical bead – Copper alloy**

Long thin cylindrical beads made of copper alloy.

*See Plate 30.*

#### **Occurrence in the Netherlands:**

*Wijster: 211*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

#### **Dating in the Netherlands**

Phase 1-2 (400 – 460/80).

#### **B5-B1-A2 Cylindrical bead – copper alloy wire**

Cylindrical bead made of wound copper alloy wire.

The type is related to wound metal wire beads identified by Siegmund and Hines. Both scholars, however, stress the fact that the beads from their samples are biconical. Siegmund

only mentions silver specimens whilst Hines also notes beads made of copper alloy and gold<sup>1081</sup>.

Metal wire beads in various forms already existed prior to the start of the early medieval period, as evidenced for example by specimens from grave 4 of the Kobylisy cemetery in Prague in the Czech Republic, which date to the third and fourth centuries AD<sup>1082</sup>. Metal wire beads in copper alloy and silver are also known from the Rullstorf and Maschen cemeteries (Niedersachsen) in northern Germany and can be dated to the late Merovingian and Carolingian periods<sup>1083</sup>. Probably the most famous examples are the gold wire beads which are part of the late seventh century Desborough necklace found in England (Northamptonshire)<sup>1084</sup>.

*See Plate 30.*

#### **Occurrence in the Netherlands:**

*Rhenen: 670*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: **related to Per 5.6** – (no date provided).

LPV: -

Hines: **related to BE2-a** – (AS-FE > 625/50 – 660/85).

VMP: -

#### **Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90).

### **B5-B1-C1 Elongated biconical bead – copper alloy wire**

Elongated biconical bead made of wound copper alloy wire.

This type is closely related to wound metal wire beads identified by Siegmund. For the German Rhineland, however, only specimens made of silver wire are identified<sup>1085</sup>. Hines and

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<sup>1081</sup> Siegmund 1998, 77-78; Hines *et al.* 2013, 208.

<sup>1082</sup> Svoboda 1965, 259, 330 and plate 26.3.

<sup>1083</sup> Hornig 1993, 148 (Rullstorf); Wegewitz 1968, 19 and plate B2 (Maschen).

<sup>1084</sup> Vierck 1984, 385 and fig. 181.2.

<sup>1085</sup> Siegmund 1998, 77-78.

colleagues also list elongated biconical beads made of metal wire. The sample from Anglo-Saxon England includes specimens made of copper alloy, silver and gold<sup>1086</sup>.

Metal wire beads in various forms already existed prior to the start of the early medieval period, as evidenced for example by specimens from grave 4 of the Kobylysy cemetery in Prague in the Czech Republic, which date to the third and fourth centuries AD<sup>1087</sup>. Metal wire beads in copper alloy and silver are also known from the Rullstorf and Maschen cemeteries (Niedersachsen) in northern Germany and can be dated to the late Merovingian and Carolingian periods<sup>1088</sup>. Probably the most famous examples are the gold wire beads which are part of the late seventh century Desborough necklace found in England (Northamptonshire)<sup>1089</sup>.

*See Plate 30.*

#### **Occurrence in the Netherlands:**

*Bergeijk: 19*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: **related to Per 5.6** – (no date provided).

LPV: -

Hines: **BE2-a** – (AS-FE > 625/50 – 660/85).

VMP: -

#### **Dating in the Netherlands**

Phase 5-7 (565 – 640/50).

#### **B5-B1-E1 Barrel shaped bead – Copper alloy (T345)**

Barrel shaped bead made of copper alloy. In some cases, the shape approached globular compressed.

*See Plate 30.*

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<sup>1086</sup> Hines *et al.* 2013, 208.

<sup>1087</sup> Svoboda 1965, 259, 330 and plate 26.3.

<sup>1088</sup> Hornig 1993, 148 (Rullstorf); Wegewitz 1968, 19 and plate B2 (Maschen).

<sup>1089</sup> Vierck 1984, 385 and fig. 181.2.

**Occurrence in the Netherlands:**

*Rhenen: 270*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

**Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90).

**B5-B1-E2 Barrel shaped bead – Lead**

Barrel shaped bead made of lead. In some cases, the shape approached globular compressed or biconical.

*See Plate 30.*

**Occurrence in the Netherlands:**

*Rhenen: 712*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

**Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90).

### **B5-B1-R1 Ring shaped bead – Silver wire**

A small silver wire ring which appears to be used as a bead. It is possible, however, that the ring should be identified as (part of) a pendant.

*See Plate 30.*

#### **Occurrence in the Netherlands:**

*Wijster: 211*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

#### **Dating in the Netherlands**

Phase 1-2 (400 – 460/80).

### **B5-B1-T1 Diabolo shaped bead – copper alloy**

A double segmented bead made of copper alloy. The shape is reminiscent of a diabolo.

#### **Occurrence in the Netherlands:**

*Rhenen: 696*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: -

Hines: -

VMP: -

## Dating in the Netherlands

Phase 3-4 (460/80 - 565).

## B6: LARGE BEADS

### *B6-A1: Large beads*

#### **B6-A1-E1 Barrel-shaped bead – black, with blue and white wavy lines**

A barrel-shaped bead made of black glass. The bead is decorated with a centrally placed blue or turquoise wavy line which is flanked on both sides by a white wavy line.

In the Zweeloo publication, van Bommel created a single category for the beads which in this typology are divided across groups B6-A1-E1, B6-A1-G15 and B6-A1-G16<sup>1090</sup>. For this rough grouping, significant typological differences in decoration and shape are ignored. The general group is related to types 239b and 300b from the typology by Tempelmann<sup>1091</sup>. Beads with similar decoration are known from northern Germany and Poland (*Table 21*).

*See Plate 31.*

*Table 21: Occurrence of bead type B6-A1-E1.*

Village/town	Province	Country	Reference
<b>Westerwanna</b>	Niedersachsen	Germany	Erdrich 2002, 136
<b>Bordesholm</b>	Schleswig-Holstein	Germany	Erdrich 2004, 66
<b>Dębczyno</b>	Zachodniopomorskie	Poland	Tempelmann 1985, 52-57

#### **Occurrence in the Netherlands:**

*Zweeloo: 87*

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<sup>1090</sup> van Bommel 2007, 924-25.

<sup>1091</sup> van Bommel 2007, 924-25; Tempelmann 1985, 52-57.

### Identification in other typologies:

Franken AG: -

Siegmund: **Ggh 1.3** – (Phase 2-3 > 440 - 530).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **(1977) 29.7** – (Stufe 3 > 565 – 590/600).

### Dating in the Netherlands

Phase 3 (460/80 – 510/25).

### **B6-A1-G1** Oblate globular bead – white chalkstone (marble)

A roughly oblate globular bead made of a type of soft white chalkstone, most likely marble. The material is porous and shows dents and other imperfections. The oblate globular shape can be quite irregular at times. The bead is not decorated.

In the Zweeloo publication, van Bommel relates this bead to types 6, 29, 34, 66 and 494 from the typology by Tempelmann<sup>1092</sup>. Similar beads are known from various places in northern Germany (*Table 22*). A further comparison is made with the marble beads from grave 22 of the Schretzheim cemetery (Bayern) in southern Germany<sup>1093</sup>. Van Bommel also notes a parallel with a bead from the southwestern Polish province of Dolnośląskie for which no more information is provided<sup>1094</sup>.

*See Plate 31.*

*Table 22: Occurrence of bead type B6-A1-G1.*

Village/town	Province	Country	Reference
<b>Oldebuck</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 49
<b>Besitz</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 52

<sup>1092</sup> van Bommel 2007, 924; Tempelmann 1985, 27-31, 88.

<sup>1093</sup> Koch 1977; van Bommel 2007, 924.

<sup>1094</sup> van Bommel 2007, 927.

<b>Teterow</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 120
<b>Preetz</b>	Schleswig-Holstein	Germany	Erdrich 2004, 62
<b>Bosau</b>	Schleswig-Holstein	Germany	van Bommel 2007, 924
<b>Schretzheim</b>	Bayern	Germany	Koch 1977
<b>?</b>	Dolnośląskie	Poland	van Bommel 2007, 927

#### Occurrence in the Netherlands:

*Zweeloo*: 87

#### Identification in other typologies:

Franken AG: -

Siegmund: -

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: -

#### Dating in the Netherlands

Phase 3 (460/80 – 510/25).

### **B6-A1-G2 Oblate globular bead – emerald-green glass**

An oblate globular bead made of slightly translucent glass in an emerald-green colour. The bead is not decorated. The specimen from Wageningen grave 116 is somewhat irregular shaped.

In the *Zweeloo* publication, van Bommel relates this bead to types 4a, 32, 42 and 42a from the typology by Tempelmann<sup>1095</sup> and type 1192 of the typology by Riha<sup>1096</sup>. Similar beads are known from Germany, Poland and Switzerland (*table 23*)

*See Plate 31.*

<sup>1095</sup> van Bommel 2007, 924; Tempelmann 1985, 27-29.

<sup>1096</sup> Riha 1990, 158.

Table 23: Occurrence of bead type B6-A1-G2.

Village/town	Province	Country	Reference
<b>Stralsund</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 45
<b>Mühlen-Eichsen</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 49
<b>Pritzler</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 76
<b>Warlitz</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 80
<b>Preetz</b>	Schleswig-Holstein	Germany	Erdrich 2004, 62
<b>Schmalstede</b>	Schleswig-Holstein	Germany	Erdrich 2004, 73
<b>Barsbüttel</b>	Schleswig-Holstein	Germany	Erdrich 2004, 107
<b>Travenbrück</b>	Schleswig-Holstein	Germany	Erdrich 2004, 113
<b>Westick</b>	Nordrhein-Westfalen	Germany	Tempelmann 1985, 27-89
<b>Kleinzerbst/Aken</b>	Sachsen-Anhalt	Germany	Tempelmann 1985, 27-89
<b>Gerlachsheim</b>	Baden-Württemberg	Germany	Tempelmann 1985, 27-89
<b>Borek</b>	Wielkopolskie	Poland	Tempelmann 1985, 27-89
<b>Cecele</b>	Podlaskie	Poland	Tempelmann 1985, 27-89
<b>Dębczyno</b>	Zachodniopomorskie	Poland	Tempelmann 1985, 27-89
<b>Wielbark</b>	Pomorskie	Poland	Tempelmann 1985, 27-89
<b>Żerniki Wielkie</b>	Dolnośląskie	Poland	Tempelmann 1985, 27-89
<b>Augst</b>	Basel-Landschaft	Switzerland	Riha 1990, 158

### Occurrence in the Netherlands:

Wageningen: 116

Zweeloo: 87

### Identification in other typologies:

Franken AG: -

Siegmund: -

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: -

### Dating in the Netherlands

Phase 3 (460/80 – 510/25).

### **B6-A1-G3 Oblate globular bead – dark green, with red and white speckles**

A roughly oblate globular bead made of slightly translucent glass in a very dark green colour, giving the impression of a black bead. The bead is decorated with randomly placed red and white speckles in various sizes.

In the Zweeloo publication, van Bommel relates this bead to type 198e from the typology by Tempelmann<sup>1097</sup> and to type 526 identified by Koch.<sup>1098</sup> Similar beads are known from Germany, Poland and Slovakia (*Table 24*). The specimen from Issendorf also has blue speckles and in Urach examples are found of decoration in various colours. A bead similar to the one found in Zweeloo is also known from grave B 670 of the Nijmegen-Centrum excavation<sup>1099</sup>. This grave is dated between AD 376 and 450.

*See Plate 31.*

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<sup>1097</sup> van Bommel 2007, 924; Tempelmann 1985, 47

<sup>1098</sup> Koch 1987.

<sup>1099</sup> Steures 2013, 133.

Table 24: Occurrence of type B6-A1-G3.

Village/town	Province	Country	Reference
<b>Hanstorf</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 22
<b>Rahmstorf</b>	Niedersachsen	Germany	Erdrich 2002, 144
<b>Issendorf</b>	Niedersachsen	Germany	Erdrich 2002, 171
<b>Preetz</b>	Schleswig-Holstein	Germany	Erdrich 2004, 62
<b>Bordesholm</b>	Schleswig-Holstein	Germany	Erdrich 2004, 66
<b>Urach</b>	Baden-Württemberg	Germany	Koch 1987
<b>Zwethau</b>	Sachsen	Germany	Tempelmann 1985, 47
<b>Nijmegen</b>	Gelderland	Netherlands	Steures 2013, 133
<b>Białęcino</b>	Zachodniopomorskie	Poland	Tempelmann 1985, 47
<b>Buczek</b>	Łódzkie	Poland	Tempelmann 1985, 47
<b>Cecele</b>	Podlaskie	Poland	Tempelmann 1985, 47
<b>Lisewo</b>	Kujawsko-Pomorskie	Poland	Tempelmann 1985, 47
<b>Witkowo</b>	Wielkopolskie	Poland	Tempelmann 1985, 47
<b>Bešeňov</b>	Nitriansky	Slovakia	Tempelmann 1985, 47

#### Occurrence in the Netherlands:

*Nijmegen-Centrum: B 670 (not in this sample)*

*Zweeloo: 87*

#### Identification in other typologies:

Franken AG: -

Siegmund: **Ggh 1.3** – (Phase 2-3 > 440 - 530).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **(1977) Group 11** – (Stufe 2-3 > 545/50 – 590/600).

#### Dating in the Netherlands

Phase 1 - 3 (400 – 510/25).

## **B6-A1-G4 Oblate globular bead – blue, with white circles**

A roughly oblate globular bead which can be somewhat angular. The bead is made of translucent blue glass in an ultramarine tone and is decorated with thin white circles. Some circles are singular and others are placed inside larger circles.

No parallels of this type of bead are known from northern Germany or neighbouring countries. In the Zweeloo publication, van Bommel relates this specimen to class 6 beads as identified by Guido for the United Kingdom and Ireland<sup>1100</sup>. The bead is especially close to the Oldbury type which is dated to the middle and late Iron Age and most commonly found in contexts dating to the second half of the first century BC. Guido expects the Oldbury bead to be made in continental Europe or on the British Isles, but after an example from the Continent<sup>1101</sup>.

*See Plate 31.*

### **Occurrence in the Netherlands:**

*Zweeloo: 87*

### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: -

### **Dating in the Netherlands**

Phase 3 (460/80 – 510/25).

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<sup>1100</sup> Van Bommel 2007, 925.

<sup>1101</sup> Guido 1978, 25.

## **B6-A1-G5 Oblate globular bead – red, with yellow lines and patches and a blue wavy line**

An oblate globular bead made of opaque red glass. The bead is decorated with irregular yellow lines and patches. A blue wavy line runs centrally around the bead. The bead is closely related to type B6-A1-G6

In the Zweeloo publication, van Bommel relates this bead to types 257 and 377b from the typology by Tempelmann<sup>1102</sup>. The bead is most closely related to a specimen from Issendorf (Niedersachsen) in Germany<sup>1103</sup>. In the case of the Issendorf bead, however, the wavy line is greenish rather than blue and the yellow lines are placed over the wavy line. Another closely related specimen was found in Hammoor (Schleswig-Holstein)<sup>1104</sup>. For this parallel, only the yellow lines are noted but no mention is made of a wavy line.

*See Plate 31.*

### **Occurrence in the Netherlands:**

*Zweeloo: 87*

### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **(1977) Group 31**

### **Dating in the Netherlands**

Phase 3 (460/80 – 510/25).

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<sup>1102</sup> van Bommel 2007, 924; Tempelmann 1985, 52-57, 62.

<sup>1103</sup> Erdrich 2002, 172.

<sup>1104</sup> Erdrich 2004, 110.

**B6-A1-G6 Oblate globular bead – red, with yellow lines and patches and a blue wavy line**

An oblate globular bead made of opaque red glass. The bead is decorated with irregular yellow lines and patches. A straight green line runs centrally around the bead. The bead is closely related to type B6-A1-G5.

In the Zweeloo publication, van Bommel relates this bead to types 257 and 377b from the typology by Tempelmann<sup>1105</sup>. The bead is most closely related to a specimen from Issendorf (Niedersachsen) in Germany<sup>1106</sup>. In the case of the Issendorf bead, however, the green line wavy and the yellow lines are placed over the green line. Another closely related specimen was found in Hammoor (Schleswig-Holstein)<sup>1107</sup>. For this parallel, only the yellow lines are noted but no mention is made of a straight green line.

*See Plate 31.*

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **(1977) Group 31**

**Dating in the Netherlands**

Phase 3 (460/80 – 510/25).

**B6-A1-G7 Oblate globular bead – black, with a white plaited band and blue dots**

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<sup>1105</sup> van Bommel 2007, 924; Tempelmann 1985, 52-57, 62.

<sup>1106</sup> Erdrich 2002, 172.

<sup>1107</sup> Erdrich 2004, 110.

An oblate globular bead made of very dark green or black glass. In some cases, red inclusions are present. The bead is decorated with an opaque white plaited band. Within the plaited band, turquoise or blue dots are placed.

In the Zweeloo publication, van Bommel relates this bead to types 276a and 276b from the typology by Tempelmann<sup>1108</sup> and to type 21.29 identified by Koch.<sup>1109</sup> Similar beads are known from northern as well as southwestern Germany (*Table 25*). The specimen from Urach has a blue plaited band with white dots<sup>1110</sup>.

See *Plate 31*.

*Table 25: Occurrence of type B6-A1-G7.*

Village/town	State	Country	Reference
<b>Spornitz</b>	Mecklenburg-Vorpommern	Germany	Tempelmann 1985, 52-57
<b>Burg auf Fehmarn</b>	Schleswig-Holstein	Germany	Erdrich 2004, 54
<b>Borgstedtfelde</b>	Schleswig-Holstein	Germany	Erdrich 2004, 69
<b>Ahlum</b>	Niedersachsen	Germany	Tempelmann 1985, 52-57
<b>Urach</b>	Baden-Württemberg	Germany	Koch 1987
<b>Pleidelsheim</b>	Baden-Württemberg	Germany	Koch 2001

#### **Occurrence in the Netherlands:**

*Zweeloo: 87*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: **Ggh 1.3** – (Phase 2-3 > 440 - 530).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

<sup>1108</sup> van Bommel 2007, 924; Tempelmann 1985, 52-57.

<sup>1109</sup> Koch 2001, colour plate 4.

<sup>1110</sup> Koch 1987.

Koch: (2001) 21.29 – (Stufe 3-4 > 565 – 620/30).

### Dating in the Netherlands

Phase 3 (460/80 – 510/25).

### **B6-A1-G8 Oblate globular bead – black, with a white plaited band and red dots**

An oblate globular bead made of very dark green or black glass. The bead is decorated with an opaque white plaited band. Within the plaited band, red dots are placed.

In the Zweeloo publication, van Bommel created a single group for bead types B6-A1-G8 and B6-A1-G11, not taking into account the typological difference between dots and eyes. The beads in this mixed group are related to type 276c from the typology by Tempelmann<sup>1111</sup> and to type 21.27 identified by Koch<sup>1112</sup>. The latter, however, has dots and no eyes. Similar beads are known from northern as well as southern Germany (*Table 26*).

*See Plate 31.*

*Table 26: Occurrence of type B6-A1-G8.*

Village/town	State	Country	Reference
<b>Martensdorf</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 38
<b>Bordesholm</b>	Schleswig-Holstein	Germany	Erdrich 2004, 66
<b>Borstel</b>	Niedersachsen	Germany	Tempelmann 1985, 52-57
<b>Dittenheim</b>	Bayern	Germany	Tempelmann 1985, 52-57
<b>Pleidelsheim</b>	Baden-Württemberg	Germany	Koch 2001

### **Occurrence in the Netherlands:**

*Zweeloo: 87*

### **Identification in other typologies:**

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<sup>1111</sup> van Bommel 2007, 924; Tempelmann 1985, 52-57.

<sup>1112</sup> Koch 2001, colour plate 4.

Franken AG: -

Siegmund: **Ggh 1.3** – (Phase 2-3 > 440 - 530).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **(2001) 21.27** – (Stufe 3-4 > 565 – 620/30).

### Dating in the Netherlands

Phase 3 (460/80 – 510/25).

### **B6-A1-G9 Oblate globular bead – black, with a yellow plaited band and blue dots**

An oblate globular bead made of very dark green or black glass. In some cases, red inclusions are present. The bead is decorated with an opaque yellow plaited band. Within the plaited band, blue or turquoise dots are placed.

In the Zweeloo publication, van Bommel relates this bead to types 266a, 276e and 276f from the typology by Tempelmann<sup>1113</sup>. Similar beads are known from northern as well as southern Germany (*Table 27*). The specimens from Issendorf and Leussow have a blue plaited band with yellow dots and the bead from Dishley has an extra white plaited band.

*See Plate 31.*

*Table 27: Occurrence of type B6-A1-G9.*

Village/town	State	Country	Reference
<b>Langendamm- (Rügen)</b>	Mecklenburg- Vorpommern	Germany	Voss 1998, 30
<b>Leussow</b>	Mecklenburg- Vorpommern	Germany	Voss 1998, 87
<b>Dishley</b>	Mecklenburg- Vorpommern	Germany	Voss 1998, 109
<b>Friedland</b>	Mecklenburg- Vorpommern	Germany	Voss 1998, 109

<sup>1113</sup> van Bommel 2007, 924; Tempelmann 1985, 52-57.

			Alekseeva 1975/82, Plates 32, 42, 32,44, 32,41
<b>Issendorf</b>	Niedersachsen	Germany	Erdrich 2002, 171
<b>Borstel</b>	Niedersachsen	Germany	Tempelmann 1985, 52-57
<b>Dittenheim</b>	Bayern	Germany	Tempelmann 1985, 52-57

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Ggh 1.3** – (Phase 2-3 > 440 - 530).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **(2001) Group 21** – (Stufe 3-4 > 565 – 620/30).

**Dating in the Netherlands**

Phase 3 (460/80 – 510/25).

**B6-A1-G10 Oblate globular bead – black, with a yellow plaited band and blue dots**

An oblate globular bead made of very dark green glass. The bead is decorated with blue or turquoise plaited band. Within the plaited band, dark blue dots or raised dots are placed.

In the Zweeloo publication, van Bommel relates this bead to type 9 as identified by Koch in Urach (Baden-Württemberg) in Germany<sup>1114</sup>. The Urach specimen, however, has a white plaited band.

*See Plate 31.*

**Occurrence in the Netherlands:**

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<sup>1114</sup> van Bommel 2007, 925; Koch 1987.

**Identification in other typologies:**

Franken AG: -

Siegmund: **Ggh 1.3** – (Phase 2-3 > 440 - 530).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **(2001) Groups 21 and 25.**

**Dating in the Netherlands**

Phase 3 (460/80 – 510/25).

**B6-A1-G11 Oblate globular bead – black, with a white plaited band and red and blue eyes**

An oblate globular bead made of very dark green or black glass. The bead is decorated with an opaque white plaited band. Within the plaited band, eyes are placed which consist of a blue dot surrounded by a red field.

In the Zweeloo publication, van Bommel created a single group for bead types B6-A1-G8 and B6-A1-G11, not taking into account the typological difference between dots and eyes. The beads in this mixed group are related to type 276c from the typology by Tempelmann<sup>1115</sup>. Similar beads are known from northern as well as southern Germany (*Table 28*).

*See plate 31.*

*Table 28: Occurrence of bead type B6-A1-G11.*

Village/town	State	Country	Reference
<b>Martensdorf</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 38
<b>Bordesholm</b>	Schleswig-Holstein	Germany	Erdrich 2004, 66
<b>Borstel</b>	Niedersachsen	Germany	Tempelmann 1985, 52-57

<sup>1115</sup> van Bommel 2007, 924; Tempelmann 1985, 52-57.

<b>Dittenheim</b>	Bayern	Germany	Tempelmann 1985, 52-57
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**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Ggh 1.3** – (Phase 2-3 > 440 - 530).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **(1977) Group 21** – (Stufe 3-4 > 565 – 620/30).

**Dating in the Netherlands**

Phase 3 (460/80 – 510/25).

**B6-A1-G12 Oblate globular bead – black, with a blue plaited band and white and blue eyes**

An oblate globular- or thick discoid bead made of very dark green or black glass. The bead is decorated with a blue plaited band. Within the plaited band, eyes are placed which consist of a blue dot surrounded by a white field.

*See Plate 31.*

**Occurrence in the Netherlands:**

*Rhenen: 799*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Ggh 1.3** – (Phase 2-3 > 440 - 530).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **(1977) Group 21** – (Stufe 3-4 > 565 – 620/30).

### Dating in the Netherlands

Phase 2-3 (435/40 – 510/25).

### **B6-A1-G13 Oblate globular bead – black, with a white plaited band and red dots**

An oblate globular- or thick discoid bead made of very dark green or black glass. The bead is decorated with an opaque white wavy line.

In the Zweeloo publication, van Bommel relates the bead to type 263a from the typology by Tempelmann<sup>1116</sup> and to type 533, 534 and 535 as identified by Koch in Urach<sup>1117</sup>. Koch, however, previously identified the type in Schretzheim (27.12 - 27.15)<sup>1118</sup>. Similar beads are known from Germany, Poland and Switzerland (*Table 29*). In the Netherlands, smaller beads with the same decoration and colours occur in graves in Rhenen, Lent and Meerveldhoven (see: B3-F1-G7) and are dated between phases 3 and 7 (460/80 – 640/50).

See *Plate 31*.

*Table 29: Occurrence of bead type B6-A1-G13.*

Village/town	Province	Country	Reference
<b>Perdöhl</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 72
<b>Pritzier</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 77
<b>Dämelow</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 95
<b>Nutteln</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 101
<b>Mahlstedt</b>	Niedersachsen	Germany	Erdrich 2002, 54
<b>Westerwanna</b>	Niedersachsen	Germany	Erdrich 2002, 36

<sup>1116</sup> van Bommel 2007, 924; Tempelmann 1985, 52-57.

<sup>1117</sup> Koch 1987.

<sup>1118</sup> Koch 1977, colour plate 2.

<b>Schretzheim</b>	Bayern	Germany	Koch 1977
<b>Urach</b>	Baden-Württemberg	Germany	Koch 1987
<b>Letnin</b>	Zachodniopomorskie	Poland	Tempelmann 1985, 52-57
<b>Warchlinko</b>	Zachodniopomorskie	Poland	Tempelmann 1985, 52-57
<b>Zerniki-Wielki</b>	Dolnośląskie	Poland	Tempelmann 1985, 52-57
<b>Augst</b>	Basel-Landschaft	Switzerland	Riha 1990, 184 (2793)

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Ggh 1.3** – (Phase 2-3 > 440 - 530).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **(1977) 27.12 – 27.15** – (AD 500 - 700).

**Dating in the Netherlands**

Phase 3 (460/80 – 510/25). Decoration continues to exist on smaller beads after 510/25.

**B6-A1-G14 Oblate globular bead – brown, with a yellow wavy line between two straight yellow lines**

An oblate globular- or thick discoid bead made of greenish-brown or yellowish-brown glass. The bead is decorated with a yellow wavy line which is flanked on both sides by a straight yellow line.

In Rhenen grave 507, the bead occurs in combination with a brooch of type BR-6c which indicates a date in the second half of the fifth or the first half of the sixth century.

*See Plate 31.*

**Occurrence in the Netherlands:**

*Rhenen: 507*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Ggh 1.3** – (Phase 2-3 > 440 - 530).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **(2001) Group 70** – (No date provided).

**Dating in the Netherlands**

Phase 3-4a (460/80 – c. 540).

**B6-A1-G15 Oblate globular bead – black, with a straight white line between two white wavy lines**

An oblate globular bead made of black glass. The bead is decorated with a centrally placed white line which is flanked on both sides by a white wavy line.

In the Zweeloo publication, van Bommel created a single category for the beads which in this typology are divided across groups B6-A1-E1, B6-A1-G15 and B6-A1-G17<sup>1119</sup>. For this rough grouping, significant typological differences in decoration are ignored. The general group is related to types 239b and 300b from the typology by Tempelmann<sup>1120</sup>. Beads with similar decoration are known from northern Germany and Poland (*Table 30*). The specimen from Urach has blueish-grey wavy lines. Siegmann identified a related type as part of research into the beads from the Liebenau and Dörverden cemeteries (Niedersachsen) in Germany. This type has a green line between two white wavy lines<sup>1121</sup>.

*See Plate 32.*

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<sup>1119</sup> van Bommel 2007, 924-25.

<sup>1120</sup> van Bommel 2007, 924-25; Tempelmann 1985, 52-57.

<sup>1121</sup> Siegmann 2003, plate Q, 10.

Table 30: Occurrence of bead type B6-A1-G15.

Village/town	Province	Country	Reference
<b>Westerwanna</b>	Niedersachsen	Germany	Erdrich 2002, 136
<b>Bordesholm</b>	Schleswig-Holstein	Germany	Erdrich 2004, 66
<b>Urach</b>	Baden-Württemberg	Germany	Koch 1987
<b>Dębczyno</b>	Zachodniopomorskie	Poland	Tempelmann 1985, 52-57

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Ggh 1.3** – (Phase 2-3 > 440 - 530).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **Related to group 30.**

**Dating in the Netherlands**

Phase 3 (460/80 – 510/25).

**B6-A1-G16 Oblate globular bead – black, with a straight yellow line between two yellow wavy lines**

An oblate globular bead made of black glass. The bead is decorated with a centrally placed yellow line which is flanked on both sides by a yellow wavy line.

*See Plate 32.*

**Occurrence in the Netherlands:**

*Elst: 211*

### Identification in other typologies:

Franken AG: -

Siegmund: **Ggh 1.3** – (Phase 2-3 > 440 - 530).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **Related to group 30.**

### Dating in the Netherlands

Phase 3-4 (460/80 – 565).

### **B6-A1-G17 Oblate globular bead – black, with a straight blue line between two white wavy lines**

An oblate globular bead made of black glass. The bead is decorated with a centrally placed blue line which is flanked on both sides by a white wavy or zigzag line.

In the Zweeloo publication, van Bommel created a single category for the beads which in this typology are divided across groups B6-A1-E1, B6-A1-G15 and B6-A1-G17<sup>1122</sup>. For this rough grouping, significant typological differences in decoration are ignored. The general group is related to types 239b and 300b from the typology by Tempelmann<sup>1123</sup>. Beads with similar decoration are known from northern Germany and Poland (*Table 31*). Siegmann identified a related type as part of research into the beads from the Liebenau and Dörverden cemeteries (Niedersachsen) in Germany. This type has a green line between two white wavy lines<sup>1124</sup>.

*See Plate 32.*

*Table 31: Occurrence of bead type B6-A1-G17.*

Village/town	Province	Country	Reference
<b>Westerwanna</b>	Niedersachsen	Germany	Erdrich 2002, 136

<sup>1122</sup> van Bommel 2007, 924-25.

<sup>1123</sup> van Bommel 2007, 924-25; Tempelmann 1985, 52-57.

<sup>1124</sup> Siegmann 2003, plate Q, 10.

<b>Bordesholm</b>	Schleswig-Holstein	Germany	Erdrich 2004, 66
<b>Dębczyno</b>	Zachodniopomorskie	Poland	Tempelmann 1985, 52-57

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Ggh 1.3** – (Phase 2-3 > 440 - 530).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **Related to group 30.**

**Dating in the Netherlands**

Phase 3 (460/80 – 510/25).

**B6-A1-G18 Oblate globular bead – green, with three straight red line and two yellow wavy lines**

An oblate globular bead made of translucent green or greyish-green glass. The bead is decorated with three equally spaced straight red lines. In the spaces between the lines, two yellow wavy or zigzag lines are placed.

In the *Zweeloo* publication, van Bommel relates this bead to types 294a, 294c, 297a, 297b and 298a from the typology by Tempelmann<sup>1125</sup>. Beads with similar decoration are known from northern Germany and Poland (*Table 32*). van Bommel also notes two specimens which are found in southwestern Latvia, but no more information regarding these is provided<sup>1126</sup>.

*See Plate 32.*

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<sup>1125</sup> van Bommel 2007, 925; Tempelmann 1985, 52-57.

<sup>1126</sup> van Bommel 2007, 930.

Table 32: Occurrence of type B6-A1-G18.

Village/town	Province	Country	Reference
Liessow	Mecklenburg-Vorpommern	Germany	Voss 1998, 51
Gammelín	Mecklenburg-Vorpommern	Germany	Voss 1998, 54
Pritzler	Mecklenburg-Vorpommern	Germany	Voss 1998, 77
Dütschow	Mecklenburg-Vorpommern	Germany	Voss 1998, 91
Mustin	Schleswig-Holstein	Germany	Erdrich 2004, 48
Kasseedorf	Schleswig-Holstein	Germany	Erdrich 2004, 56
Preetz	Schleswig-Holstein	Germany	Erdrich 2004, 63
Altenwalde	Niedersachsen	Germany	Erdrich 2002, 106
Rahmstorf	Niedersachsen	Germany	Erdrich 2002, 145
Issendorf	Niedersachsen	Germany	Erdrich 2002, 171
Helmstedt	Niedersachsen	Germany	Erdrich 2002, 185
Biskupin	Kujawsko-Pomorskie	Poland	Tempelmann 1985, 52-57
Cecele	Podlaskie	Poland	Tempelmann 1985, 52-57
Kozłówko	Mazowieckie	Poland	Tempelmann 1985, 52-57
Nur-Kolonia	Mazowieckie	Poland	Tempelmann 1985, 52-57
Niedanowo	Warmińsko-Mazurskie	Poland	Tempelmann 1985, 52-57
Rybna-Kolonia	Opolskie	Poland	Tempelmann 1985, 52-57

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: **Ggh 1.3** – (Phase 2-3 > 440 - 530).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **Related to group 30.**

### Dating in the Netherlands

Phase 3 (460/80 – 510/25).

### **B6-A1-G19** Oblate globular bead – green, with a ‘flower’ pattern of white lines

An oblate globular- or thick discoid bead made of translucent green glass. The bead is decorated with combed thin white lines which often form a flower pattern with usually five ‘petals’. Other motifs, however, are possible.

This bead is typologically related to B3-H2-G1, which is similar but smaller. The patterning is less flower-like. As is the case for beads of group B6-A1-W1, the larger specimens date to phases 3-4 whilst the smaller beads can be dated to phases 4-5.

*See Plate 32.*

### Occurrence in the Netherlands:

*Elst: 112, 118*

*Maastricht: 264*

*Meerveldhoven: 19*

*Rhenen: 31, 131, 181, 195, 332, 372, 380, 397, 413, 438, 578, 600, 808*

### Identification in other typologies:

Franken AG: **S-Ggh 1.2** – (Phase 3-4 > 460/80 - 565).

Siegmund: **Ggh 1.2** – (Phase 3-4 > 485 - 555).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: -

### Dating in the Netherlands

Phase 3-4 (460/80 – 565) Sporadically in phase 5 as an heirloom piece (565 – 580/90).

### **B6-A1-G20 Oblate globular bead – black, red and white lines**

An oblate globular bead made of black glass. The bead is decorated with red and white lines, roughly in a quatrefoil motif.

*See Plate 32.*

#### **Occurrence in the Netherlands:**

*Maastricht: stray find*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands**

No date available. Likely phase 3-4 (460/80 – 510/25).

### **B6-A1-G21 Oblate globular bead – black, with a red line and a white zigzag line**

An oblate globular bead made of black glass. Half of the bead is undecorated whilst the other half shows a red line around the perforation, surrounded by a white zigzag line.

In Stein grave 57, the bead occurs very late (approximately phase 6 > 580/90 – 610/20). It is thought that the bead is an heirloom piece which survived from phase 3 or 4.

*See Plate 32.*

#### **Occurrence in the Netherlands:**

*Stein: 57*

### Identification in other typologies:

Franken AG: -

Siegmund: -

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30)

Hines: -

VMP: -

Koch: -

### Dating in the Netherlands

No date available. Likely phase 3-4 (460/80 – 510/25).

### **B6-A1-H1** Wound discoid bead – green glass

A discoid bead with clear traces of winding. The bead is made of translucent green or blueish-green glass and is not decorated.

In the Zweeloo publication, van Bommel relates this bead to types 186 and 187b from the typology by Tempelmann<sup>1127</sup> and to type Kempten as identified by Riha<sup>1128</sup>. Beads with similar decoration are known from northern Germany, Poland and Switzerland and a possible parallel is found in Wageningen (*Table 33*).

*See Plate 32.*

*Table 33: Occurrence of bead type B6-A1-H1.*

Village/town	Province	Country	Reference
<b>Bad Doberan</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 21
<b>Pritzier</b>	Mecklenburg-Vorpommern	Germany	Voss 1998, 76-77
<b>Schmalstede</b>	Schleswig-Holstein	Germany	Erdrich 2004, 73
<b>Lipniki</b>	Kujawsko-Pomorskie	Poland	Tempelmann 1985, 45-46

<sup>1127</sup> van Bommel 2007, 924; Tempelmann 1985, 45-46

<sup>1128</sup> Riha 1990, 161 (context 1340).

<b>Niedanowo</b>	Warmińsko-Mazurskie	Poland	Tempelmann 1985, 45-46
<b>Augst</b>	Basel-Landschaft	Switzerland	Riha 1990, 161

**Occurrence in the Netherlands:**

*Wageningen: (116)*

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **Related to group 30.**

**Dating in the Netherlands**

Phase 3 (460/80 – 510/25).

**B6-A1-H2 Wound ribbed bead – translucent green glass**

A more or less stepped-conical bead with ribs, made of translucent green glass.

*See Plate 32.*

**Occurrence in the Netherlands:**

*Rhenen: 95*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: -

### **Dating in the Netherlands**

Phase 3-4 (460/80 – 565).

### **B6-A1-J1 Conical bead – Millefiori decoration**

A bead in the traditional shape of a spindle whorl. The bead is conical with sides that straighten near the widest part. The whorl has a blue base colour with white strikes and is decorated with white flowers. The petals of the flowers are not split and have a red outline.

*See Plate 32.*

### **Occurrence in the Netherlands:**

*Elst: 155*

### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: -

### **Dating in the Netherlands**

Phase 4-5 (510/25 – 580/90).

### **B6-A1-O1 Facetted bead – crystalline quartz or glass**

A facetted bead made of crystalline quartz (often rock crystal) or glass.

The glass specimens are often blue but can have other colours such as green or black. In some cases, the glass has inclusions of a different colour. The glass specimens can easily be distinguished from the crystalline quartz beads as the surface of the former is often weathered, leading to an opaque or only slightly translucent bead. The crystalline quartz

specimens are usually colourless and transparent or translucent, whilst some have inclusions or other imperfections<sup>1129</sup>.

The specimen from Zweeloo grave 87 is made of translucent blue glass which is weathered. The specimen from Rhenen grave 413 is made of translucent and colourless quartz, likely rock crystal.

In the Zweeloo publication, van Bommel relates this bead to type 508 from the typology by Tempelmann<sup>1130</sup>. Two specimens made of rock crystal are known from Schretzheim (Bayern) in Germany and their find contexts date between 545/50 – 565/70 and 590/600 – 620/30 respectively<sup>1131</sup>. Van Bommel indicates that it became clear from a personal conversation with Dr. Genevra Kornbluth that glass specimens, like the one from Zweeloo grave 87, already occur during the Migration period<sup>1132</sup>. Kornbluth dates crystalline quartz amulets, including large beads between c. 450 and 700 in various parts of Anglo-Saxon England and Merovingian continental Europe<sup>1133</sup>. Kornbluth describes a total of 215 known specimens from France, United Kingdom, Belgium, the Netherlands, Denmark, Germany, Austria, Slovakia, Hungary, Serbia, Switzerland, Italy, Spain, Sweden and Norway. A further forty-seven specimens are listed from Georgia, Ukraine and Russia. Of the initial 215 specimens, forty-two are made of glass, of which thirty-eight are blue. At least sixty are made of rock crystal<sup>1134</sup>.

*See plate 32.*

#### **Occurrence in the Netherlands:**

*Rhenen: 413*

*Zweeloo: 87*

#### **Identification in other typologies:**

Franken AG: **S- Ggh 1.4** – (no date provided).

Siegmund: **Ggh 1.4** – (no date provided).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

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<sup>1129</sup> Kornbluth 2020, 70.

<sup>1130</sup> van Bommel 2007, 925; Tempelmann 1985, 89.

<sup>1131</sup> Koch 1977; van Bommel 2007, 925.

<sup>1132</sup> van Bommel 2007, 925.

<sup>1133</sup> Kornbluth 2020, 67.

<sup>1134</sup> Kornbluth 2020, 67, 70.

Koch: -

### **Dating in the Netherlands**

Phase 3-4 (460/80 – 565).

### **B6-A1-W1 Melon bead – green glass with a white spiralling line**

A melon or flower shaped bead made of translucent green or brownish-green glass. The bead is decorated with a spiralling line of opaque white glass.

This group is typologically related to group B3-L1-W3 containing similar beads which are smaller. As is the case for beads of group B6-A1-G18, the larger specimens date to phases 3-4 whilst the smaller beads can be dated to phases 4-5.

*See Plate 33.*

### **Occurrence in the Netherlands:**

*Elst: 87*

*Rhenen: 519*

### **Identification in other typologies:**

Franken AG: **related to S-Ghg 1.2** – (Phase 3-4 > 460/80 - 565).

Siegmund: **related to Ghg 1.2** – (Phase 3-4 > 485 - 555).

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: -

### **Dating in the Netherlands**

Phase 3-4 (460/80 – 565).

### **B6-A1-W2 Conical melon bead – green glass with red and yellow lines**

A conical melon bead with broad ribs. The bead is made of translucent green glass and the ribs are decorated with opaque green, yellow and red lines. A yellow line goes around the bead at its widest point. In case of the bead from Zweeloo grave 87, it is possible that the line was painted on at a later stage<sup>1135</sup>. No parallels are known for this bead.

*See Plate 33.*

#### **Occurrence in the Netherlands:**

*Zweeloo: 87*

#### **Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: -

#### **Dating in the Netherlands**

Phase 3 (460/80 – 510/25).

### **B6-A1-W3 Melon bead – greyish green, with blue, white and red eyes**

A melon-style bead with broad and somewhat pointy ribs which give the impression of a star-shape. The bead is made of translucent greyish-green glass. Centrally on each rib, the pointiness is accentuated by a large eye which consists of a blue dot in a white field surrounded by a red ring.

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<sup>1135</sup> van Bommel 2007, 925.

In the Zweeloo publication, van Bommel relates this bead to type 377a from the typology by Tempelmann<sup>1136</sup>. The closest parallel to this bead is known from Westerwanna (Niedersachsen) in Germany. This bead, however, is made of colourless glass and the eyes consist of a blue dot in a white circle<sup>1137</sup>.

*See Plate 33.*

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: **Related to group 14.**

**Dating in the Netherlands**

Phase 3 (460/80 – 510/25).

**B6-A1-W4 Melon bead – greyish green, with red lines and yellow circles**

A melon-style bead with relatively thin but deep ribs. The bead is made of translucent greyish-green glass. Each rib is decorated with an opaque red line. Centrally on each rib, a yellow circle is placed, creating the illusion of an eye.

The closest parallel to this bead is known from Issendorf (Niedersachsen) in Germany. This bead is similar but features two yellow dots on each rib rather than a yellow circle<sup>1138</sup>.

*See Plate 33.*

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<sup>1136</sup> van Bommel 2007, 925; Tempelmann 1985, 62.

<sup>1137</sup> Erdrich 2002, 137.

<sup>1138</sup> Erdrich 2002, 172.

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

VMP: -

Koch: -

**Dating in the Netherlands**

Phase 3 (460/80 – 510/25).

**B6-A1-W5 Melon bead –green, with red lines and green circles**

A melon-style bead with deep ribs. The bead is made of translucent green glass. Each rib is decorated with an opaque red line. Centrally on each rib, a green circle is placed, creating the illusion of an eye.

The closest parallel to this bead is known from Issendorf (Niedersachsen) in Germany. This bead is similar but features two yellow dots on each rib rather than a green circle<sup>1139</sup>.

*See Plate 33.*

**Occurrence in the Netherlands:**

*Zweeloo: 87*

**Identification in other typologies:**

Franken AG: -

Siegmund: -

LPV: **367** – (PM-MA3 > 440/50 – 600/10, most commonly in PM-MA1 > 440/50 – 520/30).

Hines: -

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<sup>1139</sup> Erdrich 2002, 172.

VMP: -

Koch: -

### **Dating in the Netherlands**

Phase 3 (460/80 – 510/25).

Plate 1 – B1: Monochrome beads

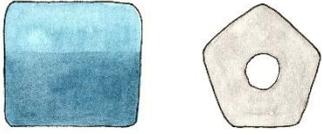
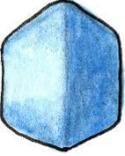
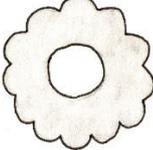
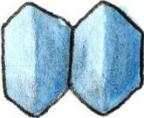
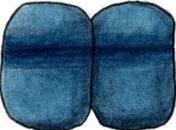
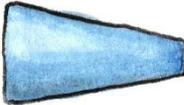
			
<b>B1-T1-A1</b>	<b>B1-T1-A2</b>	<b>B1-T1-B1</b>	<b>B1-T1-B2</b>
			
<b>B1-T1-C1</b>	<b>B1-T1-C2</b>	<b>B1-T1-C3</b>	<b>B1-T1-C4</b>
			
<b>B1-T1-D1</b>	<b>B1-T1-E1</b>	<b>B1-T1-E2</b>	
			
<b>B1-T1-F1</b>	<b>B1-T1-F2</b>	<b>B1-T1-G1</b>	<b>B1-T1-H1</b>
			
<b>B1-T1-H2</b>	<b>B1-T1-I1</b>	<b>B1-T1-J1</b>	<b>B1-T1-M2</b>

Plate 2 – B1: Monochrome beads

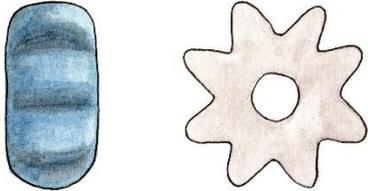
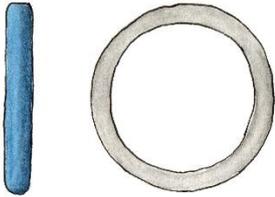
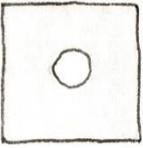
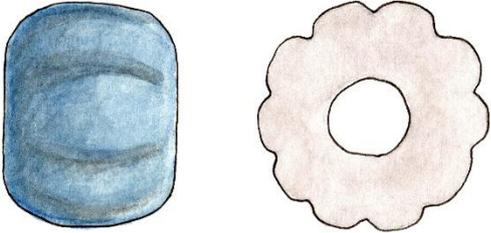
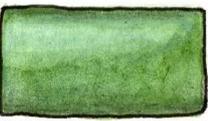
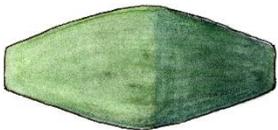
			
<b>B1-T1-N1</b>	<b>B1-T1-P1</b>	<b>B1-T1-Q1</b>	
			
<b>B1-T1-R1</b>		<b>B1-T1-V1</b>	
			
<b>B1-T2-W1</b>		<b>B1-T1-X1</b>	<b>B1-T2-A1</b>
			
<b>B1-T2-A2</b>	<b>B1-T2-A3</b>	<b>B1-T2-B1</b>	
			
<b>B1-T2-B2</b>	<b>B1-T2-C1</b>	<b>B1-T2-C2</b>	<b>B1-T2-C3</b>

Plate 3 – B1: Monochrome beads

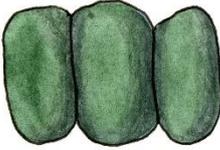
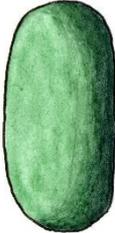
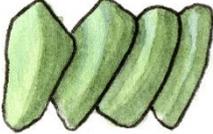
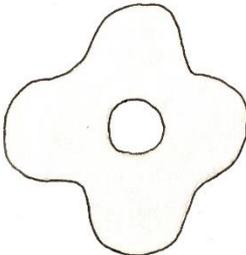
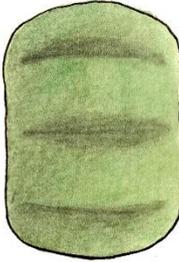
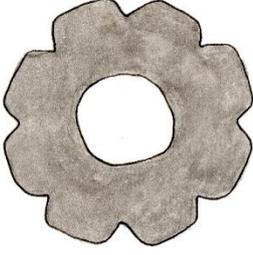
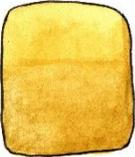
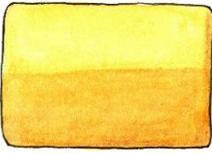
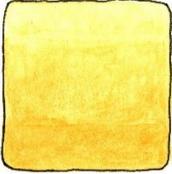
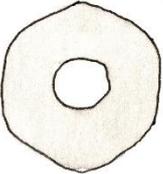
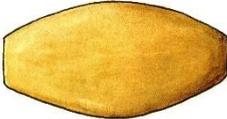
			
<b>B1-T2-D1</b>	<b>B1-T2-E1</b>	<b>B1-T2-F1</b>	<b>B1-T2-G1</b>
			
<b>B1-T2-H1</b>	<b>B1-T2-H2</b>	<b>B1-T2-M1</b>	
			
<b>B1-T2-S1</b>		<b>B1-T2-W1</b>	
			
<b>B1-T3-A1</b>	<b>B1-T3-A2</b>	<b>B1-T3-B1</b>	
			
<b>B1-T3-B2</b>		<b>B1-T3-C1</b>	<b>B1-T3-D1</b>

Plate 4 – B1: Monochrome beads

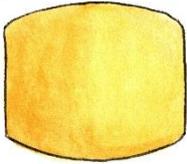
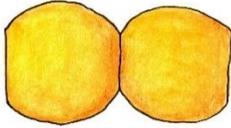
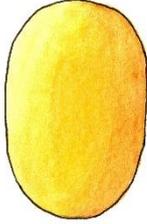
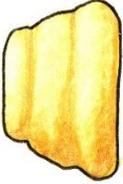
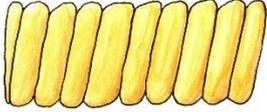
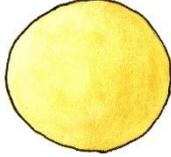
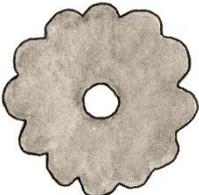
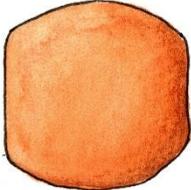
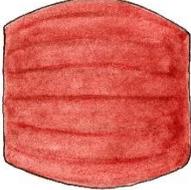
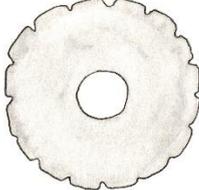
			
<b>B1-T3-E1</b>	<b>B1-T3-F1</b>	<b>B1-T3-G1</b>	<b>B1-T3-H1</b>
			
<b>B1-T3-H2</b>		<b>B1-T3-M1</b>	<b>B1-T3-M2</b>
			
<b>B1-T3-W1</b>		<b>B1-T4-D1</b>	<b>B1-T4-E1</b>
			
<b>B1-T4-G1</b>	<b>B1-T5-A1</b>	<b>B1-T5-A2</b>	<b>B1-T5-C1</b>
			
<b>B1-T5-E1</b>		<b>B1-T5-M1</b>	<b>B1-T6-A1</b>

Plate 5 – B1: Monochrome beads

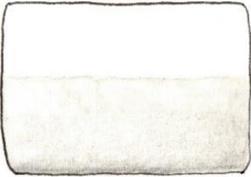
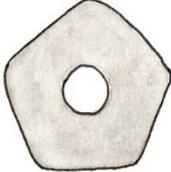
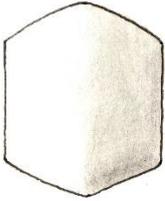
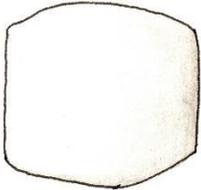
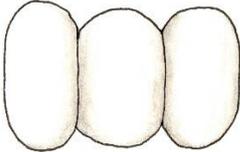
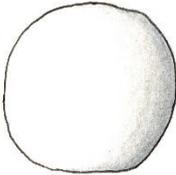
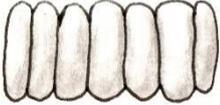
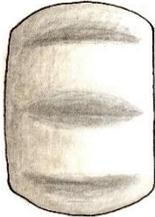
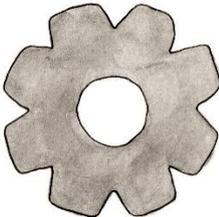
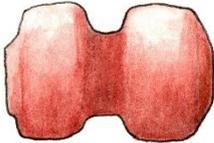
			
<b>B1-T6-A2</b>	<b>B1-T6-B1</b>		<b>B1-T6-C1</b>
			
<b>B1-T6-D1</b>	<b>B1-T6-E1</b>	<b>B1-T6-F1</b>	<b>B1-T6-G1</b>
			
<b>B1-T6-H1</b>	<b>B1-T6-M1</b>	<b>B1-T6-W1</b>	
			
<b>B1-T10-M1</b>	<b>B1-T11-F1</b>		<b>B1-O1-A1</b>
			
<b>B1-O1-A2</b>	<b>B1-O1-A3</b>	<b>B1-O1-C1</b>	<b>B1-O1-C2</b>

Plate 6 – B1: Monochrome beads

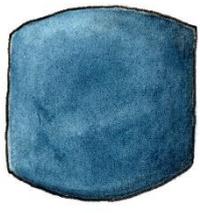
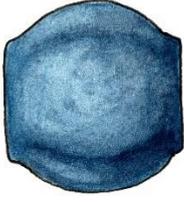
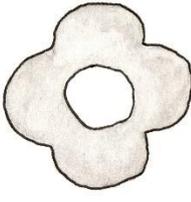
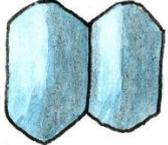
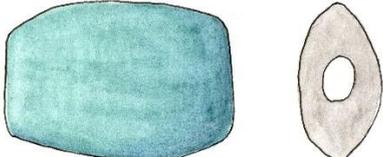
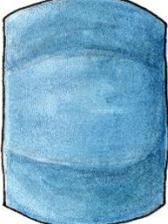
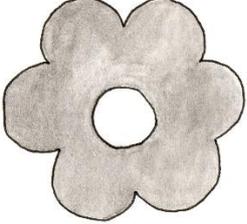
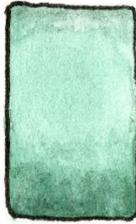
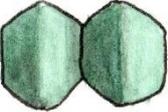
			
<b>B1-O1-D1</b>	<b>B1-O1-E1</b>	<b>B1-O1-E2</b>	
			
<b>B1-O1-F1</b>	<b>B1-O1-G1</b>	<b>B1-O1-M1</b>	<b>B1-O1-N1</b>
			
<b>B1-O1-Q1</b>		<b>B1-O2-A1</b>	<b>B1-O2-A2</b>
			
<b>B1-O2-A3</b>	<b>B1-O2-C1</b>	<b>B1-O2-C2</b>	<b>B1-O2-C3</b>
			
<b>B1-O2-D1</b>	<b>B1-O2-E1</b>	<b>B1-O2-F1</b>	<b>B1-O2-G1</b>

Plate 7 – B1: Monochrome beads

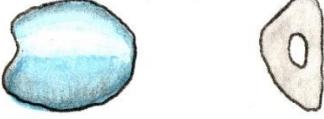
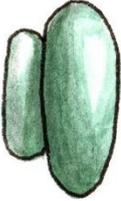
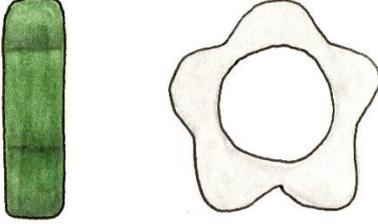
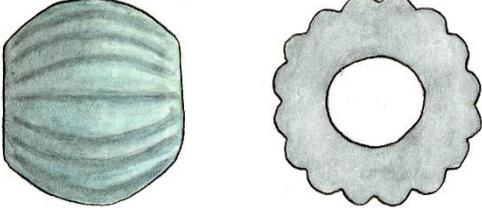
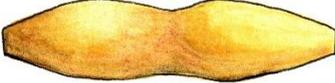
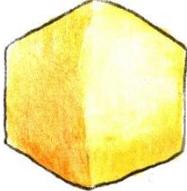
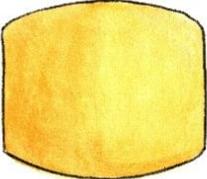
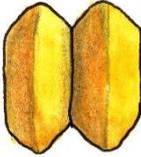
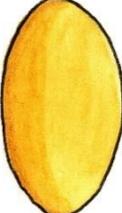
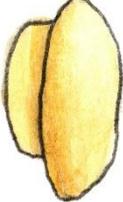
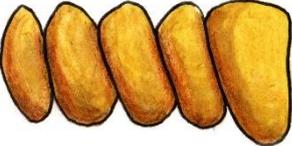
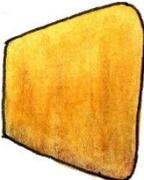
			
<b>B1-O2-G2</b>		<b>B1-O2-H1</b>	<b>B1-O2-H2</b>
			
<b>B1-O2-M1</b>	<b>B1-O2-Q1</b>		<b>B1-O2-W1</b>
			
<b>B1-O3-A1</b>	<b>B1-O3-A2</b>	<b>B1-O3-B1</b>	<b>B1-O3-C1</b>
			
<b>B1-O3-D1</b>	<b>B1-O3-E1</b>	<b>B1-O3-E2</b>	<b>B1-O3-F1</b>
			
<b>B1-O3-G1</b>	<b>B1-O3-H1</b>	<b>B1-O3-H2</b>	<b>B1-O3-J1</b>

Plate 8 – B1: Monochrome beads

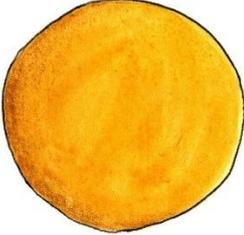
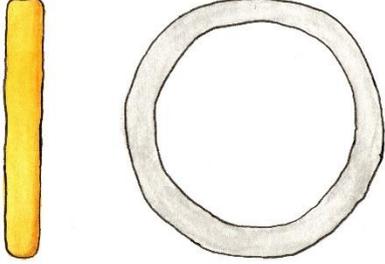
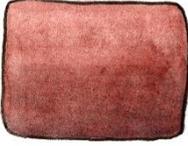
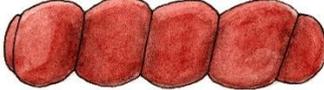
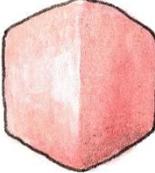
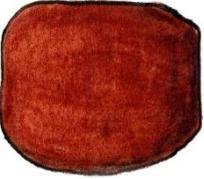
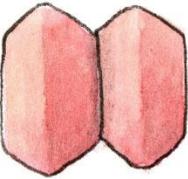
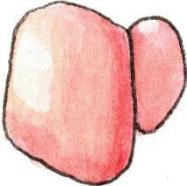
			
<b>B1-O3-M1</b>	<b>B1-O3-M2</b>	<b>B1-O3-R1</b>	
			
<b>B1-O4-C1</b>	<b>B1-O4-M1</b>	<b>B1-O5-A1</b>	<b>B1-O5-A2</b>
			
<b>B1-O5-A3</b>	<b>B1-O5-B1</b>	<b>B1-O5-C1</b>	<b>B1-O5-C2</b>
			
<b>B1-O5-C3</b>	<b>B1-O5-D1</b>	<b>B1-O5-D2</b>	<b>B1-O5-E1</b>
			
<b>B1-O5-E2</b>	<b>B1-O5-F1</b>	<b>B1-O5-G1</b>	<b>B1-O5-H1</b>

Plate 9 – B1: Monochrome beads

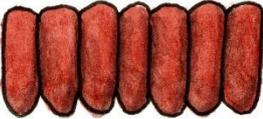
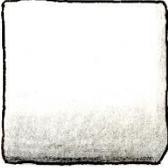
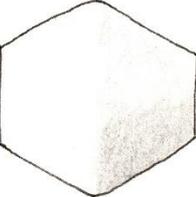
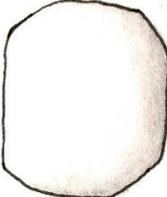
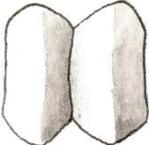
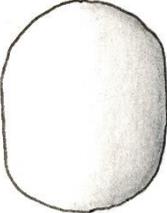
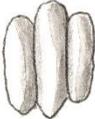
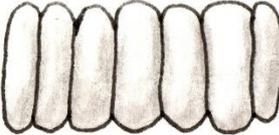
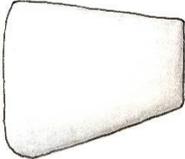
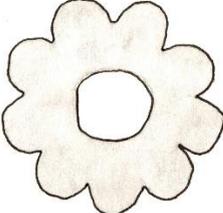
			
<b>B1-O5-H2</b>	<b>B1-O5-J1</b>	<b>B1-O5-X1</b>	<b>B1-O6-A1</b>
			
<b>B1-O6-C1</b>	<b>B1-O6-D1</b>	<b>B1-O6-E1</b>	<b>B1-O6-F1</b>
			
<b>B1-O6-G1</b>	<b>B1-O6-H1</b>	<b>B1-O6-H2</b>	<b>B1-O6-J1</b>
			
<b>B1-O6-X1</b>	<b>B1-O7-A1</b>	<b>B1-O7-D1</b>	<b>B1-O7-E1</b>
			
<b>B1-O7-F1</b>	<b>B1-O7-W1</b>		<b>B1-O8-A1</b>

Plate 10 – B1: Monochrome beads

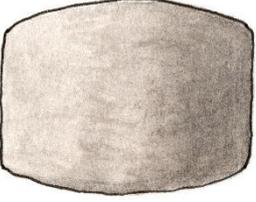
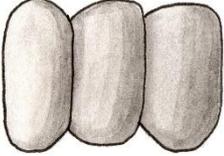
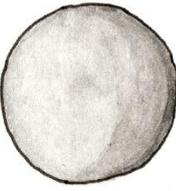
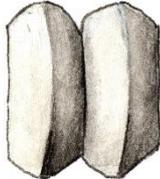
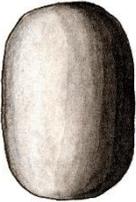
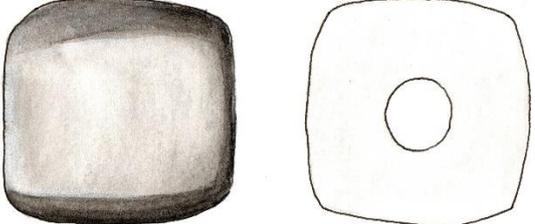
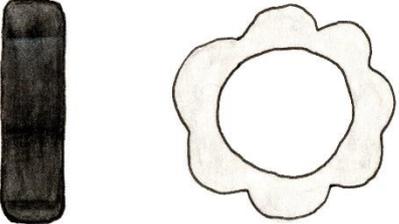
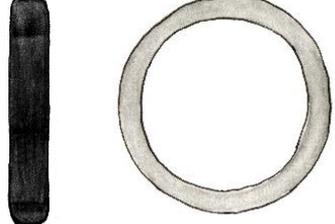
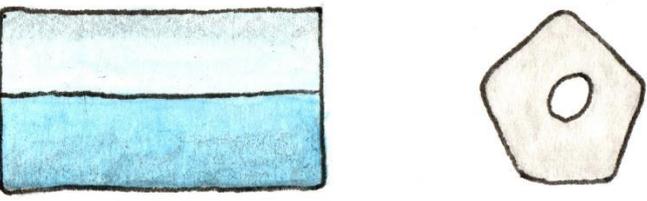
			
<p><b>B1-O8-E1</b></p>	<p><b>B1-O8-F1</b></p>	<p><b>B1-O8-M1</b></p>	<p><b>B1-O9-A1</b></p>
			
<p><b>B1-O9-D1</b></p>	<p><b>B1-O9-E1</b></p>	<p><b>B1-O9-F1</b></p>	<p><b>B1-O9-G1</b></p>
			
<p><b>B1-O9-H1</b></p>		<p><b>B1-O9-L1</b></p>	
			
<p><b>B1-O9-Q1</b></p>		<p><b>B1-O9-R1</b></p>	
			
<p><b>B1-O11-B1</b></p>		<p><b>B1-O11-B2</b></p>	

Plate 11 – B1: Monochrome beads & B2: Metal foil beads

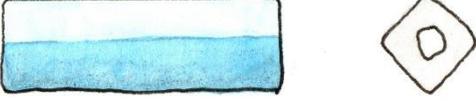
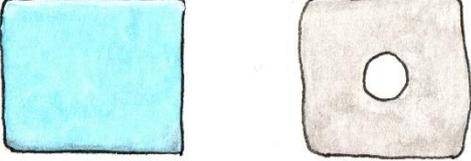
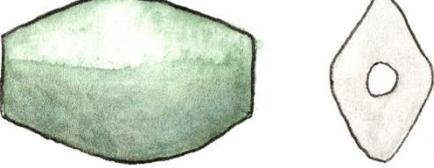
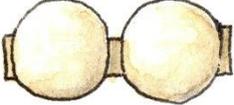
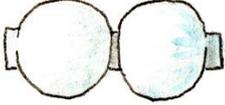
			
<p><b>B1-X1-A1</b></p>	<p><b>B1-X1-M1</b></p>	<p><b>B1-X11-L1</b></p>	
			
<p><b>B1-X11-L2</b></p>		<p><b>B1-X11-N1</b></p>	
			
<p><b>B2-T10-F1</b></p>	<p><b>B2-T10-F2</b></p>		<p><b>B2-T10-Y1</b></p>

Plate 12 – B3: Polychrome glass beads

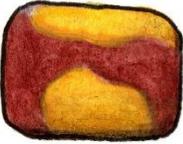
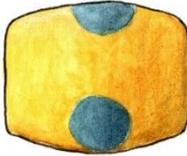
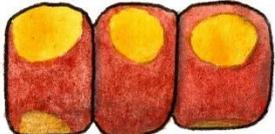
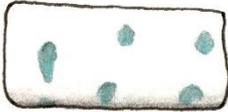
			
<b>B3-A1-A1</b>	<b>B3-A1-A2</b>	<b>B3-A1-D1</b>	<b>B3-A1-E1</b>
			
<b>B3-A1-E2</b>	<b>B3-A1-E3</b>	<b>B3-A1-E4</b>	<b>B3-A1-F1</b>
			
<b>B3-A1-F2</b>	<b>B3-A1-F3</b>	<b>B3-A1-G1</b>	<b>B3-A1-G2</b>
			
<b>B3-A1-G3</b>	<b>B3-A2-A1</b>	<b>B3-A2-A2</b>	<b>B3-A2-A3</b>
			
<b>B3-A2-A4</b>	<b>B3-A2-A5</b>	<b>B3-A2-C1</b>	<b>B3-A2-C2</b>

Plate 13 – B3: Polychrome glass beads

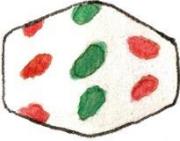
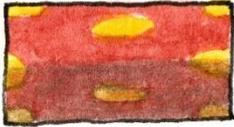
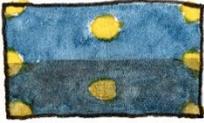
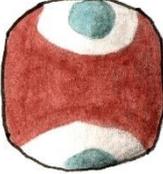
			
<b>B3-A2-C3</b>	<b>B3-A2-E1</b>	<b>B3-A2-E2</b>	<b>B3-A2-V1</b>
			
<b>B3-A2-G1</b>	<b>B3-A3-L1</b>	<b>B3-A3-L2</b>	<b>B3-A4-A1</b>
			
<b>B3-A4-A2</b>	<b>B3-A4-G1</b>	<b>B3-A4-G2</b>	<b>B3-A5-G1</b>
			
<b>B3-A6-L1</b>		<b>B3-B1-E1</b>	<b>B3-B1-E2</b>
			
<b>B3-B1-E3</b>	<b>B3-B1-G1</b>	<b>B3-B1-G2</b>	<b>B3-B1-G3</b>

Plate 14 – B3: Polychrome glass beads

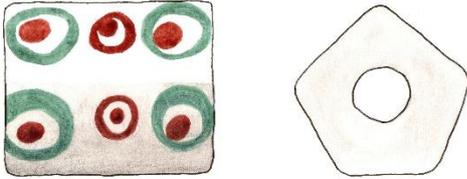
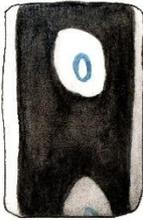
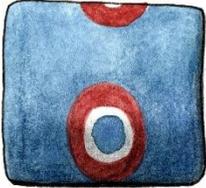
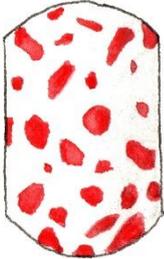
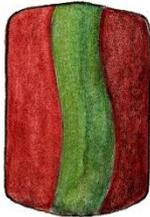
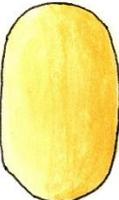
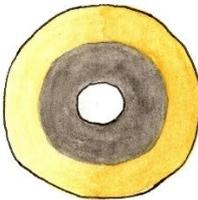
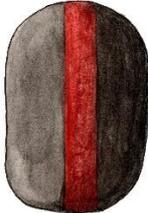
			
<b>B3-B2-B1</b>		<b>B3-B2-E1</b>	<b>B3-B3-A1</b>
			
<b>B3-B3-A2</b>	<b>B3-B4-A1</b>	<b>B3-B5-G1</b>	<b>B3-B6-E1</b>
			
<b>B3-C1-E1</b>	<b>B3-C1-E2</b>	<b>B3-C1-F1</b>	<b>B3-C1-G1</b>
			
<b>B3-C1-G2</b>	<b>B3-C1-G3</b>	<b>B3-D1-A1</b>	<b>B3-D1-C1</b>
			
<b>B3-C1-G1</b>	<b>B3-D1-G2</b>		<b>B3-D1-G3</b>

Plate 15 – B3: Polychrome glass beads

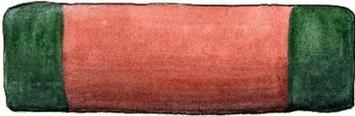
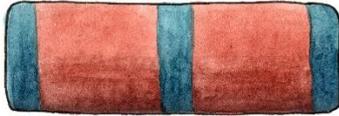
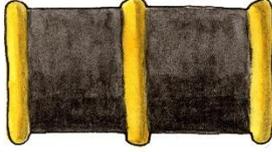
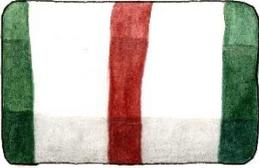
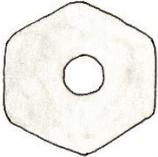
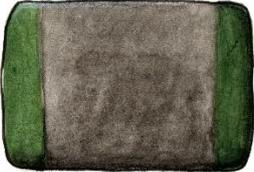
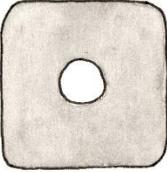
			
<b>B3-D2-A1</b>		<b>B3-D2-A2</b>	
			
<b>B3-D2-A3</b>		<b>B3-D2-A4</b>	
			
<b>B3-D2-B1</b>		<b>B3-D2-E1</b>	<b>B3-D2-E2</b>
			
<b>B3-D2-L1</b>		<b>B3-D3-E1</b>	<b>B3-D4-A1</b>
			
<b>B3-D4-A2</b>	<b>B3-D4-E1</b>	<b>B3-D5-C1</b>	<b>B3-D5-C2</b>

Plate 16 – B3: Polychrome glass beads

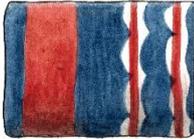
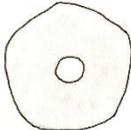
			
<b>B3-D6-A1</b>	<b>B3-D6-A2</b>	<b>B3-D6-A3</b>	<b>B3-D6-G1</b>
			
<b>B3-D6-G2</b>	<b>B3-D7-G1</b>	<b>B3-D7-N1</b>	<b>B3-E1-A1</b>
			
<b>B3-E1-A2</b>	<b>B3-E1-A3</b>	<b>B3-E1-A4</b>	<b>B3-E1-A5</b>
			
<b>B3-E1-A6</b>	<b>B3-E1-A7</b>	<b>B3-E1-A8</b>	<b>B3-E1-A9</b>
			
<b>B3-E1-B1</b>	<b>B3-E1-C1</b>	<b>B3-E1-C2</b>	

Plate 17 – B3: Polychrome glass beads

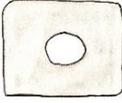
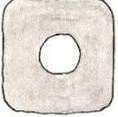
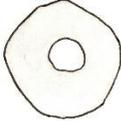
			
<b>B3-E1-E1</b>	<b>B3-E1-E2</b>	<b>B3-E1-E3</b>	<b>B3-E1-E4</b>
			
<b>B3-E1-F1</b>	<b>B3-E1-G1</b>	<b>B3-E1-G2</b>	<b>B3-E1-G3</b>
			
<b>B3-E1-G4</b>	<b>B3-E1-G5</b>	<b>B3-E1-G6</b>	<b>B3-E1-G7</b>
	 		 
<b>B3-E1-G8</b>	<b>B3-E1-L1</b>		<b>B3-E1-L2</b>
		 	
<b>B3-E2-A1</b>	<b>B3-E2-A2</b>	<b>B3-E2-B1</b>	

Plate 18 – B3: Polychrome glass beads

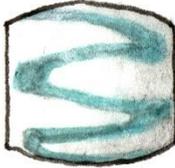
			
<b>B3-E3-E1</b>	<b>B3-E3-G1</b>	<b>B3-E4-A1</b>	<b>B3-E4-G1</b>
			
<b>B3-F1-A1</b>	<b>B3-F1-A2</b>	<b>B3-F1-C1</b>	<b>B3-F1-C2</b>
			
<b>B3-F1-E1</b>	<b>B3-F1-E2</b>	<b>B3-F1-E3</b>	<b>B3-F1-E4</b>
			
<b>B3-F1-F1</b>	<b>B3-F1-G1</b>	<b>B3-F1-G2</b>	<b>B3-F1-G3</b>
			
<b>B3-F1-G4</b>	<b>B3-F1-G5</b>	<b>B3-F1-G6</b>	<b>B3-F1-G7</b>

Plate 19 – B3: Polychrome glass beads

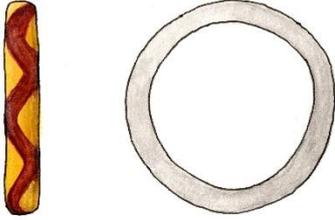
			
<b>B3-F1-G8</b>	<b>B3-F1-R1</b>	<b>B3-F2-C1</b>	<b>B3-F3-E1</b>
			
<b>B3-F3-G1</b>	<b>B3-F4-A1</b>	<b>B3-F4-E1</b>	<b>B3-F5-G1</b>
			
<b>B3-F5-G2</b>	<b>B3-F6-A1</b>	<b>B3-F6-A2</b>	<b>B3-F7-G1</b>
			
<b>B3-F7-G2</b>	<b>B3-F8-G1</b>	<b>B3-G1-A1</b>	<b>B3-G1-A2</b>
			
<b>B3-G1-C1</b>	<b>B3-G1-C2</b>	<b>B3-G1-C3</b>	<b>B3-G1-E1</b>

Plate 20 – Polychrome glass beads

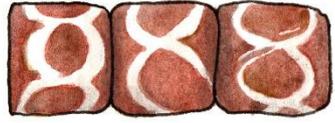
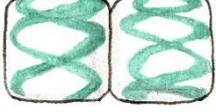
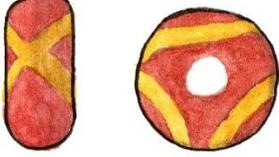
			
<b>B3-G1-E2</b>	<b>B3-G1-E3</b>	<b>B3-G1-E4</b>	<b>B3-G1-F1</b>
			
<b>B3-G1-F2</b>	<b>B3-G1-F3</b>	<b>B3-G1-G1</b>	<b>B3-G1-G2</b>
			
<b>B3-G1-G3</b>	<b>B3-G1-G4</b>	<b>B3-G1-G5</b>	<b>B3-G1-G6</b>
			
<b>B3-G1-G7</b>	<b>B3-G1-G8</b>	<b>B3-G1-G9</b>	<b>B3-G2-A1</b>
			
<b>B3-G2-C1</b>	<b>B3-G2-E1</b>	<b>B3-G2-E2</b>	<b>B3-G2-E3</b>

Plate 21 – B3: Polychrome glass beads

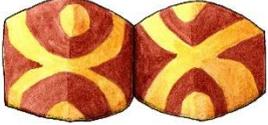
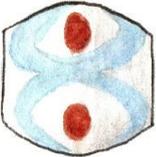
			
<b>B3-G2-E4</b>	<b>B3-G2-E5</b>	<b>B3-G2-E6</b>	<b>B3-G2-F1</b>
			
<b>B3-G2-G1</b>	<b>B3-G2-G2</b>	<b>B3-G3-A1</b>	<b>B3-G3-A2</b>
			
<b>B3-G3-C1</b>	<b>B3-G3-D1</b>	<b>B3-G4-E1</b>	<b>B3-G5-E1</b>
			
<b>B3-G6-E1</b>	<b>B3-G7-E1</b>	<b>B3-H1-A1</b>	<b>B3-H1-A2</b>
			
<b>B3-H1-A3</b>	<b>B3-H1-A4</b>	<b>B3-H1-A5</b>	<b>B3-H1-A6</b>

Plate 22 – B3: Polychrome glass beads

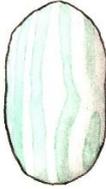
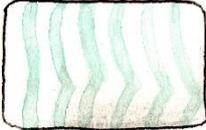
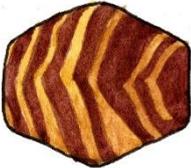
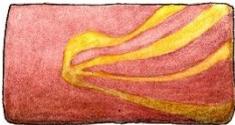
			
<b>B3-H1-C1</b>	<b>B3-H1-C2</b>	<b>B3-H1-G1</b>	<b>B3-H2-A1</b>
			
<b>B3-H2-A2</b>	<b>B3-H2-A3</b>	<b>B3-H2-A4</b>	<b>B3-H2-B1</b>
			
<b>B3-H2-C1</b>	<b>B3-H2-E1</b>	<b>B3-H2-G1</b>	<b>B3-H2-G2</b>
			
<b>B3-H2-L1</b>		<b>B3-H2-L2</b>	
			
<b>B3-H3-G1</b>	<b>B3-H4-G1</b>	<b>B3-I1-A1</b>	<b>B3-I1-A2</b>

Plate 23 – B3: Polychrome glass beads

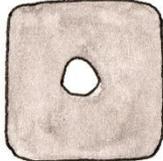
			
<b>B3-I1-C1</b>	<b>B3-I1-C2</b>	<b>B3-I1-C3</b>	<b>B3-I1-C4</b>
			
<b>B3-I2-A1</b>	<b>B3-I2-A2</b>	<b>B3-I2-A3</b>	<b>B3-I2-C1</b>
			
<b>B3-I3-C1</b>	<b>B3-I4-K1</b>		<b>B3-J1-A1</b>
			
<b>B3-J1-G1</b>	<b>B3-J1-G2</b>	<b>B3-J1-G3</b>	<b>B3-K1-A1</b>
			
<b>B3-K1-E1</b>	<b>B3-K2-A1</b>		<b>B3-K2-C1</b>

Plate 24 – B3: Polychrome glass beads

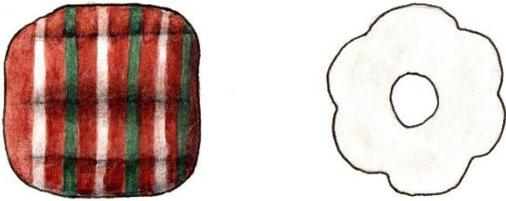
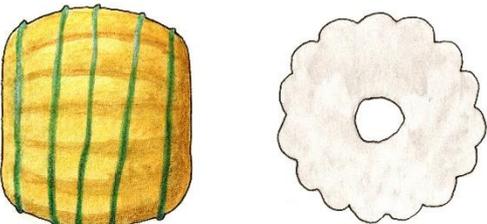
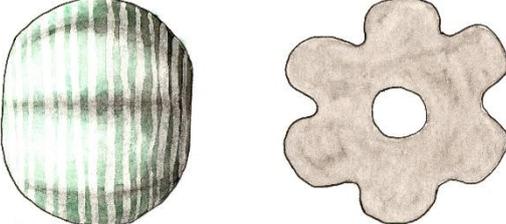
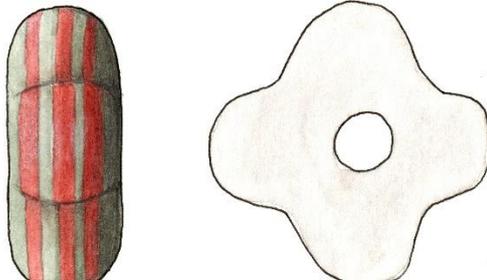
	
<p><b>B3-L1-W1</b></p>	<p><b>B3-L1-W2</b></p>
	
<p><b>B3-L1-W3</b></p>	<p><b>B3-M1-S1</b></p>

Plate 25 – B4: Mosaic beads

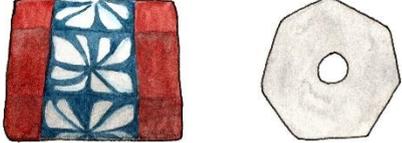
			
<p><b>B4-A1-A1</b></p>	<p><b>B4-A1-B1</b></p>		
			
<p><b>B4-A1-B2</b></p>	<p><b>B4-A1-B3</b></p>		
			
<p><b>B4-A1-B4</b></p>	<p><b>B4-A1-B5</b></p>		
			
<p><b>B4-A1-B6</b></p>	<p><b>B4-A1-B7</b></p>		
			
<p><b>B4-A1-B8</b></p>	<p><b>B4-A1-D1</b></p>	<p><b>B4-A1-E1</b></p>	
			
<p><b>B4-A1-E2</b></p>	<p><b>B4-A1-E3</b></p>	<p><b>B4-A1-E4</b></p>	<p><b>B4-A1-E5</b></p>

Plate 26 – B4: Mosaic beads

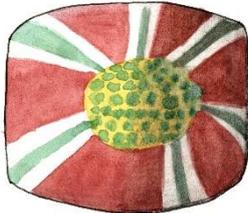
			
<b>B4-A1-E6</b>	<b>B4-A1-E7</b>	<b>B4-A1-E8</b>	<b>B4-A1-E9</b>
			
<b>B4-A1-E10</b>	<b>B4-A1-E11</b>	<b>B4-A1-E12</b>	<b>B4-A1-E13</b>
			
<b>B4-A1-E14</b>	<b>B4-A1-E15</b>	<b>B4-A1-E16</b>	<b>B4-A1-G1</b>
			
<b>B4-A1-P1</b>		<b>B4-B1-A1</b>	<b>B4-B1-A2</b>
			
<b>B4-B1-A3</b>	<b>B4-B1-C1</b>	<b>B4-B1-E1</b>	<b>B4-B1-E2</b>

Plate 27 – B4: Mosaic beads

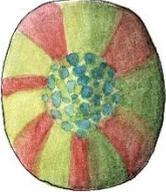
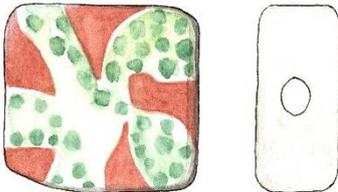
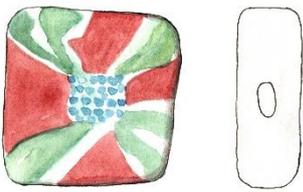
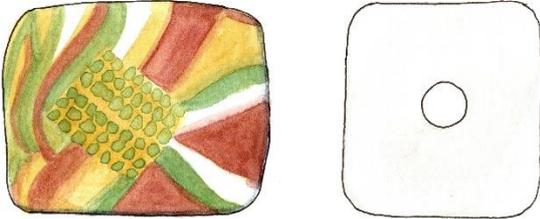
			
<p><b>B4-B1-E3</b></p>	<p><b>B4-B1-E4</b></p>	<p><b>B4-B1-E5</b></p>	<p><b>B4-B1-E6</b></p>
			
<p><b>B4-B1-G1</b></p>	<p><b>B4-B1-L1</b></p>		<p><b>B4-B1-L2</b></p>
			
<p><b>B4-B1-L3</b></p>		<p><b>B4-B1-L4</b></p>	
			
<p><b>B4-B1-L5</b></p>		<p><b>B4-B1-L6</b></p>	
			
<p><b>B4-B1-L7</b></p>		<p><b>B4-B1-L8</b></p>	

Plate 28 – B4: Mosaic beads

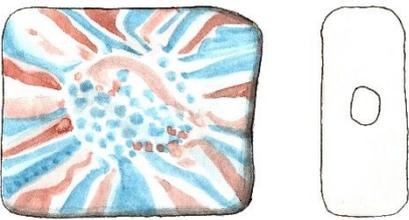
			
<b>B4-B1-L9</b>		<b>B4-B1-L10</b>	
			
<b>B4-B2-A1</b>	<b>B4-B2-A2</b>	<b>B4-B2-A3</b>	<b>B4-B2-A4</b>
			
<b>B4-B2-A5</b>	<b>B4-B2-A6</b>	<b>B4-B2-E1</b>	<b>B4-B2-E2</b>
			
<b>B4-B2-E3</b>	<b>B4-B3-A1</b>	<b>B4-B3-A2</b>	<b>B4-B3-A3</b>
			
<b>B4-B4-A1</b>		<b>B4-B4-A2</b>	

Plate 29 – B4: Mosaic beads

		
<p><b>B4-B4-A3</b></p>	<p><b>B4-B4-A4</b></p>	
		
<p><b>B4-B4-A5</b></p>	<p><b>B4-B4-A6</b></p>	<p><b>B4-B4-A7</b></p>
		
<p><b>B4-B4-A8</b></p>	<p><b>B4-B4-A9</b></p>	<p><b>B4-B4-A10</b></p>
		
<p><b>B4-B4-N1</b></p>		<p><b>B4-B4-X1</b></p>

Plate 30 – B5: Non glass beads

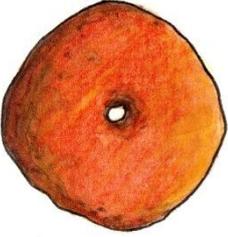
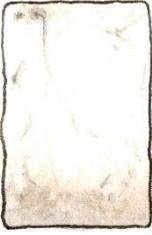
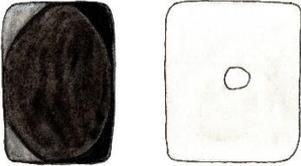
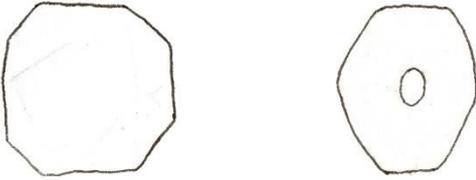
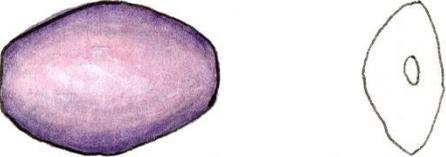
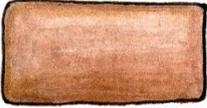
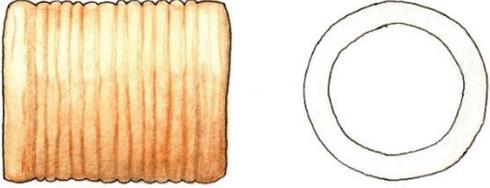
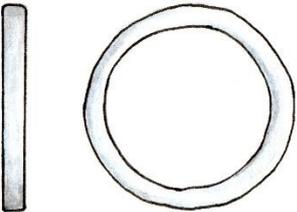
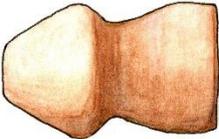
			
<p><b>B5-A1-Y1</b></p>	<p><b>B5-A1-Y2</b></p>	<p><b>B5-A1-Y3</b></p>	<p><b>B5-A1-Y4</b></p>
			
<p><b>B5-A1-Y5</b></p>	<p><b>B5-A1-Y6</b></p>	<p><b>B5-A1-Y7</b></p>	
			
<p><b>B5-A1-Y8</b></p>		<p><b>B5-B1-A1</b></p>	
			
<p><b>B5-B1-A2</b></p>		<p><b>B5-B1-C1</b></p>	<p><b>B5-B1-E1</b></p>
<p><b>B5-B1-E2</b></p>			
	<p><b>B5-B1-R1</b></p>		<p><b>B5-B1-T1</b></p>

Plate 31 – B6: Large beads

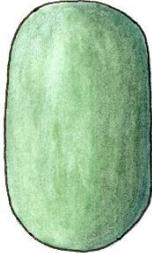
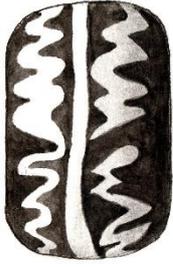
		
<p><b>B6-A1-E1</b></p>	<p><b>B6-A1-G1</b></p>	<p><b>B6-A1-G2</b></p>
		
<p><b>B6-A1-G3</b></p>	<p><b>B6-A1-G4</b></p>	<p><b>B6-A1-G5</b></p>
		
<p><b>B6-A1-G6</b></p>	<p><b>B6-A1-G7</b></p>	<p><b>B6-A1-G8</b></p>
		
<p><b>B6-A1-G9</b></p>	<p><b>B6-A1-G10</b></p>	<p><b>B6-A1-G11</b></p>
		
<p><b>B6-A1-G12</b></p>	<p><b>B6-A1-G13</b></p>	<p><b>B6-A1-G14</b></p>

Plate 32 – B6: Large beads



B6-A1-G15



B6-A1-G16



B6-A1-G17



B6-A1-G18



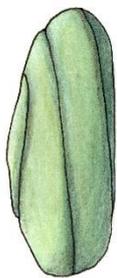
B6-A1-G19



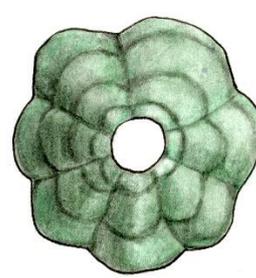
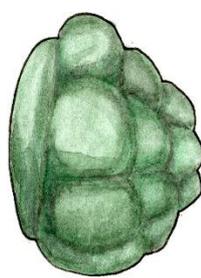
B6-A1-G20



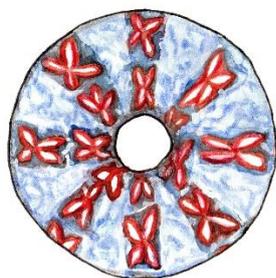
B6-A1-G21



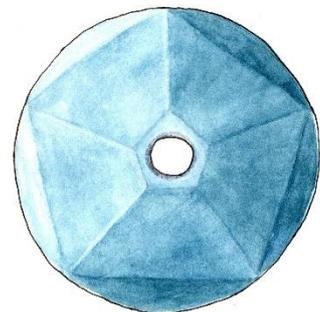
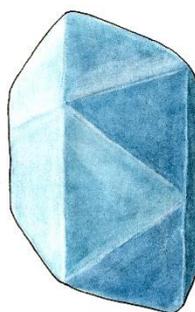
B6-A1-H1



B6-A1-H2

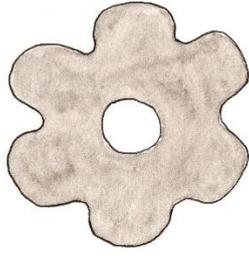
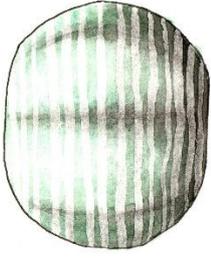


B6-A1-J1

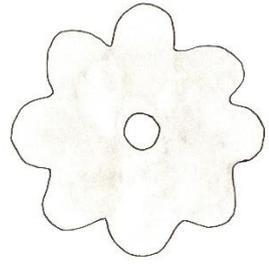


B6-A1-O1

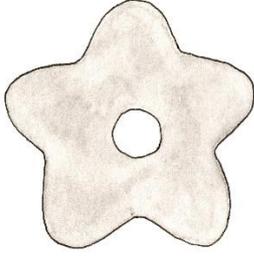
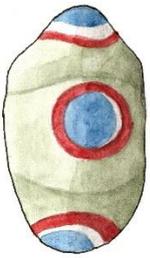
Plate 33 – B6: Large beads



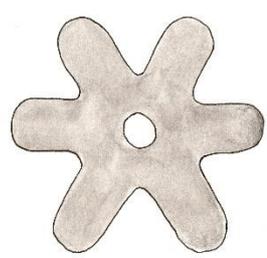
**B6-A1-W1**



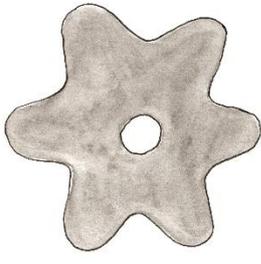
**B6-A1-W2**



**B6-A1-W3**



**B6-A1-W4**



**B6-A1-W5**

# 8.0 FURNISHED BURIAL IN THE NETHERLANDS

After the creation of two CA output plots which include as many male gender and female gender graves as possible on the basis of the typologies and chronologies by the Franken AG and Siegmund (Chapter 6), it was possible to extrapolate the revised relative dates given to these graves to many more contexts from the twenty-one cemeteries in the research. Once the maximum possible number of graves were assigned a revised date, the occurrence chronology of each individual finds type was studied in detail and the data was brought together in the typology for the Netherlands (chapter 7). Subsequently, the new typology and revised chronology allowed for the first time a comprehensive and detailed study of patterns in the development of furnished burial in the Netherlands.

## 8.1 FURNISHED BURIAL IN THE NORTH AND THE SOUTH

Prior to the start of this research, it was expected that the socio-political situation in the Netherlands during the early medieval period, as summarised in chapter 3, was likely to have had an influence on the development of funerary practice and traditions in the country. The most likely natural divide between the material cultures of the Franks and the Frisians was expected to be the central river basin and more specifically the former basin of the river Rhine between Arnhem, Utrecht, Leiden and Katwijk. After research of the burial practice and grave content of the twenty-one cemeteries in this research, it becomes clear that the material culture between north and south differs indeed significantly. The dividing line, however, is not static and seems to lie somewhat further north than the (former) river Rhine. The cemeteries directly north of the Rhine, including Rhenen, Elst and Wageningen contain many artefacts which are typical for the southern half of the country. Artefacts in the southern cemeteries are largely comparable to those found in the German Rhineland region and, to a somewhat lesser extent, in northern France. As expected, it is the rivers Rhine and Meuse that formed important connections between the Dutch North Sea coast and the hinterlands of Germany, Belgium and

France respectively. From this point of view, it is understandable that the material culture in the cemeteries around the river Rhine reflects the Frankish influences created by the hinterland connection.

The river IJssel, which branches off the river Rhine and flows in a northern direction should be seen as a more likely natural barrier between the Frankish and Frisian sphere of influence. From chapter 3 it becomes clear, however, that the region between the rivers Overijsselse Vecht, IJssel and Rhine was alternately in the hands of the Franks and the Frisians. Evidence for this is provided by the excavation of a small mid-sixth century Merovingian cemetery as far north as Oosterdalfsen, along the river Vecht near the border between the provinces of Overijssel and Drenthe<sup>1140</sup>. Grave goods here mainly consist of Merovingian 'southern' types, with the exception of a Saxon-style pot. Saxon-style pottery sporadically appears south of the IJssel, for instance in Elst, but is mainly confined to cemeteries in the north<sup>1141</sup>. In turn, Merovingian cemeteries are generally rare in parts of the country north of the Veluwe region.

Material culture in the cemeteries in the north of the country is less elaborate than in the south. Graves generally contain fewer grave goods and the items present can be interpreted as less luxurious. There are exceptions to this, such as the so-called 'Princess grave' in Zweeloo (Drenthe)<sup>1142</sup>. The iconic beads and many other items from this grave originate from northern Germany and it can be suggested that the deceased either migrated from the German coastal zone or had a strong relationship with this area through their heritage. General hand formed pottery as well as Saxon-style vessels occur most frequently in cemeteries in the north, indicating a close relationship with the neighbouring Saxon realm in current Germany. In the south of the Netherlands, the for the Merovingian period iconic biconical vessels are most often found, supplemented by a few ovoid vessels, especially in the earliest and latest phases of the early medieval period.

Contact between the north and the south and the small scale influencing of each other's material culture becomes evident, for example, through an early type of pottery bowl (type PO-6a) found as far north as the Wijster cemetery. This type of bowl exists in two very closely related versions of which one is made in northeast France and the other most likely in the German Rhineland. This type of bowl is associated with the late Roman or very early Merovingian phases

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<sup>1140</sup> Van der Velde *et al.* 2016.

This small cemetery does not feature in the research as grave data was not available during the period of data gathering.

<sup>1141</sup> Verwers *et al.* 2015, 60.

<sup>1142</sup> Van Es *et al.* 2007, 914-33.

but not with the Germanic peoples north of the *Limes*. Other examples are the occasional find of Saxon-style pottery in the central Netherlands, as mentioned previously, as well as the discovery of a late northern copy of a garnet-inlay disc brooch in grave 2 of the Wijster cemetery.

Graves containing weaponry are a rare occurrence in the northern cemeteries studied but are a common feature in the south. Beads are found in abundance in southern cemeteries whilst in the north they are mainly related to the later phases of the early medieval period.

## 8.2 THE DEVELOPMENT OF FURNISHED BURIAL BETWEEN AD 400 – 800

Whilst furnished burial is a prominent feature during most of the early medieval period, the tradition declines towards the start of the Carolingian era and has largely disappeared, especially in the south, around AD 750. Various scholars from Germany, France, the United Kingdom and beyond have postulated a decline in the use of grave goods and a decreasing variety within the assemblages during the sixth or seventh century. Hines and colleagues postulate a start of this decline around AD 525/75 and the final abandonment of furnished burial around AD 680<sup>1143</sup>. This date means that the abandonment of furnished burial starts earlier and progresses quicker in England than in nearby northern France, western Germany, Belgium and the Netherlands. Siegmund and the Franken AG show a slow decline from around AD 550/65 followed by a more significant drop from approximately AD 640. The decline further accelerates from around 710<sup>1144</sup>. For northern France, LPV show a gradual decline in the number of grave goods from approximately AD 560/70, which becomes more prominent after AD 630/40<sup>1145</sup>.

Recent research by Brownlee suggests that decline in furnished burial is a process that occurs simultaneously in England, northern France, southwestern Germany, Switzerland, Luxembourg, Belgium and the Netherlands under the influence of diffusion through increasingly strong and extensive international trade networks<sup>1146</sup>. Brownlee postulates that the early decline in grave goods is visible for England as a result of the availability of a standardised chronological framework for most of the country's early medieval cemeteries. The absence of such a framework for the Continent is suggested to obscure a similar early start date<sup>1147</sup>. For

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<sup>1143</sup> Hines *et al.* 2013, 465, 479.

<sup>1144</sup> Müssemeier *et al.* 2003, 74-81; Siegmund 1998, 203-208.

<sup>1145</sup> Legoux *et al.* 2016, 60-63.

<sup>1146</sup> Brownlee 2021, 156.

<sup>1147</sup> Brownlee 2021, 152.

England, the decline in grave furnishings takes place in two clear steps, whilst for the Continent the chronological evidence is said to be of insufficient quality to pick up gradual regional changes<sup>1148</sup>. As became clear from the historiography of this study, the availability of typological schemes and their quality differs per region on the nearby Continent. For core regions such as the German Rhineland, Baden-Württemberg and the French Grand-Est and Hauts-de-France regions, however, comprehensive chronological schemes exist and are of sufficient quality to showcase gradual or sudden change. An overall rapid decline in the use of grave goods around approximately AD 550, such as seen for England, would not have gone unnoticed in these core areas.

As mentioned previously, the schemes by Siegmund, the Franken AG and LPV all indicate a slight decline in the use of grave goods and the diversity of the grave assemblages from around AD 550/75. This is confirmed by a sample of five cemeteries studied in more detail by Brownlee<sup>1149</sup>. From this small sample, it becomes clear that the rate of decline differs significantly per cemetery and that regionality is an important factor. Pleidelsheim cemetery (Baden-Württemberg, Germany) shows an increase of the number of grave goods up to approximately AD 590 which is followed by a sharp decline<sup>1150</sup>. Rödingen (Nordrhein-Westfalen, Germany) is the cemetery closest to the Netherlands and shows a decline between c. AD 500 and 520, followed by an increase up to about 580. This increase is followed by a fairly rapid decline<sup>1151</sup>. In Altenerding (Bayern, Germany) and Cutry (Meurthe-et-Moselle, France) a rapid increase of the number of grave goods can be seen between c. 460/70 and 520/30. This is followed by a gradual decline up to approximately 640/50. After this date, a slight increase can be seen in both cemeteries<sup>1152</sup>. In Bulles (Oise, France) the situation is again different. A halving of the average number of grave goods per inhumation takes place between approximately 460 and 500, followed by a gradual increase up to c. 560. After this date, a gradual decline sets in which accelerates from 700 onwards<sup>1153</sup>.

Whilst none of the cemeteries which were studied in detail are located in the Netherlands, the general sample used by Brownlee does include thirteen burial grounds in the country<sup>1154</sup>. With the exception of Oosterbeintum, the cemeteries are clustered in the southern

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<sup>1148</sup> Brownlee 2021, 152.

<sup>1149</sup> Brownlee 2021, 151-54. The cemeteries studied in depth are Altenerding (Bayern - Germany), Pleidelsheim (Baden-Württemberg - Germany), Rödingen (Nordrhein-Westfalen - Germany), Cutry (Meurthe-et-Moselle - France) and Bulles (Oise - France).

<sup>1150</sup> Brownlee 2021, 153, fig. 7; Brownlee 2020, 415-421.

<sup>1151</sup> Brownlee 2021, 153, fig. 7.

<sup>1152</sup> Brownlee 2021, 153, fig. 8.

<sup>1153</sup> Brownlee 2021, 154, fig. 9.

<sup>1154</sup> Brownlee 2021, supplementary material 3-12.

and central provinces and thus in the Frankish realm. Relative kernel density analysis and hotspot analysis executed by Brownlee shows a high grave good density around Oosterbeintum in the northern Netherlands in AD 500 whilst the rest of the country, with the exception of Zeeland, has a low to average density. Fifty years later, the western coastal zone has changed to a low density whilst parts of Limburg, Gelderland and Utrecht have increased to an average density. Around 600, hotspots are visible in and around the south of Limburg whilst the central Netherlands have returned to a low-to-average rating. Between 650 and 680, the hotspots in the southern Netherlands and surrounding areas in Germany and Belgium increase. From 680, an increasing number of hotspots are identified in the central Netherlands. By 750, the relative density of grave goods in most parts of the research area of western Europe has declined to a low level, whilst the only hotspots can be found in the German Rhineland and the Dutch provinces of Limburg, Utrecht, Gelderland and Friesland. By 800, Limburg still shows a significant hotspot which is probably the Carolingian part of the Sint Servatius complex in Maastricht<sup>1155</sup>.

Whilst the relative kernel density- and hotspot analyses provide an interesting indication of changes in the general trend of furnished burial in the wider region, the results for the Netherlands are not very accurate. The likely cause for this is the lack of a comprehensive chronological scheme, the low number of available absolute dates and the often-broad date ranges assigned to graves, especially in the publications from the twentieth century. Whilst the analysis shows Rhenen as a hotspot in 750, the newly created chronology shows that the youngest inhumation graves in Rhenen date between 610/20 and 710<sup>1156</sup>. The choice of cemeteries to include is an equally significant factor and can alter the overall picture significantly. The province of Drenthe, for example, shows an average and average-to-high significance in the analysis during the period between 500 and 680<sup>1157</sup>. The major cemeteries, however, show a large hiatus in use between approximately 525 and 600/25. Between 690 and 800, Drenthe changes from average to low and to partially blank in the analysis. In this period, however, an increase in the use of grave goods can be witnessed in the two major cemeteries of Wijster and Zweeloo, as well as in smaller cemeteries in Drenthe and cemeteries in neighbouring Niedersachsen in Germany. As Wijster and Zweeloo were not incorporated, these significant regional differences relative to the rest of the Netherlands were missed. The same applies to the cemetery of Katwijk, which has some relatively richly furnished weapon burials which date between 640/50 and 670/80. The results of the relative kernel density, analysis,

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<sup>1155</sup> Brownlee 2021, 149-51, figs. 3-5.

<sup>1156</sup> Brownlee 2021, 151, fig. 5c.

<sup>1157</sup> Brownlee 2021, 149-50, figs. 3-4.

however, show the coastal zone to have a low to medium-low relative density during this period<sup>1158</sup>.

Table 34: Average number of grave goods per phase.

Phase	No of phases covered	Mean number of grave goods	1 phase covered	2 phases covered	3 phases covered	4 phases covered	5 phases covered
2	1	3.08	3.08				
3	1	2.7	2.70				
4	1	3.7	3.70				
5	1	3.2	3.20				
6	1	3.29	3.29				
7	1	3.44	3.44				
8	1	5.5	5.50				
1-2	2	3.36		3.36			
2-3	2	1.3		1.3			
3-4	2	1.43		1.43			
4-5	2	1.84		1.84			
5-6	2	2.3		2.30			
6-7	2	2.18		2.18			
7;8	2	1.6		1.60			
8-9	2	2.0		2.0			
9-10	2	3		3.0			
<b>10 - Carolingian period</b>	2	1.86		1.86			
1-3	3	1.0			1.0		
3-5	3	1.16			1.16		
4-6	3	1.32			1.32		
5-7	3	1.27			1.27		
6-8	3	1.25			1.25		
7-9	3	1.11			1.11		
8-10	3	1			1.0		
<b>9 - Carolingian period</b>	3	2.25			2.25		
1-4	4	1.0				1.0	
3-6	4	1.25				1.25	
4-7	4	1.11				1.11	
5-8	4	1				1.0	
7-10	4	1				1.0	
<b>8 - Carolingian period</b>	4	1.25				1.25	
2-6	5	1.0					1.0
3-7	5	1.16					1.16
<b>7 – Carolingian period</b>	5	1.14					1.14

<sup>1158</sup> Brownlee 2021, 150, fig 4c, 4d.

It has proven difficult to link an accurate average number of grave goods per inhumation to a specific chronological phase. Whilst many graves from the Dutch sample could be provided with a revised date as a result of this research, less than half of the contexts could be firmly placed in a single chronological phase. The dating of the remaining graves can be narrowed down to two, three or more phases, which undermines a relevant comparison. Additionally, the dating of a grave gets more specific when more grave goods are present. This means that the graves assigned to a single phase contain a generally higher number of grave goods than those assigned to multiple phases. The broader the phase range, the fewer artefacts are generally present. In table 34, the average number of grave goods per inhumation is presented. These figures do not include any beads. The figures are split on the basis of the number of phases covered, to provide the most relevant comparison possible.

Whilst these figures are helpful to some extent, it must be noted that regional difference distort the picture. Relatively few graves could be assigned to phase 8. Those that could be assigned are richly furnished and were found in one single cemetery. Whilst it appears from the table that there was an increase in the number of grave goods during phase 8, this is not the reality. The true picture shows that there was a major decline in grave goods use in phase 8, meaning that a minimal number of graves could be assigned to this phase with certainty. The phases 9, 10 and the first century of the Carolingian period have a relatively high average number of grave goods according to the table. In reality, these relatively richly furnished graves are all found in Drenthe and are thus not representative of the whole of the Netherlands. Elsewhere in the country, grave goods use has virtually disappeared after AD 910.

The average number of items per grave is further influenced by post-depositional intervention (see below) and the visibility of artefacts. With preservation of organic materials being generally very poor in the Netherlands, graves with more wooden items would possibly show as less well furnished archaeologically than graves containing more metal or clay objects.

The fact that the province of Drenthe is one of the last places in the Netherlands to bid farewell to the tradition of grave goods use agrees with Brownlee's theory regarding diffusion through increasingly strong and extensive international trade networks. Disappearance of regional differences in the burial practice, in favour of a more standardised burial ritual without grave furnishings under the influence of increased intra-regional or international contact would

be first expected along the coast and near the main rivers<sup>1159</sup>. Drenthe is the only province of the Netherlands which is neither home to a significant river nor has direct coastal access.

Whilst the previously mentioned problems arise when attempting to calculate an average number of grave goods per inhumation in the Netherlands, a closer look at the grave goods assemblages for the different phases makes clear that the diversity of grave goods used declines significantly after phase 7, around 640/50. Apart from in the Katwijk cemetery in Zuid-Holland and the Zweeloo and Wijster cemeteries in Drenthe, the number of grave goods per inhumation declines rapidly after phase 7 too. This decline is reflected in the significant difference between the number of graves that could be assigned with certainty to phases 7 and 8. Unfurnished burials are much harder to date than those which are furnished. Especially for the excavations which took place in the twentieth or nineteenth centuries, no radiocarbon dates or other absolute dates are currently available. A departure from furnished burial could have led to an increase in unfurnished burial, rather than direct abandonment of the cemetery. This seems to be the case in, amongst other cemeteries, Posterholt and Bergeijk, where clusters of unfurnished yet undisturbed graves were found on the outskirts of the cemetery. In the case of Posterholt, two of these graves contained (part of) a silver Sceatta of which one can be dated around AD 700 (grave 47) and the other to the late seventh or early eighth century<sup>1160</sup>.

Similar to the situations in western Germany and northern France, the Netherlands shows a minimal decline in the number of grave goods from around 580/90 onwards. It takes until approximately 640/50, however, for this decline to become significant. The significance of this moment in time mainly applies to the central and southern Netherlands and to a lesser extent to the north. In the northeast, an opposite development is taking place, with the number of grave furnishings increasing. Whilst a general trend of decline is thus noticeable from approximately 580 or slightly earlier, the more nuanced and complete picture for the Netherlands can only be formed when considering the various rates of decline and the regional differences.

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<sup>1159</sup> Brownlee 2021, 155.

<sup>1160</sup> De Haas *et al.* 2013, 75, 221, 225.

### 8.3 POST-DEPOSITIONAL INTERVENTIONS

Analysis of the development of furnished burial and the average number of grave goods per context does not consider the possible disappearance or addition of artefacts as a result of post-depositional interventions. Within the sample, the cemeteries of Bergeijk and Posterholt show the most obvious signs of grave reopening and the relevant cases were studied by Van Haperen and De Haas<sup>1161</sup>. The excavators of the cemeteries noted traces of a reopening pit in various instances, but what seems to be a reopening pit can also be the result of a collapsed container. The find of a suspected reopening pit in conjunction with dispersed or broken grave goods and/or the absence or displacement of human remains usually indicates deliberate disturbance<sup>1162</sup>. On the basis of the analysis of grave reopening in the large Krefeld-Gellep cemetery (Nordrhein-Westfalen) in Germany, it was postulated that graves were dug especially deep in order to make post-depositional intervention extra difficult. The cemetery contains various relatively shallow graves which were reopened, whilst for example the richly furnished grave 1782 with a depth of 2.8 metres was left undisturbed<sup>1163</sup>. Analysis of the grave depths in Bergeijk in relation to deliberate disturbance, however, resulted in the opposite picture. The deeper graves were more commonly disturbed whilst the shallower graves were left intact<sup>1164</sup>. Important here is the fact that the shallow graves in Bergeijk are generally younger, dating to from the second half of the seventh century onwards, and therefore less richly furnished. In Posterholt, it was attempted to perform a similar comparison. Unfortunately, the excavators did not accurately record the height of the tops of the grave pits, making it impossible to establish grave depths accurately. Instead, a comparison was made between (potential) grave reopening and the length and width dimensions of the grave pits. The results of this analysis showed that the larger grave pits were much more often subject of post-depositional intervention than the smaller grave pits. Also here, however, are the smaller grave pits often the younger ones which date from the second half of the seventh century onwards. Based on the conclusions drawn from both Posterholt and Bergeijk, it seems likely that chronology and grave reopening are related. A similar situation is observed in various Merovingian cemeteries in other European countries

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<sup>1161</sup> Van Haperen 2012, 46-55 (Bergeijk); De Haas *et al.* 2013, 70-81 (Posterholt).

<sup>1162</sup> De Haas *et al.* 2013, 70.

<sup>1163</sup> Pirling 1974, (I) 200, (II) 61-62.

<sup>1164</sup> Van Haperen 2012, 48.

where fifth and early sixth century graves are usually left undisturbed<sup>1165</sup>. Graves from the late sixth and early seventh centuries in the same cemeteries have been reopened whilst those dating to the late seventh or early eighth century are again left untouched.

It is unclear whether grave reopening mainly took place before the younger late seventh century or early eighth century graves were created or that the older graves were knowingly targeted at a later moment in time. If the latter was the case, it suggests that people were aware of a relationship between cemetery chronology and the possible content of an inhumation. Both possibilities, however, do not explain the fact that the oldest graves are often left untouched too. That usually only late sixth and early seventh century graves are targeted suggests a deliberate process of choice, possibly driven by cultural motives and as part of the extended burial ritual.

It is often suggested that grave reopening took place within a relatively short period of time from the moment burial. If the intervention shows a high level of accuracy and precision, it is expected that the person who inflicted the disturbance had knowledge of the graves exact location and content<sup>1166</sup>. As grave markers of stone are not normally found in early medieval cemeteries, it is likely that graves were either marked with a marker made of a perishable material or were not marked at all. Either way, the disturbance must have taken place before a possible marker had perished or before detailed knowledge of the inhumation had disappeared. Recent research by Klevnäs, however, shows several examples from northern and western Europe where detailed knowledge does not seem obvious<sup>1167</sup>. The disturbance of graves in Bergeijk seems to have been executed with more precision than in Posterholt. In the latter cemetery, often the whole burial is disturbed whilst in the former cemetery usually only a certain part of the burial is targeted.

The exact motive for grave reopening is seldom clear but artefact removal is one of them. The removal of specific artefacts is difficult to prove, as it is impossible to be sure of the grave's content prior to reopening. Sometimes however, the former presence of an item has left a trace. In Posterholt, for example, possible traces of scabbards were found in disturbed graves indicating that a sword or seax was once present. The discovery of various domed rivets possibly indicates the former presence of a shield<sup>1168</sup>. For Bergeijk, it becomes clear that disturbed graves contain on average only a third of the number of beads usually contained in an undisturbed

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<sup>1165</sup> Werner 1953, 7; Roth 1978, 61-5; Koch 1996, 736-37; Steuer 1998, 518; Klevnäs 2010, 104-107. See Knaut 1993, 34-36 for exceptions.

<sup>1166</sup> De Haas *et al.* 2013, 81.

<sup>1167</sup> Klevnäs 2010, 101.

<sup>1168</sup> De Haas *et al.* 2013, 76.

grave<sup>1169</sup>. Skeletal material in reopening pits as well as disarticulated remains in disturbed graves are an indication that bones were manipulated and possibly also removed from the burial<sup>1170</sup>. All these observations, however, should be considered with caution. Predicting missing objects from a grave remains subject to high levels of uncertainty.

A second motivation for grave reopening seems to be the fragmentation of artefacts. Whilst it is difficult to distinguish between artefacts which were deliberately damaged and those which were broken accidentally during the process of reopening, a detailed analysis of find locations strongly suggests that artefacts were removed from the grave, damaged and thrown back in the reopening pit<sup>1171</sup>.

A somewhat more particular reason for reopening, only seen in Posterholt and not in Bergeijk, is related to additional burials. Graves were reopened in order to inter an additional body in an already existing grave. Whilst in some cases the primary burial was moved to the side of the grave in order to make room for the secondary interment, in other cases the primary burial was completely removed together with any assumed associated grave furnishings<sup>1172</sup>.

The topics of grave reopening and manipulation of skeletal remains are extensively researched for various cemeteries in, amongst other countries, France. The various approaches to the topics provide a basis for possible further research into post-depositional disturbance in the Netherlands<sup>1173</sup>. Whilst disturbances in Posterholt and Bergeijk are obvious and well recorded, it can be suggested that traces may be missed or not noted in other cemeteries. For this reason, grave reopening may be a more common phenomenon in the Netherlands than expected.

#### 8.4 COMPOSITION OF GRAVE GOODS ASSEMBLAGES PER PHASE

As mentioned in previous chapters, the composition of grave goods assemblages is not static and changes over time. In most cases, these changes are gradual rather than abrupt and most artefact types have a certain period in which they occur regularly, followed by one or two phases during which they are only occasionally found. During the latter period of decline, the items found could just be late examples of a certain fashion whilst in other cases they may be

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<sup>1169</sup> Van Haperen 2012, 50.

<sup>1170</sup> De Haas *et al.* 2013, 77.

<sup>1171</sup> De Haas *et al.* 2013, 77.

<sup>1172</sup> De Haas *et al.* 2013, 79.

<sup>1173</sup> Noterman *et al.* 2020; Aspöck *et al.* 2020.

inherited pieces. As the period between the peak of occurrence of a certain type and the discovery of a single example of that same type lengthens, the case for the single item to be interpreted as an heirloom piece becomes stronger.

When looking closely at the composition of the Dutch artefacts assemblages, it is clear that almost each phase has its own character. This is especially visible during the first seven phases. As the number of furnished graves as well as the number of furnishings per grave declines substantially from around AD 640/50, it becomes increasingly difficult to characterise the assemblages. Exceptions to this are the cemeteries in Drenthe where the variety of artefacts increases after approximately 640/50.

In addition to the extensive typology (chapter 7), an overview is included of all artefact types except beads, and their occurrence in the sample (*appendix 2*). In this overview, the grave contexts are provided with a revised date on the basis of their context.

### **Phase 1 and 2 (400 – 460/80)**

The grave good assemblage of phases 1 and 2 are dominated by late antique finds with a strong Roman character. Most of the early brooch types are bow brooches (e.g. BR-1a and BR-1b) and the loops of buckles have traditional animal-style terminals (e.g. BU-1a). A brooch type also found regularly in phases 1 and 2, with a continuation in phase 3, are penannular brooches. During the early phases, there are usually few pottery vessels present in inhumation graves. The vessels that are found often consist of bowls, of which some still have a typical Roman signature (e.g. PO-6b). Another characteristically early type is the ovoid pot with a heart shape (PO-4f) and jugs with a broad neck and a wide opening (PO-7d). Glassware that occurs in graves during phases 1 and 2 usually consists of cups and bowls such as GL-6e and GL-7b. Weaponry is a finds category which occurs infrequently in phases 1 and 2 and the assemblage shows little variations. Dominating types are spearheads such as SP-2a, which also occurs later, during phases 5 and 6, and SP-3b. Also found early are the late antique axes of types AX-1a, AX-1b and AX-3b. Any tweezers found during the first two phases are made of copper alloy and richly decorated with incised lines (TW-1a). The early combs have a triangular shape and usually a decoration of incised lines or dot-in-circles (CO-1a). Jewellery and other items for personal adornment are rare during the earliest years of the medieval period. In the northeast, thin silver bracelets which are uninterrupted occur occasionally (BT-1a) whilst in the central Netherlands some arm rings of twisted wire are known (BT-1i). The pin with a mushroom-shaped head, also known as 'type

Wijster' in Dutch and German literature is furthermore indicative of an early female gender grave (PI-1b).

The nature of the early grave goods makes it difficult to distinguish properly between phases 1 and 2. It is tempting to state that a characteristically Roman find must signal a very early and thus phase 1 date, but the research shows that Roman style artefacts also occur in phase 2 and occasionally even early in phase 3. The above-mentioned finds occur in both phases 1 and 2. They can be supplemented by some types which can be placed in phase 2 more firmly. Typical for phase 2 is the start of the early Merovingian belt fittings (BU-2a and BU-2b). Bow brooches continue to be the most commonly found type, with new types introduced during phase 2 such as multi-piece crossbow brooches (BR-1d) and small-long brooches with a rectangular head plate (BR-1e). Phase 2 also sees the occurrence of the first small radiate-headed brooch (BR-2a) and the applied saucer brooches (BR-5b). Phase 2 further sees the start of wooden buckets with iron fittings (WV-1a) and the triangular combs with a profiled edge are accompanied by those with a straight edge (CO-1b). A guiding pottery vessel related to phase 2 is bowl PO-6a which is made of Terra Nigra or a similarly dark ware. Whilst the type originates in northern France and the German Rhineland, an occasional specimen occurs in the northern Netherlands.

### **Phase 3 (460/80 – 510/25)**

During phase 3, there is moved away from the Roman inheritance and the typical early medieval artefact assemblage starts to take shape. Typical buckles for phase 3 are those with a kidney-shaped loop (BU-3a), those with a round loop (BR-3b) and types made of iron with a silver-inlaid loop (BU-3c). The more commonly found copper-alloy buckles with a club-shaped tongue start to occur in the second half of phase 3 and continue to circulate in phase 4 (BU-3d). Apart from radiate headed brooches, phase 3 sees a decline in the number of bow brooches. An exception is the cruciform brooch which started to exist in the northern Netherlands during phase 2 and continues into phase 3. The elaborately decorated and rare butterfly brooch from Zweeloo grave 87 can also be counted as a phase 3 bow brooch. As mentioned, the variety of radiate headed brooches grows during phase three. The oldest types are usually small and have three knobs attached to a round or triangular head plate (BR-2b). Towards the shift to phase 4, larger radiate headed brooches start to occur which have a semi-circular head plate, five knobs and often elaborate decoration (BR-2g). In addition to the radiate headed brooches, cast saucer brooches (BR-5a) start to occur in phase 3 as well as bird brooches (BR-6b and BR-6c). The oldest

bird brooches are those with simple decoration and an open or closed beak. Towards the end of phase 3, more elaborately decorated bird brooches with garnet elements are introduced. Another classical Merovingian find to be introduced in phase 3 is the biconical pottery vessel (PO-1a). The initial vessels have a concave upper wall and usually occur in a large and a small size. The early biconical vessels are decorated with rosette stamps. Towards the end of phase 3, a smaller vessel with a concave upper wall is introduced which has a decoration of incised lines. Ovoid vessels remain rare in graves. Those with a ledge become somewhat lower (PO-4g) and those without a ledge start to occur for the first time (PO-4a). The latter type is small and has a decoration of incised lines. In the north of the country, phase 3 sees Anglo-Saxon pottery being interred (PO-5a). Whilst this is usually linked to cremation burial, vessels occasionally occur in inhumations in the northern cemeteries as well as in Rhenen and Elst. The jug with the broad neck from phase 2 makes way for the slender and more elegant trefoil jug (PO-7a). The weaponry found in graves is dominated by spears with split sockets of types SP-1a and the transition from late antique axes to the first Franciscas (AX-2a). These first types are characterised by the strongly curved back. In Addition, some symmetrical axes start to occur (AX-3a). A shield boss which starts in phase 3 is type SH-1a, which is low and has an apex. In female graves, the bead assemblage is dominated by amber and translucent- glass beads and the characteristic silver bracelets with thickened terminals start to occur (BT-1b). Large beads, sometimes also described as whorls, which are worn attached to a girdle are typically part of the female attire in phase 3 and 4. In the south they are often made of green glass with white lines whilst in the north dark glass dominates, in combination with various decorative motifs.

#### **Phase 4 (510/25 - 565)**

Whilst the buckles with a club-shaped tongue from phase 3 continue to exist during phase 4, specimens with a shield-shaped tongue base become dominant (BU-3e). In addition, copper-alloy buckles start to occur which are equipped with an iron tongue (BU-3g). The larger radiate headed brooches with a round head plate still exist during phase 4 but get a more complexly shaped foot. They are accompanied by counterparts with a rectangular head plate and a multitude of knobs (BR-2i). Starting in phase 4 are also S-shaped brooches (BR-6a) and garnet disc brooches of which the smaller specimens are the oldest (BR-4a). Bird brooches continue to exist in phase 4 too whilst the north sees the presence of annular brooches. The biconical pottery with concave upper walls continues to exist in phase 4 grave but is accompanied by biconical vessels with a straight upper wall. These early types still have the

rosette or single stamp decoration (e.g. PO-2d and PO-2e). Ovoid vessels without a ledge lose the incised decoration and get a wider opening (PO-4c). The heart-shaped vessels with a ledge continue to exist but get a more clearly defined rim (PO-4g). In the north and central Netherlands, Anglo-Saxon pottery still occurs during this phase. In addition to pottery, the copper-alloy vessel with beaded rim is sometimes seen in phase 4 (MV-1b) as well as buckets with copper-alloy fittings (WV-1b). Phase 4 sees a relatively large number of glass vessels in graves including cone beakers of type GL-4b and early bell beakers with and without a foot (GL-5c and GL-5d). Tweezers found in phase 4 graves are still usually made of copper alloy but are no longer decorated (TW-1b). Occasionally, tweezers with three blades occur (TW-1e). In addition to earrings with a simple hook and loop closure, phase 4 sees the start of earrings with a polyhedron-shaped ornament. The polyhedron-shaped head can also be seen on pins, in addition to spatulated heads. Introduced to beads in phase 4 are the millefiori beads in the southern Netherlands, which will continue to occur into phase 5. Small spearhead type SP-2b is in circulation for a long time but occurs often in phase 4 and 5. Angons, also typical for phase 4 and 5, on the other hand are relatively short lived. Also seen is the larger spearhead type SP-1e as well as symmetric axes with a sharply widening blade (AX-3b). Franciscas with a strongly curved back continue to exist whilst shield bosses with an apex are introduced which are somewhat higher than their predecessors (SH-1b). Phase 4 is the first phase which sees seaxes. They are found on a small scale and start to become more prominent in later phases.

### **Phase 5 (565 – 580/90)**

During the second half of the sixth century, the accent in belt fittings shifts towards copper-alloy specimens with a back plate (e.g. BU-4a). In addition, the more simple copper-alloy buckle with a shield-shaped tongue base evolves further and gets a more mushroom-shaped tongue base. Garnet disc brooches continue to exist but become larger and more complex (BR-4d). The S-shaped brooch also continues to be used as well as round copper-alloy disc brooches with cast or engraved decoration (BR-5e). Occasionally along the west coast but mainly in the north, the so-called Domburg brooches are dominant during phase 5 (BR-1f). Like phase 4, phase 5 sees a relatively large number of glass vessels being interred in graves. The main type is the bell beaker, which becomes larger over time and gets a straighter shape (e.g. GL-5g). In addition to glassware, phase 5 is rich in pottery. The traditional biconical vessel continues to be widely used and new forms of decoration are introduced. A decorative style which occurs often in phase 5 is the band of horizontal incised lines (PO-2f). A newly introduced decorative style is the

roulette stamp decoration. Whilst this type occurs in simpler and more complex forms, there does not seem to be a chronological difference. The shape of the pot, however, is relatively broad and low in phase 5 and becomes higher and more slender in phase 6. A commonly found type of bowl, especially in the south, is type PO-6h. Pottery jugs are relatively coarse and have a narrow neck (PO-7e). Tweezers during this phase are made of copper-alloy and have a prominently shaped tip (TW-1c) or are simple and made of iron (TW-1d). Two-sided combs become a long circulating form up to phase 7 (CO-2b). The start of the seax in phase 4 continues in phase 5 and the small example with the narrow blade peaks (SE-1a). Towards the end of the phase, small seaxes with a broader blade are introduced which continue into phase 6 (SE-1b). Franciscas continue to exist in phase 5 but the back becomes less strongly curved. Introduced in phase 5 is the bearded axe which is relatively short lived. Swords are very rarely found in the Netherlands. Most of the available evidence originates from sheath fittings, pommels or other parts of the sword, rather than the complete artefact. On this basis, most swords seem to occur during phases 4 to 6, with the exception of swords with a lower guard. Phase 5 sees the transition from spearheads with a split socket to those with a closed socket. Dominant types are the small spearhead SP-1d and spearheads with a closed socket and a small blade SP-2d. Reintroduced during this phase is the easily recognisable spearhead SP-2a with a central rib. The silver bracelets with thickened ends have been replaced by copper-alloy successors. The terminals of these new bracelets are less prominently thickened but are decorated with incised lines (BT-1d). This phase also sees the introduction of golden pendants with filigree decoration (PA-1c).

### **Phase 6 (580/90 – 610/20)**

During phase 6 are most of the previously mentioned pottery vessels with roulette stamp decoration still in circulation. The shape of the vessels gets taller and more slender. Newly introduced is one of these taller vessels which has a double rib in the upper wall (PO-2i). A bowl which is often found during this phase is PO-6e, which is a coarse ware bowl with an inverted rim. Ovoid vessels without a ledge occur in a broad bucket-like form during this phase as well as in a tall and narrow form (PO-4d). The ovoid vessels with a ledge have shrunk between phases 3 and 5 and are becoming taller again in phase 6. Glassware during this phase and into phase 7 is dominated by globular beakers (GL-1a, GL-1b), which occur alongside the more rare bag beakers (GL-2a). In addition, bell beakers as mentioned in phase 5 continue to occur and palm cups become increasingly popular (GL-6a). Shield bosses without an apex are more commonly

seen during phase 6. The cone ranges from very flat (SH-2b) to extremely convex (SH-2c). Introduced during this phase is spearhead SP-2c which is large and has a long lanceolate blade. The small seaxes with a narrow blade become less prominent whilst the small specimens with a broader blade are more common. Introduced is a seax of medium length with a broad blade (SE-1c). After phase 5, axes are generally less commonly found in inhumations. The youngest type, which occurs occasionally in phase 6 is AX-3c, a symmetric axe with a T-shaped blade and a profiled butt. Brooches which were introduced in phase 5 continue to occur in phase 6 but become less commonly found. The decline of brooches and axes in the assemblage is a first sign of change to the quantity and variety of grave goods interred. Earrings with a polyhedron-shaped ornament continue to be popular, but the ornament is no longer mainly found at the end of the ring. In female graves, phase 6 sees the rise of the chatelaine (RC-1) which is often accompanied by large ornamental discs. The chatelaine, however, is generally rare in the Netherlands. It is thought that most belt appendages were worn without the typical chain divider. Whilst phase 6 sees the peak in use of many copper-alloy buckles with a back plate, iron types are introduced (e.g. BU-5b). Most iron specimens are still plain in phase 6 whilst the first examples of silver damascening occur, starting with geometric motifs (BU-5d). In addition, towards the transition to phase 7, specimens occur with polychrome damascening in silver and bras depicting animal style motifs (BU-5e).

### **Phase 7 (610/20 – 640/50)**

Phase 7 is the last phase in the southern Netherlands during which we see elaborate furnished burial. Most copper-alloy belt fittings are now replaced by iron counterparts. The undecorated iron buckles with a back plate are also disappearing whilst the decorated specimens become more prominent. Silver damascene decoration in geometric motifs continues to be popular but is in due course overtaken by silver and brass damascening in animal style motifs. The animal style decoration starts to become more abstract during phase 7 and into phase 8 (BU-5f). Introduced in phase 7 in the cemeteries in Noord-Brabant, Limburg and neighbouring provinces of Belgium is the so-called Ophoven belt (BU-5g). This extensive belt set continues to exist up to phase 9. The trend which started in phase 6 of pottery vessels becoming taller and more slender continues. Most vessels, however, are now plain (e.g. PO-2b) and the variation is less than in previous phases. Prominent in this phase is a coarse ware pot with a rounded carination (PO-2j). Whilst classified as a biconical vessel, it is very closely related to ovoid vessels of type PO-4h. This broad group of pots occurs between phases 4 and 7. From

phase 7 onwards, ovoid vessels become larger less strongly shaped. The largest types with a ledge (PO-4i and PO-4j) and those without a ledge (PO-4e) continue to exist into phases 8 and 9. After furnished burial has largely disappeared, these pots become prominent containers for cremations. New in phase 7 are biconical bowls of type PO-6j and a somewhat bowl-like biconical vessel with a foot ring and a large opening (PO-2h). The two-sided comb starts to disappear during phase 7 and is replaced by the relatively rare long one-sided comb (CO-2a). The medium size seaxes keep existing in phase 7 and the long seaxes are introduced (SE-1d). Spearhead SP-2e, with a long rhomboidal blade, occurs relatively often during this phase. SP-2c and the shield bosses without an apex continue to exist but are generally found less often. Glass palm cups still exist during this phase but are equipped with a more prominent folded rim (GL-6c). In addition, bell-shaped cups with line decoration start to occur (GL-6d). Beads in general occur less often during this phase amber beads are less popular whilst amethyst examples occur more often.

### **Phase 8 (640/50 – 670/80)**

In the southern half of the country, phase 8 sees a rapid decline of furnished burial. Graves that are still furnished mainly see continuation of types which were prominent in phase 7 and to a lesser extent in phase 6. Biconical pottery slowly disappears and is replaced by large bucket-shaped conical vessels. The palm cups with prominent rims are declining whilst the bell-shaped glass cups continue to occur in cemeteries along the west coast. Also in the coastal region, examples are found of a coarse sword with a slim hilt, bar-shaped pommel and a lower guard (SW-1d). This sword type coexists with the long seax and the introduction is seen of a rare spearhead type with a closed octagonal socket (SP-3c). A new shield boss occurring along the coast and in the central Netherlands is large and has no apex. The cone is often decorated with silver elements and a multitude of rivets are present. Occasionally found in female gender graves of this phase are earrings with a polyhedron decoration and sections of twisted wire or incised lines.

Whilst furnished burial declines in the southern and central Netherlands, the north, and more specifically Drenthe, sees the start of a new episode of furnished burial. Many artefacts from this episode have a strong Frisian – northern German link and occur also in Dorestad during the Carolingian period. The phase 8 burials in Drenthe are dominated by various brooch types including replica Domburg brooches made of plate metal (BR-1f), equal arm brooches with zoomorphic or incised plates (BR-1g) and equal arm brooches with rectangular plates (BR-1h). Also popular are the composed disc brooches with pressed metal decoration (BR-5c) as well as

disc brooches in the shape of an equal armed cross (BR-5h). Along the west coast as well as in Drenthe, copper-alloy tweezers occur with a strongly tapered tip (TW-1f). Simple pendants of twisted silver wire make a comeback (PA-1f). During phase 8, the north sees the rise of millefiori beads. First occur types with a checkerboard pattern (B4-B1) and those with spiral motifs (B4-B3).

### **Phases 9 and 10 (670/80 - 750)**

Furnished burial has largely disappeared in the southern Netherlands around the turn to the eighth century. Some types that continue to exist occasionally are the Ophoven belt set, large ovoid pots and glass bell-shaped cups. A late spearhead type is the so-called hooked speared (SP-4a) which coexists with the long seax, the high decorated shield boss and the sword with lower guard. The late occurrence of these weapons and glassware is mainly concentrated along the west coast. Due to the low number of artefacts per grave as well as the low number of graves still furnished, it becomes virtually impossible to distinguish between a phase 9 or a phase 10 grave based on artefact typology alone.

In Drenthe, the situation is completely different. Whilst the number of artefacts per grave is lower than during the heydays of furnished burial in the south, the contrast with the situation in the south for phases 9 and 10 is significant. Phase 9 sees the introduction of the Rectangular disc brooch with carved, stamped or punched decoration (BR-5i) which becomes smaller towards the end of phase 1 and which continues into the Carolingian period. Also characteristic for the late phases in the north is a pair of iron tweezers with a strongly tapered tip (TW-1g). Furnishing in female graves is dominated by a frequently returning combination of three items, namely a key with a pointed oval bow (KE-1i), a needle case (TU-1c) and a small metal ornamental disc (RC-1e). Towards the Carolingian period, the recently introduced mosaic beads are supplemented by wasp beads as well as Carolingian millefiori beads (B4-B4), aquarelle beads (B4-B2) and so-called Ribe beads. One grave in the Wijster cemetery revealed an imitation garnet disc brooch (BR-4a) with green glass inlay. The inlay forms a cross pattern.

In addition to this description of furnished burial per phase, it is important to note that most artefacts mentioned above, unless stated otherwise, occur in the southern and central Netherlands. Glassware, for example, does not occur in the north, as well as biconical pottery and most of the 'typical' early medieval brooch types. It is interesting to note that weapons in graves are a very rare occurrence in the north, in contrast to the situation in the south. In the

aforementioned description of furnished burial, there is only touched upon beads if chronologically relevant. Many beads have a relatively long period of circulation followed by likely re-use or heirloom gifting. For this reason, the chronological value of many bead types is limited, except for very specific types such as millefiori beads.

# 9.0 CONCLUSION

The reason for undertaking this research was prompted by the lack of an artefact typology and chronological scheme for the early medieval period in the Netherlands and the suspected reduced accuracy of the dates given to objects found in the country associated with this absence. The aim was to create a typology and a chronological scheme based on the study of the artefact content of approximately 2500 inhumations, distributed across twenty-one Dutch cemeteries, which date between approximately AD 400 and 750.

From the initial analysis of the artefacts from Dutch inhumation contexts it became clear that the early medieval artefact assemblage from the Netherlands is most closely related to that from the German Rhineland region. To a lesser extent, but still substantial, the Dutch assemblage aligns with that found in northern France. Especially in the north and east of the country, the assemblage sees influences from the Saxon regions of north western Germany. The fact that the Dutch artefact assemblage as a whole is a unique melting pot of influences from surrounding countries was previously known and was the reason for the need to use a wide variety of foreign typological schemes to analyse the content of a single Dutch cemetery. For the same reason, it was often suggested that the creation of a holistic typology and chronology for the early medieval Netherlands would be very complex, if not impossible.

After successfully compiling large datasets in which Dutch artefacts are compared with existing typological schemes and chronological frameworks from Germany and France, it was possible to apply the research method of Correspondence Analysis (CA) to the Dutch funerary data. In order to use the method successfully, it is necessary to have a baseline typological and chronological framework. Large parts of the Dutch artefact assemblage are related closely enough to schemes from surrounding countries to attempt to use these foreign schemes as the baseline for CA, rather than choosing the uncertainty of creating a baseline from scratch. Opting for the latter would have increased instability of the relative dates generated. In addition, it should be noted that, with 41,543 square kilometres, the Netherlands is a small country and that influences from neighbours are always a factor to consider. The current national borders of the Netherlands do not delineate early medieval cultural areas, and it would therefore be inappropriate to ignore thorough research from adjacent regions.

After compiling the datasets, it could be concluded that the likeness between the Dutch artefact assemblage and that from the German Rhineland region was great enough to use German research as a baseline. Whilst there are important similarities between the artefact assemblages from the Netherlands and northern France, they were not related closely enough for the French scheme to form an independent basis for CA. Eventually, the choice was made to use the German scheme by the Franken Arbeitsgruppe as the main framework but to supplement it with artefact categories and types from the German scheme by Siegmund, the French scheme by LPV and various other, smaller schemes if necessary. Merging elements from various schemes has proven to be very effective for the creation of a baseline framework for CA and was a successful method to include as many as possible Dutch artefact types, from various regions, into the research.

The mixed nature of the dataset, including artefacts from the Frankish southern Netherlands as well as the Frisian northern Netherlands made it possible to test the hypothesis that a dataset does not need to be fully homogenous in order to be analysed using CA. The results of the analysis show an integration of both Frisian and Frankish material culture and provide a relative timeline of the inhumations which featured in the CA. The problem arose here that, in addition to an early phase, the cemeteries in Drenthe also have a late phase that starts around the end of the Merovingian period and continues until about 800/50. Grave goods from this period did not fit into the aforementioned typologies and these graves were therefore not available for integration into the CA. In order to eventually provide these graves with a new date, a detailed study of the origins of these late artefacts and the study of any parallels from elsewhere in the Netherlands or abroad was necessary. Various artefacts belonging to this category, like the wasp beads, could be dated on the basis of their occurrence in for example Dorestad.

After successfully providing artefacts which featured in the CA with a relative date, it proved possible to extrapolate these newly generated dates to artefact types that did not feature in the analysis. If, for example, three artefacts from grave A could be dated to phase 3 through CA, the fourth item from grave A could also be expected to belong in phase 3. If the undated artefact type was also surrounded by phase 3 dated objects in graves B and C, the reliability of the extrapolation gained strength. By careful application of this method, it was eventually possible to provide most of the artefacts with a date based on their appearance in multiple graves. In the case of a small number of more rare artefacts, the placement on the

relative timeline remains surrounded by a degree of uncertainty. Future research and possible new data from excavations may change this in years to come.

With most artefact types given a reliable relative date based on their appearance in the Netherlands, it became possible to apply a similar process to graves which, for various reasons, did not initially feature in the CA. It can be concluded that this practice was successful especially for graves which contained multiple artefacts. The method was applied as well to graves which contain a single object only, but a larger degree of uncertainty remains in such cases. In general, a higher number of grave goods in a context leads to a dating with greater certainty and precision. Graves with many gifts can usually be assigned to one or two chronological phases. Graves with only a single artifact often have a more global dating which stretches two or more phases.

As a result of this, any analysis of the development of furnished burial over time in the Netherlands is complicated. When analysing the average number of grave goods per phase, it is essential to have accurate and precise dates. As graves with a higher number of grave goods can be dated more precisely, the one-phase groups have a higher average number of furnishings, whilst the graves with a lower number of items end up in broader groups. For example, graves dating to phase 4 have an average of 3.5 grave goods contained in them. Graves dating to phases 4 or 5 contain an average of 2.2 grave goods and those graves which can be placed in phase 3 to 5 only contain a single item on average. In reality, it is likely that at least a third of the graves from the latter group actually belongs to phase 4. If it would have been possible to assign them as such, the average number of artefacts per phase 4 grave would have been substantially lower. The distortion of the picture is strengthened further by regional differences. Graves from phase 8 onwards are usually sparsely furnished and are therefore difficult to recognise. For this reason, few graves are precisely dated to phase 8. One cemetery, however, contains a few graves from phase 8 with exceptionally rich furnishings. When the average number of grave goods is calculated, it will result in an unrealistically high number for phase 8.

Some cemeteries in the Netherlands, such as Posterholt and Bergeijk, have a relatively high instance of grave reopening. It must be noted, however, that reopening is not always noticed by excavators and not always accurately recorded in especially older excavation records. It may therefore be a more widespread phenomenon in the country than currently thought. Grave reopening and the disturbance or removal of artefacts has an influence on the calculation of average grave goods per context. The same applies to differences in material where the artefacts are made from. In the Netherlands, where preservation of organic material is often

poor, a grave with various wooden grave goods would potentially return a lower number of artefacts found archaeologically than a grave containing copper-alloy items.

In general, it can be stated that grave goods use in the Netherlands sees a minimal decline from approximately 550/80 onwards. This decline is in line with a similar pattern in northern France and the German Rhineland but shows a much slower pace than seen in Anglo-Saxon England. From approximately AD 640/50, decline of grave goods use accelerates. This relatively sudden change is also reflected in a decreasing variety of different objects found in graves. Decline in grave goods use does not occur simultaneously everywhere in the country. The Katwijk cemetery, for example, shows some richly furnished weapon graves which date to phase 8 or later. In Drenthe, the use of grave goods seems to increase around the start of phase 8 and continues well into the Carolingian period.

As part of the research, the effect on the burial practice of the socio-political situation in the Netherlands during the early medieval period as well as the process of conversion to Christianity was briefly touched upon. Whilst more research into this topic is needed, it can be concluded that the grave content in the northern provinces is significantly different from the content in the south. The conversion process is not directly reflected in the content of inhumations and it is impossible to distinguish clearly between a Christian and a pre-Christian or pagan grave. Christian symbolism on artefacts in the Netherlands is rare and if present, the artefacts almost always occur as part of a larger assemblage of grave goods. This suggests that Christianisation and the decline in the number of grave furnishings are not necessarily linked during the sixth and seventh century in the southern and central Netherlands and also not during the eighth century in Drenthe. Furthermore in various cases, it becomes clear that there is no correlation between Christianisation and the decline in the number of cremation burials. In Rhenen, for example, many cremation burials postdate the inhumations and are interred in a container which can be dated to phases 7 to 9. Analysis of the orientation of graves shows that west-east burial becomes more prominent from phase 4 onwards and is dominant after phase 5. There is no evidence found, however, to relate this shift to the conversion to Christianity. Alongside west-east burial, other orientations remain popular until the end of the Merovingian period. Especially a southeast-northwest orientation is seen relatively often.

The main question that featured in this research, regarding the accuracy level of the current dating of Dutch artefacts and (funerary) contexts on the basis of foreign chronologies could be answered after having successfully undertaken CA and extrapolation of the created relative artefact chronology.

Firstly, it can be concluded that the division of the period between AD 400 and 750 into ten phases by the Franken Arbeitsgruppe is applicable to the situation in the Netherlands on the basis of the current evidence. It should be noted, however, that exact dates for Dutch funerary contexts from the period are extremely rare. When future excavations or academic research result in the availability of more exact dates, it may be that this view can be adjusted. Herein lies an important recommendation for future research.

Secondly, it has become clear that German as well as French dating of artefacts is linked to some extent to the archaeological reality in the Netherlands. It should be noted that in the German typological schemes artefacts are tightly assigned to mostly one single phase. In the French typology, on the other hand, most artefacts are assigned more loosely to a period spanning two or more phases. Statistically, this makes it more likely that the appearance of an artefact in the Netherlands matches the phasing given to the type in the French scheme rather than in the German schemes. This appears to be the case in practice, as many artefact types present themselves in the Netherlands during a phase prior to or after the assigned phase in the German chronologies. A longer term is also often seen, for example taking in the phase assigned in the German typologies plus a phase prior or after. It follows that assignment of a phase on the basis of the German chronologies does not provide the most accurate dating for Dutch artefacts and indeed contexts. It could be suggested that the German dates are too detailed and too much delineated to be useful in a supra-regional or supra-national context.

For the French chronology it follows that in many cases the dates are more aligned with the reality in the Netherlands as phases are broader and artefacts are often assigned two or more phases. It may be that the much more culturally mixed nature of the artefact assemblage of northern France, in comparison to the assemblage from the German Rhineland, gives rise to the need for a somewhat more loose phasing. In this light, as the Dutch artefact assemblage is also culturally mixed, as in northern France, it can be concluded that a typological scheme for the Netherlands will also benefit from a somewhat less strict allocation of chronological phases.

It can be argued that a less strict chronological framework is less detailed and thus less accurate than a more strict one. This research shows however, that a chronological framework can also be too strict, causing inaccuracies and a distorted picture of reality. In addition, it can be suggested that the strictness of a chronological framework can be related to the nature of the artefact and should be open to some field-based interpretation by the archaeologist. Pottery as a utensil, for instance, is less subject to fashion than for example brooches or buckles. A longer period of usage for a certain type of pottery can therefore be expected whilst many brooch types are often restricted to only one or two phases. Subsequently, it is for the archaeologist to

interpret if a brooch that seems out of place in relation to its context should be considered an heirloom piece and if the same principle should be applied to a pottery vessel.

A second major aim of this research was of an academic as well as a practical nature and consisted of the creation of a holistic typological scheme for the Netherlands in the early medieval period. On the basis of the more than 2500 grave assemblages analysed, a typological scheme was compiled which successfully combines artefacts from a Frankish, Frisian and Saxon background as well as artefacts that likely originate to the German Rhineland and those that are more frequently found in Belgium and northern France. The creation of this well-structured and illustrated document eliminates the need to use several different typological schemes from abroad when analysing artefacts from the Netherlands. The artefact groups are directly related to similar types known from Germany, France or the United Kingdom where possible. Additionally, it presents for the first time a comprehensive overview of what the Dutch early medieval artefact assemblage is and provides it with its own unique identity. This allows for the Dutch assemblage to be compared, as an individual entity, with artefact assemblages from other European countries. Furthermore, the scheme provides an opportunity to study the artefact content from multiple cemeteries in the Netherlands at once, rather than having to use information from twenty-one individual excavations and publications.

The nature of this study opens up a myriad of opportunity for further research. As previously mentioned, the effect of the conversion process on burial practice and the occurrence of what seems to be an increase in cremation burial towards the end of the Merovingian period require more in-depth study. A lot of research is currently done on the topics of grave reopening and manipulation of human remains<sup>1174</sup>. Research techniques and innovative approaches as applied in, amongst other countries, Germany and France could be used to study the evidence from the Netherlands. Another subject that requires more research is the possible use of heirlooms in Dutch graves from the early medieval period. Especially beads seem to be passed down the generations, but other artefacts may have too. Detailed research into traces of wear, repair and reuse or repurposing is needed to further explore the scale of artefact inheritance in various parts of the Netherlands.

Ancient DNA study would be an interesting way to assess the build-up of the various cemeteries. Whilst family groups are common in Anglo-Saxon cemeteries, the Continental row cemeteries do not always provide such a clear picture. In addition to ancient DNA, stable isotope

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<sup>1174</sup> The research team publishes its findings via [www.reopenedgraves.eu](http://www.reopenedgraves.eu).

analysis could be interesting when there is a suspicion that an individual may have migrated to the Netherlands. The grave of the so-called 'Princess of Zweeloo' with suspected northern German roots would be an interesting start, as well as some graves in Bergeijk which contain glassware associated with Anglo-Saxon Kent. For these analyses to be performed, the availability of skeletal material is required. Unfortunately the preservation of bone is poor in large parts of the country. It can therefore be recommended that an assessment of the available material is made prior to further exploring these research opportunities.

More generally, the newly created relative chronology would benefit from the addition of exact dates to further strengthen its reliability. Radiocarbon dates and results of dendrochronological research are currently very rare and the occurrence of coins with a post Roman date in early medieval graves is low. Absolute dates that are currently available, however, agree with the new chronology. Future excavations can be a source of more exact dates and material from past excavations can be revisited. Here too, the caveat applies that unfortunately little organic material from Dutch graves is available.

As mentioned previously, the typology and chronology are based on twenty-one cemeteries which are distributed as evenly as possible across the country. Most cemeteries which were not used did not have a suitable finds catalogue available or the information needed could not be accessed. Two cemeteries, Wijchen and Maastricht-Pandhof were left out for reasons related to the even distribution of data across the different regions of the Netherlands and to avoid overrepresentation of the central river basin and the province of Limburg. With the typo-chronology now completed, it would be interesting to apply the schemes to the finds from Wijchen and Maastricht-Pandhof. Whilst it is expected that the typo-chronology can be applied without problems, doing so offers an opportunity for finetuning if necessary. Additionally, it would be interesting to apply the schemes to the findings from the recently published Broechem cemetery (Antwerpen, Belgium) in order to assess the applicability of the typo-chronology to the finds assemblage from neighbouring Flanders.

The typology and chronology offer a comprehensive overview of Dutch grave furnishings and other aspects of funerary archaeology between AD 400 and 750 and its dating. The creation of this standardised body of work allows for a more accurate international comparison of various aspects of early medieval archaeology seen in the Netherlands. In addition, it unlocks information from the Netherlands which could be of interest to researchers from other countries. Whilst this information was previously available, it was often written in Dutch or German and scattered across various digital and analogue sources, resulting in reduced accessibility. The original dataset created for this research consists, in addition to a record of

grave furnishings, of information regarding grave orientation, dimensions of the grave pit, container use, positioning of the body and osteoarchaeological information on sex, stature and age at time of death. Efforts are made to make this information available as soon as possible for use in future research.

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**Website online catalogue from the Museum für Ur- und Frühgeschichte Thüringens:**  
<https://thue.museum-digital.de/index.php?t=listen&instnr=44>

**Website where the CAPCA plug-in for the application of Correspondence Analysis in Microsoft Excel can be found:** [www.archaeoinfo.dk](http://www.archaeoinfo.dk)





APPENDIX 2 – DATASET GRAVE GOODS CLASSIFIED ACCORDING TO THE TYPOLOGY FOR THE NETHERLANDS (MALE AND FEMALE GENDER) AND REVISED DATES FOR DUTCH GRAVES.

The graves (rows) are placed in the expected chronological order on the basis of their content. The expected chronology is derived from the artefact dates as provided for the Netherlands as a result of this research. The dataset does not include beads.

