Insights into the Music Patterns of St Basil Liturgy According to the Coptic Rite

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Abstract

The exact roots of Coptic music and its creation remain unknown, with speculations suggesting potential Pharaonic, Jewish and Greek roots. This thesis focuses on the musical features of both the priest's chants and the congregational responses in the St Basil liturgy according to the Coptic rite, in an attempt to discern its patterns and roots since it seems impossible to identify its composers and origin. The practice-based empirical methods used were audio and video recording of the liturgy, notating its music using the Arabic music rules, comparing melodies of Greek responses practised in the Byzantine and Coptic traditions and attempting to reproduce the Coptic melodies using Pharaonic nay replicas.

The current literature shows no description of musical features and scales of St Basil liturgy, as stated decades ago by H Hickmann, being transmitted via the oral tradition. Audio analysis of some of the liturgical responses revealed significant scale discrepancies between three renowned contemporary musicians. Also, having compared four sets of notations by eminent Coptic musicians, there were significant differences in the style of notation and the dominating scales. These results raised doubt about the accuracy of the conventional Arabic music analyses in describing the Coptic music, since scale recognition is based only on the tetrachord. Despite that, my suggestion of the seven musical sections of the liturgy has been confirmed. Also, comparing the music of thirteen Greek responses shared between the Byzantine and Coptic traditions, showed similarities only between two; the rest of the responses were different. Furthermore, attempts to reproduce the St Basil melodies using Pharaonic nay (flute) replicas showed limited ability of the oldest long nays compared to the more recent short ones. Thus, despite being the first empirical study of the music features of St Basil liturgy according to the Coptic rite, this thesis successfully describes unique patterns and puts forward suggestions, with some speculations, regarding the roots of such ancient music, which requires further analysis.

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Introduction

As an altar boy and a son of a Coptic priest, I was brought up in the Coptic church in Alexandria, Egypt. Throughout my childhood, I was an active psalter (ψάλτης) then became a reader (αναγνώστης) then deacon assistant (βοηθός διάκονος). Since the earliest years of my life I was very keen to learn church hymns and songs. Even when there were no organised classes at church, I arranged to have private tutorials with a cantor, and used to pay him all my pocket money. I still remember those late evening tutorials during school time and summer holidays. In the early 1970s, the Coptic Theological College was launched in Alexandria and hymnology teachers used to come from Cairo to teach the enrolled registered students, but I was not allowed to attend due to my young age. This did not stop me from secretly smuggling a speaker into a side room, and sitting there quietly learning the songs and recording the hymns on a primitive sound recorder. As time passed I perfectly mastered lots of hymns, and through my role as a Sunday School Youth teacher, I formed a number of small singing groups. Towards the late eighties, I was appointed as Leader for the Choir of Deacons at St Mary and Pope Cyril the Pilar of Faith church in Alexandria, where I established and was responsible for the first choir there. When I came to the United Kingdom in 1989 to pursue my postgraduate medical studies and training in cardiology, the natural thing to do was to attach myself to the St Mark Coptic church in Kensington, London, where I was warmly welcomed by the priests and deacons. They invited me to participate in Sunday liturgies and to teach hymns, among other subjects, to the youth. A few years later, I joined the Goldsmiths Choir as a tenor singer, and took part in singing Handel's Messiah three times at the Royal Albert Hall, around Christmas time. This unique experience was the spark which started my enthusiasm to establish a Coptic choir in Europe that would present Coptic hymns in a suitably attractive and enjoyable way to the Western audience.

As the St Kyrel choir was formed and regular rehearsals and performances in Europe became well established, a deeper thinking about the structure and roots of the Coptic hymns became inevitable. I developed many observations on the style and structure of the hymns, and wanted to put them together as research material, but they proved to be rather dispersed and covering many areas. I then decided to limit my research field to the St Basil liturgy which is the commonest liturgy celebrated in the Coptic church, in order to make my observations practically valuable and helpful to deacons and singers.

The first question I set out to answer was why there were differences in some of the melodies of the St Basil liturgy between churches (based on recordings made in the 1950s and 1960s which I had collected over the years). Those differences have now become rather minimal because of the modern technological developments that allowed singers to be aware of various practices, but at the same time many hymns disappeared, as the deacons adhered mostly to the singing style propagated by the High Institute of Coptic Studies in Cairo. Of interest, some of those hymns are now coming back and described as 'new', for example the hymn of 'the Cherubim' and 'We believe'. Another striking point was that some researchers claimed that the music of the liturgy is very old and goes back to the first century of Christianity. I found such claims unconvincing, particularly in the inevitable absence of any recordings or documentation. As in the scientific research I am more used to, one question always leads to another, however I found no persuasive answers, since most writers, more or less, copied each other.

Such a diversity of performing and practising repertoire forced me to start, for the first time, a detailed analysis of the Coptic music of the St Basil liturgy in an attempt to understand its patterns, to better comprehend its structure and potentially to shed light on its roots. To achieve such objectives, I conducted studies using the well-established Arabic music and collaborated with some highly experienced musicians in an attempt to define the musical scales

(magams) used in the St Basil liturgy. This was only modestly satisfactory as shown in Chapter 2, probably because of the lack of experience in Coptic music by some musicians. The results of this analysis directed me to design a number of experimental studies using combined performance and empirical musicology, in which I recorded the liturgical responses of the congregation as well as the priest's prayers. I then had them notated using the Western notation methods and analysed using the Arabic scales which form the known Mediterranean music around Egypt. This analysis showed clearly well-structured patterns of hymns in the St Basil liturgy with a close relationship between responses of different sections of the liturgy, as clearly demonstrated in Chapter 2. In addition, although never analysed before, the priests' chanting usually described as 'free, ad-lib', proved to be meticulously designed in order to emphasise the spiritual meaning of the words; this is clearly shown in Chapter 3. Furthermore, since most of the liturgical responses in the St Basil liturgy are in Greek, I was curious and keen to compare them with their respective responses currently practised in the Greek church. A head-to-head comparison of thirteen Greek responses practised in the Coptic and Byzantine cultures in Chapter 4 showed that although the texts were almost similar, most of their melodies and scales were quite different, which confirmed the assumption that the melodies have culturally developed rather than having been 'composed' by St Basil the Great himself or his disciples. Also, it showed that Coptic music of the Greek responses of the St Basil liturgy was not Greek music but originally Coptic.

Finally, I include in this thesis a test trial, through which an answer could be found as to whether the Coptic responses of the St Basil liturgy are rooted back in the Pharaonic times, as has sometimes been claimed in the media. My years of medical research helped me in organising a rigorous experiment where I tested the melodies of the liturgy, defined in Chapters 2 and 3 using Pharaonic nay replicas specifically produced in Egypt for this research. The minor scale (Nahawand *maqam*) proved to be the only scale that is easily produced using the

oldest replica nay. However, to my surprise the same scale was successfully played by other ancient civilisations' flutes, for example Indian and Chinese. These results, summarised in Chapter 5, suggested that those melodies were produced to suit local cultures and were probably based on what people enjoyed hearing, rather than compositions created to be used uniquely in the Coptic church.

This thesis aims to:

- a) Identify congregational musical patterning within the St Basil liturgy;
- b) Analyse the priest's musical patterning of chanting the St Basil liturgy;
- c) Identify melodical similarities of the Greek responses of the St Basil liturgy shared between the Coptic and Byzantine traditions;
- d) Reproduce the St Basil responses using Pharaonic nay replicas.

The methodology used in this thesis was based on performance and empirical analysis of existing data that include the already-existing melodies of the St Basil liturgy responses and priest chants that I learned over the years and recorded specifically for this research. The liturgical chants and congregational responses were audio and video recorded, notated and analysed as has previously been described by Clarke E and Cook N. ¹ Some of the audio recordings were subjectively analysed by three musicians with years of experience in Eastern music (G Dergham, M Salama and O Fathy). Some of these recordings were also compared with the already-existing notations made by three other Coptic musicians (R Moftah, G Kyrillos and A Guirguis). Furthermore, the audio recording-based music was reproduced by different Pharaonic nay replicas as well as flutes from other cultures. Therefore, this type of music analysis fulfils the description 'empirical musicology' or 'systematic musicology',

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¹ Clarke E and Cooke N. What is Empirical Musicology. In Musicology: Aims, Methods and Prospects. Oxford Scholarship Online 2019.

where audio recordings and notated music in three different notations systems: Western classical, Arabic and Byzantine, are systematically compared. The research was designed to assess the value of this music to Copts, particularly dealing with the St Basil liturgy which is the commonest prayers practised in all churches and communities almost on a daily basis, its melodies are the most familiar to over 15 million scattered all over the world, with the majority residing in Egypt. The background of the research also questioned the time-related changes in the Coptic music, a quest that I acknowledge to be impossible, however fascinating. The researcher is not a stranger to the Coptic community but born and brought up in it, which makes the research questions and the objectives significantly valid, when compared with a recommendation of a year of mixing with any society before searching its music as the only way to proceed with a sound research, thus adheres to the pre-fieldwork preparation recommended by Clarke and Cook. Although there is also the converse danger of being overly immersed in the material culture and practice, I acknowledge. Based on the researcher's years of practical experience in the Coptic church, he raised a number of research questions which were a real challenge for him, particularly when he was exposed to the British and European music performances. The research plan was then formalised, methodological strategies and steps put in place, then individual studies performed in the most possible scientific way. In order to demonstrate the cultural features of the Coptic music of the St Basil liturgy according to the Coptic rite, video recordings were made for the four empirical studies; details of these are discussed below. This research also applies the Arabic scales locally used in Egypt to analyse the St Basil liturgy, since there are no defined special Coptic scales in existence. The study results focused on the liturgical relative optimum pitch and various scales that feature this part of Coptic music. The study also produced photos and video recordings of conventional practices to demonstrate some of its objectives. Finally, this study had to use Western notations

to analyse the liturgical melodies since they are the same notation used in all Egyptian music and there is no other notation system currently available in the Egyptian culture.

To better demonstrate the practical application of the research methods used in this thesis, I audio recorded the priest chants and the congregational responses guided by an Arabic keyboard to avoid tonal deviation; from these recordings the music notations were made by M Salama, and were later analysed. I then recorded the whole liturgy, priest chants and congregation responses with the help of an amateur sound engineer (J-M Kelada) in Paris in early July 2019. During the same visit, I rehearsed the congregational responses of the liturgy with some of St Kyrel Choir French members, in order to guarantee optimum punctuation and pronunciation. Those responses were then audio recorded, guided by the music notations previously made by M Salama based on the original recording of the liturgy I had made at the start of the study. A permission to video record the liturgy was obtained from the parish priest of St Mina and St Merkorios parish church in Colomb, France and the recording was made on the following day; that took seven hours, with the help of a crew of three assistants. The purpose of this recording was to demonstrate the possibility of performing the whole of St Basil liturgy, priest and choir/congregation on the suggested pitch and matching speed without any distortion. This attempt was in essence a means for demonstrating the ability of the trained Coptic singers to get together and present the liturgical prayers in a well-designed and harmonious musical way, which has always been a challenge throughout my childhood as ψαλτης and continued with me during my adulthood as a choir member and then as a conductor. The study would have been difficult to accomplish if I did not have a choir leader in Paris (M Mikhail) who organised the event and gave me the time to rehearse with the choir and focus on the recording. The unique contribution of this study (video A) is to highlight the importance of choir rehearsals in training singers' ears to pick up the right pitch and to sing together in

harmony without using instruments or loud microphones, as is currently the case in all Coptic churches.

Having identified a number of Greek responses in the St Basil liturgy which are used in the Greek and Coptic churches, and in an attempt to compare them (knowing the differences in the notation methods we used in this thesis and the traditional Greek ones) I decided to video record those responses so the enlightened reader can appreciate differences and similarities. The identified Greek responses were sent to Fr Joseph Paliouras, a renowned Greek singer and musician who also co-performed in a number of St Kyrel Choir concerts. He prepared the text and the Greek notations and obtained a permission from the St Sophia Greek Cathedral in London to video record the Greek responses in the Byzantine and the Coptic styles, in early August 2019. The recording was made by a professional sound engineer (G Dergham) who subsequently edited the production. It should be mentioned that originally, ten responses were identified for inclusion then three others, audio only, were added afterwards. The main contribution of this recording was to demonstrate empirically that although most responses of the St Basil liturgy are in Greek, only few of them co-exist in the Greek church. Moreover, the responses that are shared between the two Churches are not necessarily melodically identical but only few are, suggesting that the melodies of the ones practised in the Coptic church are very likely to be originally Coptic rather than Byzantine. The results of this study are presented in video B. This study would have been difficult to achieve, had it been done in a place where there is no active Greek church with good singers, or if I had not had a very good and friendly relationship with Fr Paliouras and the hierarchies of the Greek church for many years.

In order to answer the question of the Pharaonic roots of the melodies of the St Basil liturgy, I contacted the Head of the Department of Coptic music at the High Institute of Coptic Studies in Cairo (M Ibrahim) and requested his help in getting a set of Pharaonic nay replicas specially made in Cairo in order to test their ability in producing the melodies of the liturgy.

Having the responses and the chants of the liturgy all notated made the test easy for a professional nay player (M Salama), who started, in August 2018, by trying the oldest long replica with haphazardly designed three holes. This nay managed to produce only the minor scale 'Nahawand', suggesting that that melody could be old Pharaonic. Surprisingly the same scale and melody was produced by other flute replicas from other civilisations, which refuted the previous suggestion. Again, G Dergham the sound engineer compiled the recording in a presentable video format. This is the main scientific contribution of this study labelled video C. The watcher and listener should be able to acknowledge the differences in nay length, size, holes number, and difficulty in playing as well as variability in the sounds produced, which are all analysed in detail in chapter 5. This study required determination and team work, although I was the main organiser. Without the help of Cairo people, M Salama and G Dergham, the production of video C would have been very difficult.

In summary, the unique contribution of this thesis is two-fold: practical and scientific. The practical contribution lies in demonstrating the ability of a trained Coptic choir to follow the priest's chants of the St Basil liturgy in a harmonious way without distortion or a need for a leading microphone, as well as to use a relative moderate pitch throughout that is affordable for all congregations, irrespective of gender and age. The same principle should also be of specific benefit for priest trainees in different dioceses and theological colleges as well as to choral singers and choir leaders, since I have demonstrated that in most prayers they start the tonal pitch which priests usually follow. The scientific contribution highlights the seven sections of the liturgy; the common scales in each that should be observed while singers and choral leaders are improvising. The thesis also suggests a perpetual development of the liturgy based on its lyrical and musical changes over the years, rather than having strict Pharaonic or Greek roots. The latter needs further confirmation, applying the same or similar methods in the St Basil to other commonly used liturgies, as well as other celebration hymns in the Coptic

church. Thus, the findings of this thesis could be taken as demonstration of harmonised practice and performance of the early Coptic music,² with clear understanding of the contents and structure of the currently existing liturgical music.

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² Kenyon N. Authenticity and early music: A symposium. OUP Oxford 1988.

Chapter I

Coptic Music and Culture Impact

The word Coptic is derived from the Greek word **Αίγυπτος**, which means Egypt. However, since most of the inhabitants of Egypt in the first six centuries AD were Christians, the word Coptic came to mean 'belonging to the Christian Egyptians and their culture', which included music. ³

Coptic music consists of traditional hymns in the Coptic or Greek language including liturgies, pre-vespers and midnight praises, celebration hymns as well as contemporary songs in Arabic language and those adopted from other denominations such as the Anglican church. The origin of the latter two types of music can be traced and documented, while most of the contents of the vespers and midnight praises are taken from the psalms and the Old Testament songs, such as the song of the Israelites while crossing the Red Sea from the book of Exodus ⁴ and the song of the three young men in the fire from the book of Daniel. ⁵ However, the creative processes, social, cultural and ritual elements, of the remainder of the Coptic hymns, which constitute the largest overall body of Coptic sacred music sung in the liturgies, Holy Week and other worship celebrations remains, inevitably, unascertained. This thesis focuses on the analysis of the patterns of music within the St Basil liturgy as an attempt to identify its structure, perhaps even more explicitly its relationship to respective liturgies practised in other denominations as well as its potential ancient roots.

Although some liturgical responses contain quotations from the books of the Old and

³ Erian NM. Coptic music – An Egyptian tradition. A PhD thesis, University of Maryland 1986, p 24.

⁴ The book of Exodus, the Holy bible, New King James, Chapter 15:1.

⁵ The book of Daniel, the Holy Bible, New King James, Chapter 3:3.

New Testaments e.g. 'Holy Holy Lord of hosts...' from the book of Isaiah ⁶, the source of the rest of the wording is poetic accretions. Likewise, the melodies used for singing and chanting those responses have no certain source. This lack of musical knowledge in subsequent centuries among Coptic clergy and choir leaders has resulted in a void into which has poured speculations and powerful myths. Some writers ⁷ claimed that the Coptic music is derived solely from the old Pharaonic music; some historians 8 referred it to multicultural influences, particularly Jewish and Greek; but other musicologists ⁹ described Coptic music as a unique pattern of melodies with only some similarities to other cultures. The lack of any established early Coptic music documentation, particularly rhythms and scales, gave cantors and singers liberty to improvise, a well-recognised feature of orally transmitted music which, in most cases, add more refinement and beauty to it. But, rarely it might deviate from the consistent patterns in the liturgy that aims at highlighting the power of the words through 'word painting'. 10 A simple evidence for this observation is seen in the Greek hymns imported into the Coptic church from the Byzantine tradition, by Pope Cyril IV (1854) 11, some of which are completely different from the ones currently practised in the Greek church. Perhaps this is one of the reasons why Villoteau (1809) described Coptic music as repetitive and boring, since he could not distinguish clear musical patterns similar to what his ears were used to. 12 The aim of this thesis therefore, is to identify the musical patterns within the St Basil liturgy according to the

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⁶ The Old Testament, New King James, The Book of Isaiah 6:3.

⁷ Kyrillos G. The Coptic Hymns, its spirituality and music (Translated from Arabic), 2001.

⁸ Idelsohn AZ, Jewish Music in its Historical Development (New York, 1929, rep. 1967).

⁹ Newlandsmith, E. "The Ancient Music of the Coptic Church," lecture delivered at the University Church, Oxford. London, 1931.

¹⁰ Morin MC and Fowells RM, "Gregorian Musical Words", in *Choral essays: A Tribute to Roger Wagner*, edited by Williams Wells Belan, San Carlos (CA): Thomas House Publications, 1993.

¹¹ Makarios B. The Coptic Music (translated from Arabic), 2000, p 95.

¹² Villoteau G-A. "De la Musique des Qobtes." Description de l'égypte, ou, Recueil des observations et des recherches qui ont été faites en égypte pendant l'éxpédition de l'armée française, publié par les ordres de Sa Majesté l'empereur Napoléon le Grand. Paris: Imprimerie impériale, 1809. Text vol. II, pt. 1a, p 754.

Coptic rite.

This thesis has five objectives which include: 1) researching the background of the Coptic culture that must have influenced the oral development of Coptic music; 2) identifying the patterns of melodies and scales that dominate the congregational responses of the St Basil liturgy; 3) analysing the musical patterns of individual priest prayer and their relationship to the congregational responses in the St Basil liturgy; 4) identifying some of the similarities in the structure and order of the St Basil liturgy as well as the patterns of melodies of the shared Greek responses between the Coptic and Greek churches; and 5) assessing the possibility of reproducing the different melodies in the St Basil liturgy for the priest and congregation, using Pharaonic nays replica which might speculatively suggest some potential relationship with ancient Egyptian music. To achieve these objectives, I summarised a historical background of the founding and development of the Coptic church over the centuries. I also assessed the potential impact of various surrounding cultures on Egyptians and their music, particularly in the early centuries of Christianity.

The Coptic church was founded in Alexandria by St Mark the Apostle soon after Jesus' ascension, ¹³ where inhabitants had various religious practices; Jewish, idolaters, and others. Christianity spread faster among the large Jewish community, already well versed in the prophecies of a coming Messiah, than in other religions with no such background, although many non-Jews also converted to Christianity. The liturgical order of worship in the first century is assumed to be simple and consisted mainly of three components: a) the *Praxis*, which is the reading of the word, mainly from the Old Testament, b) the *Eucharist*, which is the breaking of bread and recital of the events of the last supper and c) the *Aghapy*, which is the

¹³ Atiya AS ed. The Coptic Encyclopedia. New York: Macmillan, History of Eastern Christianity, Notre Dame, Ind. 1991.

social gathering of the Christian community. ¹⁴ Despite the uncertainty about the origin of the Coptic music, a critical search in the history of Egypt before and after Christianity is likely to shed light on some aspects of the foundation of the Coptic music in the early Christian centuries and the impact of different existing cultures.

Ancient Egyptian influences

The Pharaonic Egypt, Old, Middle and New Kingdoms, lasted from 3400 BC to approximately 340 BC, when the Greeks invaded Egypt. According to the artefacts found during the excavations of old tombs and temples, the art of music (instruments, patterns of singing and dancing) in each of the three periods seems to have its distinctive features. In the **Old Kingdom**, music was simple and slow ¹⁵, based on the pentatonic scale and used simple instruments, including the one-metre long nay (bamboo flute with few holes), the ood (lute with some strings) and the jank (early harp, made of plant material with long neck and 4-5 strings). Examples of these instruments are preserved in museums in Paris, Leiden and Turin. ¹⁶ This musical art, is considered advanced when compared to the respective art of East Africa where most contemporary music was very basic compared to the pentatonic scale used in Egyptian music. ¹⁷ The pattern of singing in the Old Kingdom was distinct, with singers facing the instrumentalists and using specific hand movements e.g. chironomy which is still preserved, particularly in Jewish singing, although its accuracy is doubted among professional musicians. ¹⁸ Also, ancient Egyptian singers sang while cupping their left hand on their left ear

¹⁴ Dix DG. The Shape of the Liturgy. Bloomsbury T&T Clark 2005, p 156.

¹⁵ Gadalla M. The Enduring Ancient Egyptian music system: Theory and practice. Published by Tehuti Research Foundation (2002), p 217.

¹⁶ Samuel M. Sources of the Coptic music and features of the Coptic hymns (translated from Arabic), 2013, p12-34

¹⁷ Manniche L, Music and Musicians in Ancient Egypt (London: British Museum Press, 1991), p 80.

¹⁸ Hickman, H. "Koptische Musik" Sonderdruck aus dem Ausstellungskatalog "Koptische Kunst," Villa Hügel, Essen, 1963, p 116-123.

with the thumb behind the ear in order to amplify their own voice as means to perfect their notes.

Middle Kingdom political and administrative weakness enabled the Hyksos or Hykussos in hieroglyphs (The Giant Asians) to invade and control Egypt for almost a century, a period described as the darkest time in Egyptian history. ¹⁹ The Hyksos brought to Egypt new noisy musical instruments including the sistrum, bells and drums as well as different patterns of singing that match those instruments. ²⁰ This period was succeeded by the appearance of the Canaanites in the Eastern delta, as the southern extension of the land of Canaan. The New **Kingdom** began with the exodus of the Hyksos from Egypt in 1600 BC and the reign of the nineteenth Dynasty. Those Pharaohs invaded the Western part of Asia and brought much of the musical culture of those countries back to Egypt, which resulted in further developments in musical culture, particularly at the time of Thutmosis III (1480-1450 BC) who invaded Syria and Palestine, even reaching the Euphrates River. ²¹ Thus, the above political changes in ancient Egypt had clearly resulted in cultural changes including different aspects of musical practices. Despite those changes, temple priests made every possible effort to maintain the old pure music and restrict foreign music. Herodotus, the Greek historian (484-425 BC), said 'The Egyptians did not permit anything but national and pure of any foreign influence'. ²² Plato (Aflaton) the Greek philosopher (427-347 BC), wrote 'even children were not free to choose the pattern of music they liked but they followed the priests' advice in learning and practising spiritual music that lifts up the soul and promotes good ethics'. ²³ Such restriction by priests

¹⁹ Breasted JH. History of Egypt from the Earliest Time to the Persian Conquest 2003, p 216

²⁰ Samuel M. Sources of the Coptic music and features of the Coptic hymns (translated from Arabic), unpublished research, 2013; p16.

²¹ Duiker WJ and Spielvogel JJ. The first civilization. The peoples of Western Asia and Egypt in The essential world history. Published by Wadsworth Cengage Learning (2010), p16.

²² The History of Hirodotus. Translated by George Rawlinson (New York: Tudor Publishing Co; 1932), p 107

²³ The dialogues of Plato, translated by Jowett B. (New York: Charles Scribner's Sons, 1885), Vol IV, P1.

made what was considered the purest form of ancient Egyptian music linked to religion. ²⁴ Egyptians also believed that music was a sacred art, similar to medicine, astronomy and physics, and tried to link it to other branches of philosophy. ²⁵ One example is the mirroring of the pentatonic scale to the five planets and relating individual notes to daily time ²⁶. When the sixth and the seventh planets (the sun and the moon) were discovered, they created the seventh scale (the heptatonic scale). The Ancient Egyptians also used in their seventh music scale the same hieroglyphic characters, used to depict the planets and the seven days of the week. Furthermore, they identified a specific note from the scale for each hour of the day. Finally, they preserved their music through the oral tradition, believing in the use of their memory as means for strengthening their mental function. ²⁷

It is thought among contemporary Egyptian musicians that Coptic music is the only form of music descended from the ancient Egyptian music. ²⁸ This remains speculative in the absence of any reliable documentation and in the light of the progressive changes that took place between the three kingdoms as well as afterwards.

The impact of different Egyptian cultures on early Christian music

Judaism was one of the most important cultures that already existed in Egypt before Christianity. Out of a million Jews who lived throughout Egypt in the first century, 150,000

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²⁴ Arroyos, Rafael Pérez Egypt: Music in the Age of the Pyramids (1st ed.), Madrid: Centro de Estudios Egipcios, (2003), p 33-34.

²⁵ "Ancient Egypt 2675-332 B.C.E.: Philosophy", in Bleiberg Edward et al. *Arts and Humanities Through the Eras*. Vol. 1: Ancient Egypt Detroit: Gale (2005). p 182–197.

²⁶ Bishop Makarios, 'Coptic Music'. *Coptic Treasures*. http://coptic-treasures.com. p 60 (Accessed on 1 September 2020)

²⁷ Durant W, The Story of Civilization, 1: Our Oriental Heritage New York: Simon and Schuster, 1954, p 76.

²⁸ Newlandsmith, E. "The Ancient Music of the Coptic Church," lecture delivered at The University Church, Oxford. The New Temple Press: London, 1931.

lived in Alexandria, where various cultures met and mixed. ²⁹ Others lived around the Nile delta as well as the west bank of the Nile at Oxyrynchus (El-Bahnasah) in upper Egypt. These Jews interacted with the rest of the population and mastered the Greek language, but still maintained their identity as God's chosen nation. 30 They were the first to use the word 'diaspora' in Greek to reflect the dispersion of the Jews outside Israel, and their synagogues were the earliest to be recognised outside Jerusalem. ³¹ The Jews who converted to Christianity in Egypt brought with them many of the riches of their Jewish culture including the psalms, means of worship and music. Examples of these are the Psalmody, the singing of the psalms, which has become an important part of Coptic worship, responsorial singing, the dialogue between priest or deacon and the congregation, recital of the scripture, authentically perpetuated first by chironomy and, later by ekphonetic signs, melismatic chants; and musical improvisation too. Even some of the Christian feasts followed some of the Jewish tradition, for example the Pentecost which is celebrated on the fiftieth day after the second day of the Passover. Another example is the word Pascha (from Greek) which comes from the Hebrew for Passover, and the Paschal lamb slain and eaten on that feast became a symbol of Christ, and the origin of the word 'Lamb of God' used in Christian services. ³²

The Greek conquest and the Roman Empire were another two important periods in the history of Egypt. Alexander the Great made the small town of Rakoti (Alexandria) the capital of the Hellenistic Empire and named it after himself in 320 BC. His general, Ptolemy, founded the first library in Alexandria, visited by many Greek scholars, including Euclid and

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²⁹ Smallwood EM, "The Diaspora in the Roman period before A.D. 70." In: *The Cambridge History of Judaism*, Volume 3. Editors Davis and Finkelstein (2008).

³⁰ The Holy Bible, The Book of Deoteronomy; 7:6.

³¹ Goldwurm H. History of the Jewish People: The Second Temple Era, Mesorah Publications, New York (1982) p 143.

³² Hoppin RH. Christian Liturgy to A.D. 1000 Chapter II in Medieval Music by W.W. Norton & Company (1978), p 45.

Archimedes. ^{33, 34} The conquest of Egypt by Alexander the Great exposed Coptic music to strong influences from the Greek culture, particularly since many famous Greek musicians lived and worked in Egypt, and also in later Roman times, Egypt was considered a centre of Christian hymnology. ³⁵ Later on, as Rome ruled over Egypt with the arrival of Octavian (Augustus) in 30 B.C. ³⁶, he presented himself to the people of Egypt as the successor to the Pharaohs. He dismantled the Ptolemaic monarchy and annexed the country as his personal estate. In the first century B.C., Alexandria was then described by Diodorus of Sicily (a Greek historian) as 'the first city of the civilised world" ³⁷, being well known for its great library and community of writers, philosophers and scientists. Such a close relationship between Rome and Alexandria had an inevitable effect on the style of life including art and music. In summary therefore, it seems that by the time Christianity came to Egypt, there were other well-established different cultures with their defined patterns of music. Even those cultures were unlikely 'pure' based on the historical facts above, as is the case with Persian invasion of Egypt and Jewish exile. Thus, the likelihood of the impact of those cultures on the development of Coptic music cannot be ignored.

Coptic Christian music in the 1st – 2nd Centuries AD

The Jews who converted to Christianity were regarded as a movement or sect within Judaism.³⁸ Although they lived a slightly different life, they often visited the synagogues, kept many of

³³ Tam WW. Hellenic Civilization, London: Edward Arnold & Co. (1930), p155.

³⁴ Winfred Douglas. Church Music in History and Practice, New York: Charles Scribner's Sons (1962), p 107.

p 107.

35 Bowman AK. *Egypt after the Pharaohs, 332 BC– AD 642*, Berkeley: University of California Press (1996), p 126.

³⁶ Bunson M. Encyclopedia of the Roman Empire, New York: Facts on File Inc (1994). ISBN 978-0-8160-3182-5

³⁷ Pearse R (2007). "Diodorus Siculus: the manuscripts of the 'Bibliotheca Historica". Retrieved 2008-10-08.

³⁸ The New Testament, the Book of Acts, 24:5 and 28:22.

their traditions and shared their financial affairs with the rest of the Jewish community. Before the fourth century and the reign of Emperor Constantine Christian, religious observances had been forbidden throughout the Roman Empire; even though the attitude of civil officials varied from time to time and from one place to another, the gathering of Christians was viewed with alarm. Christian services had to be kept simple and unobtrusive. ³⁹ Preaching took place mainly in the synagogues but also in some local houses as centres for meetings, some of which were later converted to churches. 40 In those early years of the first century, Christianity spread fast, particularly among Jewish communities, and became well established at the time of destruction of the 2nd temple in Jerusalem in 70 AD. As for their musical traditions, Josephus of Caesaria (a 1st century Jewish historian) said 'they did not spend their time only in meditations but also in composing songs and hymns in all melodies and scales and classifying them into different patterns'. ⁴¹ However, the content of Christian music of the 1st century was very simple since there were no established melodies or structured music. Worship singing seems to have been on an individual basis, particularly among the musically talented ⁴², whereas reading and chanting played a major role in the daily worship, as described by St Paul's epistles; 'when you come together, each one has a hymn (Psalm), a lesson, a revelation, a tongue or an interpretation, let all things be done for building up' Corinthians 14:26; 'as you sing uttering psalms and hymns and spiritual songs among yourselves singing and making melody to the Lord in your hearts' Ephesians 5:19; and 'let the word of Christ dwell in you abundantly in all wisdom teaching and admonishing each other, in psalms, hymns and spiritual songs with grace singing in your hearts to God' Colossians 3:16.

³⁹ Hoppin RH. Christian Liturgy to A.D. 1000 Chapter II in Medieval Music by W.W. Norton & Company, 1978, p 32.

⁴⁰ Freedman DN, Myers AC. Eedmans Dictionary of the Bible, Amsterdam University Press (2000),

p. 709.

All Idelsohn AZ. Jewish Music in its Historical Development (New York), rep. 1967.

Development (New York), rep. 1967. ⁴² Gabra G. Coptic music culture: tradition, structure and variation. In: Coptic Civilization-two thousand years of Christianity in Egypt. Published by the American University in Cairo Press (2014), p 71.

Very little, if any, is known about the musical instruments the Christians used in the first century apart from a mention by St Paul in the letter to the Corinthians, cymbals and gong.

43 It is assumed that by the 2nd century as believers from different cultures converted to Christianity, a mixed religious pattern of music developed including the use of Ancient Egyptian instruments. Hence Clement of Alexandria in the Instructor Book 2 and 4 warned the Christians against using the cymbals or the Egyptian clappers, having described the music produced by those instruments as acts of drunkenness because of their association with the superstitious and impious. 44 Such rejection of including the Pharaonic music and singing in worship in the early centuries of Christianity raises doubt about the Pharaonic roots of the currently used music.

Coptic music in the 3rd and 4th Centuries AD

By the beginning of the 3rd century, Christian musical life seems to have developed. A significant emphasis was put on structuring the use of singing the psalms in daily communal prayers and ending them with 'Alleluia'. ⁴⁵ This pattern of worship was not only found in Egypt but in Christian communities around the Mediterranean region. The Apostles Tradition, translated from Ethiopic (1854) describes the order of worship as follows:

'And let them arise after supper and pray; let the boys sing psalms, and the virgins also. Afterwards let the deacon, as he takes the mingled chalice of oblation, say a psalm from those in which Alleluia is written. And after the bishop has offered the chalice, let him say a psalm from those appropriate to the chalice-always one with Alleluia, which all say. ⁴⁶ Likewise,

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⁴³ The Holy Bible. The first Letter to the Corinthians, New King James. Chapter 13:1.

⁴⁴ Cosgrove CH. Clement of Alexandria and early Christian music. In Early Christian Music 2006; vol 14: p 255.

⁴⁵ Tuscott JA, Worship: A Practical Guide, published by Genesis Books 2011, p 148.

⁴⁶ Smith AJ. Music in ancient Judaism and early Christianity 2012. Chapter 7, p 180.

Tertullian (a Christian historian from Carthage in the Roman province of Africa 160-220 AD) describes the service as 'The scriptures are read, psalms are sung, the homily delivered and prayers are offered. ⁴⁷ Also, Palladius (364-425) described the same psalm chanting and the congregational responses practised in the monastery of Nitria in upper Egypt as 'One who stands there at the ninth hour can hear psalmody issuing forth from each cell'. Furthermore, John Cassian towards the end of the 4th century described the psalmody in the monasteries in upper Egypt saying 'During the early morning office the chanter chanted psalms 'verse after verse being evenly enunciated'. ⁴⁸ Even Athanasius of Alexandria himself wrote to Marcellinus and said 'Recited with continuity then are such words as those in the Law and the Prophets, and all those of history, along with the New Testament; while recited with expanse are those of psalms odes and songs. ⁴⁹ He also distinguished between the singing and the melody 'Just as we make known and signify the thoughts of the soul through the words we express, so too the Lord wished the melody of the words to be a sign of the spiritual harmony of the soul and ordained that canticles be sung with melody and the psalms read with song'. In contrast to the liturgical order described above, the hymnody represented the songs used for the congregational worship, rather than in the monasteries. ⁵⁰ The most famous writer of songs was Ephram the Syrian, who wrote in Syriac and his work was translated into many languages including Greek and Coptic. The respective founder of the Latin hymnology was Ambrose, who was inspired by many of the manners of the Eastern church. ⁵¹ The music used for the

⁴⁷ Smith AJ. Music in ancient Judaism and early Christianity 2012. Chapter 7, p 181.

⁴⁸ Chitty. After the devastation of Nitria in 399, the freshness of the first generation was fading from Scetis and the older monks knew it,' in *The Desert a City*, p 60 and p 65.

⁴⁹ Smith J. Music in ancient Judaism and early Christianity 2012, Chapter 7, p 195.

⁵⁰ Schaff and Wace, book VI, chapter VIII, vol 2, p 144.

⁵¹ Hoppin RH. Christian Liturgy to A.D. 1000 Chapter II in Medieval Music by W.W. Norton & Company, 1978, p 35.

songs followed the syllabic pattern of the phrases, long or short, and was written to reflect the meaning of the words.

The impact of the Arabic conquest of Egypt in the 6-7th centuries

In view of the above, it is clear that early Christian Egyptians were not Arabs and the music they practised was not of Arabic origin. ⁵² When Arabs came to Egypt, they brought with them the Arabic language as well as their culture and music. Even that culture was not 'pure' but significantly influenced by the Persian civilisation due to geographical and religious proximity, as shown in some of the musical scales used in the Egyptian music. The direct impact of such a process of cultural mixing on the Coptic music has never been firmly ascertained, although some contemporary musicians strongly believe in its presence. ⁵³ Copts of those days, particularly those who lived away from the two Egyptian entry points, the Mediterranean and the Red Seas, are believed to have kept their old traditions as well as the Coptic language. Little is known about the cultural impact on Coptic music from the 9-19th century.

The impact of early mixed Egyptian culture on Coptic music

The entry of believers from different backgrounds and cultures into Christianity in Alexandria created a mixed culture. Being the capital of the Middle East in culture, science, philosophy and commerce, Alexandria was inhabited by people from different backgrounds; native Egyptians, Romans, Greeks, Canaanites, and Northern Africans. ⁵⁴ It is expected that people brought with them the best of their musical tradition into the new faith. This suggestion mirrors other acts of worship currently seen in churches e.g. the use of incense, candles and washing water (baptism) which have all been used before in Jewish and other temples in Africa and

⁵² Ibrahim B. An Egyptian and an Arab in The Guardian website, 2020.

⁵³ Fathy O. Interview with Osama Fathy, an Egyptian and German musician, 31 Aug 2016.

⁵⁴ Teece G. Buddhism, Black Rabbit Books (2004), p 24.

Asia. ⁵⁵ This suggestion is supported by the following observations: a) Coptic music is based on melismatic singing on the seven vowels, mirroring the ancient Egyptian priests who sang hymns to their gods through seven vowels ⁵⁶; b) Among the hieroglyphic inscriptions of the New Kingdom, Hickmann (1932) discovered a sign which indicates rhythmic repetition of a syllable. Although this is a feature of contemporary Coptic music with the singers facilitating long vocalisations of extra syllables as: e, ye, ye, or, ouo, ouo, inserted between two syllables ⁵⁷ that was not exactly what Hickmann reported; c) The Coptic liturgies include Jewish phrases e.g. 'Agios in Greek which are taken from the book of Isaiah ⁵⁸ and the word 'Alleluia'; and d) Coptic music contains many Greek hymns as well as Greek mixed with Coptic words in the same phrase, hence supporting the Greek impact. ⁵⁹ The partial replacement of the Greek language with the Coptic language and the mix of the two in the prayer books seems similar to the Western church with the mix between Latin and Greek languages. ⁶⁰

Searching for the roots of the Coptic music

While the relationship between Coptic music, Jewish music and Greek music could be searched for and investigated through various historical documentations ⁶¹, the links with the ancient Egyptian music are more difficult to trace in the absence of accurate documentation. In light of the excavations and research into ancient Egyptian music over the last two centuries, a picture has emerged, made up of elements from instruments, singers and orchestras. In his studies, Hans Hickmann's writings (1932) revealed many details about the various instruments

⁵⁵ Mark JJ. Alexandria Egypt in Ancient History Encyclopedia (2011).

⁵⁶ Gabra G. Coptic Music. The Popes of Egypt (vol. I: AUC Press, 2004)

⁵⁷ Tadros E. Between long tunes and the old musical philosophies. The Coptic Hymns 2001.

⁵⁸ The Holy Bible. The Book of Isaiah. Chapter 6:3.

⁵⁹ The Holy Psalmody by Techno Print House, Cairo, Egypt

⁶⁰ Hoppin RH. Christian Liturgy to A.D. 1000 Chapter II in Medieval Music by W.W. Norton & Company, 1978, p 33.

⁶¹ Saka I. Analysis of the liturgy according to the order of the Syriac Antiochian Orthodox church. 2nd Ed, p 90.

used by the ancient Egyptians and their musical life. He also proposed some hypotheses as to the possibility of polyphony in ancient Egyptian music, the use of gestures – leadership chironomy – or the use of certain hieroglyphic signs as musical notation. These and other findings based on the artefacts found in different museums helped in forming a modest understanding of the musical life in ancient Egypt, but in the absence of any actual musical notation, those findings remain to some extent speculative. As for the instruments, a number of attempts at replicating the old Egyptian instruments have been made. One of the most active researchers in this field was Victor Loret (1859-1946) who succeeded in reproducing similar instruments to the original ones preserved in Paris, Leiden and Turin. ⁶² However, the greatest problems he faced were 1) the use of Western clarinet players to play the ancient Egyptian wind pipes, as they were accustomed to the Western scale and the pipes were designed for an unknown scale; and 2) trying to reproduce the original instrument using modern materials. Another attempt was made by Zaks who ignored the nature of the produced sounds and their frequencies, and focused on the meticulous calculation of the distances between the holes of the nay on the basis that musical notes are mathematically calculated. He thus reduced the likelihood of any errors resulting from the varying strength and direction of blowing in the nay. Recent attempts by El-Malt (a contemporary Egyptian academic musician) to reproduce some of the ancient Egyptian instruments took place in Cairo University, but the instruments were used for a few performances and not for any academic studies. ⁶³ Attempts to preserve Coptic hymns were made by the late Dr Ragheb Moftah (1898-2001) who recorded many of those hymns sung by the then Head Cantor Mikhail El-Batanoni (1873-1957) and deposited copies at the Congress Library. ⁶⁴

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⁶² Lehner M. Complete Pyramids, The Solving the Ancient Mysteries. Thames and Hudson Ltd (1997).

⁶³ El Malt K. Lecture on "Revival of Ancient Egyptian Music," April 30, 2012. Video of lecture, 6:55 https://www.youtube.com/watch?v=4MAkQ6cscTQ.

⁶⁴ Ativa AS (ed.), The Coptic Encyclopedia, vol. 6, (New York: Macmillan Publishing, 1991), p 1715.

The study of the history, design, construction of musical instruments and their relation to performance (organology), has interested scholars since as early as the 17th century. Praetorius, in his *Syntagma musicum* ii (1618) provided a section on instruments, including some non-Western types, with realistic illustrations drawn to scale (*Theatrum instrumentorum*, 1620). Other technical discussions appear in the encyclopaedic works of Mersenne (1636) and Kircher (1650), and have benefited modern organologists and reproducers of historical instruments, particularly when preserved original instruments are rare or not found. In addition to providing practical information useful to performers and instrument makers, organologists seek to elucidate the complex, ever-changing relationships among musical style, performing practices and evolution of instruments worldwide. ⁶⁵ Thus, despite the significant impact of musical instruments replica in producing near-close melodies to the original, they still have limitations since they are made of different material and likely dissimilar adjustment and tuning.

The Coptic music and the oral tradition

The Pharaohs, as many other civilizations, used the oral music tradition from generation to generation. The Coptic church was no different from those cultures in adopting the concept of the oral tradition for transmitting its music by using blind cantors and their ability to learn the church hymns and songs by heart, with some assistance from Braille scripts of the words. In fact, only very few of those cantors were self-taught and played the lute. The basis of this

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⁶⁵ Laurence Libin, 'Organology'. *Grove Music Online*. https://doi.org/10.1093/gmo/9781561592630.article.20441 (Accessed 5 October 2020).

practice was the belief that blind people have very sensitive sense of hearing and are therefore expected to master the musical details. ⁶⁶

The oral tradition of transmitting music is an essential feature of all civilisations. In Hungary, the composer Zoltan Kodaly (writing in 1902) pointed out that people who do not have access to their own old musical manuscripts can find useful musical information when they turn to their music preserved by oral tradition. He compared several melodies from manuscripts from the 17th and 18th centuries with their respective preserved oral tradition and demonstrated the accuracy of the latter. ⁶⁷ Furthermore, Kodaly, together with the Hungarian composer Béla Bartok (1881-1945) discovered that in contrast to the rest of Europe, many of the Hungarian melodies have the same music construction as popular melodies of the Cheremis people – a nation with which the Hungarians have lived together in the region of the Ural mountains before moving to Europe, but with whom they had no contact since their separation for over a thousand years. ⁶⁸ In addition, comparing these types of melodies with Chuvash, Tatar, Bashkir, Kirgizes, Mongolian and Chinese, Bence Szabolcsi (Hungarian music historian 1899-1973) was able to conclude that "at the bottom of Hungarian folk music survives an old style of Central Asia" 69 that Hungarians have adopted before the time of the Barbarian invasions, suggesting a good preservation for at least 1500 years. With the survival of some melodies for such a long time in a Central European country, surrounded by people of different origin and at the crossroads of so many foreign influences, one can hypothesise that the same pattern could apply in different parts of Egypt, particularly around the Nile where most early inhabitants lived, but this suggestion is by no means a confirmation of a case similar to the Hungarian. Even in Western Europe, Gregorian chants are preserved through the oral tradition,

⁶⁶ Durant W. The Story of Civilization, 1: Our Oriental Heritage New York: Simon and Schuster, 1954, p.76

⁶⁷ Hulahan M and Tacka P. Kodály Today: A Cognitive Approach to Elementary Music Education, Oxford: Oxford University Press, 2008.

⁶⁸ Antokolitz E. A history of twentieth century music-in a theoretic analytical context. (2014), p 120.

⁶⁹ Szabolcsi B. A concise history of Hungarian music. By Barrie and Rockliff (1964), p 239.

before musical notation was used. ⁷⁰ This suggestion is supported by the history of music in the Syriac church, with the musical notation system not developed, but melodies were transmitted down the ages through the oral tradition that resulted in the loss of a significant number of tunes and melodies which were used in the past. Yet about seven hundred melodies remain and are preserved in the treasury of melodies known in Syriac as *Beth Gazo*. Musicologists have been able to identify different historical layers within the repertory, the oldest of which date back to the earliest centuries of Christianity. ⁷¹ Similar patterns of evidence for orally transmitted music exist among the Jewish communities as well as other societies in Africa and Asia. ⁷² ⁷³

Furthermore, the essential role of oral tradition in preserving the Greek music since before the Byzantine era until it was notated cannot be ignored. Oliver Strunk said 'an impenetrable barrier of oral tradition lies between all but the latest melodies and the earliest attempts to reduce them to writing. While it may be possible to date an early musical manuscript, it is virtually impossible to say how old the melodies in it are. The entire question may be seen not so much in terms of a faithful melodic preservation but rather as the degree to which traces of an ancient model may be gleaned from our earliest notated sources.' ⁷⁴

Despite such strong evidence about the pivotal role of the oral tradition in preserving old music, Crocker ⁷⁵ tried to discard its relevance in preserving the Gregorian music before the 9th century, having described it as mysterious and prehistoric, but he has been discredited. The oral tradition has played a significant role in preserving the Western Christian chants too, despite the envy between the famous Northern singing schools and the Romans. In such

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⁷⁰ Levy K. Gregorian Chant and the Carolingians by Princeton University press (1998), p 141.

⁷¹ Brock S and David G.K. Taylor (ed.s), The Hidden Pearl: The Syrian Orthodox Church and Its Aramaic Heritage. (Rome: Trans World Film Italia, 2001).

⁷² Casely-Hayford A, et al. How word, symbol and song shaped history (2015)

⁷³ Bebhe N. Oral tradition in Southern Africa, By Gamsberg Macmillan (2002), p 250.

⁷⁴ Strunk O. Essays on Music in the Byzantine World (New York, 1977), p 61.

⁷⁵ Roman Catholic Church Music in England, 1791–1914: A Handmaid of the Liturgy?

situation and in the absence of any written music, the original Roman chants can scarcely have remained unchanged. However, for many centuries before the written notation, Gregorian chants were faithfully transmitted from generation to generation. ⁷⁶ Again, despite the different sources of extant manuscripts, the similarities outweighed the differences, suggesting regional and probably national influence which is even currently recognised in the Coptic music. Based on the above evidence, many nationalistic movements in the 19th century sought out their native cultures by restoring the oral tradition. ⁷⁷ Searching recently produced recordings of some of the Coptic hymns suggests a similar pattern of similarities and differences within individual hymns between geographical regions in Egypt, thus highlighting the limitations of the oral tradition in accurate preservation of the fine musical details.

With such existing evidence for universal use of oral tradition in music before notation, it is important to explore some of the existing views about the mechanism of mental knowledge storage. In the paper 'Two Paradigms of Orality: The Office and the Mass', Dobszay ⁷⁸ proposed the mechanism by which music could be preserved orally. He states that 'most scholars agree that the music put in writing in the 9th century was a music that had earlier been established in the living practice; and by means of oral tradition the memory was able to retain the repertory during the decades between the Frankish and the first notated manuscripts'. He then questioned what this memory was like – reconstructive or preserved music like a photocopy. He proposed an answer on the basis of the nature of the music; a simple chorus line or a more complex composition which needed layers of different depth that went back a long time and combined various types of remembering. In the same article, Dobszay highlights the inevitable differences between the original music and the later written ones, that requires

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⁷⁶ Hoppin RH. Christian Liturgy to A.D. 1000 Chapter II in Medieval Music by W.W. Norton & Company, 1978, p 48.

⁷⁷ Hood M. Reliability of oral tradition. J Am Musicological Studies 1959; vol 12, p 201.

⁷⁸ Treitler L. Written music and oral music. In 'With Voice and Pen'- Coming to know medieval song and how it was made. Oxford: Oxford University Press (2003), p 41.

special talent as is the case with reciting words, e.g. poems. He stated that hymns might have been composed over many generations or else consist of small pieces which are repeated on different words. Even the latter applies to some of the long hymns but not to others. Idelsohn ⁷⁹ believed that Arab musicians deliberately did not notate their music to allow improvisations in their orally transmitted music, a proposal that led him to doubt the presence of significant similarity between the ancient Semitic-Oriental melodies (existed 2000 years ago) and their current forms.

Coptic music in comparison to recent music theories

It is difficult to explain the 'composition' of Coptic music in view of the Western theories, particularly since its structure and patterns have not been studied (unpublished lecture by the author). ⁸⁰ The most relevant theory is **Centonisation** (cento in Latin or patchwork) which deals with the composition of a melody based on pre-existing melodic figures and formulas. A piece created using centonisation is known as a "centonate". ⁸¹ The concept of centonisation was first applied in 1934 by Dom Paolo Ferretti who stated that centonisation is a very old and widespread technique, which is reflected in Gregorian chant, with its modes and added collections of melodic formulas, rather than a set of pitches. Similar ideas appear in the maqam of Arabic music and the raga of Indian music. These do not merely designate scales, but sets of appropriate melodies and specific ornaments on certain tones (called "melody types"). The 'originality' of the composed piece relies on the way these formulas are put together and elaborated upon in a new way. One might think that the Coptic repertoire represents an example

⁷⁹ Wilson RB. Idelsohn in Holy Land 1840-1948. Orientalism and Musical Mission, Palestine and the West. Cambridge University Press, p 106.

⁸⁰ Henein MY. Lecture on Coptic Music- From the Nile to the Thames at the Egyptian Culture Centre 2019 (Video-unpublished lecture)

⁸¹ Treitler L. Centonate Chant in With Voice and Pen-Coming to know medieval song and how it was made, Oxford University Press (2003), p 198.

of centonisation in practice whereby a cantor or singer put together a melody based on some well-known small pieces of music and combined them, together with additional ornaments that suit the occasion for which the hymn is composed. What supports this theory are the frequently repeated melodies between some Coptic hymns and the significant differences between the Coptic music and the well-established Arabic maqams. This is a speculative analysis and remains to be confirmed.

Melismatic singing and Coptic music

Mέλισμα in Greek, means song or melody (from μέλος). Melisma describes the singing of a single syllable of text while moving between different notes in succession, in contrast to syllabic, in which each syllable of text is matched to a single note. ⁸² Music of ancient cultures, e.g. ancient Egyptian used melismatic techniques to induce a meditative effect on the listener. Melisma may be used to give weight, splendour and beauty to specific words or concepts; it may also magnify a belief or a feeling. It is used in the Jewish liturgies, in the chanting of Torah, readings from the Prophets, and in the body of the service itself. Melismatic singing also features in Arabic music and Orthodox Christian chanting, particularly Greek. Middle Eastern melismatic music was developed further in the Torah chanting, the Masoretes in the 7th or 8th century. ⁸³ It then appeared in some Gregorian chants where it was used in certain sections of the mass, with the earliest written appearance around 900 AD e.g. the Hallelujah. Another example of melismatic singing in the West is the chorus "For unto us a child is born" in Handel's *Messiah*, where the soprano and alto lines engage in a 57-note melisma on the word "born" to highlight the message of that particular section. Similar pattern does exist in other

⁸² Shepherd J. Continuum Encyclopedia of Popular Music of the World: Performance and Production, 2003, p 565.

⁸³ Wurthvein E, translated by Rhodes EF. The Text of the Old Testament an introduction to Bibilia Hebraica. William Ferdmans Publishing Company 2014; p 23.

musical pieces by Bach, Beethoven, Haydn and Verdi as well as others. Melismatic chanting remains commonly used in Middle Eastern, African, Balkan, African-American, Portuguese, Flamenco (Spanish) as well as Asian folk and popular music ⁸⁴. It is also a feature of the Coptic music, not only in the liturgy of St Basil but almost in all other aspects of music, with the longest are those of the Holy Week and the midnight praises. It remains, to a great extent, speculative to analyse the exact relevance of each melismatic piece without questioning the composer. This makes analysing Coptic music and its impact during the time of worship a real challenge.

Performance of Coptic Liturgical Music

As early as the 2nd century, the human voice was considered as the only instrument suitable for praising God. Clement of Alexandria wrote that in his time instrumental music was not allowed in churches. ⁸⁵ Likewise, in the Byzantine era, organs, which were the preferred instruments for processions, banquets and in praise of the king, had to be left beside the door at the entrance to the church. The same applies to the early centuries in the Syriac church. While later on, the Coptic church allowed cymbals and triangles to be used to keep the rhythm, the Greek church continued forbidding the use of musical instruments, whereas the Syriac church removed the ban on musical instruments, having realised that the optimum start of a chanted prayer or song needs accurate introduction of the relevant maqam (out of over 90 maqams), and this can not be achieved without the accompaniment of a keyboard equipped with microtones.

Coptic music is monophonic, i.e. with 'one voice'. Hymns can be performed in different ways: 1) Responsorial chant, where the soloist sings and a choir or the congregation gives short

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⁸⁴ Karp T. Aspects of Orality and Formularity in the Gregorian Chant in Formulas and Orality in Roman and Gregorian Chant (1998), p 317.

⁸⁵ Kuhn M. Coptic Music Culture, Tradition-Structure and Variation in Coptic Civilization, Edited by Gawdat Gabra. The American University in Cairo Press, 2014, p 91.

answers e.g. Hallelujah or Amen, or 2) Antiphonal chant, where two choirs, two soloists, or a soloist and a choir sing the hymns alternately. The rhythm of the Coptic chant is never triple but always binary (two of the melody notes belong together, a strong and a weak note). Also, Coptic music has little variation in dynamics. There are no crescendos or decrescendos, no echoes or pianissimos, at least in the current practice. No evidence exists supporting that it has always been the case for the last centuries. The recent teaching of Coptic music emphasises the Hymns' words as an important part of the music and must be understandable by the singers and the congregation in all situations, with now digital screens made available in almost all churches to achieve this purpose, as is the case with many Western chanting. ⁸⁶ In fact, this practice reaches back to the old Jewish prayers in the synagogues, before Christianity.

The main features of liturgical Coptic singing can be summarised as chanted text by the priest in a recitative of spoken melody, with many decorations, ³/₄ intervals, as in Arabic music; syllabic melodies, used by the priest and the congregation where every syllable gets one or two notes; melismatic melodies where two or more notes are sung as an ornament on one vowel; and long vocalises which is another feature of melismatic Coptic melodies, with improvisation on one vowel that can last for many minutes, which are sung by the choir for special celebrations e.g. Holy Week. ⁸⁸

As for the structure of Coptic melodies, they have been proved to be quite different from the eight modal Greek style 'the Octoechos', which is designed on an eight-week cycle of readings and melodies, developed in Palestine in 8th-9th centuries. ⁸⁹ The Coptic liturgical

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⁸⁶ Hoppin RH. Gregorian Chants: General Characteristics, Chapter III in Medieval Music by W.W. Norton & Company, 1978, p 78.

⁸⁷ Hoppin RH. Gregorian Chants: General Characteristics, Chapter III in Medieval Music by W.W. Norton & Company, 1978, p 80.

⁸⁸ Borsai I. Variations ornementales dans l'interprétation d'un hymne Copte. Studia Musicologica Academiae Scientiarum Hungaricae, T. 11m Fasc. 1/4, Bence Szabolsci, Septuagenario, 1969, p 91-105

⁸⁹ Froyshov SSR, 'The early development of the liturgical Eight-mode system in Jerusalem', St Vladimir's Theological Quarterly 2007, p 141.

melodies are mainly five: Yearly or annual (commonly used), Kiahk (for advent), Lent, Shaaneeni (Palm Sunday) and festive or joyful (great feasts). This is in addition to the Adribi (Holy week psalms), Singari (great feasts psalms) and sad tune (Holy week gospel and funerals) as well as the Watos and Adam (for the two halves of the week) ⁹⁰. Abu El-Barakat, in the 14th century in 'The Lamp of Darkness', tried to use these melodies to match the well-established Greek eight modes. This attempt was not successful and was refuted by Borsai and others, having explained the difference between the two systems. ⁹¹ ⁹² ⁹³

Coptic music notation

Many other ancient sacred music traditions, such as Greek, Syrian or Ethiopian, had their own musical notation, so it would be reasonable to hypothesise that it might also exist in Coptic music. Although scholars ⁹⁴ are still searching for any fragments of the early Coptic music notations, only speculation can be made about their relevance. Nevertheless, a few manuscripts were found with potential musical signs. The oldest document is a Christian hymn found in Oxyrhynchus (al-Bahnasah). ⁹⁵ The manuscript dates back to the 3rd century. Additional manuscripts with points or lines above the texts can be seen in Manchester (*P. Ryland Copt.* 25-29) and Leiden (*Insinger 41*). Some scholars suggest that the coloured points and circles of the 'Gulezyan' manuscripts may indicate musical notation ⁹⁶ but there is no general agreement.

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⁹⁰ Kuhn M. The structure of the Coptic liturgical melodies, the relationship between text and music and some examples of the Coptic melodies from the psalmody, PhD thesis, University of Leiden 2009, p30.

⁹¹ Ghaly G. Strategic intertextuality in a Coptic Description of the Octoechos. Coptic 12, 2013; p 57-76.

⁹² Erian NM. Coptic music – An Egyptian tradition. A PhD thesis. University of Maryland 1986, p 184.

⁹³ Boutros NK. Coptic music in Egypt and its relationship to Pharaonic music. A PhD thesis, Cairo – Helwan University, 1976.

⁹⁴ Ménard R. "La Musique Copte problème insoluble?" Cahiers coptes 2 (1952), p 48-54.

⁹⁵ Kuhn M. Coptic Music Culture, Tradition-Structure and Variation in Coptic Civilization, Edited by Gawdat Gabra. The American University in Cairo Press, 2014; p 71.

⁹⁶ Kuhn M. Coptic Music Culture, Tradition-Structure and Variation in Coptic Civilization, Edited by Gawdat Gabra. The American University in Cairo Press 2014; p 73.

In his catalogue 'Coptic Manuscripts' in the Collection of the John Rylands Library ⁹⁷, Walter E Crum reproduces a few 10th and 11th century fragments that contain signs of a primitive notation. Some words contain from four to six acute accents set to a syllable with the tonic accent suggesting a melismatic pattern. There are other accent marks – single, double, triple and even quintuple – that represent the extent of what we know of the Greek ekphonetic notation. The dot appears above or below a note, alone or in conjunction with other signs. In addition, these musical fragments include the circumflex accent and the letter S, which might be interpreted like the Latin *oriscus* (a sign for a particular sustained note). Some texts in the Crum catalogue indicate which tone is to be used, that is, the tones Adam, Watos, commonly used in the Coptic church. The respective early Greek music notation goes back to the medieval time and have received several updating, particularly in the early 18th century by Chrysanthos of Madytos. ⁹⁸

In contrast to the Coptic church, the early development of Western musical notation became available to Churches in various parts of Europe including Spain and Italy. Many of the earliest music notations were for choir music, with the notes and accents being typically indicated above the word or syllable of the sung text, the neumes. The neumatic notation seems to have developed around the 8th century and came into routine practice by the 9th century ⁹⁹ and they are different according to their region of origin. ¹⁰⁰ The main benefit of these neumes was to remind the singer, who already knew the song, of the higher and lower notes compared to the ones before. The church music of this period, known as plainchant or Gregorian chant, is named after Pope Gregory the Great (590-604 AD). However, exact pitches were still not

⁹⁷ Crum WE. Catalogue, Coptic Manuscripts. By Longmans and Co et al. Oxford University Press 1905.

⁹⁸ Chrysanthos of Madytos. Great Theory of music. Translated by Katy G Romanou 1973, P17.

⁹⁹ Hoppin RH. Gregorian Chants: General Characteristics, Chapter III in Medieval Music 1978 by W.W. Norton & Company, p 58.

¹⁰⁰ Comparative tables of neumes from different regions may be seen in Apel, GC, p.120, and Parrish, NNM, p. 6. Plates in both books illustrate neumes from a variety of manuscripts.

specified, but it was only higher and lower notes with respect to previous ones were ascertained, so a relative system. This problem was solved by introducing horizontal lines to the music notation, a single line initially until the a stave of four horizontal lines developed by the Benedictine Monk Guido of Arezzo (991-1033 AD). Various rhythmic indications were introduced from about the 13th century. ¹⁰¹ Over the years multiple musical manifestations have been introduced and added to the Western music notations. ¹⁰² Such change in musical notation from simple neumes to accurate notation allowed trained singers to read and perform a melody they never heard before ¹⁰³. Individual attempts for notating the Coptic music using Western system have been made but remain far from being standardised.

Recent attempts to notate Coptic music

Under the sponsorship of Ragheb Moftah, the English musicologist Ernest Newlandsmith spent ten years (1926-36) notating Coptic chants and eventually produced sixteen volumes of music, most of which are stored in the Higher Institute of Coptic Studies in Cairo, with copies stored in the Library of Congress in Washington, D.C. He transcribed the chants from live performances of the cantor Mikhail Al-Batanouni, the then most famous Coptic cantor ¹⁰⁴ and other cantors too. Newlandsmith spent considerable efforts attempting to distinguish elements he believed were present in other cultures; Turkish, Arabic and other influences that he believed had crept in, but yet found it difficult. His conclusion might be influenced by his acquaintance of other music or the extent of overlap between them and the Coptic music. In a lecture

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¹⁰¹ Karp T. Dictionary of Music. By Northwestern University Press, 1973, p 267.

¹⁰² Atkinson CM, The Critical Nexus: Tone-System, Mode, and Notation in Early Medieval Music. AMS Studies in Music, 4. Oxford: Oxford University Press, 2009.

¹⁰³ Hoppin RH. Gregorian Chants: General Characteristics, Chapter III in Medieval Music by W.W. Norton & Company, 1978, p 60.

¹⁰⁴ Newlandsmith E. "The Ancient Music of the Coptic Church," lecture delivered at The University Church, Oxford. The New Temple Press: London, 1931.

delivered at the University of Oxford on 21 May 1931, Newlandsmith said: "It is true that I had to dig deep; for the original Egyptian element lies largely buried under an appalling debris of Arabic ornamentation. But after piercing through this unfortunate outer coat, the true Egyptian idiom has emerged. The music is not Arabic, Turkish or Greek. It seems indeed impossible to doubt but that it is ancient Egyptian. Moreover, it is great music – grand, pathetic, noble, and deeply spiritual." Newlandsmith should be congratulated for such effort having faced a complex musical structure with many potentially influencing factors in addition to the singer's own embellishments, in an attempt to excavate the original skeleton, but yet he was limited by not knowing the exact shape of the original.

In 1950 the second movement of recording Coptic music started and René Ménard, a French Jesuit Monk, wrote primarily theoretical tracts concerning the "problems" of Coptic music. In two articles "La musique Copte problème insoluble?" ¹⁰⁵ and "Une Étape de l'art musical Égyptien: La musique Copte", ¹⁰⁶ Ménard claimed that the Western notation system cannot indicate all the nuances of rhythm and expression in Coptic music. He suggested that certain ancient signs used in notating Gregorian chant, along with the modal identification system of the 7th century might be considered for that task. Using this modal system Ménard formulated a theory of tonal organisation in Coptic music. He denoted the cluster of pitches that are employed during the first "musical" part of the liturgy: from the opening of the Liturgy of St Basil to the recitation of the Eucharist, having described most of such melodies as 'minor modes' whereas some of those sung in the holy week as a 'major modes'. Throughout his scholarship, Ménard, supported by the eminent German musicologist Hans Hickmann, constantly reiterated his belief that Coptic chant is a present-day living form of early Gregorian

¹⁰⁵ Ménard R. "La Musique Copte problème insoluble?" Cahiers coptes 2, 1952, p 48.

¹⁰⁶ Menard R. "Une étape de l'art musical égyptien: la musique copte – recherches actuelles." Revue de la musique 36, 1954: 21ff.

chant, a "living link between the past and the present". ¹⁰⁷ This is another example of a conclusion drawn based on a unique analysis but not knowing the original format of the hymns and liturgy. Such conclusion will be, to some extent, discredited in chapters two and three based on our analysis.

Most recently, Ilona Borsai and Margit Tóth, both educated in Hungary, were commissioned by Ragheb Moftah to notate the Liturgy of St Basil, which took three decades to reach publication in 1998. Borsai focused on the structure of the music, having recognised the importance of the embellishment used by various cantors. ^{108, 109} On the other hand, Tóth paid significant attention to the ornamentation, which made her notation highly complicated for musicians, let alone inexperienced Coptic singers ^{110, 111}. Marian Robertson's transcriptions ¹¹², in contrast, are famous for being much simpler. Although she recognised the richness of the embellishments which occupied Tóth, she elected to remain with the school of simple pattern identification and recognition of its repetition in different hymns. ¹¹³

In view of the above background and existing evidence, I hypothesized that the roots of Coptic music, in most cases, is a mix between Ancient Egyptian music and the subsequent developments impacted by political changes between different kingdoms, as is the case with Gregorian music development that was significantly influenced by social and political changes

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¹⁰⁷ Menard R. "Notation et Transcription de la musique Copte." Cahiers coptes 3, 1953, p 34.

Borsai I. "Deux chants caratéristiques de la Semaine Sainte Copte." Studies in Eastern Chant, Volume IV, ed. Velimrovic, M., St Vladimir's Seminary Press. Crestwood, New York, 1979, p 5-27.

¹⁰⁹ Borsai I. Studies in Eastern Chant, Volume IV: "Deux chants caratéristiques de la Semaine Sainte Copte", p 26.

¹¹⁰ Moftah R, Roy M, Tóth M. "A Transcription of the Complete Liturgy of St. Basil." The American University in Cairo Press, 1998.

¹¹¹ Dobszay L. "Review of The Coptic Liturgy of St. Basil. With Complete Musical Transcription by Ragheb Moftah; Margit Tóth; Marta Roy. Studia Musicologica Academiae Scientiarum Hungaricae, T. 41, Fasc. 1/3, 2000, p 303-306.

¹¹² "Coptic Music" in collaboration with Ragheb Moftah, Martha Roy, and Margit Tóth, *The Coptic Encyclopedia* (New York: Macmillan Publishing Company, 1991, Vol 6, p 1715.

¹¹³ Robertson M. "Coptic Church Music." Grove Encyclopedia of Music 4th ed, by Sadie. p 412.

over the centuries. 114 This is not absolute, since with the exposure and mixing of Egypt with first the Greco-Roman culture and later on other Mediterranean cultures, and most recently Arabic culture, it is anticipated that in parallel with cultural changes, music must have also undergone some developments. It is also significantly challenging to ascertain the extent of preservation of ancient music knowing the limitation of the oral tradition. This hypothesis cannot exclude the potential influence of the Jewish culture and synagogue chanting patterns on the early development of Coptic music, since many Jews accepted the Christian faith earlier on in the first century. Finally, contrary to Villoteau's (1809) description of Egyptian music as 'barbaric', 'boring' and 'monotonous' I believe that the Coptic music has patterns, beautiful melodies and rather unique features that the Western ear is not familiar with, thus might not be able to appreciate it, because of cultural differences. In order to demonstrate that, this doctoral thesis sets out to analyse the patterns of scales of the priest's prayers and congregational responses in the St Basil liturgy, to study similarities and differences between different sections of the St Basil liturgy, to compare the structure of the St Basil liturgy and its shared Greek passages with their respective ones, currently practised in the Greek church and to highlight some of the scales that could be played and produced by Pharaonic instruments replicas, which might suggest some possible time chronology for them. To achieve such objectives, the recorded and notated St Basil liturgy was analysed as were its Greek responses shared between the Coptic and Byzantine traditions. Furthermore, the Pharaonic nay replicas specially produced for this study were used to play different sections of the St Basil liturgy and the recordings were also analysed. The design and contents of this thesis represent a new approach to studying Coptic music of the St Basil liturgy in an attempt to define its features and patterns. In the absence of well-defined scales for the Coptic music, the used well-established Arabic scales fell short in providing detailed consistent patterns for the liturgical music of the St Basil

¹¹⁴ Page C. The Christian West and its singers: the first thousand years, Yale university press 2010.

liturgy, thus refuting the description of the music as Arabic. Such differences between the Coptic, Byzantine and Arabic music should lay a foundation for further studies contributed to by specialists in different music fields.

Chapter 2

Patterns of Coptic Music Responses of the St Basil liturgy

The music of the St Basil liturgy is well established, according to the recordings produced by the Higher Institute of Coptic Studies, and the recordings inherited from a number of cantors. Obviously, abiding by those melodies depends on the ability and talent of the priest and choir leading the service. The aim of this chapter is to analyse the structure and patterns of music of the St Basil congregational responses in an attempt to uncover their features and their design. To achieve this objective, four studies were undertaken which aimed to determine the most appropriate pitch of the liturgy for the whole congregation to follow, the similarities of the melodies and *maqams* (scales) between the seven sections of the liturgy, and the Arabic *maqams* which dominate different sections of the liturgy.

Introduction to Arabic Music 115 116

To analyse the Coptic music patterns of the St Basil liturgy according to the Coptic rites, I elected to use the well-established Arabic music scales (maqams), being the closest geographical (Mediterranean) and cultural music to where the Coptic music developed and is currently mostly practised. Attempting to use the Western musical disciplines is obviously culturally far from the Egyptian culture and its music. The musical notes in Arabic music have names (mostly Persian and Turkish). Arabic music uses the quarter intervals, which is a basic

¹¹⁵ El-Helo. The history of the Eastern Music. El-Hayat Book Shop. Beirut 1974, p 131.

¹¹⁶ Arfah A. The Professor of Eastern Music. Fouad I, Institute of Music. Egypt 1944, p 66.

feature, hence the use of the special flat and sharp symbols. The scales in the Arabic music are called *maqams* which include seven notes, starting from the tonic (1st), and continuing in order until the 8th note which is an octave higher. Each *maqam* has two groups of four notes (tetrachord) or Jins (gender) with the first tetrachord the basic one, and from which the *maqam* takes its name. The second tetrachord is the secondary one and may be a basic one in another *maqam*. An example of this is seen in the Rast *maqam* which includes basic Rast and secondary Rast compared to the Nahawand *maqam* which includes basic Nahawand but secondary Hujaz. The five notes may also make Jins as in "Nwa athr". The Saba *maqam* ends in note (Db) which is different from the tonic (D). The Sikah *maqam* includes only three notes and is called incomplete Jins. The Ajam *maqam* is identical to the Major scale in Western Music compared to the Nahawand which is equivalent to the Minor scale. When a *maqam* is transposed to start from a different note (tonic), it may take a new name, as is the case with the Rast *maqam*, when it starts from G2 instead of C3 and is called Yakah *magam*.

Here are some examples of the Arabic notation and magams 117, 118, 119

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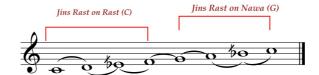
¹¹⁷ Powers C. Arabic musical scales: basic maqam notation. cameron powers, 2005

¹¹⁸ Guhary T. الموسيقي العربية . [Arabic Music]. Azouzy Press, 1914.

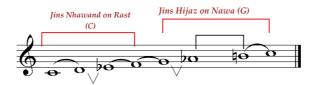
¹¹⁹ Farraj J. Magam World عالم المقامات. Magam Mahur, 2001.

https://www.maqamworld.com/en/maqam/mahur.php (Accessed 10 October 2020)

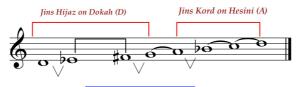
Maqam Rast on C



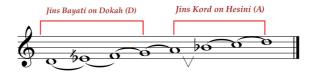
Maqam Nahawand on C



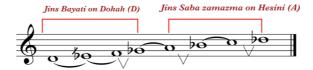
Maqam Hijaz on D



Maqam Bayati on D



Maqam Saba on D



Maqam Huzam on Sikah (E half flat)



 \sim = 3/4 tone.

 $\sqrt{}$ = 1/2 tone.

 \frown = 1 tone.

 \square = 1.5 tone.

Using the well-established Arabic music and scales (*maqams*), I attempt in this chapter to address three aspects of the St Basil liturgy, namely: the commonly existing varying musical pitch, performed based on the chanter's comfort, and its potential standardisation throughout the liturgy; the nature of Arabic *maqams* existing in the responses; and the patterns of similarities between different liturgical responses which might shed light on the overall structure and design of the liturgy. To my knowledge, this is the first study which documents detailed analysis of the St Basil liturgical music.

Study 1: The Liturgy pitch study

Background: The current practice in the Coptic Church entails the priest choosing the most comfortable pitch on which to start the prayer ¹²⁰. In practice, quite often the pitch changes throughout the liturgy. This constitutes a significant limitation when people from different regions worship together, which results in either the congregation not participating in the responses or the choir leader's use of a loud microphone to lead the service. A number of factors contribute to the problem of frequently changing pitch, including: a) absence of musical instruments as pitch reference; b) lack of some priests' knowledge about appropriate singing in a steady pitch; c) inappropriate deacon responses which lead the priest astray from the original pitch as well as confusing the choir leading the congregation; d) lack of proper singing techniques as how to produce voice and accurate pitches e.g. using the diaphragm to support the singing; and e) lack of clear understanding of the inter-hymn modulations which could result in sudden change of pitch. These problems often result in exponential rise in the pitch until it becomes difficult to maintain, then an accidental drop to a lower comfortable level, even if on no musical basis, becomes inevitable. Also, the general understanding of the oral

¹²⁰ Borsai I. Variations ornementales dans l'interprétation d'un hymne Copte. Studia Musicologica Academiae Scientiarum Hungaricae, T. 11m Fasc. 1/4, Bence Szabolsci, Septuagenario, 1969, p 91-105.

tradition of singing in Egypt and the surrounding region justifies unlimited room for improvisation because of the lack of any set roles.

Adding to the above mentioned problems, the traditional blind rejection of the use of musical instruments in the church resulted in perpetual worsening of the disciplined singing by choirs, teachers and cantors. The tradition of instruments rejection goes back to the early centuries of Christianity in Egypt when church leaders prohibited the use of musical instruments in daily services, without any spiritual justification. ¹²¹ Such culture unfortunately remains alive until present, with teachers and lecturers defending the same attitude in meetings, conferences and in the media. ¹²² Finally, the lack of formal music teaching in almost all Coptic churches over the years is likely to have resulted in some deviation from the original patterns of the Coptic music.

Methods: As an attempt to treat the ongoing problem of haphazard pitching during the St Basil liturgy, I divided the annual responses of the St Basil liturgy, which are not changed with different seasons and celebrations (e.g. Advent, Lent, Pentecost and Palm Sunday), into seven sections according to our experience with the change of melody and the similarities between consecutive responses. Of note, the number of responses differed between sections. To standardise the chanting pitch throughout the liturgy, I recorded the complete seven sections using the Avid Pro Tools software, having been assisted by a professional musician Mina Salama (MS) using a keyboard equipped with Eastern scales in order to adhere, as much as possible, to the starting note of each response. This was further checked using the Kontakt plug-in software which allowed me to obtain the most accurate pitch for individual microtones. I then rechecked the accuracy of the recordings before they were notated by MS using Sibelius

¹²¹ Kuhn M. Coptic Music Culture, Tradition-Structure and Variation in Coptic Civilization, Edited by Gawdat Gabra. The American University in Cairo Press 2014; p 91-97.

¹²² Askran J. Lectures in Coptic churches recorded on TV- 2016

music scoring software. The nay (Arabic flute) was later played and recorded superimposed.

The recorded audio, the scores and the music were later congregated as a video file using Vegas software.

The seven sections of the liturgy and their respective number of responses, are classified below.

	Litu	rgy of the V	Vord	Liturgy of the Sacrament						
Sections	Section 1	Section 2	on 2 Section 3 Section 4 Section 5 Section 6 S							
Number of	6	2	5	19	6	4	5			
responses										

Results: The recorded liturgical responses started from E (half flat) in Section 1 which is the conventional tonic note of the Huzam *maqam*, the dominating *maqam* of this section. The progression of the notes between sections depended on the dominating *maqam* of the section. Of note, each Arabic *maqam* has its conventional tonic note suitable for humans' (men, women and children) vocal limit of singing. Efforts were made to avoid progressive pitch rise, by starting sections from the closest note to the tonic note of the previous section, without disturbing the overall pitch throughout the liturgy, critically considering the intervals, as seen in Figure 1 below. This might not reflect the natural pitch progression during the liturgy. Also starting from a different note could likely change the maqam, particularly with some emprovisations.

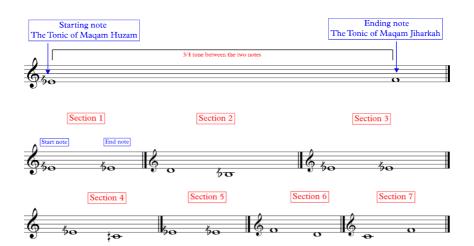


Figure 1: The starting and finishing notes of St Basil liturgy as a whole and of individual sections

The liturgy ended in the F note which is the tonic note for the Jiharkah *maqam* which is ¾ higher than the E (half flat), the starting note. ¹²³ The fact that we started in Section 1 in E (half flat) and ended the liturgy in the F note, despite different changes in *maqams* throughout the seven sections, even if transposed from their standard features, suggests a potential musical structure that is close to the original one, where the liturgical melody ran smoothly without abrupt changes. This does not necessarily suggest that the whole of the St Basil liturgy was composed at one time, which is a very unlikely proposition since it is generally believed that the order of the liturgy developed over many decades, as discussed in Chapter 1, until it took its current shape. It however, proposes a logical way of starting singing the different sections, particularly when there is no outer influence from a priest or a solo deacon. Also, the close symmetry between sections suggests that despite the time difference between contents of individual sections, composers must have acknowledged the pitch limit throughout the liturgy before adding new compositions (hymns or responses).

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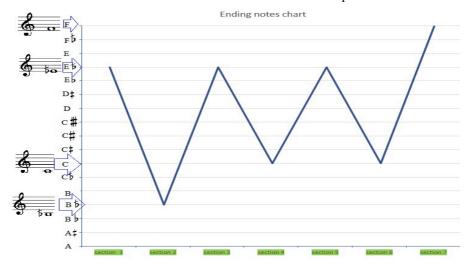
¹²³ Hafez SM. 'The history of music and Arabic singing'. The New Art Publisher Misr, 1971, p 51-62

After completing the pitch analysis, I checked the scores which this study produced against the Coptic church reference score book produced by the late Ragheb Moftah which was transcribed by Margaret Toth and published in 1998. ¹²⁴ Interestingly, the reference scores started the liturgy in E and finished it in F; this compatible finding with our recording and analysis was surprising but reassuring. It should be mentioned that the reference (R Moftah) scores did not use microtones, probably because of the lack of familiarity of the Scriber of the style of Coptic singing and the hymns themselves which forced her to notate literally the recording details including voice cracks and sudden changes of high pitch which the then old cantor 'Mikhail El Batanoni' could not afford to continue singing in, when compared with other cantors recordings. Also, the same cantor, as is the current tradition in the Coptic church, did not use any pitch reference. **Figure 2**

¹²⁴ Moftah R, Roy M, Tóth M. "A Transcription of the Complete Liturgy of St. Basil." The American University in Cairo Press, 1998.



The Axis starts from note C with the intervals divided to four quarters between them.



The Axis starts from note A and the intervals divided into four quarters between them.

Figure 2 displays the starting and ending notes of each of the seven sections and the level of their fluctuation throughout St Basil liturgy. An example of the above is demonstrated in this audio recording of *M ElBatanouni and his choir* (Audio 1 & 2)

Implementation of the results: These findings were tested in a random sample of singers from the St Kyrel choir (total of 100 singers of different age groups 16-50 years, 60 males and 40 females) from the UK, France, Amsterdam and Switzerland. Although all choir members knew the St Basil liturgy responses in different ways and pitches according to their place of worship, they rehearsed the different pitches described above in all sections a few times and sang them

together in a liturgy specially held on 15 July 2017 for this purpose. To further ascertain the suitability of the proposed pitch to different singers, the St Kyrel choir members were asked, after the special mass above, to answer a questionnaire about the feasibility of the proposed pitch as a whole, as well as any feeling of disquiet when it changed slightly between sections.

Music questionnaire

The following questions were answered with a score 1-5 according to an individual's satisfaction (1: for not-satisfied and 5: for very satisfied)

- a) Did you sing the liturgy in these pitches before?
- b) Did you feel comfortable singing them?
- c) Did you feel any abrupt change in the pitch between sections/hymns?

The results of the questionnaire were later analysed for the group as a whole and according to age and gender by a group of three hymn teachers including the researcher. The choir members unanimously, irrespective of origin or gender, confirmed that the pitch 'just fits where it's comfortably pitched'.

Results implications: The results of this study should help the choir leader establish a comfortable starting pitch for the liturgy which, if kept should lead the service harmoniously without any abrupt tonal unnecessary fluctuation that would disturb the atmosphere and the spirit of worship. It should be mentioned that the pitch proposed is merely a suggestion and could be altered depending on the priest's voice type and ability to sing either higher or lower notes. Practicing the proposed pitch is likely a mean for establishing harmonious pitch continuity through the liturgy.

Study 2: The magams and melodies similarity study

Background: The commonest known and learned Coptic hymns are the congregational responses of St Basil liturgy, which are taught to children early on in Sunday school and are repeated in all Masses in Egypt and abroad. These responses were originally put in the Greek language and some in the Coptic language, the two popular languages in Egypt in the early centuries of Christianity. The responses were subsequently translated into Arabic and in the 1960s the melodies were adapted to Arabic words. Recently, with the worldwide spread of the Coptic church, particularly in Europe, the USA and Australia, the St Basil liturgy and its responses were translated, by individual efforts, into different local languages including English, French, German, Italian and others. While presenting the Coptic tradition and spirituality in different native languages played an important role in serving the second and third generations in the diaspora, and uniting them to the Mother church, it created a necessity for not only preserving the accurate wording but also the respective music. This involves preserving the original tunes and critically adopting them in the perfect possible syllabic and melodic way.

Coptic music has been kept and practised in Egypt for centuries via the oral tradition. While some notation attempts were made using the piano, in the 1930s, Newlandsmith, ¹²⁵ commissioned by Ragheb Moftah, was the first to notate some of this music using the formal Western notation methods in an oversimplified pattern. This was followed, in the 1950s, by Moftah's notation of the St Basil liturgy, as mentioned before, who used very primitive recording equipment and had to hire a Hungarian musician to notate the liturgy. With such a tough journey of the Coptic music over the years – bearing in mind the distance between various regions in Egypt as well as the local Coptic and then Arabic dialects – it is anticipated that some changes must have affected the very early 'original' melodies. In addition, it is

¹²⁵ The Music of the Mass as Sung in the Coptic Church, and some Special Hymns in the Coptic Liturgy." Sixteen Folio Volumes of unpublished transcriptions, Vol 1 and 2 Cairo, 1929-1931.

inevitable that the authenticity of the Coptic music in general and the St Basil liturgy responses in particular, have been touched by layers of fingerprints, from singers and cantors. Those alterations are now likely to be well established and considered original music. Also, in view of the fact that many of the Coptic hymns are rich in Arabic and other regional (Syrian) *maqams* with microtones, deviation and swinging between scales, according to the local culture, could easily and unwittingly be made. Similar changes have been witnessed when contemporary national popular hymns are critically compared with old ones, e.g. those from the 1950s.

In view of this background, it could be assumed that it is a real challenge to preserve the original structure, features and *maqams* of many of the St Basil liturgy responses, in the absence of accurate original notation or recordings. Evidence exists (by the author) showing that before the currently available technology and recording facilities, many of those responses differed significantly between regions in Egypt and Sudan, let alone between churches in the same region. But, thanks to the efforts made by the High Institute of Coptic Studies in Cairo, attempts are being made to standardise the liturgical hymns and the singing pattern. However, despite those efforts and in the absence of any music education among cantors, singers and different choirs, searching the original scales and documenting them professionally has become rather a necessity.

Methods: I attempted in this study to demonstrate some of the commonly found differences between methods of notations, which reflect the problem of limited reproducibility and uniformity of the music. I compared four sets of notations written at four different times, by four different musicians:

M Salama (2015), a renowned Coptic musician with years of experience in Eastern and Western music.

R Moftah (1998), the late Head of the Department of Music at the High Institute of Coptic Studies in Cairo.

G Kyrillos (2002)¹²⁶, a Coptic deacon and the founder of the David Ensemble in Cairo.

A Guirguis (2013)¹²⁷, a Coptic monk who has special interest in music and has notated many hymns.

Please note that the comparisons between notations depended on availabilities and each musician's published notations.

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¹²⁶ David Ensemble, 'Music Notation', *Davidensemble.com* - http://davidensemble.com/english/musicnotation.htm - accessed on 5 November 2020.

¹²⁷ Fr.Abraam Guirguis. October 3, 2011. https://www.youtube.com/user/FrAbraamMG.

Table 1 displays the starting and ending notes as well as the dominating *maqam* for each response in the seven sections of the liturgy in the 4 sets of notations

	Section 1 Comparison Table														
N	Hymn	М	Salama		R	R Moftah			G Kyrillos				A Guirguis		
		Maqam	Start	End	Magam	Start	End	Maqam	Start	End	Maqam	Start	End		
1	Kyrie Eleson	Huzam	E Sikah	E Sikah				Saba	D	D	Saba	D	D		
2	Fai Pe pi	Huzam - Bayati	E Sikah	G	Unknown – Bayati	Ε	G	Saba	D	D	Saba	D	F		
3	Dhoza Patri	Huzam	E Sikah	E Sikah	Unknown	E	E	Saba	D	D	Saba	D	D		
4	Keto Pnevma	Huzam	E Sikah	E Sikah	Unknown	E	E	,							
5	Kyrie Eleson	Huzam	G	E Sikah											
6	So Tees	Huzam	E Sikah	E Sikah	Unknown	F♯	F♯	Huzam	E Sikah	E Sikah	Huzam	E Siakh	E Sikah		

			Section	2 Comp	arison Tabl	e					
N	Hymn	MS	Salama		R	Moftah		G Kyrillos			
		Maqam	Start	End	Maqam	Start	End	Maqam	Start	End	
7	Heten ni eprisvia	Bayati - Huzam	G	E sikah	Unknown	G	E	Bayati- Huzam	D	B oraq	
8	Sheri ne Maria	Bayati	ВЪ	E sikah							

			Section	3 Comp	arison Tabl	e					
N	Hymn	м	Salama		R	Moftah		G Kyrillos			
		Maqam	Start	End	Maqam	Start	End	Maqam	Start	End	
9	Agios	Huzam	E Sikah	E Sikah	Ajam	A	А	Jeharkah	F	F	
10	Gospel reading	1. Huzam 2. Huzam 3. Huzam 4. Huzam 5. Jiahrakah 6. Jiharkah	E Sikah	E Sikah							
11	Ouniato	Bayati-Sikah	E Sikah	E Sikah	Unknown	А	G				

		Se	ction 4 Comp	arison lable					
N	Hymn		M Salama		R Moftah				
		Maqam	Start	End	Maqam	Start	End		
12	Ten Gosht	Huzam	E Sikah	E Sikah	Unknown	A	А		
13	Heten eprisvia	Kemi	E Sikah	E sikah	Unknown	A	А		
14	Ke meta to	Kemi	E Sikah	E sikha	Unknown	Α	А		
15	Ekhomen	Kemi	А	E Sikha	Unknown	В	F		
16	Aksion ke dihkeon	Kemi	E Sikah	c	Unknown	A	F		
17	Ni Sherobeem	Kemi	E Sikha	C Tak Zirkolah	Unknown	G	E		
18	Amen	Kemi	F	C Tak Zirkolah	Unknown	В	F		
19	Amen Tinahty	Kemi	E Sikah	C Tak Zirkolah	Unknown	A	F		
20	Kata to eleos	Kemi	E Sikha	C Tak Zirkolah	Unknown	A	F		
21	Pestev omen	Kemi	F	C Tak Zirkolah	Unknown	A	F		
22	Ti nahti je vai	Kemi	E Sikah	C Tak Zirkolah	Unknown	F	F		
23	Amen	Kemi	C Tak Zirkolah	C Tak Zirkolah	Unknown	F	A		
24	Pestev omen	Kemi	E Sikah	C Tak Zirkolah	Unknown	A	F		
25	Vai pe khen o metmei	Kemi	C Tak Zirkolah	C Tak Zirkolah	Unknown	F#	F#		
26	Ke palen	Kemi	E sikah	C Tak Zirkolah	Unknown	F♯	F♯		

		Sec	ction 5 Comp	arison Table					
N	Hymn	,	VI Salama		R Moftah				
		Maqam	Start	End	Maqam	Start	End		
27	Vai on pe	Huzam	E Sikah	E sikah	Unknown	A	А		
28	Amen	Huzam	E Sikah	E Sikah	Unknown	G	G		
29	Ten hos erok	Huzam	E Sikah	E Sikah	Unknown	A	А		
30	1. Tinahti amen 2. Ke palen 3. Kerei lison	1. Huzam 2. Huzam 3. Huzam	G G F	E Sikah E Sikah E Sikah	Unknown Unknown Unknown	D C# F#	A A A#		
31	Kere lison	Huzam	E Sikah	E Sikah	Unknown	F♯	F#		
32	Elison emas	Huzam	E Sikha	E Sikah	Unknown	F#	F\$		

		Sec	tion 6 Comp	arison Table					
N	Hymn	M	1 Salama		R Moftah				
		Maqam	Start	End	Maqam	Start	End		
33	Eripoesmo	Nhawand	F	D	Unknown	G	E		
34	Ospereen	Nhawand	F	D	Unknown	Ab	F		
35	Keto pnvmati so	Nhawand	D	F	Unknown	Ab	F		
36	Ame n	Nhawand	G	D	Unknown	Bb	G		
37	Ten owsht	Nhawand	F	D	Unknown	Bb	F		
38	Keto pnivmati so	Nhawand	D	D	Unknown	A	G		
39	Kerie lison	Nhawand	с	D	Unknown	F	F		

		Sec	tion 7 Comp	arison Table					
N	Hymn	N	1 Salama		R Moftah				
		Maqam	Start	End	Maqam	Start	End		
40	Amen Kerie lison	Rast	с	F	Unknown	А	А		
41	Eso panagios pater	Rast	F	F	Unknown	Α	А		
42	Keto pnevmati	Rast	c	F	Unknown	E	G		
43	Amen A	Rast	F	F	Unknown	Α	Α		
44	Amen B	Rast	A Nam Hosar	F	Unknown	c	А		
45	Amen C	Rast	С	F	Unknown	E	А		
46	Dhoxaci Kerie	Jiharkah	F	F	Unknown	A	F♯		

A simple comparison shows significant differences, not only in the pitch but also in the microtones and the ornaments used, which to the ears of a simple listener might sound as original part of the hymn itself rather than an additional improvisation. In order to illustrate the differences between the four sets of notations, we hereby document the full notation, with the name of scriber on the top, of one of the simplest liturgy responses, Allylouia Vai Pepi.

The four sets of notations (**Appendix A**; **Scores 1-4**) display significant differences between the scribers and consequently the way how the same hymn will be sung and taught. We hereby summarise some of those differences:

- Moftah did not have the basic microtones, commonly used in the Coptic music, which made the scores different from the ones written according to the established Arabic roles, hence the direct comparison with the rest of the scores was very difficult. The scores were rich in ornaments which made decisions on the starting and ending notes difficult, hence the classification according to the dominating *maqam* was a real challenge.
- Guirguis's notations were very similar to Kyrillos's who published his scores well before him, suggesting that the former was significantly influenced by the latter who notated his scores before him, hence a direct comparison could not be justified.
- Kyrillos had the same uncertainty about classifying this hymn, as is the case with other hymns too, which were in the Huzam maqam that is known to have a joyful reverence feeling, and he described it as Saba maqam, which carries a feeling of sadness. Kyrillos's classification contradicted the meaning of the words of the hymn 'This is the day that the Lord has made, let us rejoice and be glad in it...' therefore is difficult to stand as original.

Comparison between M Salama and R Moftah notations of St Basil liturgy responses

Based on the fact that Salama and Moftah's notations were the only two complete sets, a further detailed analysis was undertaken, **Appendix A**; **Scores 1&2**. This showed the following:

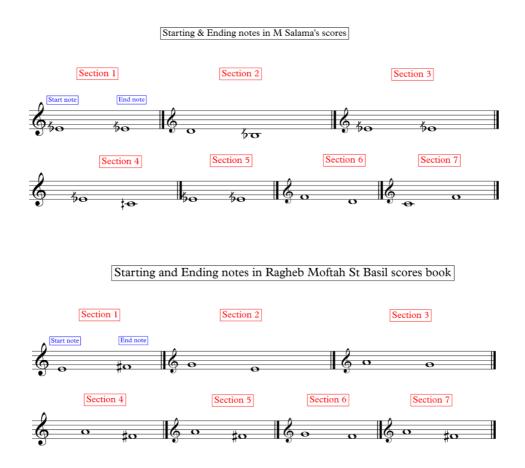


Figure 3 shows the starting and ending notes of each of the seven sections notated by M Salama (Top) and R Moftah (Bottom)

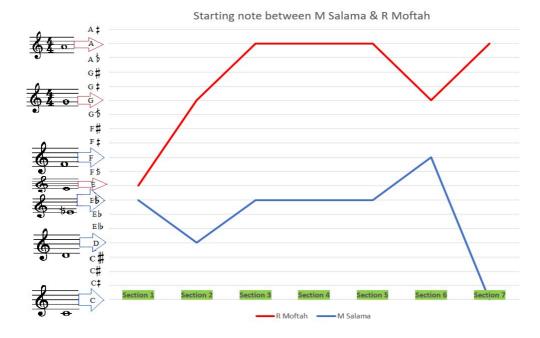


Figure 4 shows the movement of the starting note in each section according to the notation sets by M Salama (Blue line) and R Moftah (Red line). The axis starts from note (C) and the intervals are divided into four quarters between them.

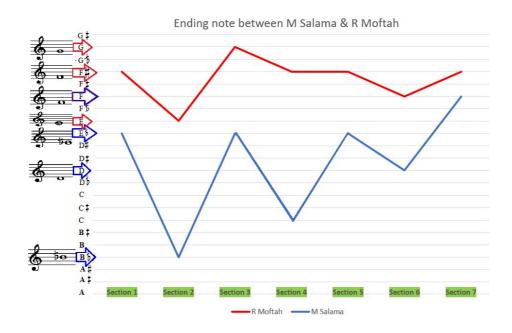


Figure 5 shows the movement of the ending note in each section according to the notation sets by M Salama (Blue line) and R Moftah (Red line). The axis starts from note (A) and the intervals are in four quarters divided between them.

1) The first hymn in Section 1 (Kyrie eleison) was not notated by Moftah. Comparing the second hymn – Allylouia Vai Pepi – showed that the two notation systems were similar,

despite Moftah not writing E (half flat) as Salama did, but wrote the same accidentals which indicate that the basic *maqams* (Huzam on E half flat and Bayati on G) were similar.

- 2) The same issue applies to the third hymn in Section 1 (Dhoxa Patri) about the tonic microtone. Salama's notation was identical to Moftah's in the accidentals supporting a similar *maqam* and pitch.
- 3) The written pitches by Salama were suitable for the voice limit of all vocal types (the whole congregation ages and genders), but in Moftah's scores there were some responses in very high pitch which would make it difficult, particularly if sung by children or women.
- 4) The significant ascent of the starting notes from Sections 1 to 3 with a further deviation in section 7. There was less fluctuation in the ending notes of Moftah when compared to Salama.
- 5) Although the two sets of notations (over 25 years apart) were fundamentally close, they differed from the other two sets, particularly in the *magams*.

The findings of this study, which showed significant differences between notations produced within a period of approximately 40 years, confirmed the author's hypothesis about the impact of time on melodic variability by fundamental changes that affect Coptic hymns; even the ones used on a weekly basis, which are expected to be consistent and well established, as is the case with St Basil liturgy. These variabilities are bound to have wide implications on other hymns, particularly those sung in rare events and celebrations. The results of this analysis encouraged the author to conduct a detailed study of the St Basil liturgy structure, particularly the congregational responses, and uncover their musical patterns as a starting point for a series of studies that aim to define some of the unique styles of Coptic music. The first objective was to

ascertain whether the St Basil liturgy responses abide by the conventional Arabic *maqams* or they are different, as previously proposed by Ernest Newlandsmith. To answer this question, I designed the St Basil Arabic *maqam* analysis.

Study 3: The St Basil Liturgy Arabic Magam Study

Background: Although the Coptic music originated in Egypt, suggestions exist that it is likely to be influenced by other music from the nearby countries in the same area, particularly those in the Mediterranean region; Iraq, Turkey, Greece and Persia. Even in the absence of any documented evidence, to experienced ears this can be proved by some of the Coptic melodies that are similar to the ones used in those cultures, let alone some of the adopted Greek hymns which share similar melodies to the original Greek ones that are currently practised. If such overlap exists, it is likely that the Arabic *maqams*, which are well established in some of those musics, are easily identified in the Coptic music.

Aim: The aim of this study was to identify the dominating Eastern/Arabic *maqam* for each of the seven sections of the St Basil liturgy. This should help to provide a clearer understanding of the structure and probably some historical aspects of the St Basil liturgy musical roots and patterns.

Methods: The researcher discussed the project aims with three professional musicians (George Dergham, Mina Salama and Osama Fathy) who are experts in Eastern music *maqams*, and obtained their approval to participate in analysing the hymns and providing their opinion with regards to the main dominating *maqam* for the St Basil liturgical responses. I recorded digitally the responses of all seven sections, having committed myself to the main skeleton of each response and minimising the ornaments which are commonly used by singers and cantors. The recordings were emailed to the three musicians individually, together with a standardised analysis sheet, with the order number of each response without its name or words. The

musicians were asked to insert the name of the *maqam* next to the response number, and in case of any uncertainty between two *maqams*, to insert the dominating one followed by the less dominating, or the starting *maqam* followed by the ending one. I then compiled the analyses in one spreadsheet. While all musicians commented on the *maqams* using their oral skills, only one notated all the hymns. This notation helped in further analysis.

Table 2 displays the *maqam* analysis according to the audio analysis by the three individual musicians

Section 1	George Dergham	Mina Salama	Osama Fathy
1	Huzam	Huzam	Huzam
2	Saba	Huzam+Bayati Husseini	Hijaz-Bayati
3	Huzam	Huzam	Hijaz Gharib
4	Saba-Huzam	Huzam	
5	Saba-Huzam	Huzam	
Section 2			
1	Hozam-bayati	Bayati Husseini + Huzam	Iraq – Huzam
2	Hozam-bayati	Bayati Husseini + Huzam	Bayati - Huzam
Section 3			
1	Saba	Saba + Jiharkah	Jaharka
2	Husam-Bayati	Huzam + Bayatai Husseini	Huzam
3	Huzam	Huzam	Hojaz gharib
Section 4			
1	Biati	Bayati + Huzam	Bayati E3/4
2	Saba	Saba	Hijaz Garib
3	Saba	Saba	Hijaz Garib
4	Saba-Huzam	Saba	Hijaz Garib
5	Saba	Saba	Hijaz Garib
6	Saba	Saba + Ajam +Saba	Hijaz Garib
7	Saba-Huzam	Saba	Hijaz Garib
8	Saba	Saba	Saba
9	Saba	Saba	Saba
10	saba	Saba	Saba
Section 5			
1	Huzam	Huzam	Huzam
2	Huzam	Huzam	Huzam
3	Huzam	Huzam	Huzam
Section 6			
1	Bayati	Bayati	
2	Major- minor	Major (Ajam) - Minor (Nahawand)	Ajam
3	Bayati	Minor (Nahawand)	
4	Major-minor	Major (Ajam) - Minor (Nahawand)	Ajam
5	Minor-Bayati	Minor (Nahawand)	
6	Minor-Bayati	Minor (Nahawand)	
Section 7			
1	Huzam	Rast	Jiharkah
2	Huzam	Rast	Jiharkah
3	Huzam	Rast	Jiharkah
4-6	Huzam	Rast	Jiharkah

Results: The commonly used *maqams* in the St Basil liturgical responses were the Huzam, Saba, Bayati, Ajam (Major), Nahawand (Minor) and Rast. ¹²⁸ To facilitate analysis of the collected nominal data of the six *maqams*, they were given consecutive numbers 1-6 on the analysis sheet. The inter-sectional scales and the inter-musicians' analysis were then compared.

The classification of the responses into seven sections was accurate in demonstrating a dominant *maqam* shared between all individual responses in each section. This agreement was shared by all musicians, independent of their audio or written notation analysis. From Sections 1-5 up to the consecration section, the two dominating *maqams* were the Huzam and the Saba, whereas the rest of the *maqams* dominated the last two sections of the liturgy. Also, all musicians agreed that no response had a full *maqam* but only 3-4 notes from individual *maqams*. Quite often the response started in one *maqam* then moved to another; an example of this pattern is seen in the Vai Pe pi hymn in Section 1 when it started in the Huzam *maqam* then moved to the Bayati *maqam*. Some melodies also may return again to the starting *maqam* as is the case in the Hetein (The hymn of intersessions) in Section 2 which starts in the Bayati *maqam*, moves to the Husseini *maqam*, returns to the Bayati *maqam*, then ends in the Huzam *maqam* in E half flat.

Overall, the musicians' analyses agreed in 70% of the total number of responses listened to, but in the remaining 30% they gave different descriptions. In two responses in Section 1 (Vai Pe pi and Dhoxa Patri ...) the difference was between the Huzam and the Saba *maqam*. Further detailed analysis of the differences according to the components of the two *maqams* showed that two musicians agreed on 80% of the notes and differed in 20%. This suggests that the difference between the two musicians was not insignificant.

¹²⁸ Hussain A. Musical *maqams* in Music from A to Z. By The World of Knowledge and Publications; 2016: 114

It seems that the difficulty the musicians found in choosing between the Huzam *maqam* and the Saba *maqam* was because the two *maqams* have an identical tetrachord which is the Hijaz. This difficulty is clearly seen in the Vai Pe pi hymn in Section 1, when some described it as Saba, others Huzam and also one thought it was Hijaz Gharib, but the general opinion settled in the end to be Huzam on E Sikah.

In order to clarify this issue in notation form, I hereby show the basis for these *maqams* and where the difficulty arose:



Practical implications: This study shed some light on the potential basic *maqams* of the St Basil liturgy responses but equally important it raised a number of questions with regard to the detailed analysis of the melodies of the responses, rather than simple identification of the dominating *maqam* which is clearly not standardised, as is the case with the rest of the Arabic music cultures. Sticking to the defined maqam during a liturgy might be difficult particularly for the untrained cantor/choir. Also, the findings highlight the potential significant differences between the Coptic *maqams*, which are yet to be defined, and the well-established Arabic ones;

this could explain the differences between musicians. To try and resolve these queries, I designed the next study which explored a detailed analysis of the individual response melody in each section, in an attempt to identify the nature and extent of similarities between the responses and between the sections.

Study 4: Analysis of similarities between responses in different sections

Background: In view of the subjective differences between musicians in the previous study, I planned this detailed analysis to identify notes (melodies) similarities between individual hymns in each of the seven sections and also between sections. This design is based on the hypothesis that the congregational responses in the liturgy of St Basil are musically classified into seven sections according to individual prayers, and each section has a dominating *maqam* or group of melodies that reflect the theme and spirit of the section.

Aim: The objective of this analysis is to demonstrate the presence of uniform similarities between responses in individual sections of the liturgy. If this is proved, it will establish the common *maqam* of the hymn that singers should stick to. It will also assist teachers and singers in adhering to those patterns and potentially *maqams* too, when leading services and when teaching choirs. Furthermore, identifying consistently repeated melodies within and between hymns might suggest an element of originality of the patterns which could relate to the melodic chanting of the priest. Finally, it may also shed light on the era when they were first adopted in the liturgy.

Methods: The same liturgical responses recorded by the researcher and the notations made by MS were used to achieve the objective of this analysis. Colours were occasionally used to facilitate pattern recognition of a similar group of notes.

Similarities were identified using one or more of the following criteria:

- Same *maqam* / scale
- Same tonic
- Same starting and ending chords
- Same sequence in some notes or intervals
- The presence of modulations, particularly similar chords at the start and end

The strength of similarities between hymns was classified into **mild** (if the responses shared only one point), **moderate** (if they shared 2-3 points) and **strong** (if they shared 4-5 points). The frequency of similarities within and between hymns is summarised in Table 3.

Similarities in Section 1

Table 3 shows different patterns of similarities between responses in Section 1

		Patte	ern 1		Pattern 2				Pattern 3			Pattern 4			Pattern 5				Pattern 6					
ĺ	Fr	om	1	Го	Fr	om	1	То	F	rom	1	То	From		То		From		То		From		То	
]	Bar	Beat	Bar	Beat	Bar	Beat	Bar	Beat	Bar	Beat	Bar	Beat	Bar	Beat	Bar	Beat	Bar	Beat	Bar	Beat	Bar	Beat	Bar	Beat
1 Kyrie eleison	1 10	2 2	5 12	2 2	6	1	7	1					8 14 17	1 1 2	9 15 18	1 1 2					1 10	1 1	2 11	1 1
2 Vai Pe piehoou	1 12 38 40	4 3 2 1	4 13 39 41	3 1 1	13 15 17 20 24 26 29 31	3 3 4 3 1 2 1	14 16 18 20 24 26 29 31	1 1 1 4 2 3 2	9	3	11	3	10	4	11	3								
3 Dhoza Patri	9	1	10	3					6 14 16	2 1 1	8 15 18	1 4 1	7 15 17	3 2 2	8 15 18	2 4 1								
4 Keto pnivmati so	1	1	3	1													3	1	6	1				
5 Kyrie eleison																	2	3	5	3				
6 Sotis ameen																					2 6 8	1 2 2	2 6 8	4 3 4

The level of similarities between responses in Section 1 was strong; Appendix A, Scores 5-

10; Video A; Kyrie Eleison 00:38, Vai Pepi 03:12 and Dhoxa Patri 06:20

Similarities in Section 2

Hiten nipresvia, through the intersessions and **Shere ne Maria,** hail to you, are identical in the Bayati *maqam* throughout. ¹²⁹



Table 4: Bar similarities between Hetein nipresvia and Shere ne Maria hymns

	Hiten n	ipresvia		Shere ne Maria						
From		To		From		То				
Bar	Beat Bar Beat		Bar	Beat	Bar	Beat				
1	1	12	4	1	1	18	1			
30	3	46	4	36	4	51	3			

In Section 2, all five conditions for similarities were present, therefore the level of similarities between hymns is considered strong; Appendix A; Scores 11 and 12 & Video A; Hetein nipresvia 14:09 and Shere ne Maria 18:13.

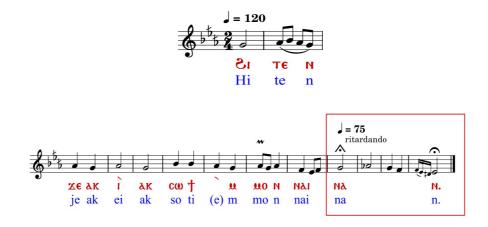
Patterns of modulations in Section 2:

Hiten nipresvia, through the intersessions, starts with Bayati *maqam* in D (Dokah) then ends in Huzam *maqam* transposed on B half flat – Iraq (Rahet El Arwah). The same notes and intervals for modulation changed the tonic. The recorded (video) hymn started with Bayati

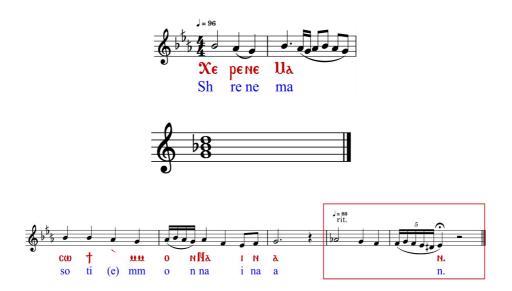
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¹²⁹ Al-Mahdi S in Arabic *Magams* by Al-Rashidi Institute- Tunisia; 1943: 16-45

maqam in G (Nawa) and ended in Huzam maqam transposed on E (half flat), Sikah. The same notes and intervals for modulation changed the tonic.

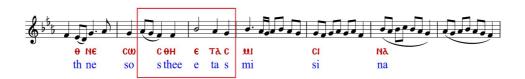


Shere ne Maria, the first note in Shere ne Maria F (Jiharkah) is the third note in the first chord of the Bayati *maqam* (the chord of the tonic D Dokah) which is D, F, A. This suggests that the dominating *maqam* is Bayati. The first sung note (video) in Shere ne Maria Bb (Ajam) is the third note in the first chord of Bayati *maqam* (the chord of the tonic G Nawa) which is G, B flat, D. This suggests that the dominating *maqam* is Bayati.



The modulation is then used as a 'comma' to link the last word of the first verse 'Ethnesos' and the first word of the second verse 'thee'. This goes with the meaning of the

second half of the verse which is always, in this hymn, an explanation of the first half of the verse, hence the modulation here is used to highlight the meaning of the text. Also, there is a short modulation e.g. Ethnesos



The change from Bayati *maqam* in G to Rast *maqam* in F without any transposition as the same intervals and the same notes are used. This short modulation is used as a hock equivalent to a comma.

The Bayati *maqam* ends on the letter 'n' of Emon and tonic G then moves to Huzam *maqam* in E (half flat) – Sikah from the word 'Nai nan'. This change in *maqam* follows beautifully the meaning of the words and the move from factual praise of the Holy Trinity to a plea for mercy.



The modulations in Section 2 raise a number of questions: 1) Because of the consistent place of this hymn in all liturgies, one asks if these modulations were meant to be in this order, since the two hymns consist of two parts; the main body and the ending, based on the meaning of the text and the *maqam*; 2) Also, for my academic interest, I wondered if they were put there by the same composer: if so, it shows good musical skills in composition and modulation ideas; 3) Were they composed by different people at different times? More work needs to be done to address these questions; and finally 4) They could be a manifestation of musical evolution.

Similarities in Section 3:

It is important to discuss here the difference between the Huzam *maqam* and Saba *maqam* in some detail, which often results in some confusion between musicians. The two *maqams* have the same second tetrachord. This tetrachord is Hijaz and the similarity between the first jins in both *maqams* is the main reason for such confusion when people attempt to identify the dominant *maqam* of a hymn. This happened in this section as some musicians identify **Agios**Otheos as in Saba *maqam*, whereas it is originally in Huzam, which again follows nicely the meaning of the text (Holy God, Holy Mighty, Holy Immortal....) as described before, bearing in mind that the Saba *maqam* is recognised as carrying sad feelings, since it contains three 2nd minor intervals plus the 2nd augmented. The same confusion happened in Section 1 in the following hymns: Vai pe pichoou, Kyrie eleison, Dhoxa Patri, Keto pnevmati Sou and Sotis Ameen. It seems therefore that this issue could result in a significantly unwelcome change of atmosphere of the hymn if the *magam* is considered Saba instead of Huzam.

The **Agios Otheos**, Holy God hymn is based on the E half flat Sikah (described as the essence of the Arabic music) ¹³⁰ which is repeated tens of times.



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¹³⁰ Al-Mahdi S in Arabic *Maqams* by Al-Rashidi Institute Tunisia; 1943: p 135-145

This matches the meaning of the hymn which is 'Holy God' and the repetition of the word 'Holy' nine times and 'Holy God' three times.....etc. The interval '1st perfect-the unison' which equals 0 tone, frequently seen in this hymn, gives the impression of stability and originality which matches the repeated word 'Holy'. It seems, therefore, that the repeated single beat i.e. the E (half flat) here is a feature of the **belief related hymns** whereby no variabilities are suitable but repeated facts; this will also be discussed later. **Appendix A; Score 13 & Video A; 20:12**

The dominating *maqam* of **Agios Otheos** is Huzam because of the following reasons:

• The magam ranges in five notes, and all their intervals are consistent with Huzam;

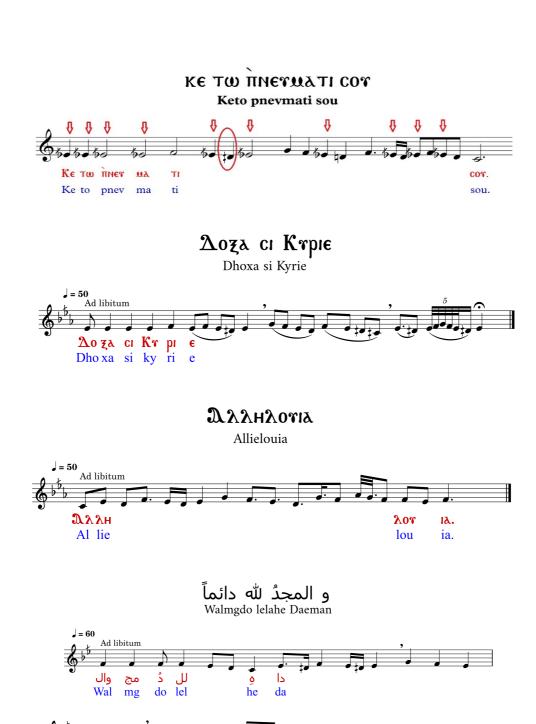


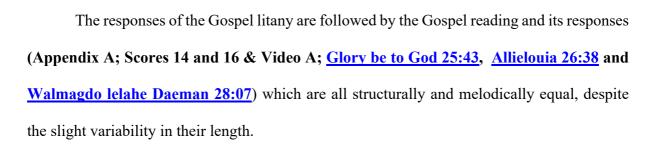
- The tonic E Sikah is very clear from the first to the last part of the hymn, occupying most of the melody;
- The frequent presence of the submediant (D half sharp) note before the tonic is a main feature.

The Gospel reading and prayer responses

Keto pnevmati Sou, and with your spirit, in this section is the beginning of a set of melodies that end with Allylouia. This set starts in Huzam and ends in Huzam *maqam* in E (half flat) Sikah.

This is confirmed by the frequent repetition of the submediant D (half sharp).





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ئ e **Dhoxasi Kyrie,** Glory be to God, follows the same pattern of **Keto pnevmati Sou** and **Kyrie Eleison** but ends with a unique addition in order to strengthen the Huzam *maqam* in E (half flat) Sikah, and introduces the chanting *maqam* of the Gospel which is a standard Huzam and is never changed in any event, despite improvisations.

The Gospel response **Wouniatou** the melody is transposed and changed from Bayati on D (Dokah) to Huzam *maqam* Sikah on E half flat Sikah. **Appendix A, Score 17 & Video A; 28:25.**

Applying the similarity strength score above, it proved to be **moderate** in Section 3.

Similarities in Section 4

Tengousht, we wait for the resurrection of the dead; this Creed response is based on the E (half flat) Sikah which is repeated tens of times. This is another example of a **belief related hymn** which demonstrates the pattern of note repetition with minimum variability or fluctuation. The melody also reflects the meaning of the text 'we wait for the resurrection of the dead and life to come, Amen'. Again, the interval 'unison 1st perfect' which equals 0 tone is giving the impression of stability and originality. The presence of the submediant D (half sharp) confirms the tonic of the Huzam maqam which is E (half flat) Sikah, as shown by the starting and ending note. **Appendix A; Score 18** & <u>Video A; 29:45</u>



The **Hiten niepresvia** (through the intersessions – the reconciliation prayer response), follows a similar structure to that of **Tengosht**, with the first two thirds a copy of Tengosht with the same melody, and the third part a classical Huzam at a slower speed. The words of this part are adjectives to what the priest stops at 'through Christ our Lord'. It seems that the first two thirds of the response is a recent addition according to the old prayer books ¹³¹, since it has no specific melody and the words do not follow the pattern of the faith melody mentioned above. **Appendix A; Score 19 & Video A; 36:33**



Ke meta tou pnevmatos sou (and with your spirit), has the same structure as Tengosht.

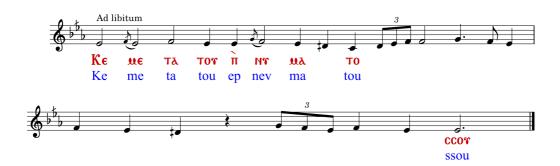
Video A; 38:00

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¹³¹ The Holy Kholagi Book of the Three Liturgies. By Ain Shams Publisher, 1st Edition (1902), p 312.

Ke meta tor

ke meta tou



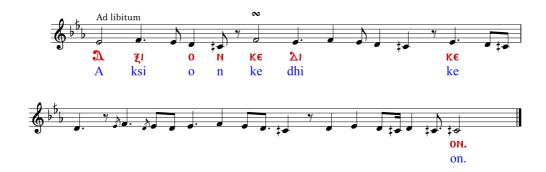
Ekhomen (they are with the Lord), is similar to Tengosht but the starting piece is higher to reflect the meaning of the text 'they are with the Lord' as the congregation replies to the priest call 'lift up your heart'. However, this response does not necessarily follow the meaning of the words. Video A; 38:43



Aksion Ke Dhikeon (right and worthy), is similar to Tengosht but ends up in a scale that is unique, and that we believe has never been described before. We propose to call that scale 'Kemi'. Video A; 39:21

\mathfrak{A} sion ke \mathfrak{P} ikeon

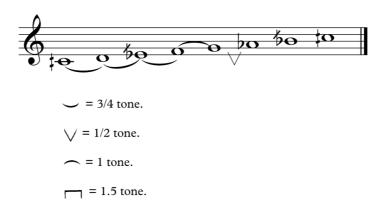
Aksion Ke Dhikeon





The Kemi scale (*maqam*) starts with a tetrachord (from C half sharp to F) and contains three intervals; each is a ¾ which is unique and different from any other tetrachord in Arabic or Eastern music. Kemi means the "Black land" as the old Egyptians (Pharaohs) were referring to their rich soil land Egypt.

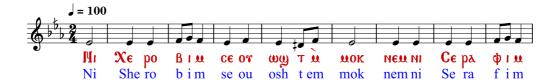
Maqam Kemi on C half sharp



Nisheroubim (the cherubim worship You). The first two thirds of this response is a copy of Tengosht with the same melody; the third part is a classical Huzam on a slower speed,

again reflecting the meaning of the words 'Holy, Holy, Holy, Lord of Sabaoth....', which is the Angels' praise according to the vigil of Isaiah. This response is a continuation of what the priest stops at 'praising you unceasingly saying...'. Again, it seems that the first two thirds of this hymn is a recent addition according to the old prayer book ¹³². The special pattern in this response is the last few notes which compose the Kemi maqam, a unique melody for the following section of the liturgy (the consecration part). Appendix A; Score 23 & Video A; 44:50

MIXeporbin Nisheroubim



Ameen: This response displays the main tetrachord from F to C half sharp (Nem Zerkoulah). The notes have been used a few times in the same response. Video A; 50:52



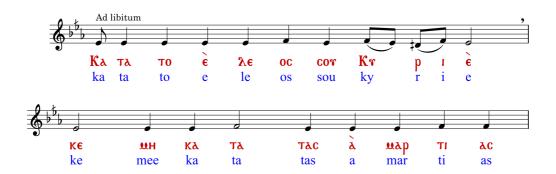
¹³² The Holy Kholagi Book of the Three Liturgies. By Ain Shams Publisher, 1st Edition (1902), p 317.

Ameen Tinahty (amen I/we believe). It used the main tetrachord in addition to detailed features of the Kemi scale, having used the second group of the tetrachord. <u>Video A; 53:50</u>



Kata to Eleos sou Kyrie (Let it be according to your mercy O Lord and not according to our sins). It starts as Tengosht and ends in the Kemi *maqam*. Appendix A; Score 26 & Video A; 56:17





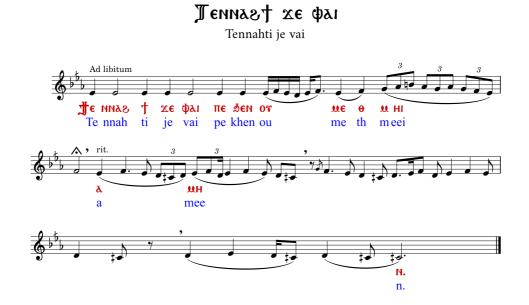
The rest of the responses in this section are identical to each other in their structure but differ in the length of the words. The dominating *maqam* of this part is Kemi. Applying the scoring system for similarities mentioned above shows that it was **strong** in this section.

Examples of responses

Pestevomen, Video A; 57:40

Ad libitum = 100 Pistevomen Ad libitum Pistevomen Ad libitum Tilic Te Pis te Vo Tilic Te Pis te No Tilic Te Pis te No

Tennahti je vai, Video A; 58:27



Ameen, <u>Video A; 59:40</u>

NHM

Ameen



Pistevomen ke Omologhoumen, Appendix A; score 30 & Video A; 1:00:32

Пістетомен ке омоуодолиен

Pistevomen Ke Omologhoumen



Vai Pe Khen Oumethmeei Video A; 1:02:18

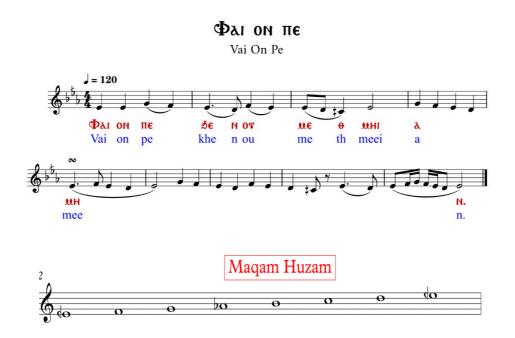
Фаі пе бен отпенині

Vai Pe Khen Oumethmeei



Similarities in Section 5

This section is in the Huzam *maqam* and starts in E (half flat) Sikah, different from the previous section which was C half sharp, confirming the start of a new section. The Huzam *maqam* follows exactly its previous description. The first response in this section is Vai On Pe



The second response is Ameen Ton Thanaton. It currently starts with the three words 'Ameen Ameen' which were not part of the original hymn according to the 1902 prayer book ¹³³. The first two thirds of the hymn was not originally in the hymn either, according to the 1288 prayer book, since it is just a repetition of the previous priest prayer. The presence of the three Ameen suggests an aim to emphasise the concept of strong faith. One might feel that this hymn starts like Section 4 but it has its own personality and features, especially from bar 7 and it continues in this vein. Of note, the original text of this hymn does not have the phrase 'to heaven' as stated in the old prayer book ¹³⁴. Also, it differs from the previous section in having the Kemi *maqam*. **Appendix A; Score 33 & Video A; 1:07:58**

¹³³ The St Basil liturgy according to the Vatican Coptic script, by Wadie El Fransiscan, 1288, p 95. ¹³⁴ The Holy Kholagi Book of the Three Liturgies. By Ain Shams Publisher, 1st Edition 1902, p 337.

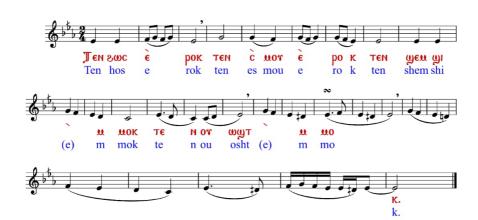
NOTANAO NOT NHUL

Ameen Ton Thanaton

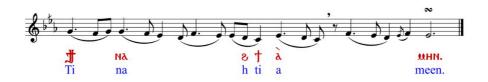


Tenhos Erok (we praise You, we bless You...) and the rest of hymns in this section are derived identically from Ameen Ameen. Video A; 1:10:26





#NAST AUHN Tinahti Ameen



Κε παλιη †nas† Ke palin tinahti







Applying the similarity score detailed above proved to be **strong** in this section. **Video A;** Tinahti 1:10:53; Ke Palin 1:11:06 and Kyrie Eleison 1:11:20.

Similarities in Section 6

Ere pouesmou (may their Holy blessings be with us Amen) is the first response in this section. In its original text ¹³⁵ the first verse does not exist and the response starts from **Dhoxaci Kyrie**, translated as 'glory be to God' which follows nicely from where the priest stops at 'Your Holy name that is called upon us'. The melody also follows beautifully in the same *maqam*.

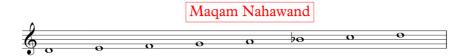
Appendix A; Score 40 & Video A; 1:17:25



¹³⁵ The Holy Kholagi Book of the three liturgies. By Ain Shams Publisher, 1st Edition (1902), p 380.

This section uses the Nahawand *maqam* (minor scale) which is characterised by smooth transition between notes that fits nicely this part of the liturgy as well as the meaning of its words. The change in the previous *maqam* arising from moving the E (half flat) Sikah to its original position as E natural resulted in the minor scale with its features, i.e. warmth and softness. This is quite different from the ¾ intervals which was between D and E (half flat) and between E (half flat) and F. In terms of similarities, the Bar 2:1 to 2:4 is repeated in the same response three times and also in the next hymn 'Ospereen'. The ending pieces of this section are also identical.

The feature of the minor scale (Nahawand) with respect to the known major scale (Ajam)



Ospereen (As it was so shall it be from generation to generation...) follows the same pattern as Ere pouesmou. Appendix A; Score 41 & Video A; 1:20:07



Keto pnevmati Sou followed by **Kyrie eleison** are similar to the first two responses 'Ere poesmou and Ospereen'. Video A; 1:22:35



Ameen is still in the Nahawand *magam* with the same features mentioned before.

The rest of the responses in this section are all identical including **Keto pnevmati Sou** and **Kyrie eleison**. Video A; 1:24:42

An additional observation is the ending of this section pieces which are very similar, irrespective of the meaning of the words. This suggests that they adhere to a unique concluding musical sentence.

Applying the similarity score detailed above proved to be **strong** in this section.

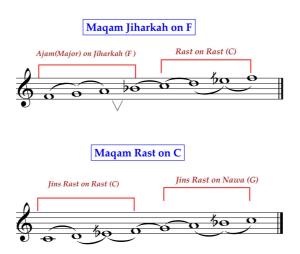
Similarities in Section 7:

Ameen Kyrie Eleison: The 4th perfect interval in the start of the response is from C (3rd note in F chord) which reflects readiness. The A half flat (Nim Hisar) which comes in the coda confirms the Rast *magam* in F which is Jiharkah. Video A; 1:26:19

Auth Krpie eleison



In this section, the first half of each response may differ according to its place in the section, with the last ones the highest in pitch compared to the earlier ones; but the second half of all responses is identical, thus confirming similarities. Singers might unwittingly confuse the Jiharkah *maqam* and the Rast *maqam* in F. This confusion is because both *maqams* are similar and have some identical intervals, as both have Rast on the second tetrachord but they are different in the first one which is Jiharkah on Jiharkah *maqam* and Rast on Rast *Maqam* in F. The difference between the two *maqams* is in one note 'A' which is natural on Jiharkah and half flat (nim Hisar) on Rast in F, but the rest of the notes are identical in both *maqams*.



A unique finding is also seen in this section, which is that the second half of all responses is similar to the gospel responses of Section 3, thus confirming the respective timing of the two liturgies, conventionally described as the liturgy of the Sacrament and the liturgy of the Word respectively according to the Coptic rite. While the Gospel reading, in Section 3, with its

responses is the final part of the Liturgy of the Word, Section 7 is the final part of the liturgy of the Sacrament.

Is O Panagios Pateer (One is the Holy Father) hangs around one note F most of the time, again consistent with the **belief related pattern** previously described in Tengosht in Section 4. Video A; 1:27:40



Ameen 1, 2, 3: The same word but three different ascending melodies. The three pieces in their first half start in different notes and ascend high, then descend again to the tonic note in order to prepare for the second common part. The first Ameen starts from Tonic F and ends in F, <u>Video A; 1:29:18</u>, the second Ameen starts in A half flat (first one in first chord) and ends in F, <u>Video A; 1:30:58</u>, followed by the Ameen Tinahty which starts from C and ends in F, <u>Video A; 1:32:39</u>. Appendix A; Scores 46-48

Applying the similarity score detailed above proved to be **strong** in this section.



Similarities between sections

Similar ending between the liturgy of the Word and the liturgy of the Sacrament:

1) **Dhoxaci Kyrie** at the end of the gospel, despite its whole part in Huzam, is in the Jiharkah *maqam* similar to Dhoxaci Kyrie at the end of the liturgy after the Rast *maqam*,

<u>Video A; 1:33:09</u>. Of note, the Jiharkah maqam is similar to F major scale and different in the submediant note (7^{th}) as it is E half flat (Sikah), but in F major the E is natural.



The above response is sung in Arabic with the meaning of 'glory be to God forever', Video A; 28:06.

2) The Gospel responses are identical to the second half of the Section 7 Amen, as described in Section 7 in detail.



Suggestions of recent additions to the original structure of the liturgy

• It seems that the liturgy of the Word was added after the liturgy of the Sacrament, having carried a similar start and ending melodies and even language, bearing in mind that the latter has been well established since the very early centuries of Christianity.

- The Gospel response in Section 3 should be the **Je Efesmarout** only without **Wouniatou**. **Je Efesmarouwt** is in the Huzam *maqam* like the gospel and the words follow beautifully 'for He is blessed with His Father....' After the end of the Gospel' Glory be to God forever'. On the other hand, **Wouniatou** starts in the Bayati maqam (starting note until bar 16:3) then continues with modulations in maqam Sikah, in E Sikah.
- Hetein nipresvia (through the intercessions the reconciliation prayer) until Emmon is an addition since its melody is a copy of Tengousht which is a faith stating response. The original text of this hymn starts from Eleos, the meaning of which explains that the priest stops at 'through our Lord Jesus Christ', thus suggesting original continuity. The music supports this suggestion as explained before.
- Nisherobeem (the Cherubim) follows the same pattern as Hetein nipresvia. The
 original hymn starts from Agios Agios Agios, which is another example of continuation
 of what the priest says.
- Ameen Ameen ton thanaton (Your death...). The melody of these three words is a copy of the single note chant, but the actual melody of the hymn starts from 'Your death O Lord we preach....' Or even from 'we praise you' according to the old prayer books, 1902 and 1288 respectively.
- The original hymn of **Ere pouesmou** (may their holy blessings) starts by '**Dhoza ci ...**' which is a continuation from where the priest stops 'Your name that is called upon us'. The words strengthen focusing the prayer on God, rather than side shift to saints,....etc.

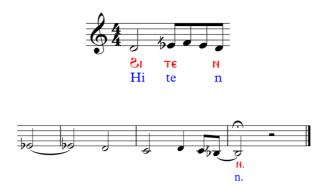
Similar responses but different melodies

The liturgy of St Basil contains many examples of similar words but different melodies according to their place in the liturgy:

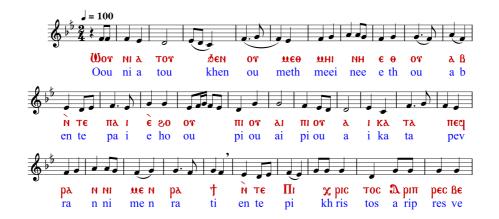
- **Keto pnevmati sou** in thanksgiving (Section 1), the gospel litany (Section 3) and the reconciliation prayer (Section 4), and again in the fraction prayer in Section 7
- **Kyrie eleison** in the same sections mentioned above
- Amen in Sections 4, 5 and 7

Patterns of identical modulations between sections:

Hetein nipresvia (Section 2) starts with Bayati on D (Dokah) then ends in Huzam transposed on B (half flat) – Iraq (Rahet El Arwah). The same notes and intervals for modulation changed the tonic.



At the end of **Wouniatou** (Section 3) the melody is transposed and changed from Bayati on D (Dokah) to Huzam *maqam* Sikah on E half flat Sikah.





Assessment of the pitch consistency between the sung and the notated (assumed) melodies of the congregational responses.

Hymn	Pitch deviation	Explanation
Kyrie Eleison	0 Tone	The pitch is easy to identify and to use as the tonality to
	Consistent	start and follow through the liturgy
Vai Pepi	0 Tone	The pitch is easy to identify and to use as the tonality to
	Consistent	start and follow through the liturgy
Dhoxa Patri	0 Tone	The pitch is easy to identify and to use as the tonality to
	Consistent	start and follow through the liturgy
Hiten nipresvia	0 Tone	The pitch is easy to identify and to use as the tonality to
	Consistent	start and follow through the liturgy
Shere ne Maria	0 Tone	The pitch is easy to identify and to use as the tonality to
	Consistent	start and follow through the liturgy
Agios Otheos	+50 ct	The choir raised the pitch by +50 ct from previous chant
	Inconsistent	
Dhoxasi Kyrie	-50 ct	The choir followed the solo who ended the Gospel reading
	Inconsistent	lower -50 ct than the assumed pitch.
Wouniatou	0 Tone	The pitch is easy to identify and to use as the tonality to
	Consistent	start and follow through the liturgy
Tengosht	-50 ct	The choir started lower the pitch with quarter-tone (-50 ct)
	Inconsistent	from previous response
Hiten niepresvia	0 Tone	The pitch is easy to identify and to use as the tonality to
	Consistent	start and follow through the liturgy
Ke meta tou	0 Tone	The choir started the response with the last note ending on
	Consistent	"The Lord be with you' as a guide note.
Ekhomen	0 Tone	The choir started the response with the last note ending of
	Consistent	the priest's chant
Aksion Ke Dhikeon	0 Tone	The choir started the response with the last note ending of
	Consistent	the priest's chant
Nisheroubim	0 Tone	The choir corrected the pitch for the solo who raised the
	Consistent	tonality by almost a quarter-tone +50 ct.
Ameen	+50 ct	The choir followed the solo who raised the pitch almost a
	Inconsistent	quarter-tone +50 ct in the previous part
Ameen Tinahty	+ 3/4 Tone	The choir followed the solo who raised the pitch almost ³ / ₄
	Inconsistent	tone, and that caused them to change the maqam from
		Kemi on C half flat to Saba on D.

Vote to Floor sou Vyrio	+ 3/4 Tone	The choir followed the solo who raised the pitch almost ³ / ₄
Kata to Eleos sou Kyrie	Inconsistent	*
	Inconsistent	tone, and that caused them to change the maqam from
D /	1.27 TD	Kemi on C half flat to Saba on D.
Pestevomen	+ ³ / ₄ Tone	The choir followed the solo who raised the pitch almost ³ / ₄
	Inconsistent	tone, and that caused them to change the maqam from
	. 27 E	Kemi on C half flat to Saba on D.
Tennahti je vai	+ 3/4 Tone	The choir followed the solo who raised the pitch almost ³ / ₄
	Inconsistent	tone, and that made them change the maqam from Kemi
D	. 27 ED	on C half flat to Saba on D.
Pistevomen ke	+ 3/4 Tone	The choir followed the solo who raised the pitch almost ³ / ₄
Omologhoumen	Inconsistent	tone, and that caused them to change the maqam from
	. 27 5	Kemi on C half flat to Saba on D.
Ameen Ameen Ameen	+ 3/4 Tone	The choir followed the solo who raised the pitch almost ³ / ₄
	Inconsistent	tone. However, they still chanted the same maqam Huzam
		but transposed of ¾ from its standard tonic E half flat.
		(Sikah)
Tenhos Erok	+ 3/4 Tone	The choir followed the solo who raised the pitch almost ³ / ₄
	Inconsistent	tone. However, they still chanted the same maqam Huzam
		but transposed of ¾ from its standard tonic E half flat.
		(Sikah)
Tinahti Ameen	+ 3/4 Tone	The choir followed the solo who raised the pitch almost ³ / ₄
	Inconsistent	tone. However, they still chanted the same maqam Huzam
		but transposed of ¾ from its standard tonic E half flat.
		(Sikah)
Ke palin tinahti	+ 3/4 Tone	The choir followed the solo who raised the pitch almost ³ / ₄
	Inconsistent	tone. However, they still chanted the same maqam Huzam
		but transposed of ¾ from its standard tonic E half flat.
		(Sikah)
Kyrie Eleison	+ 3/4 Tone	The choir followed the solo who raised the pitch almost ³ / ₄
	Inconsistent	tone. However, they still chanted the same maqam Huzam
		but transposed of ¾ from its standard tonic E half flat.
T.	1.50	(Sikah)
Ere pouesmou	+50 ct	The choir followed the solo who raised the pitch almost a
	Inconsistent	quarter-tone (+50 ct) in the previous part.
Ospereen	+50 ct	The choir followed the solo who raised the pitch almost a
	Inconsistent	quarter-tone (+50 ct). However, they sang the correct
T	1.1/ TD	Nahawand maqam
Keto pnevmati Sou	+ ½ Tone	The choir followed the solo who raised the pitch almost ½
	Inconsistent	tone. However, they sang the right maqam which is
A IZ ' E1 '	0 T	Nahawand.
Ameen Kyrie Eleison	0 Tone	The choir followed the solo who corrected the pitch on
I O D	Consistent	"ariefmevei Pashois"
Is O Panagios Pateer	+ ½ Tone	The choir followed the solo who raised the pitch a $\frac{1}{2}$ tone.
	Inconsistent	701 1 1 C 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Ameen	+ ½ Tone	The choir followed the solo who raised the pitch a ½ tone.
1	Inconsistent	However, they sang the right Rast maqam
Ameen	+ 1 Tone	The choir followed the solo who raised the pitch a ½ tone.
	Inconsistent	However, they sang the right Rast maqam
Ameen Tinahty	+ 1 Tone	The choir followed the solo who raised the pitch one tone.
	Inconsistent	However, they sang the right Rast maqam
Dhoxaci Kyrie	+ 1 Tone	The choir followed the solo who raised the pitch one tone.
	Inconsistent	However, they sang the right Huzam maqam

The choir deviated from the expected starting pitch of the responses on a few occasions. This could be explained by the following reasons:

- a) They followed the solo (who represented the priest), who on a few occasions raised the pitch unwittingly.
- b) At the time of recording, the choir did not have a guiding musical instrument to assist them in keeping the accurate pitch.
- c) The choir was made of Coptic youth from different churches in France, with each adopting its own pattern of singing.
- d) Although the choir had only one rehearsal session before the recording, obviously that was not enough to ameliorate the well-established tunes in their ears.
- e) The obvious voice exhaustion towards the end of the liturgy, particularly of the solo, a known baritone, resulted in him raising the pitch to be able to continue chanting.
- f) The planned omitted prayers with their pitch fluctuation could have contributed to the start of the new piece, independent of the conventional tune we are used to.

Summary and discussion

In this chapter, I recorded and analysed all the most relevant responses of the St Basil liturgy according to the Coptic rite. I also compared scores that I developed in collaboration with MS with three other sets of contemporary notations to identify potential important differences. Furthermore, I attempted to propose a consistent pitch throughout the liturgy that is achievable by both genders, so could be sung without difficulty. Finally, I identified patterns of similarities between the responses in each of the seven sections of the liturgy as well as between different sections.

The proposed notation seems the closest to what the late R Moftah produced, although his notations ignored the use of microtones which made *maqam* identification difficult. Also, the fact that the singer from whom those scores were scripted was old, with limited singing precision and did not use pitch reference, made the scriber, who was not probably not familiar with those responses, confused and unable to determine the original from technical irregular pitches. In addition, there was clear evidence for *maqam* confusion between two other sets of notations (GK and AG) which was likely to be due to the isolated style of writing rather than as part of the whole liturgy as is the case in our research study, hence the lost effect of the previous and succeeding parts on the response microtones which determined the *maqam*.

The hypothesis stating that the responses of the St Basil liturgy can musically be divided into seven sections according to the patterns of melodies has been confirmed. Indeed, I identified patterns of similarities between responses within the seven identified sections. I have also identified similarities between sections and finally, similar phrases in different sections but with different melodies.

The analysis confirms that the Coptic music of the St Basil liturgy does not follow literally the Arabic music roles in that it does not adhere to one *maqam* throughout but is rich in modulations, let alone unique endings that are not known in the Arabic music. This gives the Coptic music unique features that need to be further studied in greater detail.

The practical implications of this analysis are of significant importance. 1) The minor note change in Section 3, 4 and 5 suggests they are related to the belief statements rather than supplicatory ones. 2) The presence of the same pattern in the first part of three responses suggests a recent addition; this has been confirmed by comparing the text with old prayer books. 3) The responses to the Gospel reading in the liturgy of the Word in Section 3 are very similar to those in Section 7, the last part of the liturgy of the Sacrament, suggesting a clever design of the liturgy of the Word and its establishment with respect to the liturgy of the

Sacrament, knowing that the latter existed first, as mentioned in the introduction. 4) The patterns of similarities between responses in each section guide towards the overwhelming magam which should limit the freedom of improvisation, an unfortunate current common practice. 5) There is a unique magam 'Kemi' which we described for the first time and which does not exist in the well-established Arabic music. It starts at the 'Agios' response in Section 4 and continues throughout the consecration prayers, suggesting the very early origin of that part of the liturgy of the Sacrament. Also, using it in Section 1 at the end of Kyrie Eleison is another evidence for copying the early melodies of the liturgy of the Sacrament in the early part of the liturgy of the Word. The Dhoxa Patri ending in the Kemi maqam, as it is currently sung, seems to be a recent addition since old recordings refute that. It also strengthen the composition of the Kemi magam as unique melody related to the oblations. 6) The differences between Coptic responses of the liturgy and the classical Arabic scales that we identified, suggest the potential presence of unique features for Coptic music that make it distinguishable from the established Arabic ones. This is supported by the Persian names of the *magams* we studied in the St Basil liturgy. The fact that some musical pieces share few notes of a known Arabic/Persian magam does not necessarily mean that it was composed to fit a specific *magam* as is the case in other music. This remains to be tested using our replicas of Ancient Egyptian instruments, an ongoing study. Finally, the few inconsistences between the recorded pitches and the expected correct ones reflect a typical example of life performance in the absence of guiding musical instruments.

Chapter 3

Analysis of the St Basil Coptic priest chanting

The priest's prayers in the St Basil liturgy according to the Coptic rite are all chanted in a formalised way. They are followed by the congregational responses, in the same tonality, scale and rhythm. This harmonial chants and singing depends on the skills of the priest and the choir leader who leads the congregation. The aim of this study is to analyse the patterns of the priest's chants in terms of melody and musical scales as well as their relationship with the congregational responses. The priest's chants were recorded, notated using the Western notation system and then critically analysed using the Arabic scores. In general, while most liturgical chants are in the Huzam *maqam*, a few are in the Bayati, Saba and Hijaz *maqams*. Although in the beginning of the liturgy of the Word and the liturgy of the Sacrament the choir and congregation establish the tune as is the case in different parts of the mass, on a couple of occasions the priest changes the scales and consequently the speed of the chanting as he wishes. The congregation usually follows the priest.

Introduction

The priest's prayers in the Coptic church including the St Basil liturgy are all chanted in a solo manner in contrast to other churches, e.g. the Catholic order, where some parts of the liturgy are chanted by all participating priests together. This could be seen as a leeway for complete freedom for personal improvisation and individualisation of the chanting style, a known pattern in Mediterranean and Arabic music. However, the chanting pattern of the St Basil liturgy is to a great extent standardised and is taught to priests after their ordination. In addition to such reference, the chanting freedom is, to some extent, limited since all the priest's prayers in the

St Basil liturgy are preceded by congregational responses except on a few occasions where they are preceded by a deacon's response, therefore a pattern of melodic matching should be linking them together. Furthermore, being preceded by the congregational responses, the priest's prayers should follow in the same or the closest note and musical *maqam*. Even if they do not follow exactly the same *maqam*, they are expected to follow a branch off the original one in order to keep an acceptable succession without musical distortion. The prayers also vary in length according to their place in the liturgy; in some areas it consists of short phrase 'peace be with all' but in other sections they could be a continuous three-page long as in the commemoration prayer. ¹³⁶

The history of the exact structure of the text and the responses of the St Basil liturgy is not known, as is the case with other European liturgies. ¹³⁷ The priest's prayers in the St Basil liturgy were constructed from St Basil's writings, in Greek language then were translated to Coptic language except few pieces and most of the deacons' and congregational responses, because the Greek language was still the most popular. Contemporary singers and of-age congregation were able to witness the prayers chanted fully in Coptic language, up until the late part of the twentieth century. The structure of the liturgy sheds some light on a pattern that is similar to the St Gregory liturgy, practised in the Coptic church. While the consecration part of the two liturgies is almost identical, the three preceding prayers; Reconciliation, Right and Worth, and Holy Holy are similar in order but different in words and music. This pattern suggests a meant design for the liturgy. The consecration prayers have been well established since the early centuries of Christianity when the believers gathered to recite the events of the Last Supper following Jesus's commandment 'do this in remembrance of me'. It seems that later on, St Basil's disciples or their followers gathered together some of his writings and

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¹³⁶ The Holy Kholagi Book of the three liturgies. By Ain Shams Publisher, 1st Edition (1902).

¹³⁷ Hornby E and Maloy R. The music and meaning in old Hispanic Lenten chants. Published by Boydell and Brewer. Boydell Press 2013, p 2.

sermons and composed the three prayers alluded to previously. ¹³⁸ What supports such a suggestion is the profound presence of the Coptic language during the fifth century, having been the dominant language alongside Greek, established as the national language of the Roman Empire before the Muslim Conquest, and the enforcement of Arabic as the official language of Egypt. On the other hand, there is no documentation or historic hints that suggest even the approximate time at which the music was composed for the St Basil liturgy. By the early twentieth century, having realised that the congregation's knowledge of the Coptic language had significantly declined and most people could not relate to the chanted liturgies, priests started introducing the Arabic language into the St Basil liturgy in an individualistic manner, with some talented adhering to the near similar use of Coptic chanting pattern, and others less able, who just abbreviated the chanting to the minimum, in fear of deviating from the established standard orally-transmitted melody.

The speed of the priest chanting of the St Basil liturgy is individually determined and affected by many factors, e.g. time, speed of the congregational response, acoustics and audibility. These changes in the pattern of practice (particularly language influence) are well supported by some old recordings, and demonstrate the change in the language used in the St Basil liturgy over the last 60 years. Also, some changes in the lyrics, particularly of the congregational responses, can easily be proven by comparing current with older prayer books 'Kholagi'. ¹³⁹ ¹⁴⁰

Traditionally, after priests are ordained in the Coptic church they are sent to one of the monasteries where they spend forty days learning and are taught the St Basil liturgy prayers in the Coptic language, as well as various rituals commonly used in daily services. Those who are graduates of one of the theological colleges would have greater experience of the liturgical

¹³⁸ An interview with Fr Maximos Lavriotes, a renowned Greek Theologian and historian in 2017.

¹³⁹ The Holy Kholagi Book of the three liturgies. By Ain Shams Publisher, 1st Edition (1902).

¹⁴⁰ The St Basil Liturgy according to the Vatican Coptic script, by Wadie El Fransiscan (1288).

forms of orders. Unless the priest had prior music education during his youth, it is not expected that he would have interest in learning the musical basis of the liturgy, neither is it expected that monks would have such knowledge to pass on to the newly ordained priests when they teach them the liturgy. Even in theological colleges, music is not part of the curriculum. It is however, expected that musical talent would allow some priests to pick up the right melody better and faster than others. Thanks to the currently available media, recorders, CD players and now mobile phones and internet, accessing various recorded liturgies has become very easy and of great impact in helping individuals to learn and master chanting the St Basil liturgy. This also has a significant drawback, since improvised patterns can be significantly different from the original melody. Such cultural feedback loops, with poor practice being transmitted and imitated, allow less informed priests to repeat those inappropriate improvisations without any clear knowledge, until they become established and are passed on from generation to generation. Currently, the most recognised standard available recording of the St Basil Liturgy is that by Father Morkos Guirguis which was recorded and produced by the Higher Institute of Coptic Music led by the late Ragheb Moftah in 1972 ¹⁴¹, and more recently that produced by the Cantor Ibrahim Ayad. 142

Objective: The objective of this chapter is to analyse the chanted priest's prayers of the St Basil liturgy using the well-established Western music notation and Arabic *maqams*, and to relate them to the congregational responses analysed and reported in Chapter 2. It must be reiterated that, based on the introduction to Coptic music previously mentioned in Chapter 1, we believe that the Coptic melodies have a unique nature despite potentially being affected by the contemporary music in the Mediterranean region, mainly the Syrian, Greek, Persian and

¹⁴¹ The St Basil Liturgy, High Institute of Coptic Studies, at www.Tasbeha.org.

¹⁴² The St Basil Liturgy by Ibrahim Ayad, at www.Tasbeha.org.

Turkish music. We hereby again use the well-established Western/Arabic notation and *maqams* in our analysis in order to describe the priest's prayers in a simple and scientific way using the conventional contemporary musical expressions and roles. Different styles will be highlighted as non-conventional patterns.

Methods: I recorded most of the priest's prayers using the methods described in detail in Chapter 2, having based the melody on the publications of the Higher Institute of Coptic Music produced by Ragheb Moftah in 1972 with the minimum possible improvisation. As an attempt to treat the ongoing problem of haphazard pitching during the St Basil liturgy, I based the start of each prayer on the preceding congregational response. To standardise the chanting pitch throughout the liturgy, I recorded the whole liturgy using the Avid Pro Tools software, having been assisted by a professional musician Mina Salama (MS) using a keyboard equipped with Eastern scales in order to adhere, as much as possible, to the ending note of each response. This was further checked by the Kontakt plug-in software which allowed obtaining the most accurate pitch for individual microtones. I then re-checked the accuracy of the recordings before they were notated by MS using Sibelius music scoring software. The recorded audio, the scores and the music were later compiled as a video file using Vegas software. The priest's prayers and congregation's audio responses (performed by the St Kyrel Choir French members) were later recorded as a full video performance in Paris. Analysis of each part will refer to its exact timing on the video.

Results: While the congregational responses are most of the time rhythmic, except in the closing musical phrases, as shown in Chapter 2, the priest's chants did not follow a rhythm (ad lib). All chants were based on the many vowels in the Coptic language which facilitated the chant. The pitch of the recorded priest's prayers followed that of the congregation, although

not necessarily true all the time in real life liturgies, as most priests opt for a pitch with which they are most comfortable. Just like the congregational responses, the priest's prayers followed only part of the conventional Arabic *maqams*, deviated from it to another less dominant *maqam* then returned to the original *maqam* again or, on rare occasions, ended in a different *maqam*. As for the language used, almost all the priest's prayers were in the Coptic language except for a very few pieces at the beginning and end of the liturgy of the Sacrament where it was in Greek, possibly suggesting a specific importance of those pieces. This will be discussed in detail later on. We hereby analyse the priest's prayers in a similar way to that used in Chapter 2 for the congregational responses.

Glory and Honour (`Oτωοτ ΝΕΩ ὀΤΤΑΙΟ - Ouwou nem otaio) is the first prayer in the liturgy, and follows the 41 Kyrie Eleison. It starts in the G note which is the second note in the main chord in the Huzam Maqam which is the E, G, B. Appendix B; Score 1 & Video A; 01:56.



This prayer precedes the Allylouia Vai Pepi hymn, and the two start with the same chord, despite different melodies. Of note, we identified a note (F#) which is outside the Huzam

maqam in this prayer as well as in Allylouia Vai Pepi, suggesting that the two have been composed with the same spirit, despite the difference in melody. Another observation is the difference in melody between the first half of *Glory and Honour* which is the glorification of the Holy Trinity, compared with the second half which is a prayer for the peace of the church.

In the Name of the Father (DEN PPAN DEPWT - Khen efran) is preceded by Allylouia Vai Pepi ehoou response, Appendix B; Score 2 & Video A; 04:29. The structure and melody of this prayer is very similar to the previous prayer Glory and Honour, however the accents vary according to the meaning of the words as well as the length of musical sentences. Of note, F# was also found in this prayer in the same way as previously discussed. The same description above applies to the following two short prayers 'Blessed be His only begotten Son our Lord Jesus Christ and Blessed be the Holy Spirit the Paraklet'. Video A; 05:13



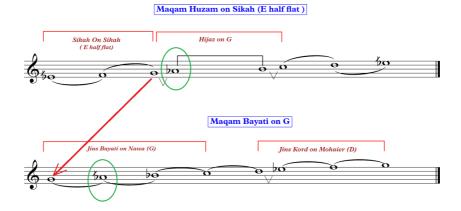
The Thanksgiving prayer (Uapen ωεπέμοτ - Marenshepehmot): This prayer

follows the *Dhoza Patri* response analysed in Chapter 2. The prayer starts from tonic E half flat (sikah) holding the first three notes in the *maqam* which are E (sikah), F and G. The preceding Dhoza Patri response starts straight from G. The reason behind the difference in the starting notes between the congregation and the priest could be explained based on the meaning

of the words. While it is 'Glory be to the Father....' in the congregational response, the priest starts by saying 'Let us give thanks....', thus addressing the people gently rather than proclaiming the faith strongly as is the case with the congregation response Dhoza Patri. The dominating *maqam* in *Marenshepehmot* is the Huzam, which is exactly like the previous congregation response, but it branches off to the Bayati *maqam*. This modulation is evidence against the *maqam* being Saba, as some musicians think. Video A; 07:40.



The modulation inside the Huzam maqam is from the Hijaz maqam to the Bayati maqam which is well known in Arabic music, both old and modern. The composers use the mediant note (G) in the Huzam maqam to be the tonic for the Bayati maqam and change (Ab) to (A half flat).

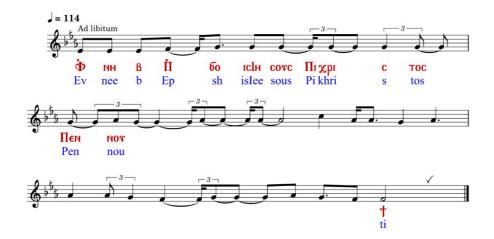


The first core melody of *Marenshepehmot* is the word Jesus Christ, Bayati modulation, again highlighting the core of the prayer of the whole liturgy.



The Gospel prayer (PNHB Noc - Evnev Epchois). This prayer is preceded by the hymn Agios in Section 3, as described in Chapter 2. The first three notes of the priest's prayer are identical to the three starting notes of Agios, and at the same time the reciprocal ones of the Agios ending notes. The dominating maqam of the Gospel prayer is the Huzam, which is very similar to Marenshepehmot, with little differences only in the modulation parts, depending on the length of the text. All responses of the Gospel prayer are in the Huzam maqam. Video A: 22:13

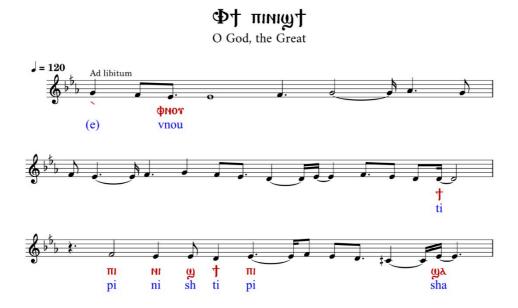
Финв Пос



The Reconciliation prayer (ΦΝΟΥ ΠΙΝΙϢ - Evnouty Pinishty) Appendix B; Score

7 & Video A; 30:19. The reconciliation prayer is said after the Gospel reading and the Creed recitation. It is of the same structure as the Gospel prayer and responses. The prayer is preceded by the Tengosht response which is in the Huzam Maqam, as described in Chapter 2. The reconciliation prayer ends with the 'Mercy, Peace and Sacrifice of Praise' response which is also in the Huzam maqam. This composition supports what we previously mentioned about the old structure of the liturgy which did not have the first part 'through the intercessions...'

Figure 1 below, of the response currently present, otherwise it would have suggested a Rast maqam with all its differences. The dominating maqam of the reconciliation prayer is the Huzam, the same as in the Gospel and the Marenshepehmot prayers. The fact that these three prayers are in the same maqam and structure suggests that they were composed and probably added in the same era. It also refutes any presence of a Saba maqam, which is a common mistake made unnoticed by singers. Of note, searching the old records we noted that the Kyrie Eleison response in the middle of reconciliation prayer used to be originally sung in the same way as that of the Gospel prayer and the Marenshepehmot prayer, but has recently been changed. These changes will be discussed later.



Evidence that the dominating magam in the reconciliation prayer is Huzam and not Rast

- 1) The starting and ending three notes analysis mentioned above.
- 2) The priest's prayer does not exceed the Ab note.
- 3) All priest prayers and the congregational responses in the liturgy of the Word seem to be almost identical in their melody; even the gospel chant is also in the Huzam *maqam*.
- 4) We tried to improvise with variations in Huzam and Rast, the latter proving to be completely out of the conventional melody and the conventional design of the prayer.

The reconciliation prayer ends with the congregation chanting 'ελεος iphnhc excià ενεςεως

- Mercy, Peace and Sacrifice of praise' as is the case with liturgies in other churches, Maronite and Greek churches. The recent changes in this response were discussed in detail in Chapter 2.



Figure 1: A copy of an old prayer book (produced in 1902), stating the accurate congregation response Έλεος ιρημικό ενεία ενέσεως - Mercy, Peace and Sacrifice of praise' at the end of the priests' reconciliation prayer 143

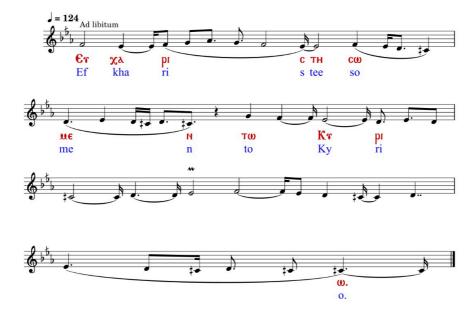
¹⁴³ The Holy Kholagi Book of the three liturgies. By Ain Shams Publisher, 1st Edition (1902), p 312.

The Lord be with you (O Kypioc Ueta παντον γμον - O Kyrios meta pandon eimon), Video A; 37:33, Lift up your hearts (Δνω γμον τας καρδίας - Ano Emon tac kardhias), Video A; 38:20, and Let us give thanks to the Lord (Εγχαριστηςωμέν τω Κγριω- Efkharistisomen tw Kyriou), Video A; 38:58, are the introduction part of the liturgy of the Sacrament and to the Right and Worthy (Δξίον κε δίκεον - Axion Ke Dhikeon) prayer.



Етхарістношен тш Ктріш

Efkharisteesomen to Kyrio



These three statements are always said in Greek rather than Coptic, like the rest of the liturgy. They also exist in all other churches, including the Catholic church. Syriac church and Greek church, suggesting that they constitute part of the early liturgy before the split between churches. This prayer starts in the Huzam *maqam* and continues throughout in the same *maqam*. It is then followed by the congregational response (Ke meta tou) which is again in the Huzam *maqam*, then the rest of the prayer. Further discussion about this part of the liturgy will take place at the end of this chapter and in Chapter 4.

The Right and Worthy (AZION KE DIKEON - Axion Ke Dhikeon) prayer, Appendix

B; Score 11 & <u>Video A</u>; 39:42. This prayer starts in the Greek language (only the words Right and Worthy) then continues in Coptic language until the end. The prayer describes the throne of God which is surrounded by various ranks of heavenly hosts, from the book of Isaiah ¹⁴⁴. The Right and Worthy prayer starts in the Huzam *maqam* and continues throughout until the

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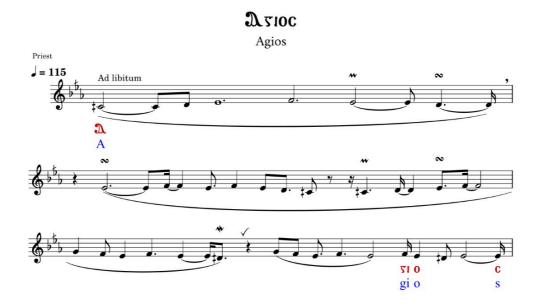
¹⁴⁴ The Old Testament, New King James, The Book of Isaiah 6; 3 and 4.

end. It is interrupted by two deacon's responses which are expected to follow the priest's pitch and *maqam* without any deviation. Parts of this prayer are used in the Maronite and Greek churches. The prayer is followed by the **xe** axioc (Je Agios) response which again follows the same *maqam* but ends up in the Kemi *maqam*, as previously described in Chapter 2.

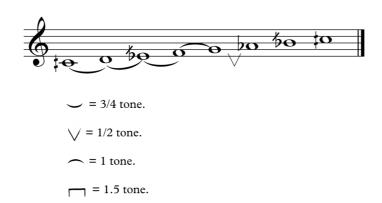


The Holy Holy (Asioc - Agios) Prayer, Appendix B; Score 12 & Video A;

46:08. This prayer starts in the C half sharp (Nim Zerkola) followed by D (Dokah) then E half flat followed by the F natural. This means the sequence of three ³/₄s (three equal intervals between the four notes), a sequence rarely found in the Arabic music. The Asioc prayer is made of three parts as will be discussed later. The melody of Agios is basically in the Kemi magam with lots of variations around it but ends in few notes which give a sense of reverence.



Maqam Kemi on C half sharp



The Kemi maqam is prevalent at the end of the prayers in this section, starting from the Agios prayer, followed by the consecration prayer which is the core of the liturgy He instituted this great mistry (Δαχω Σε ΝΑΝ ἐδρΗΙ - Afko dhenan ekhree), and the base of the Coptic liturgy as is the case with all other churches liturgies worldwide. All prayer phrases in this section end in C half sharp, similar to the endings of the congregation responses mentioned before. The same structure of the start and end of each phrase is repeated throughout the Δτιος - Agios and the Δαχω Σε ΝΑΝ ἐδρΗΙ - Afko dhenan ekhree prayers.

He was incarnate (Δηδικαρξ – Aftchisarks) prayer, Video A; 51:11. This is the second part of the Agios prayer and it starts in the same note as Δηχω Δε ΝΑΝ εδρΗΙ - Afko Dhenan ekhree and follows the Kemi magam until it ends in a very similar pattern.



He rose from the dead (Δατωνα εβολ δεν ΝΗΕΘΙΙΦΟΥΤ – Aftonf evol khen neethmwout) prayer, Video A; 54:13. This is the third prayer of this section. It follows the same pattern of the previous two prayers. It has a special modulation towards the end 'He appointed a day for retributaion...' which is repeated in the following prayer of consecration, again suggesting potential shared composition. This prayer is followed by the 'Κατα το ελεος cor Κτριε -According to your mercy O Lord and not according to our sins' response which is commonly used in other churches.



The significance of the Kemi *maqam* starting in the congregation response **XE ATIOC** - Agios (3) which precedes the **ATIOC** - Holy prayer when the priest picks it up and ends each part of that prayer in the same *maqam* is very important. It highlights the originality of the Kemi *maqam*, used in the consecration prayer, which is known to be the origin of all liturgies used in the Coptic church, including the St Basil's. The second (**Afchisarks** - He was incarnate) and the third (**Aftonf evol** - He rose) parts of the **ATIOC** prayer follow exactly the same structure, notes and *maqam*.

Why does the Kemi maqam start with Agios?

The whole of the first part of the liturgy is in the Huzam *maqam*, until the **Agios** prayer when a new well-defined *maqam* is born, the Kemi *maqam*. The way this *maqam* is introduced for the first time is also very peculiar in that it starts on the first **Agios**, and ends on the third note, the same as the Huzam *maqam* with its tonic in the first half of the liturgy. The second **Agios** is a copy of the first with all its descriptions. However, in the third **Agios** it reverts and ends in C half sharp. Thus, the first mention of the word **Agios** (the congregation hymn followed by the priest's prayer) of the believers seeks to establish the Kemi *maqam* in the liturgy. The word **Agios** in Greek means 'Holy' in English and 'Sanctus' in Latin; the activation of that adjective is what happens in the consecration part, as if the adjective in **Agios** is the one who sanctifies the sacrament in the consecration part. This is musically translated as repeated Kemi *maqam* in each and every one of the priest's prayers and each response by the congregation, hence it becomes the fundamental *maqam* throughout the consecration section. The rest of the *maqams* branch off Kemi.

He instituted this Great Mestery (Δαχω Δε ΝΑΝ εδρΗΙ - Afko Dhe Nan Ekhree)

prayer, Video A; 56:51. This is the first part of the consecration prayer. It describes the events that happened at the Last Supper including:



He took bread on His spotless and undefiled hands (Aqui Norwik -Afchi enouwik)

(Video A; 57:58), then He gave thanks... After supper, He took the chalice and mixed it of wine and water then gave thanks,... Video A; 1:02:42. Finally, for every time you eat from this bread and drink of this cup you preach my death, confess my resurrection and remember me till I come.

The melody of this section starts in a very similar way to that of the **Agios** prayer and continues with very similar variations until it ends up in an identical pattern to **Agios**. The rest of the parts of the consecration prayers follow exactly the same pattern of **Agios**, in both starts and endings as well as the prevalence of the Kemi *maqam*. This observation supports my hypothesis that the Kemi *maqam* is the original one for the liturgy (being the core of the consecration prayer), which branches off the rest of the *maqams* despite being incomplete.

The Kemi *maqam* continues throughout the consecration prayer until the second '**Do** this in remembrance of me' <u>Video A; 1:06:20</u> with its response 'This is also true amen (Vai On Pe, <u>Video A; 1:06:45</u>) which returns to the Huzam *maqam* instead of the Kemi *Maqam*,

the conventional *maqam* in the rest of the liturgy, and also in order to establish the beginning of the next section (Litanies) of the liturgy. This modulation highlights the uniqueness of the consecration section of the liturgy, not only its text but also its melody.

Although the words of the ending of the two prayers are the same 'Do this in remembrance of me', the melody changes significantly from the Kemi *maqam*, in the first mention, to the Huzam *maqam* in the second time, as an introduction to the next section in the St Basil liturgy, with the congregation response following the same Huzam *maqam*.



For every time you eat from this bread and drink from this cup (Con sap niben -

Sop ghar niven) <u>Video A; 1:07:05</u> is the concluding prayer of the consecration section. It is followed by the commonly used response in many churches 'Your death O Lord we preach, You Holy resurrection...'

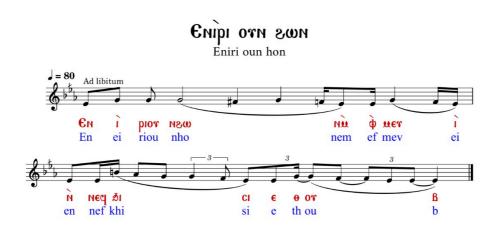


Suggested evidence that the consecration section is the earliest composed part of the liturgy

- 1) The consecration section is the central scriptural act 'Jesus words' whereas the rest of the liturgy is a poetic accretion.
- 2) The consecration section carries the same words and same music in the three official Coptic liturgies; St Basil, St Gregory and St Cyrel, despite the substance of the rest of the three liturgies being quite different, in structure, words and music.
- 3) The consecration prayer and melody do not change with the change in liturgies in other churches including the Greek, Armenian, Syrian and Catholic. A verbal questionnaire conducted by the researcher where he consulted Head Musicians in the Greek, Armenian, Maronite and Syriac churches confirmed that.
- 4) It is the same section (words and structure) that is used in other churches worldwide, despite different melodies which reflect cultural differences. This similarity

- between churches suggests the use of the consecration section in the early church before the schism.
- 5) The consecration section has a specific description in all churches, being called 'the Anaphora' in the Coptic church, the 'Authentic Words' in the Greek and Maronite churches and the 'Lifting Prayer' in the Syrian church.
- 6) Of note, the ending musical sentences of all prayers and responses starting from **Agios** until 'Do this in remembrance of me' are identical in structure in the Kemi *maqam* despite being quite different in their contents, lengths and modulations.

Therefore, as we also commemorate His holy passion (Enipi orn 2001 - Eniri oun hon) prayer, Video A; 1:09:07. This prayer summarises the events that followed the Last Supper, passion, death, resurrection and ascension of Lord Jesus, and the continuous waiting for His second coming. It is chanted in the same Huzam maqam as before. It is also a commonly used prayer in other churches.



The Litanies (Apiqueri Toc - Remember O Lord), Video A; 1:11:35 prayers. The Litanies involve supplications for various categories in life including the church, clergy,

congregations, salvation of the world, the air, water and plants as well as the submitted oblations. All litanies are in the Huzam *maqam*, as described before, likewise the congregation responses.



The commemoration prayer (ΕπιΔΗ 'Πος - Epidhe Epchois), Video A; 1:13:06. The

commemoration prayer focuses on some of the prominent departed saints who are recognised by the Coptic church, starting in the first place by the mother of God Saint Mary, followed by John the Baptist, the Coptic evangelist St Mark, the martyrs, the church fathers and teachers of faith, saints and anchorites, then the most recently canonised saints. It used to be very short in old times, but over time developed into a significantly long list of saints. ¹⁴⁵ The commemoration prayer starts in F note and continues in the Bayati *maqam*, known in Arabic music to reflect a feeling respect and reverence. This analysis is supported by using the same melody for chanting the Gospel during the Holy week services, described as 'sad tune'. It may also include few modulations. Although the start of the commemoration prayer is hanging on a single note, it soon modulates into different melodies according to the name of the saint e.g.

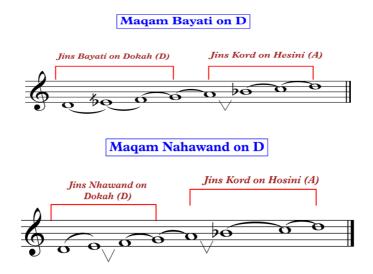
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¹⁴⁵ The St Basil liturgy according to the Vatican Coptic script, by Wadie El Fransiscan, 1288.

the Virgin Mary will usually have a profound modulation compared to other saints. This is a good example how the chants in the St Basil liturgy amplifies the text, and so has an aesthetic and functional role during the service. The fact that the structure of the commemoration prayer shows different sections with similar endings confirms a well-designed composition, despite the fact that they are all chanted with no time signature. The commemoration prayer ends up with the remembrance part of the recently departed souls (Tarheem in Arabic) which starts in the Nahawand *maqam*, known to be soft thus suitable to reflect the human spiritual and emotional feelings and also a special respect for the dead. Despite few modulations, the Tarheem ends up in the Nahawand *maqam*. Again, this analysis is supported by the use of the same *maqams* during the Holy week services and the passion prayers. The commemoration prayer followed by the prayer for the departed design is used in other churches, although the saints' names may differ, as does their number, and the prayer is read rather than chanted, different from the Coptic church.



The difference between the Bayati and the Nahawand magams



The concluding prayers of the St Basil liturgy: these are made of three requests; 1) Those O Lord whose souls you have taken...repose them...; 2) Guide us into your kingdom... and 3) Let us give thanks...

Those O Lord whose souls (NH MEN 'Toc - Nee men Epchois) prayer, Video A; 1:18:25. This prayer follows the commemoration prayer in order. It represents a bridging prayer which asks for forgiveness and rest to those who departed, and links them to the congregation who are described as 'foreigners in this world'. It starts in the Bayati maqam and ends in the Nahawand maqam which reflects the congregational reverent feeling 'we the foreigners in this world'. The Bayati maqam here reflects a folklore way of congregational singing, which is clearly seen in the phrases 'In the land of the living' and also in 'and we the foreigners in this world'. This description mirrors the old picture of Egyptian folklore way of singing. The Bayati maqam changes suddenly after a perfect modulation, at the mention of the word 'your peace' to Nahawand. The two maqams are similar in most notes, but differ in the

supertonic i.e. the first two intervals. The modulation takes place at the dominant A note from the Bayati to the Nahawand *magams*.

Of note, the melody of this modulation 'In the land of the living', Video A; 1:19:05 and 'we the foreigners in this world', Video A; 1:19:30 is identical to that sung in the Apokalypsis vigil in Greek 'Ετλονιτε παντα τα - Evlogitee Panda ta - praise Him, glorify Him and exalt Him above all' which focuses on eternity, as if the church is reminding the congregation at the end of the St Basil liturgy of their eternity once they receive the holy communion. These two pieces are in the Bayati magam.



Guide us into your kingdom (бานพา อังนอก - cheemoit khagon), Video A; 1:20:47.

The words of this prayer ask for the start of the journey of the believers to God's kingdom once they are united with Him in communion. The prayer follows the same structure as **NH MEN Ilfoic- Ni men Epchois**, starting in the Bayati *maqam* and ending in the Nahawand *maqam* when the priest says 'Peace be with you'. Thus, putting the two prayers together shows that the reason behind the Bayati *maqam* is the joy that the believers look for, seek and experience towards the completion of the sacrament, with the Nahawand *maqam* at the mention of the word 'peace' to remind them that they are still living in the world, hence the need for reverence.



Let us give thanks (Παλιη οη μαρεηψεπ' εμοτ - Palin on marenshepehmot) prayer,

<u>Video A; 1:22:47.</u> This is the third prayer in this section. It asks the congregation to give thanks for being in that Holy place, close to the Holy sacrament, then ends up asking the Lord to make

us worthy to partake of the sacraments, the third request. The prayer starts in the Bayati maqam and ends in the Nahawand 'OYOZ' 'NAOLOY' in the same way as the previous two prayers, Those O Lord ... and Guide us into your kingdom.



In summary, the three concluding prayers of St Basil liturgy follow the same musical structure, with most of the first part of each of them, in the Bayati *maqam* 'heavenly' and the last phrase in the Nahawand *maqam* 'earthly'. The latter melody continues through the next section which is the declaration of the sacrament. Of note, these prayers do not exist in other churches, suggesting a locally developed tradition.

The Declaration of the Sacrament prayer: In this prayer and for the first time the priest cries out declaring the sacrament and says 'the Holy Body and the Precious Blood'

The Holy Body (Πισωία Cooraß - Pisoma Ethowav): This sacrament declaration prayer is all in the Nahawand maqam which fits well while the congregation is prostrating and saying "we worship your Holy Body".

And your Precious Blood (Mew michoq ettaiovt - Nem Piesnof ettaiowt): This second declaration follows the same structure, melody and congregation response as the first.

Those of Christ the Almighty (Μτε πευχριστος νίας πιπαντοκρατορ - Ente pef ekhristos enge pipandokrator): This explanation follows the first two declarations, again in the same melody and magam.

Peace be with you (IPHNH TIACI - Erini Pasi): This is the final piece of the declaration section which has the same melody as the previous ones. Of note, this declaration prayer is not chanted in the Greek or Maronite churches liturgy.

The Fraction prayer, Video A; 1:25:00. This prayer is the only one in the St Basil liturgy that varies during the year according to the Coptic calendar of events and celebrations; even in the annual liturgies there are a few different prayers of different themes, but only one of them can be used. The events-related fraction prayers i.e. Nativity, Lent and Easter tell the respective story, but the annual ones are generally non-specific. The fraction prayers are chanted in the Bayati maqam following the declaration of the sacrament, Pisoma Ethouav, mentioned above. The congregation responds to each fraction prayer statement by saying Lord have mercy - Κτριε ελεικον three times in the same tune and melody as the priest.

The fraction prayer ends up by the Lord's prayer which is recited by the whole church.



Suggested evidence that the fraction prayer is a recent addition

- Most annual fraction prayers lack one theme, God's covenant and mercy, the story of Jesus's passion, the vigil of the throne of God, according to the book of Revelation. Despite that, it could be seen as wealth of prayers and meditations at a very special time, before communion.
- 2) The fraction prayer has only one *maqam* with lots of repetitions according to the length of the composition.
- 3) The congregational responses three times 'Lord have mercy Krpie Exencon' do not, most of the time cohere with the prior statement said by the priest.

- 4) Since this prayer changes all the time in different liturgies, depending on the celebration, its melody could be in either the Bayati or the Nahawand *maqam*, of course including the congregational response after each phrase.
- 5) In the 1288 prayer book, only three fraction prayers are documented, and of a general theme rather than related to any event or specific celebration. ¹⁴⁶
- 6) It could have been originally a silent prayer that gave the priest time to cut the bread and get it ready for distribution, then over time it became a routine chanted prayer.
- 7) Other churches have special silent prayers during dividing the sacrament but not such events-based prayers that are chanted loud, with the congregation responding.

The confession prayer: this is made of few parts confessing the Holy Trinity, the transsubstantiated sacrament and the congregation proclamation of faith towards it and towards the nature of Lord Jesus. The priest chants a statement, then the congregation responds by either saying One is the Holy Father... or Amen, as a sign of declaring their faith. Throughout this section, both priest and congregation chant in the Rast maqam. Also, this part is the only section in the whole liturgy of the Sacrament that is chanted in the Rast maqam. The word Rast means royal or straight (similar to the Major scale in the Western music). It reflects frankness, reverence, majesty, etc. It does not relate to emotions, supplications or sadness as other maqams do. All pieces in this section are made of two components; the first part is majestic and varies between pieces according to their order, the meaning of the words and the length of the phrase, whereas the second part is identical in all pieces, priest and congregation, and it carries a sense of reverence to it. In most cases the Rast maqam starts in F note, Video A: 1:26:12. Also, the sacrament declaration section is the only part of the liturgy in which the full scale (one octave) exists. It seems the objective of this section is:

¹⁴⁶ The St Basil Liturgy according to the Vatican Coptic script, by Wadie El Fransiscan, 1288.

- 1) That it is chanted in the Greek language, which was the original congregation language, in old times in order to highlight the important doctrinal truths related to the sacrament.
- 2) To alert the congregation to awareness and prepare them to receive the sacrament.
- 3) To warn the congregation that through participation in the sacrament they will share the Royal rank.
- 4) It is the glorious finale of the liturgy and the ending section of the Mass.

The first prayer of the liturgy, *The Lord be with you* 'O Kapioc Ueta - O kerios meta' and the last 'the sacrament declaration, *the Holy body*.. 'Cour Ation...' are the only two parts of the liturgy chanted by the priest in Greek; all the rest except the frequently repeated 'lphnh that - Eirini Paci are chanted in Coptic. This order highlights the importance of these two pieces. While at the beginning of the liturgy of the Sacrament the priest gives instructions to the congregation to participate in the liturgy of the Thanksgiving, at the end of the liturgy he aims at declaring and affirming the nature of the sacrament, which the congregation is about to receive. These two parts are preserved in the original language of the congregation (Greek), in the same way and same words currently present in the Greek church. This is not a coincidence but a fact that confirms the originality of these two prayers as part of the early order of the liturgy before the schism. Also, they are chanted in the same language of the congregation in all other liturgies used in the Coptic church, St Gregory and St Cyril, for the same reasons mentioned above.

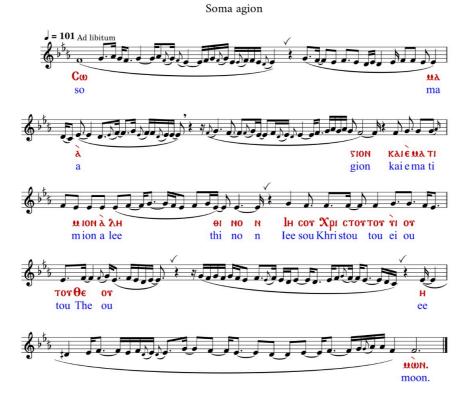
Apiφμετί Πσς nnenzinewort Ariefmevei Pshois ennenjinthwouti







Comy yeion



MOILLI HOIZE

Agion Timion





Analysis of the pitch consistency between the sung and the notated melodies of the priest chanting

Prayer	Pitch deviation	Explanation
Glory and Honour	0 Tone	The pitch is easy to identify and to use. It
•	Consistent	follows the previous congregation response
In the Name of the Father	0 Tone	The pitch is easy to identify and to use. It
	Consistent	follows the previous congregation response
The Thanksgiving prayer	0 Tone	The pitch is easy to identify and to use. It
	Consistent	follows the previous congregation response
The Gospel prayer	+1/2 Tone	The solo raised the pitch by ½ tone
	Inconsistent	
The Reconciliation prayer	+50 ct	The solo started the prayer ½ tone higher (+50
	Inconsistent	ct).

7D) T 11 '41	0.75	TEL 1 4 1 1 1 1 1 1 1
The Lord be with you	0 Tone Consistent	The solo started the prayer with the ending note of "Hiten nepresvia"
D:-1.4 1 W41		
Right and Worthy	0 Tone Consistent	The solo started the part with the last note of the
П-1- П-1- П-1-	+50 ct	choir response
Holy Holy Holy	Inconsistent	The solo raised the pitch by 1/4 tone
He was incarnate	+ ³ / ₄ Tone	The solo raised the pitch by almost ³ / ₄ tone.
He was incarnate	Inconsistent	The solo raised the pitch by annost 74 tone.
He rose from the dead	+ ³ / ₄ Tone	The solo followed the choir tonality from the
The rose from the dead	Inconsistent	previous response.
He instituted this Great	+ ³ / ₄ Tone	The solo followed the choir tonality from the
Mystery	Inconsistent	previous response.
For every time you eat	+ ³ / ₄ Tone	The solo followed the choir tonality, however,
from this bread	Inconsistent	he still chanted the same maqam Huzam but
		transposed 3/4 from its supposed standard tonic
		which is E half flat. (Sikah)
Therefore, as we also	+ 3/4 Tone	The solo followed the choir tonality, however,
commemorate	Inconsistent	he still chanted the same maqam Huzam but
		transposed 3/4 from its supposed standard tonic
		which is E half flat. (Sikah)
The Litanies	+ 3/4 Tone	The solo followed the choir tonality, however,
	Inconsistent	he still chanted the same maqam Huzam but
		transposed 3/4 from its supposed standard tonic
		which is E half flat. (Sikah)
The commemoration	0 Tone (start) & +50 ct (end)	The solo returned to the correct pitch and the
prayer	Consistent	correct maqam which is Bayati on D. However,
		instead of ending in Nahawand on D and make
		the modulation he ended with a higher pitch;
		almost ½ tone (+50 ct).
Those O Lord whose souls	0 Tone	The solo returned to the correct pitch but not the
	Consistent	correct maqam, as this part should be sung in
Carita and internation	0 T (-t t) 0 + 1/ T	Nahawand maqam
Guide us into your	0 Tone (start) & $+\frac{1}{2}$ Tone	The solo returned to the correct pitch. However,
kingdom	(end) Consistent then inconsistent	he raised the pitch by ½ tone
Let us give thanks	Consistent then inconsistent + ½ Tone	The solo followed the choir.
Let us give thanks	Inconsistent	The solo followed the choir.
The Fraction prayer	+ ½ Tone	The solo followed the choir. However, he
The Traction prayer	Inconsistent	corrected the pitch on "ariefmevei Pashois".
Ta agia tis	$+50$ ct (start) & $+\frac{1}{2}$ Tone	The solo raised the pitch almost a quarter-tone
	(end)	(+50 ct).
	Inconsistent	` '
Soma Agion	+ ½ Tone	The solo followed the choir.
9	Inconsistent with the	
	assumed pitch	
Agion Timion	+ 1 Tone	The solo raised the pitch by a whole tone.
	Inconsistent	, , , , , , , , , , , , , , , , , , ,
Pi soma	+ 1 Tone	The solo raised the pitch by a whole tone.
	Inconsistent	
	•	

The Solo (representing the priest) deviated from the expected starting pitch of the prayers on a few occasions. This could be explained by the following reasons:

- a) He followed the choir, who on a few occasions raised the pitch unwittingly.
- b) At the time of recording he did not have a guiding musical instrument to assist him in keeping the accurate pitch.
- c) The solo tried to keep the steady correct pitch but it was difficult for such long performance.
- d) The solo did not have enough rehearsals with the choir.
- e) The obvious voice exhaustion towards the end of the liturgy, particularly of the solo, a known baritone, resulted in him raising the pitch to be able to continue chanting.
- f) The planned omitted prayers with their pitch fluctuation could have contributed to the start of the new piece, independent of the conventional tune we are used to.

Summary and discussion

The priest's prayers in the St Basil liturgy are all chanted (ad lib – in free rhythm), irrespective of their place in the liturgy. The priest's prayers are preceded by a congregational introduction, perhaps in order to establish the note, *maqam* and speed of prayer. This seems a logical analysis since the priest is expected to be busy preparing for the sacrament with many silent prayers, so it would be difficult for him to start on the right congregational note and *maqam*. On the other hand, the choir and their leader should have a better chance and time to prepare themselves to start on the right note and *maqam* and to lead the congregation in one accord. Of note, some priests prefer higher or lower pitch for chanting, which might detract from the atmosphere of the prayer, but this is swiftly restored by the congregation who follow him with the same melody.

The priest's chants follow most of the time the Huzam magam, and so do the congregation's until the consecration part, which is dominated by the newly identified (by MH and MS) Kemi magam, which is a unique melody and does not exist in any other section of the liturgy. The commemoration prayers are in the Nahawand magam which, I believe, suits the words and the emotions of that part, similar to the magams used in the Pascha prayers, conventionally described as 'sad tunes'. 147 Also, the three following concluding prayers 'Those O Lord whose souls you have taken ..., Guide us into your kingdom... and Let us give thanks....' follow the same pattern. The Bayati magam gives a joyful atmosphere, similar to that used in mid-night praises, as the congregation is coming to receive the sacrament and the fulfilment of the objective of the liturgy. This is followed by the final Rast magam which is Majestic, direct and frank as explained before in Chapter 2. Based on this analysis, priests who are capable of improvising their chants should be aware of these facts in order not to slip into other magams that would completely disturb the atmosphere of the liturgy, as well as the expected congregational response which should follow that of the priest. An example of other closely related *magams* that could easily be mistaken are the Saba and the Kemi. This finding recommends that all priests understand modal and scale theory as part of their education in the seminary.

It seems that some chronology could be drawn from the above analysis. The liturgy of the Sacrament is well established as the earliest part of the Mass, particularly with the Lord's prayer at its end, as is the case in all churches. ¹⁴⁸ ¹⁴⁹ ¹⁵⁰ This is musically confirmed in the Coptic rite by the consistent use of the Kemi *maqam* which is unique to this part of the liturgy, as previously explained. Perhaps the beginning of the Liturgy 'O Kyrioc meta – **O Kyrios**

¹⁴⁷ Pascha Gospel in www.tasbeha.org

¹⁴⁸ The Divine Liturgy of Saint Basil the Great, edited by Fr N Michael Fakhori

¹⁴⁹ Archives of 'Divine liturgy of James the apostle and brother of God', brief introduction, and text as translated by Archimandrite Ephrem Lash

¹⁵⁰ The Coptic Liturgy. Reference Book. Edited by Fr Abraam Sleman

meta' was next added since it is too well established, irrespective of its melody in all other sacramental churches. The next two prayers are unique for the St Basil liturgy, as will be shown in Chapter 4, but their melodies are unique for the Coptic church. Then the final confession seems to be the next addition, particularly since it exists in the Coptic and Greek churches, despite been silent in the latter. The liturgy of the Word seems to have come later as mixed congregations started to attend the liturgy and many of them were non-believers, hence the need for biblical education and teaching. ¹⁵¹ The liturgy of the Word followed the liturgy of the Sacrament in many musical aspects as discussed before; this too confirms their chronology. Finally, the fraction prayers seem to be the most recent addition since they do not add anything special after completion of the service, but they might be placed to give the priest a chance to divide the sacrament and prepare for its distribution. Otherwise, it might have been originally a silent prayer, again for the same reason mentioned before, but over time became a loud one. In addition to the above, our study shows some shared prayers between the Coptic church and other churches, despite the different chanting system between them. These similarities deserve detailed analysis. The few inconsistences between the recorded pitches and the expected correct ones reflect a typical example of life performance in the absence of guiding musical instruments.

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¹⁵¹ The Coptic Liturgy by Fr Athanasius Almakary. Published by St Makaroius Monastery, 2018.

Chapter 4

Comparative study of the St Basil liturgy between the Coptic and the Greek Churches

Introduction

The St Basil liturgy is the commonly used Mass in the Coptic church with the other two, less practised liturgies being that of St Gregory and St Cyril. ¹⁵² In contrast, St Basil liturgy is less practised in the Greek church compared with St John Chrysostom liturgy which is the commonly used Mass. ¹⁵³ St Basil liturgy consists of priest's prayers, deacon responses and congregational or choir responses. The two churches do not use musical instruments: the Copts use only the cymbal and triangle to keep the rhythm of the congregational responses, and the Greeks sing the Ison to keep the correct harmony. The exact history of the St Basil liturgy in the Coptic church is not known, but Greek references in the Patrologia Graecolatina mentions the letter of Leontius of Byzantium (written in 444 AD) which states that Theodore of Mopsuestia tried to make corrections in the liturgy of Basil; this is the first mention of St Basil liturgy in the patristic writings. ¹⁵⁴ It also points out that St Basil's disciples put together the liturgy text in honour of him as did St Gregory's disciples, rather than the two saints composed the liturgies themselves and commanded their use. Although in the Coptic church the St Basil liturgy is chanted in Coptic language, few pieces are sung in Greek, for example **Kyrie Eleison**, Agios ... etc. This raises the question of potential similarities between the liturgies practised in the two churches and various developments that took place over centuries. In view of the

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¹⁵² The Holy Kholagi Book of the three liturgies. By Ain Shams Publisher, 1st Edition;1902

¹⁵³ The Divine Liturgy of St John Chrysostom by The Greek Orthodox Archdiocese of America, with its headquarters located in the City of New York.

Patrologia Graeca (vol 86, col 1368C) cited by Lietzmann H in his book Mass and Lord's supper (1926) translated from German, published by E J. Brill, Leiden (1979), Greek quotation, p 4.

few shared pieces from the St Basil liturgy which are practised in Greek language in the Coptic church, I sought to compare the full lyrics of the liturgy as well as the music of those Greek responses shared between the two churches which might shed light on more liturgical historic and root details.

Methods

I obtained both a Greek and a Coptic liturgy of St Basil, both in English, produced by two eminent American churches, and claimed to be the most accurate translations from Greek and Coptic languages respectively. ¹⁵⁵ ¹⁵⁶ I attempted to critically match the sections of the two liturgies having not included the priest's silent prayers and the deacon responses in the two churches, and also excluding the Matins prayers and the liturgy of the Word which were quite different in their order and contents between the two churches, as well as being not directly related to the St Basil liturgy. To guarantee critical script comparison, the Greek English lyrics were sent to Fr Maximos Lavriotis, a bilingual Greek Archimandrite and scholar, to confirm its accuracy. Also, the old English text of the Greek-based translated text was replaced by contemporary English. Finally, the Greek responses currently used in the Coptic church were identified, their Byzantine notation collected by the help of Fr Joseph Paliouras and the School of Byzantine Music in London, then notated by Mina Salama (MS) using conventional Western notations. The music of the two orders was then critically analysed and compared. In addition, the thirteen shared Greek responses were sung by the researcher and Fr Joseph Paliouras at St Sophia Cathedral in London and videoed. The video was subsequently sent to Osama Fathy,

¹⁵⁵ The Coptic Liturgy according to Saint Basil is made available on Copt-Net Archives through St Mary Coptic Orthodox Church in Seattle, Washington (1995)

¹⁵⁶ Vaporis NM. The divine liturgy of St Basil the great. Liturgical Texts of the Orthodox church. The Greek Orthodox Archdiocese of America (2017).

an eminent musician with over 50 years' experience in Arabic, Turkish and Western music, for a professional opinion on the pattern of two music styles and their scales (*magams*).

Results

In general, the text comparison of the two liturgies showed considerable similarities, with the Gospel introduction shared between the two liturgies 'Aoza ci Krpie', as were the Creed and the Lord's prayers. Differences in the lyrics were mainly in the order of the phrases. Occasionally the Greek text may elaborate on a particular theme while the Coptic text is significantly briefer, and vice versa. The commemoration prayer in the Greek liturgy is shorter than its respective in the Coptic church, which is significantly longer and includes many saints' names, most of them being monks who are familiar to the Copts but not to the Greeks. The short Greek version of the commemoration prayer matches the old text in the Coptic church according to the oldest available liturgical reference available at the Vatican Library. ¹⁵⁷ The fraction prayer and its introduction do not exist in the Greek liturgy but are part of the Coptic liturgy. The order of the litanies could be somewhat different between the two churches, being more detailed in the Greek and also containing pieces from the Coptic matins prayers. The sacrament declaration prayers are chanted loud in the Coptic church but silently in the Greek church. *Appendix C*, *Table 1*

The priest's prayers are all in Coptic except the introduction of the Liturgy of the Sacrament and the Declaration of the Sacrament which are in Greek language. In the Coptic order, the whole liturgy is chanted in a well-standardised and established melody, but in the Greek order it is only read aloud. Of interest is the congregational response to the few Greek prayers in the Coptic church which are similar to their respective ones in the Greek church thus

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¹⁵⁷ The St Basil Liturgy according to the Vatican Coptic script by Wadie El Fransiscan, (1288).

suggesting a potential common root, a good example being the response **Κε τω `πνετματι cor** to the priest's **lphni παci**. The responses in the Greek Church seem to be for the choir, whereas in the Coptic church it is for the whole congregation led by the choir. *Appendix C*, *Table 1*

Analysis of the Greek responses shared in the two churches (Appendix C, Table 2 and Video B). Video B consists of clips of the 13 identified Greek responses shared between the Byzantine and Coptic traditions performed by Fr Joseph Paliouras and Michael Henein at St Sophia Cathedral, London. Videoed and edited by George Dergham

1. Kτριε ελεμοοη Κτριε ελεμοοη Κτριε ελεμοοη 158, Video B; 00:25

Greek: This hymn is in the plagal of the 4th Tone (Mode) and Ajam maqam. It consists of six pieces of Kyrie Eleison, each is made of eight notes representing a full octave. The pieces arise in note degrees according to their scale, in that the 1st and the 2nd are on the 3rd degree of the Ajam *maqam*, the 3rd is on the 5th degree and the 4th on the 5th, then the notes start to descend with the 5th piece on the 6th degree of the maqam and the 6th piece on the 5th degree of the *maqam* until the hymn ends up at the starting note.

Coptic: The response starts on the tunic of the Hejaz *maqam*, or Sekah (balady). It is made of three Kyrie Eleison, which are all repeated similarly in descending manner consisting of the first five notes of the *maqam*. The second Kyrie Eleison is exactly the same, and the 7th and last Kyrie Eleison is in the Saba *maqam* on organised ad lib manner and the vowels used are the A and the O at the end of the song.

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 $^{^{158}}$ Αθ. Καραμάνης, "Νέα Μουσική Συλλογή", 1990.

2. Δογα Πατρι Κε τιω κε ασιω πινε' ματι. Κε ντη κε αι κε ιστοτο εωνάς τον εωνόν

λωΗΝ ¹⁵⁹, Video B; 01:57

Greek: This response is in the 2nd Tone. It starts in the Kord magam and changes at sec 9 to the Turkish Zangaran magam (a combination of Ajam and Hejaz). It is an ad lib ascending and consists of five notes, and it seems that this hymn forms a bridging between others.

Coptic: This hymn is in the Saba *magam* and it could be described as a double rhythm song.

3. Ke tw infruati cor 160, Video B; 03:07

Greek: This response is in the 2nd Tone and Nahawand *magam*, is made of three notes sung in an ad lib manner.

Coptic: This hymn is sung in the Saba magam and is under double rhythm and formed of 11 bars.

NP. This is the first ever musical piece we found made of 11 bars suggesting that it is too new for the Coptic music.

4. Asioc Oeeoc Asioc Icarpoc Asioc Aeanatoc, Video B; 03:31

Greek: This hymn is in the 2nd Tone, a unique Greek magam, and continues from 16 sec into the Hejaz magam. It is made of dual rhythm.

Coptic: This hymn starts on Saba zama *magam* made of 8 musical units. In the 9th bar the hymn moves into the Jaharkah magam which ends after the 11th bar.

This hymn is designed for a congregation singing rather than a solo singer as is the case with the comparative Greek Agios above.

 $^{^{159}}$ Γ. Πρωγάκης, "Μουσική Συλλογή", 1909. 160 Δ. Σουρλαντζής, "Βυζαντινή Θεία Λειτουργία", 1992.

5. Δοχα ci Κτριε, Video B; 04:48

Greek: This is another 2nd Tone and Ajam *maqam* which is sung ad lib within the full scale of seven notes.

Coptic: This is a simple melody in the Huzam *maqam*, sung using five notes only.

6. Ελεος iphnic θτεια ενέσεος, Video B; 05:54

Greek: This response is in the 2^{nd} Tone and Hejaz maqam, and is based on the tetra chord, which is formed of four notes. It seems that this song is a link between others in the liturgy.

Coptic: This response is in the Hejaz *maqam*.

This is a good example of similarity between the Coptic and the Greek melody of this response, both in magam and melody.

7. Ke meta tor înerma tocor, Video B; 06:33

Greek: This response is in the 2nd Tone and Kord *magam*

Coptic: This response is in the Hejaz maqam then moves to the Saba maqam and ends in the Hejaz maqam again.

8. Exomen apoc ton Kypion, Video B: 06:59

Greek: This response is in the 2nd Tone and Hejaz *maqam* and is close to the Coptic response.

Coptic: This response is in the Hejaz *maqam*.

This is another example of two similar, Greek and Coptic, responses in magam and structure.

9. **Δ**ξιον κε Δικέον, <u>Video B; 07:21</u>

Greek: This response is in the 2nd Tone and Turkish Hejaz magam and moves to the Kord

magam occasionally.

Coptic: This response is in the Saba *magam*

10. Asioc Asioc Asioc Krpioc babawt, Video B: 07:59

Greek: This hymn is in the 2nd Tone and starts on the Bayati *magam* saying Agios three times

in a descending manner twice and on the third the *maqam* changes to a Turkish Zungran which

is a combination of the Hejaz tunic and Ajam branch. The hymn thereafter is sung with

ascension and descension using the full *magam*.

Coptic: This hymn starts by chanting Agios three times on the same note, like church bells,

then the melody continues in the Hejaz *magam* but within the four notes of the tetrachord only,

then towards the end there is a modulation happening from the Hejaz magam to the Sabah (sad

magam which ends the hymn).

11. CE ENOTHEN CE ETAOTOTHEN CE ETAPICTOTHEN KTPIE, Video B; 10:20

Greek: The melody here is in the 2nd Tone and Turkish Hejaz magam and at the end there is a

modulation to the Jaharkah *maqam* which leads to the closing *maqam* which again is Hejaz.

Coptic: The beginning of this hymn is in the Huzam *maqam*. The melody is dual (seems to be

composed for the congregation to join) and is sung within the limit of five notes only with an

emphasis on the anchoring note of the Huzam *magam*.

12. **Κ**τριε **Ε**λει**c**οΝ, <u>Video B; 12:06</u>

Greek: This hymn is in the plagal of the 1st Tone and is sung in a melodic and rhythmic way

in the Jaharkah magam which uses the seven notes of the magam.

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Coptic: This hymn is typical Egyptian in the Huzam *maqam* and is sung in dual scale to allow the congregation to join.

The joined hymn that we sung together in Greek and Arabic is Byzantine in the Jaharka maqam, and is sung using the seven notes of the maqam.

13. Ic Ohanasiw echathp Ic Ohanasiw Two ntw hanasion inferma Amhn, $\underline{\text{Video B}}$;

13:37

Greek: This is in the 2nd Tone, a free sung melody in the Turkish Hejaz *maqam* with occasional modulation to the Saba *maqam*. It is sung within five notes and sounds unique.

Coptic: This hymn has the feature of being a concluding song in the Huzam *maqam*. It ascends and descends using different vowels. The closing part is on the Huzam tunic and the hymn is concluded in the Jaharkah *maqam* which is known for being cheerful and joyful.

Comparison between the Byzantine and Coptic melodies of the shared Greek responses of the St Basil Liturgy

In contrast to the Coptic singing of the Greek pieces identified above, the Byzantine melodies are all ad lib and do not follow a rhythm. They are made of two voices; the main melody and the harmony (Icon) whereas the Coptic melody is mostly rhythmic, all monophonic and uses only one voice. This difference explains the ability of the Byzantine responses to use the full seven notes scale compared with the Coptic ones (congregational) which uses a maximum of five notes, thus justifying dedicating many of the Greek responses to a well-trained choir in the Byzantine tradition, compared to congregational responses in the Coptic tradition. The microtones used in the Byzantine melodies are different from those used in the Coptic music. They are also based on the minor scale at its harmony form Hejaz maqam which constitutes the basis of all pieces, whereas in the Coptic melodies the Huzam maqam is commonly the

predominant one. Of note, the Hejaz magam is the second tetrachord of the Huzam magam and is rarely used in the Coptic responses in the St Basil liturgy in general, being used in only one response out of the 13 shared Greek responses above. Furthermore, some of the scales used in the Greek church start from the 5th note, thus suggesting a Kord *magam* (related to Kordistan). Most Byzantine responses end with the same *maqam* they started on, in contrast to the Coptic responses which end in a magam usually different from the starting magam. Also, some of the Byzantine melodies do not start on the conventional notes as is the case with their respective Coptic ones, justifying them not accompanied by instruments. A significant limitation in the above comparison should be mentioned here which is related to the music structure we used in comparing the Byzantine and the Coptic responses. The Byzantine musical scales are well established including Diatonic, Soft Chromatic, Hard Chromatic and Enharmonic. The exact scales of the Coptic music have never been critically described, therefore we used the closest available well recognised Arabic magams to analyse and compare responses of the St Basil liturgy. Therefore, the comparison seems incomplete, having used different means. The only solution for this limitation was to rely on our hearing musical experience in analysing the Byzantine pieces using the same Arabic *magams* we used in the Coptic pieces as we did above. Despite the mentioned detailed differences, there are only two responses Execc iphnic and Exough appoc' which are very close melodically, having the same magam used in the two cultures.

The following features suggest that the Byzantine melodies as performed in the Greek church represent a cultural bridge between Eastern and Western music: the use of harmony which does not exist in the Coptic music; somewhat different microtones; the method of singing, as well as the close language similarities between the thirteen pieces taken from different parts of the liturgy, which all follow the same mode. In contrast, the Coptic melodies

differ according to their place in the liturgy and the use of microtones which give them different styles as discussed above in Chapters 2 and 3.

The similarities in parts of the lyrics, language and music of the St Basil liturgy between the Greek and Coptic traditions mirror the many other shared ecclesiastic traditions including; the architectural design of the church buildings, the dome, the bell towers, the shape of the cross, the internal design of the churches including the iconostas, the icons themselves despite the slight difference in the style of art, depending on its age, the priest black garments, beards and hats. These are unique similarities, which are not shared between the Coptic tradition and other churches.

Summary and discussion

Most congregational responses of the St Basil liturgy in the Coptic church are originally in Greek language suggesting an old root to them, since Greek language was the formal spoken and written language in Egypt from the time of the Roman Empire. The original language of the liturgy was Greek which was later on translated into Coptic, but the exact chronology of that change is not precisely known. A direct comparison between the English translation of the Coptic and Greek text versions of the liturgy showed lots of similarities in specific phrases. Few text differences suggest possible transpositions from some prayers.

Comparing the contemporary liturgy in the Greek Church with the earliest available copy of the Coptic liturgy showed similarities that are preserved in the Greek version but which were altered in the Coptic liturgy. Examples of those are the commemoration prayer, which was and remains short with only three added names in the Greek church, but became significantly long with tens of added names in the Coptic church. Also, the congregational responses remained almost unchanged in the Greek liturgy but significantly extended in length and musical bars in addition to their increase in number in the Coptic church.

This study is limited to the analysis of only thirteen responses which characterise different sections of the St Basil liturgy according to the Coptic rite and which are shared between the two churches: the Greek and the Coptic. The musical analysis of the thirteen identified Greek responses showed significant differences in the melodies based on the Arabic magams we used to describe them and also the way they are sung in the two traditions. These differences reflect cultural impact, with the Greek melodies varying according to the mode of the celebration, while the Coptic ones are almost unchanged irrespective of the event, even in great feasts, as discussed before in Chapter 2. As explained above, the style of singing also differs significantly between the two churches, being harmonic (with Ison) in the Greek tradition but rhythmic and monophonic in the Coptic tradition. On the other hand, there are some similarities between the two traditions. The first shared feature is the way in which the melody is designed to paint the chanted words, for example high notes for heavens and low notes for hades, although in different ways in the two traditions. Our analysis also identified two responses 'ελεος iphnic and εχομεν προς' which are almost identical between the two churches, again suggesting a common root. Of note, these two responses are part of the introduction of the liturgy of the Sacrament, which is lyrically similar in many churches, including the Catholic, Syriac,...etc. This finding suggests a potential commonly shared part of the liturgy between those churches, in particular the Coptic and the Greek church who also share, in addition, their music.

These findings shed some light on the development of the St Basil liturgy in the Coptic church over the centuries, in terms of both lyrics and music. Its shared text with the current existing Greek version supports a common root. The separation of the two churches for more than fifteen centuries following the council of Chalcedon seems to have resulted in significant individualised cultural developments affecting both the lyrics of the liturgy, congregational responses and the music. This suggestion is supported by the *maqam* and music pattern analysis

we identified above, making the Byzantine pattern of liturgical music an intermediate mix between the Eastern 'Coptic' and the Western music with their known features and performances, while the Coptic pattern was left in the middle of rich Arabic, Turkish and Syriac musics. The bridging between cultures relates to the performance pattern, with no harmony in Coptic music, using Ison in Byzantine music and full harmony in Western music. This remains a hypothetical explanation.

Despite the above suggested historic explanation of the different musical patterns I identified between the Coptic and Greek melodies, other technical limitations should be mentioned as additional potential explanation. It should be acknowledged that the lack of liturgical Byzantine music documentation in conventional Western notation limited the extent of analysis and comparisons; this could be a future project. Also, despite the well-established Byzantine scales but unknown Coptic scales, we preferred to use the well documented Arabic scales in order to compare like with like. This comparison could thus be seen as only partially accurate. Furthermore, in the transnotation of the neumes into Western staff notation, essential information about the design of the performance is lost. This meta-information could have been part of the analysis by comparing it with the intonation traditions of the Coptic chanter.

Finally, this study seems to have some potential ecclesiastical implications. In addition to many shared lyrics and musical responses in St Basil liturgy, musical cultural differences add to the richness between the two churches. Drastic musical pattern changes are not expected in such big organisations as the Greek and Coptic churches but adopting some of the different melodies, on the well known lyrics, would add more richness to the material of worship. Implementing proper pronunciation and understanding of the actual meaning of the text of the Greek responses in the Coptic church could also be a valuable fruit of this study. Continuing the path of academic musical studies between the two churches is likely to add more richness

to the currently existing theological dialogues between the two churches which have recently succeeded in unifying the Christological belief of the two churches. ¹⁶¹

Chapter 5

Reproduction of the St Basil Coptic melodies using Ancient Egyptian Nays Replica

Chapter 1 highlighted the existing uncertainty about the roots and patterns of the Coptic music. Chapters 2 and 3 expanded this by showing discrepancies between the confidence of professional musicians in establishing the nature of the Arabic *maqams* (scales) used in the liturgy of St Basil according to the Coptic rite, hence raising doubt about the potential pure Arabic origin of the Coptic music. Chapter 4 examined the possibility of sharing musical melodies for the Greek response in the St Basil liturgy between the Byzantine and the Coptic traditions and concluded that only a few are close but most of the remaining melodies are quite different, not only in their scales but also in their musical patterns.

An important claim has been made by some Coptic musicians and lay people stating that the Coptic music is Pharaonic in origin. Therefore, in an attempt to answer the question of potential ancient Egyptian origin to those melodies, I designed the current study which aims to test the capability of different nays replica of Pharaonic origin, in producing the familiar St Basil liturgical melodies currently used in the Coptic church. If proven, the findings may suggest an ancient origin to those melodies which should be of historical and practical interest, particularly among singers, Coptic music teachers and international ancient heritage organisations. It would potentially provide the world of music with some of the ancient sounds,

¹⁶¹ Pastoral agreement between the Coptic Orthodox and Greek Orthodox Patriarchates of Alexandria (2001). Orthodox WIKI.

even if the melody itself is only partially ancient and partially modern. The author specifically chose to use the nay (Pharaonic flute) in this study because it is one of the three oldest music instruments used in ancient Egypt, dating back to over 3500 B.C. ¹⁶² It is also easy to produce, since it is made of the bamboo plant which is available on the banks of the River Nile and is the most environmentally and chronologically stable old instrument because it does not depend on animal gut strings (as is the case with the Pharaonic lute and harp). Strings decay and are affected by environmental factors; they also need lots of adjustments within and between songs, hence potential sound variability. Of note, it has been suggested that animal bones were used by ancient Egyptians before they discovered the use of the bamboo as a musical instrument. ¹⁶³ The animal bones could not be replicated in this study because of the lack of original measurements.

Introduction

Nays are old Egyptian flutes. They differ from the common present-day flutes in being made of reed plants and being open ended. The contemporary flute is made of wood or metal and is sealed at the end. Ancient flutes were well known among various other civilizations including Babylonian, Chinese and Turkish cultures. ¹⁶⁴ While the prehistoric (Bronze Age) flutes were made of animal bones, the most recent generation were made of bamboo plant. Fink claimed in his essay ¹⁶⁵ in 1997, that the holes in the bone were consistent with four notes of the diatonic scale (C, D, E, F) based on the spacing of those four holes. This design allows those early flutes to produce the minor scale, which is well known in Eastern and Western music.

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¹⁶² Samuel M. Sources of the Coptic music and features of the Coptic hymns (translated from Arabic). 2013; p 12-34.

¹⁶³ Hickmann H. "Un Instrument à cordes inconnu de l'époque copte." Bulletin de la Société d'archéologie Copte 12 (1946), p 63-80.

¹⁶⁴ Chase PG and Nowell A. Taphonomy of a Suggested Middle Paleolithic Bone Flute from Slovenia Current Anthropology Vol 39, No 4, p 549-553.

¹⁶⁵ Finik B. Early Music. Science. 276 (5310): 203–205. 1997. doi:10.1126/science.276.5310.203g.

The Egyptian nay is considered the most popular instrument for a number of reasons; the reed plant grows along the banks of many irrigation canals in the Nile valley which makes it simple to find. It is also easy to make, since the plant piece needs only few holes then it is ready to be used. The variability in holding the nay, blowing the air, altering the angle and the tension of the lips enable the player to produce various octaves and tones, hence the increased instrument potential in producing the desired music. With a little training in synchronising the air blowing, movement of the tongue, movement of the fingers and opening and closing of the holes, accurate tonality could be achieved. Contemporary nays are produced in different lengths varying between 37.5 and 68 centimetres (cm) and are made of nine segments. Each nay has seven holes: six in the front and one at the back. The six front holes are designed in two groups of three holes for the index, middle and ring fingers of the right and left hands, respectively. Since a single nay with a fixed length can only produce a certain number of musical pitches, contemporary Egyptian nay players used and continue to use a set of seven different length nays (68, 60, 54, 51, 44.5, 40.5 and 37.5 cm) in order to be able to produce the most accurate desired melodies.

The measurements between the finger holes of the Ancient Egyptian nays suggest that several scales were known in old times, with intervals =< 1/4 tone. 166 A number of Pharaonic Egyptian nays currently exist in various museums. ¹⁶⁷ The most accessible ones which have been empirically tested are those present in the Egyptian museum in Cairo and which consist of a set of six pieces, numbered C.G. 69814 to 69819. The two nays C.G. 69815 and 69816 have been reported to be found in Saggara. ¹⁶⁸

¹⁶⁶ Gadalla M. Egyptian Musical Instruments published by Tehuti Research Foundation, USA (2004),

p 48-52. ¹⁶⁷ Gadalla M. Egyptian Musical Instruments published by Tehuti Research Foundation, USA (2004),

¹⁶⁸ Gadalla M. Egyptian Musical Instruments published by Tehuti Research Foundation, USA (2004), p 52.



Figure 1: A picture of the Pharaonic nays in the Egyptian museum in Cairo

All nays stored at the Egyptian museum are made of Nile bamboo (Ghab) and are structurally similar to the ones currently used in Arabic music practice. ¹⁶⁹ ¹⁷⁰ ¹⁷¹ The Egyptian bamboo nay is characterised by the presence of nodes, which are blocked in the raw bamboo, but are made open in musical nays. They aim to narrow the diameter of the air column at each node. In the ancient Egyptian nays, the nodes are fully cleared, compared with the modern nay where all nodes are cleared except the one near the blowing end, in order to allow blowing to a higher octave than normal. According to the pictures on the Pharaonic temples and tombs, the ancient Egyptians of the Old Kingdom used very long nays (about 90 cm) while the modern Egyptian musicians use relatively shorter ones (30-68 cm). The basic theory of the nay is that it produces a tone which is dependent on the length of the air column. The theory of resonance states that given a tube opened from both ends, it will resonate at a frequency corresponding to a wave length that is equal to double the length of the tube i.e. tube length = ½ wave

¹⁶⁹ Effat M et al. On the discovery of the ancient Egyptian music scale. EgyptSound (online)

¹⁷⁰ Chisholm H ed. (1911) "Nay". Encyclopædia Britannica (11th ed.). Cambridge University Press.

¹⁷¹ Satilmis Y. "Fingering of two popular scales on two common Turkish nay types". fromnorway.net. Archived from the original on 2016-04-12.

length.¹⁷² This equation however, ignores several factors that could affect its accuracy, including the mouth and end openings effect, the material used, number of bamboo nodes and also the effect of the holes' position and diameter. ¹⁷³

With the current uncertainty about the origin of the Coptic music and its potential ancient roots, I designed this study with the objective of producing convincing replicas of the Pharaonic nays using currently available methods in Egypt, and testing their ability in producing the *maqams*/melodies of the St Basil liturgy which we analysed and identified in Chapters 2 and 3. The results of this study are expected to provide plausible insights into the relationship between the melodies of the St Basil liturgy and the ancient Egyptian music. In addition, comparative assessment of the components of the Pharaonic nay should provide some insight into the patterns of ancient Egyptian as well as other neighbouring music, of different civilisations which existed at that time, 5000 years ago.

Methods

I visited the Department of Ancient Egyptian music of the Faculty of Music Education of Helwan University in Zamalek, in January 2016 and discussed the project with Professor K El-Malt who confirmed the ability of some of the Egyptian music craftsmen to produce replicas of the ancient instruments similar to the ones found in recent excavations in Fayoum and Behnesa, and currently preserved in the Egyptian museum, Cairo. I also visited the Head of the Coptic Music Department of the High Institute of Coptic Studies in Cairo, Professor M Ibrahim, for further discussions and assistance. He confirmed the same information and

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¹⁷² Wolfe J, Fletcher NH and Smith J. "Interactions between wind instruments and their players" Acta Acustica united with Acustica, (2015); 101: p 211-223.

¹⁷³ Boutin H, Fletcher N, Smith J and Wolfe J. "Relationships between pressure, flow, lip motion, and upstream and downstream impedances for the trombone" J. Acoust. Soc. America. (2015), 137; p 1195-1209.

commissioned the production of a set of nay replicas by the most experienced craftsman, A Fouad. The nay replicas were then made and shipped to me in the UK. The nay set (Figure 2) consisted of a series of six replicas of ancient Egyptian flutes, each made of different bamboo, four of them with unique numbers (all engraved in Arabic), 69814 to 69817 (Figure 2), referred to as I-IV, of a length of approximately 90 cm, similar to the original ones discussed above. The other two bamboo nays were shorter (39.1 and 40 cm) and carried the serial numbers 61869 and 81869, and will be referred to as V and VI, respectively. Each nay has a unique number of holes and distances from the mouth opening and also between holes which determine the desired unique sound and frequencies. Mina Salama (MS), an experienced musician and nay player, tested the nays and compared them with the cotemporary used Arabic ones and with other non-Pharaonic flutes.





Figure 2: The set of replica nays with their serial numbers on them (in Arabic)

To assess individual nay frequencies, we used a DA pro tuner; each displays the note frequency, the dB (decibel) and tune measurement with accuracy colour display and the exact octave.

Results

The set of nays replica was compared with those present in the Egyptian museum in Cairo, the description and measurements of which have been previously published. ¹⁷⁴ The published description of the Pharaonic nays did not mention the exact methods or tools used to produce them. The four long nays (I-IV lengths) were nearly equal to the original ones. Likewise, the number of holes and their distance from the mouth opening were not different from the originals. For unclear reasons, the other two short nays (V and VI) carried different numbers (61869 and 81869) from those displayed in the Egyptian museum which carried numbers (CG 69818 and CG 69819).

Comparing the six nays replica provided evidence for technological evolution with the oldest, nay I, being the longest, and the most recent nay VI the shortest (Table 1). The longest nay I (90 cm) also had the widest diameter (1.7 cm) and has only three holes. The shortest nay VI (39.1 cm) had the smallest diameter (1.6 cm) with ten holes; eight in the front and two at the back. The short nay showed some similarities to the contemporary Arabic nays, again suggesting a chronological development (Table 1).

¹⁷⁴ Effat M et al. On the discovery of the ancient Egyptian music scale. EgyptSound (online)

Table 1: Comparison of Nay dimensions between the replicas and originals

Nay	I	II	III	IV	V	VI		
Length (cm)	91.7	89.1	93.2	74.4	39.1	40		
	1.7	1.5	1.7	1.6	1.5	2.0		
Mouth end diameter (cm)	1.7	1.5	1.7	1.6	1.5	2.0		
Distal End diameter (cm)	1.7	1.2	1.6	1.7				
Number of holes	3	4	4	3	9	9		
Distance from mouth end to	Distance from mouth end to							
holes (cm)								
First	57.9	54.1	56.7	54.6	13.8	12.7		
Second	64.0	60.0	63.7	61.3	16.5	15.6		
Third	72.5	69.6	73.3	65.0	20.7	18.8		
Fourth		76.4	81.7		23.8	21.4		
Fifth					26.4	24.3		
Sixth					29.0	27.0		
Seventh					29.8	30.5		
Eighth						33.8		
Distance from mouth end to								
back holes (cm)								
First					16.5	14.5		
Second					26.4			

Note frequency analysis: As expected and despite the varying number of holes in the six individual nays, the raising note frequencies was exponential but different between them. The lowest frequency ranged between 329.5 Hz (nay I) and 416.8 Hz (nay IV). The highest frequencies were produced by the two short nays, 1474.7 Hz (nay V) and 1580.3 Hz (nay VI) Table 2. Also, not all nays could produce the fullness of notes, let alone the difficulty in producing the ones in the table. The nay that could produce (with technical ease) the largest number of notes with their variations was the short nay VI, which I believe is the most recently developed one and which is the nearest in design to the contemporary nay.

Table 2: Frequencies (in Hz) of notes produced by the 6 nays replica

Ι	П	III	IV	V	VI
E4 - 329.5 F#4 - 370	F4 - 349.3	F4 - 345			F#4 - 372.5
G#4 - 416	G4 - 388.7 G#4 - 425.3	G4 - 384.4 G#4 - 423.4	G#4 - 416.8	G4 - 381.9	G#4 - 410.8
A4 - 440.4	A#4 - 469.5	A#4 - 473.9	A#4 - 457.0	A4 - 434.6	A#4 - 459.4
B4 - 499.6			B4 - 482.2	B4 - 480.8	B4 - 500.1
C5 - 511.7 C#5 - 560.5	C5 - 526.8	C5 - 531.2 C#5 -562.5	C5 - 534.9	C5 - 518.1 C#5 - 568.4	C#5 - 556.8
	D5 - 588.7	D#5 - 634.9	D#5 - 621.3	D#5 - 620.1	D#5 - 617.9
	E5 - 643.3		E5 - 617.6		
F5 - 689.1	F5 - 695.2	F5 - 712.8	F5 - 706.7	F5 - 716.1	F5 - 695.1 F#5 - 760.0
	G5 - 780.5	G5 - 831.4	G5 - 786.2 G#5 - 831.4	G5 - 768.5	G5 - 765.0
				A5 - 868.4	A5 - 870.7 A#5 - 939.5
				B5 - 968.5	
				C6 - 1068.8	C6 - 1025.0
				D7 - 1166.3	D6 - 1141.5
				E7 - 1306.6	D#6 - 1475
				F#7 - 1474.7	F6 - 1392.2
					G6 - 1580.3

Comparison of the nays replica with the contemporary Arabic nays

Overall, by critically examining and comparing the Pharaonic nays, one can see some differences between the two sets. Although the length of nay VI and the contemporary nay is not different, the main difference is in the number of back holes, with the former having two back holes and the latter having only one hole. Also, the exact frequency of some of the notes is slightly different in nay VI compared to the contemporary nay, suggesting that the latter developed in order to match the Arabic music, whereas the former was made in a design that allowed it to produce the desired music in the old times. The same explanation applies to the long replica nays with only three holes which were made to produce very simple music in the old kingdom, with a limited number of musical notes that could be played.

Overtime evolution of the nays

Nays I-III seem to be the earliest ones, a suggestion supported by their similar length and diameter. While nay I had only three holes with small diameters (6 mm each), nay II and nay III had four holes each of significantly and similarly wider diameter (10 mm each). Also, the number of nodes differed significantly between the three nays being eight, six and nine respectively. Nay IV had five nodes and has shown a further development, being shorter than the previous three nays and contains three holes of mixed diameter, different from the previous three nays, one small (5 mm) and two larger holes (7 mm each) (Figure 3). Interestingly, the larger hole diameter is the same we found in nays V and VI (Figure 4). This observation suggests perpetual technical evolution in the nay production. Also, the distribution of the holes in the two short nays V and VI is not similar, being eight holes in the front and one in the back in nay V, and seven in the front and two holes at back in the more recent one, nay VI. Of note, the two short nays, V and VI, are made of two nodes each.

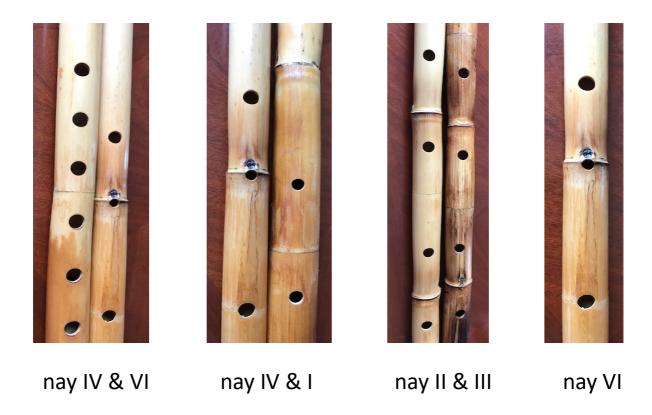


Figure 3: Comparison of hole number, location and diameter between individual nays

Comparison of individual nay note frequencies (Effat vs Salama)

In each nay note frequencies increased, as expected, starting in the 300s and rising to 700. The published frequencies missed few notes, probably because the investigators could not obtain satisfactory values for them. We were successful in obtaining frequency range for each individual note. Those frequencies were close to the ones published by Effat with only little differences (Table 2). We hereby compare the corresponding frequencies of the notes determined by Effat despite being able to obtain more frequencies, depending on the mouth position, player position, strength of blowing, lips tension and position of the nay (Table 3).

Table 3: Comparison of note frequencies produced by the replicas with the original ones according to Effat et al.

Effat I	Mina I	Effat II	Mina II	Effat III	Mina III	Effat IV	Mina IV
	E4/F4: 329-343						
F: 345.7	F#4/G4:383-392	F360.9	F4:343-349	F: 343.1	F4:343-346		
G: 390.7		G401.2	G4: 386-390	G 390.4	G4:383-384		
	A4: 440-444 A#4/Bb4:460-468	Ab 441.7	A4: 415-423	Ab 419.9	Ab4:423-426	A 418.9	A4: 442-449
Bb: 468.5	B4/C5: 502-512	Bb 489.3	Bb4: 466-472	Bb 468.8	Bb4:478-479	B 468.4	B4: 485-493
C: 517.6	C#/D5: 569-581	C489.3	C5: 518-534	C 518.2	C5:526-535	C 496	C5:523-534
D: 585.1		D 529.9	D5: 587-597	D 563.7	D5:575-584	D 540.5	D5:594-600
		Eb 605-684	Eb5: 621-634 E5: 679- 685	Eb 634.8	Eb5:615-623	E 625.2	E5:669-670
F: 771.5	F5/F#5: 709-720	F 773-801	F5: 702-716	F703-801	F5:698-707	F# 687.3	F#5:720-727
	G5: 768- 784		G5: 800-811		G5:791-800	G 782.2	G5:783-791
						A 839.5	A5:833-844

Analysis of individual nay melodies

Nay I seems to be pentatonic but the rest starting from nay III could be considered heptatonic. Nay I could produce only few of the Arabic *maqams* and melodies of the St Basil liturgy with some technical difficulties. Despite having only four holes, nay II successfully produced a full octave with all melodies but this was at the expense of a significant number of finger position variations and a lot of effort from the player to remember the whole melody and finger

movements and positioning. Also, the playing technique of nay II was quite different from nay I, again suggesting an evidence for development. Nays I and II notes started from F4, thus suggesting an old desire to maintain the pitch of each hymn, while improving the scale flexibility which can easily be seen when comparing nay II with nay I.

Comparing the two short nays with contemporary Arabic nays

The two short nays V and VI look similar to the kawala (Ancient Egyptian Flute) which is very similar to the contemporary nay. This observation is based on the small and closer number of nodes between the two short nays and the kawala, being two in the short nays and five in the kawala. The distal end of the nay also seems to be different in the two short nays from the long ones, being funnel shaped in the former compared to the latter. These findings suggest that the two short nays resemble unique instruments for sharing similar length, number and diameter of holes as well as a funnel shaped end, despite the difference in the arrangement of the order of the holes in the front and back, as described above.

It must be mentioned that the two short nays, V and VI, are still quite different from both contemporary nay and contemporary kawala with the following differences: 1) the contemporary kawala has only six holes designed in two groups of three each, with no holes at the back, in contrast to the contemporary nay which has one back hole; 2) the position of the holes with respect to the nodes is also standardised in the contemporary nay in contrast to the two old short nays in which the holes are at a similar distance from each other; and 3) the difference between the contemporary nays and kawala is further strengthened when the two short nays are compared with the long ones which do not have back holes.

Reproduction of the St Basil melodies using the nays replica

Nay I produced only few melodies of the liturgy of St Basil. The best *maqam* played on nay I was the minor (*Nahawand*) with its unique place at the pre-fraction prayer of the St Basil liturgy and its solemn feeling. This applies to both the priest prayer (Chapter 3) and the congregational responses (Chapter 2). The consecration prayers and the sacrament disclosure prayers can also be played and their *maqams* produced by nay I, but with significant technical difficulty with finger positioning, and the sound itself was never as clear as the one produced by the short nays. Of course, the effect of the nay length itself, rather than its pure design, on the pitch should not be ignored. Likewise, the notes played to generate the Bayati *maqam* were slightly different when played by nay I. Although the overall melody was not too dissimilar, it gave a quite different impression to the solemn feeling we are currently accustomed to. This finding supports our previous chronological description of this nay and its use in worship ceremonies (Chapter 1).

Nays I and IV were similar in their ability to produce most of the St Basil liturgy tunes with better sound and easier technical playing of the latter more than the former. On the other hand, nays II and III seem to be similar to nay IV in the technical ease of playing, particularly because of their similar length. Nays I and II seem more difficult than nay IV because of the distance between the two distal holes and the two proximal ones as well as the distance between the two distal holes themselves. In addition, the finger position for closing those two holes differed; while it was the tip of the middle finger that closed the most distal hole, it was the middle phalanx of the index finger that closed the hole before last in nay II. Finally, nays I-III produced a deep, dark and quiet sound compared to nay IV and the two short nays V and VI, as the sound they produced tended to be more bright, loud and clear.

Comparing the sound of individual hymns and prayers using various nays showed the following: all Section 1 of congregational hymns (Chapter 2) and priest prayers (Chapter 3) were played on all nays but nay I with less accuracy compared to nay IV and the short nays. All Section 2 hymns and prayers were played on nay I but again with approximately only 50% accuracy. Section 3 responses were produced using nay I but again with technical difficulty and unclear sound. As for Section 4, the bayati maqam was played on nay I but with significant technical difficulty and unclear sound.

<u>Video C</u> shows contemporary nay and kawala in comparison with nays replica I, II and VI in producing a minor scale - Nahawand.

Note frequency analysis of Nay I, IV and VI as well as contemporary nay and kawala

A note frequency analysis of different nays playing the Nahawand *maqam* was performed by power spectrum analysis (Figure 4). The spectra were determined using the fast Fourier transform analysis ¹⁷⁵, where the audio recordings were first divided in short blocks and then the spectrum for each block was determined. For this analysis, the blocks were approximately 0.25 second long. Finally, the averaged spectrum was calculated. A note that is played in many segments results in a spectral peak that will be high in the averaged spectrum, whereas less common notes will result in peaks of low height. Thus, the power spectrum gives a picture of the frequencies of notes that were used when the complete musical piece was played. Therefore, in the averaged spectrum, one can see both the notes that were played in the piece as well as how often each note was played as this is reflected in the height of the peaks (part of the height could depend on how loud the note was), Figure 4.

¹⁷⁵ Knapp AW. (2006). *Basic Algebra*. Springer. p. 501. ISBN 978-0-8176-3248-9.

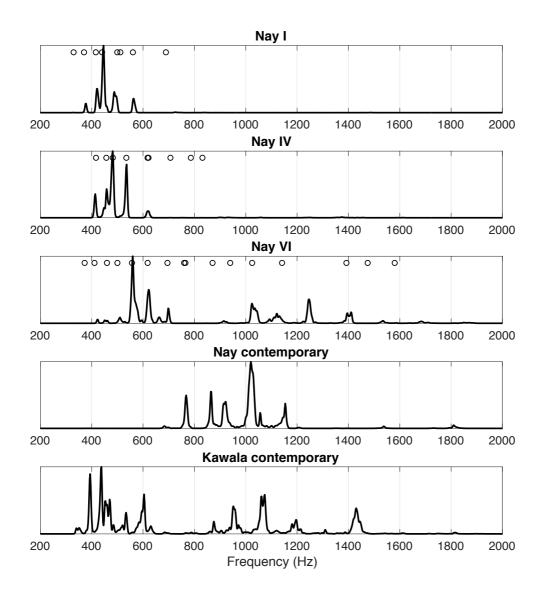


Figure 4: Note frequency analysis between nays I, IV, VI and the contemporary nay and the Kawala for the recordings of the the minor scale - Nahawand.

The location of the largest peaks illustrates the differences in the melody sound. Nay I had the lowest frequency, followed by nay IV then nay VI. The contemporary nay had the highest frequency whereas the Kawala had the richest frequency content. The circles in the figure show the note frequencies for nays I, IV and VI from Table 2. Thus, for nay VI, the peak without circle at approximately 1240 Hz appears to be a harmonic to a note at one half of the peak's frequency, which according to Table 2 should be D#5 (in the figure the peak for D#5 is at

approximately 620 Hz). This analysis demonstrates the perpetual progression of frequency development with the change in culture over time.

In summary, all melodies of the St Basil liturgy could be produced by the short nays V and VI but with slightly different intervals, to what we currently have; even the minor scale (Nahawand *maqam*) is different from its respective contemporary. Such evidence for melodic change over time is supported by many other cultures. ¹⁷⁶ However, the age of and the material from which the nay is produced could also have an impact on this observation. Our finding might also suggest that the scales used in the St Basil liturgy music are not originally Arabic but may be related to the Ancient Egyptian scales, and the instrument evolution dictated the style of music currently used in worship. Even if that is the case, the findings show that some of the Coptic melodies of the St Basil liturgy may not be very ancient, based on our failure to reproduce them using the oldest nay. This suggestion is only supported by the nay sound analysis, which needs to be confirmed by sound analysis of other instruments. The chronological rise in nay frequencies is also interesting in showing culture changes and musical development over time which dictates instrumental requirements.

Comparison of the Pharaonic with five other non-Pharaonic flute replicas

Having demonstrated that the Nahawand was the easiest *maqam* to be played by the oldest nay replica I, the researcher questioned whether this relationship is specific – which would strengthen the suggestion of an ancient *maqam* – or incidental. To answer this question, we compared the note frequency analysis described in Figure 4 with those obtained from Irish, Native (American), Chinese, Chakuhachi (Armenian) and Bawu flute replicas. The structural

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¹⁷⁶ Richard Hodges, 'The musical scale and its intervals,' http://www.richardhodges.com/MusicalScale.htm - accessed on December 20 2020.

comparison between the Pharaonic nays replica and the non-Pharaonic flutes is detailed in Table 4. The same musician (MS) played the Nahawand *maqam* on these flutes, Figure 5.

Table 4 Structural comparison between the five Pharaonic nays and non-Pharaonic flute replicas

	Pharaonic	Contemporary	Irish	Native	Chinese	Shakuhachi	Bawu
	Nay	Nay + Kawala	Flute	Flute	Flute		
Blowing angle	450	450	900	0_0	900	00	0_0
Additional	0	0	0	0	0	0	Yes
mouth piece							
Number of segments	2-6 Average	5 (Kawala) 9 (Nay) for all	3	4	2	5	4
Segments) (11ay) 101 all					

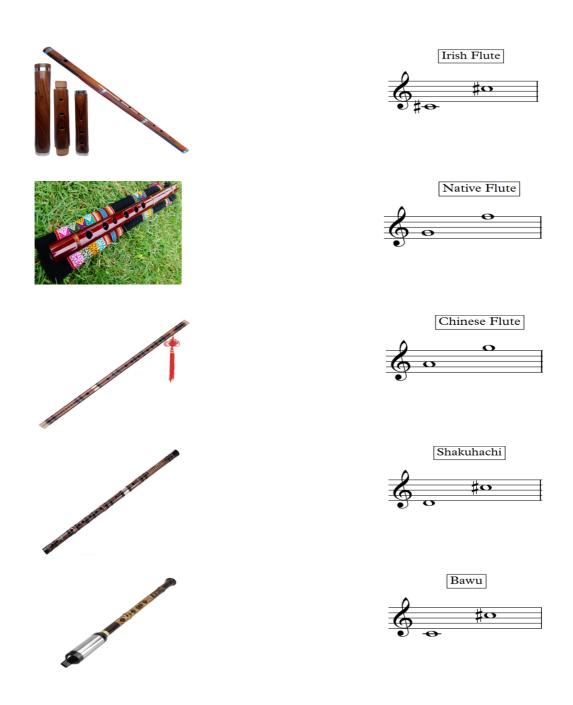


Figure 5: The five non-Pharaonic flutes (left) and their corresponding note range (right)

Comparison of the oldest Pharaonic nay with the bone flute

The bone flute is the oldest flute in the world ¹⁷⁷, with the earliest known handcrafted flute found in 2009 in the Hohle Fels cave, located in southwestern Germany in an area known as Swabia. It was hollowed from the bone of a griffon vulture and measured 21.8 cm long, Figure 6.



Figure 6: The bone flute (left) and its corresponding note range (right)

¹⁷⁷ Higham T et al. Testing models for beginings of the Aurignacian and the advent of figurative art and music: The radiocarbon chronology of Geibenklosterle. J Human Evolution. 2012; 62: p 664-676.

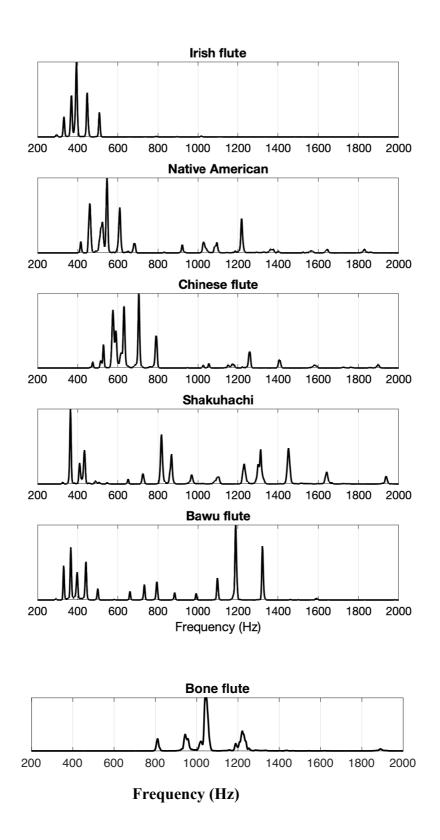


Figure 7: Note frequency analysis between the five non-Pharaonic flutes and the bone flute for the recordings of the Nahawand maqam.

The Irish flute was the most limited among the five non-Pharaonic ones, with frequencies varying from 250-450 Hz, Figure 7. The Native American, the Chinese and the Shakuhachi

have wide range frequencies, with the highest ones at 500, 600 and 300 Hz, respectively. The Bawu flute was the only one with wide range frequencies; the highest ones exceeding 1000 Hz. Analysing the bone flute using the same methods discussed above revealed its frequency range between 800 and 1200, with the highest frequency uniquely at 1100 Hz. Despite its age and material, it seems that the bone flute is the closest in its frequency distribution in producing the Nahawand *maqam* to the contemporary Egyptian nay. The Pharaonic nays replica I-IV were not too dissimilar in their frequency distribution from the other non-Pharaonic nays, having the highest frequencies ranging from 400-600 Hz. These findings show that a melody similar to the Nahawand Arabic *maqam* is unlikely to be unique for the old Pharaonic nay since it could be played on the other non-Arabic, non-Pharaonic flutes, despite different precision and different sound feeling. This difference could be explained on the basis of the acceptable differences in people's voices between countries and between regions within the same country. Thus, the produced music is expected to be matching the familiar voices of the dwelling population in that particular area. These findings raise more doubt that the Nahawand *maqam* produced by the oldest Pharaonic nay replica is originally Pharaonic.

Summary and discussion

In this study, we succeeded in producing a set of Pharaonic nays replica and comparing them with those displayed in the Egyptian museum in Cairo, the description and frequencies of which have been previously published. Our findings show that the nays replica are almost similar in length, number of holes and overall design compared to the originals. Also, the note frequencies produced by the nays replica are very close to the originals, with less than 5% variability between them for each frequency. In addition, when we tried to produce the liturgy scales using the Arabic *maqams*, as previously reported in Chapters 2 and 3, the two short nays, the youngest in design, seemed to be the most accurate in producing all the St Basil hymns and

prayer *maqams*, but the produced sounds were somewhat different from what our contemporary nays produce.

Although these findings were exciting in showing a success in achieving the main objective in reproducing the St Basil responses and prayers melodies using Pharaonic nays replica, a number of difficulties should be stated. Many variables, mentioned above, interfered either individually or together in the accuracy of this investigation, mainly the comparison between our methods and those published by Effat. Although internationally renowned nay player, Effat might not have had the exact technical support i.e. tuner currently available and was used in this investigation. He might also have had limited time to test the original nays and to record, even on cassettes, the sounds they produced and to describe exactly the method he applied to produce those frequencies. Furthermore, despite the close similarity in nays' length and number of holes, Effat did not report the hole diameters as we did and which we consider to be an important determinant of the sound production because of the associated variability in finger positioning, particularly in playing the long nays. As for the reproduction of the St Basil liturgy responses and chants music, our findings suggest few interesting points. Firstly, the fact that the most recent nays (short) successfully produced, even partially, the melodies of the St Basil liturgy, the text of which is composed approximately in the 5th century but its exact music age is not known, suggests a potential relationship between the two. However, it was only the pre-fraction responses (hymns) and prayers in the minor scale (Nahawand magam) that could be produced by the oldest (long) nay. All the rest of the responses and chants of the liturgy could only be partially produced by the long nays, but almost completely produced by the short ones. This might suggest a potential chronological relationship. Secondly, despite the ability of the short nays to produce the Nahawand magam, the quality of sound gave different feeling

perception ¹⁷⁸, suggesting somewhat different notes from what contemporary Arabic nay produce and our ears are accustomed to. This finding could be explained in two ways: either the replicas' sound was plausibly close to what was used, and what we are currently accustomed to is a further development over the years with the various modifications in the nay production; or those hymns are partially old and partially affected by other culture developments, since even the age of the short nay could not be determined. Thirdly, the four long nays I-IV could not produce microtones, therefore would not be expected to produce the vast range of the St Basil liturgy responses and prayers which are rich in microtones. Fourthly, the time-related change in people's voice quality and pitch could explain the reported differences. The geographical and cultural effect on the sound production and perception issue is further supported by the comparison we made between the note frequency analysis of the Pharaonic replicas and the other non-Pharaonic replicas, again when the same Nahawand magam was played. Although it was achievable to produce the same melody, the quality of the sound was somewhat different. Furthermore, the fact that the same *magam* could be produced by non-Pharaonic flutes negates the suggestion that the Nahawand piece of the St Basil liturgy is unique for the oldest Pharaonic nay.

As for the nays replica used in this study and their effect on the results, we have no doubt about the originality of the nays present in the Egyptian museum, on which the replicas were based, since a copy of the oldest (nay I) was used in the Opera Aida performance years ago in Egypt, and its production and authenticity were well documented at the time. ¹⁷⁹ Of note, our nays replica are not a new invention. Dimkaroski produced over 30 wooden and bone replicas of the Divje Babe I Cave flute and tested them. The replicas were made from femurs

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¹⁷⁸ Samuel M. The effect of music on man, the science of sounds and the use of sound waves in music therapy, p 57.

¹⁷⁹ Deluxe Travel 'Opera Aida performance at the Giza Pyramids 2018,' *Viator: a TripAdvisor company* - https://www.viator.com/en-GB/tours/Cairo/Opera-Aida-performance-at-the-Giza-Pyramids-2018/d782-10124P61 - accessed on 1 March 2021.

of juvenile brown bears provided by the Hunters Association of Slovenia, but also calf, goat, pig, roe and red deer bones. Having tried them all, he focused on playing the replica made of a femur of a juvenile cave bear in order to come as close as possible to the dimensions of the original, and indeed he managed to reproduce a similar sound to the original pentatonic flute. ¹⁸⁰ Having identified the limitations of the four long nays, I-IV, I think that they seem to have been produced for meditation and worship reasons based on their difficult playing techniques, while the two short ones, V and VI, are mainly to accompany the vocal singing because of their ease of playing and flexible pitch production that accommodate different voices. The sound produced by the four long nays seems to be better heard on its own not accompanied by singing, hence the difficulty in its production of the melodies that exist in the St Basil liturgy, all of which accompany human voices. Finally, although made of bamboo, the simple structure of the old nays I and II resemble the earliest known handcrafted flute found in 2009 in the Hohle Fels cave and also the 18.7 cm long flute with three finger holes which was carved from a mammoth's tusk by European Ice Age dwellers, which was also found in Germany and is dated to at least 30,000 years ¹⁸¹. Other old flutes were also made of animal tibias. Archaeological claims show that the oldest four holed Chinese flute (nay) found 6,000 years BC was made of crane bone. ¹⁸² With this in mind we cannot be sure about the exact origin of ancient Egyptian nays, as some documents state that it has animal origin before bamboo was used, as in other civilisations. In contrast to these arguments, Armand D'Angour has recently succeeded in rediscovering the ancient Greek music played over 800 years BC. ¹⁸³ Perhaps what helped him

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¹⁸⁰ Turk M and Dimkaroski L (2011). "Neandertalska piščal iz Divjih bab I: stara in nova spoznanja" [Neanderthal flute from Divje babe I: old and new findings]. In Toškan, Borut. Drobci ledenodobnega okolja. Zbornik ob življenjskem jubileju Ivana Turka [Fragments of Ice Age environments. Proceedings in Honour of Ivan Turk's Jubilee] (PDF). Ljubljana: Založba ZRC, ZRC SAZU. p. 251–65. ISBN 978-961-254-257-3. Archived (PDF) from the original on 2015-05-28.

¹⁸¹ Fountain H. After 9,000 Years, Oldest Playable Flute Is Heard Again. Science 1999, 28 Sept.

¹⁸² Osteological symmetry of the Camel by Walter Adam. By Richard Taylor, Red Lyon Court 1832. p 567-568.

¹⁸³ D'Angour A. Rediscovering ancient Greek music. Oxford University Press's Academic Insights for the thinking World, June 2018.

to achieve that was the music notation found on stones, with clear wording and accents. He composed the rest of the missed accents based on his experience of Greek music. We were unable to achieve a similar target in our study because of the mentioned limitation as well as our objective being different, i.e. to test the possible reproduction of the current melody of the St Basil liturgy using the replica nays.

Study limitations: It is unfortunate that the comparison between the two shortest nays replica V and VI and their respective original ones was not critical because of the lack of published information about them. The diameter of the holes was not measured in Effat et al's published study; this factor might have impacted the produced sound and its frequency. Our hole measurements could help in determining a potential development factor between individual nays as well as the previous comments on the finger positioning on the holes, particularly in nay I which is characterised by the smallest holes. The age of the bamboo the nay was made from might also have had an impact on the produced sound. This should not affect our conclusions since recently-developed metal nays are able to produce scales not too different from the traditional bamboo ones, despite slight differences in the character of the sound. We anticipate that at the time of Effat et al's study there was no available digital tuner systems, so the exact A4 reference could not be determined with relation to 440 Hz. The nays replica are slightly longer than the reported ones, by an average of 10 mm, half of it used for a small additional mouth piece to assist the lips in grasping the mouth end while blowing, thus making the player comfortable. This could affect blowing direction, and hence explain the slight differences in the note frequencies reported above. This was not described in the original nays by Effat et al. Finally, the exact age of the non-Pharaonic flutes was not known, a variable that might have had an impact on the note frequencies and consequently interpretation of the findings. It should be remembered that the "flute" represents a system, consisting of instrument

and player, who equally implements aesthetic premises and music theoretical knowledge. It has a great influence on octave positions, pitches and sound. The reproduction of these performative parameters could be speculative, since neither for the time of the Pharaohs nor for the Coptic liturgical context in "the 5th century" is there knowledge available in this regard.

Conclusions: In this study, we succeeded in producing nays replica similar to the original Pharaonic ones present in the Egyptian museum and to critically compare their features, frequencies and ability to produce the melodies of the St Basil liturgical music according to the Coptic rite. Our findings present clear evidence for technical evolution between nays, suggesting chronological era changes, with limited old and easier recent capability of playing and producing melodies similar to what is currently known. Also, the fact that the same *maqam* could be played by replica flutes from other cultures could bring into question their Pharaonic origin. Furthermore, the consistent difference in the sound quality and melody details of the short (most recent Pharaonic) nays compared with the contemporary Arabic ones suggests a non-Arabic origin to this part of Coptic music. The limited scale production of the oldest nays may suggest their being used to produce guiding notes to singers rather than accompanying full melody. While the Coptic melodies may probably be related, to some extent to the ancient Egyptian music, what is currently familiar is possibly influenced by the impact of the available instruments. This thought-provoking suggestion needs to be further investigated.

Chapter 6

Discussion and conclusions

The exact roots of the Coptic music and its creators is so far unknown. The search for the latter remains quite a challenge in the absence of their identity, especially if they were monks as they would normally adopt a spirit of humility and self-denial. Speculations have been put forward suggesting the impact the Pharaonic, Jewish and Greek 184 185 cultures may have had on the development of the Coptic music, just as the Jewish music affected the Byzantine and the Syriac music. ¹⁸⁶ Some musicians also believe that the Coptic music might have been affected by Arabic music after the 7th century. The issue is complicated by the variety of patterns existing in the Coptic music; liturgies, priest chants, hymns, midnight praises etc. Despite such a wealth of material – other than literature reviews – no empirical studies have analysed the style of Coptic music and compared it with the above proposed sources, either to confirm or refute potential relationships. This thesis focused on studying the music of the St Basil liturgy according to the Coptic rite, in an attempt to determine its features and possibly age. This was achieved by detailed analysis of the musical patterns of the liturgy, of both the priest chanting and the congregational responses. In addition, those melodies were tested using Pharaonic nays replica, and the Greek responses were compared with those currently sung in the Byzantine tradition in an attempt to identify potential respective ancient Egyptian or Greek associations.

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¹⁸⁴ Robenson M. Coptic music (Description of the corpus and Present Musical Practice), Claremont University, 2010 (CE:1715a-1747b)

¹⁸⁵ Gillespie J. "The Egyptian Copts and Their Music." Notes preceding the Translation of the Liturgy of St. Basil.

¹⁸⁶ Altägyptische Musik." In Der Nahe und der Mittelere Osten, Orientalische Musik, ed. B. Spuler, et al., supplementary Leiden, 1970, vol 4, p 135-170.

Having searched the currently available evidence, it has become clear that there is no formal description of the St Basil liturgy musical style and scales. This fact was already stated decades ago by Hickmann H ¹⁸⁷ who claimed that 'there is no known notation now in existence designed specifically for Coptic music'. Also, in view of the early attempts to notate the St Basil liturgy using the Western notations by R Moftah and M Toth, I opted to use the same method and adopt the well-established Arabic music and magams in undertaking the proposed detailed analysis of the liturgy. Audio analysis of some of the liturgical responses revealed significant discrepancies between three renowned musicians with at least 20 years' experience each in Arabic music, in determining the prevalent scale of each piece. This finding suggested a need for notating the liturgy ourselves and undertaking detailed performance and empirical notational comparisons. Having compared four sets of notations produced by eminent Coptic musicians, the results showed significant differences in the style of notation and the dominating magams. Although the compared pieces were very popular and well known among the scribers, the identified discrepancies support what M Toth ¹⁸⁸ previously claimed that 'every transcriber knows that there are different ways to write down a melody or a certain musical ornament'. They also support what M Robenson previously found. 189 These two sets of results raised doubt about the accuracy of the conventional Arabic music analysis in describing and comprehending the Coptic music. The simplest example for such claim was the absence of a complete Arabic scale in most analysed musical pieces, as is the case with most original Arabic songs, thus making the scale recognition based only on the tetrachord.

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¹⁸⁷ Hickmann H. "Le Problème de la notation musicale dans l'Egypte ancienne." Die Musikforschung (1957), p 512-18.

¹⁸⁸ Tóth M. "A Transcription of the Complete Liturgy of St. Basil." Cairo, 1970-1980.

¹⁸⁹ Robenson M. The Reliability of the Oral Tradition in Preserving Coptic Music: A Comparison of Three Musical Transcriptions of an Extract from the Liturgy of Saint Basil." Bulletin de la Société d'archéologie copte (1984), p 83-93; and 27 (1985), p 73-85.

In view of the abundant use of Greek language in most responses of the St Basil liturgy, the potential shared Greek root was also investigated in this thesis, using the thirteen relatively long and melodic Greek responses shared between the Coptic and Byzantine traditions, having excluded the frequently used **Kyrie Eleison**. This analysis also showed significant differences in melody and musical style between the two traditions in eleven responses, but shared melodies in only two responses. The two responses are part of the beginning of the liturgy of the Sacrament which is shared between most churches, not only the Coptic and the Greek. This finding confirms the very early place of such prayer in the universal church, as is the case with the consecration prayers. Furthermore, the early shared music between the Greek and Coptic churches in particular were among other similarities discussed in Chapter 4. However, the rest of the melodical differences between the two traditions refutes the suggestion of a potential common byzantine root for the Coptic melodies of the St Basil liturgical responses, and confirms what has previously been suggested, although not based on the St Basil Liturgy, that the Coptic music is likely to be related to the ancient Egyptian music. ¹⁹⁰

Finally, the potential Pharaonic origin for the St Basil liturgical music was empirically investigated taking an experimental approach by using nays replica specially produced for this study. Most pieces could be produced using the most recently developed short nays, the closest in design to the contemporary ones, but only one scale 'the Nahawand-minor scale' could be played on the oldest nay. Surprisingly, the same Nahawand scale was successfully played using other cultures' replicas such as Chinese, Irish, Chinese, Indian, South American and Japanese. This finding suggests potential evidence for musical instruments' evolution parallel to the perpetual progress of the Coptic music. In addition, it suggests that the musical instruments

¹⁹⁰ Hickmann H. "Quelques nouveaux aspects du rôle de la musique copte dans l'histoire de la musique en Egypte." Bulletin de la Société d'archéologie Copte 15 (1958): p 79-82.

were probably made to produce the desired sound that matches human voice rather than vice versa. Thus, based on the lack of documented evidence and on the empirical analyses of the contemporary melodies regularly used, it seems that the exact roots of the St Basil liturgical music according to the Coptic rite remain difficult to ascertain, particularly when compared to other ecclesiastical music, the Greek and the Syriac, which are well studied and documented.

In addition to the above musical root identification conclusions, this thesis identified interesting unique patterns of the St Basil liturgical music. Despite the limitations of using the Arabic music system in describing the Coptic melodies of the liturgy; clear music structure and pattern features have been identified. Melodically, the liturgy can be divided into seven sections based on the patterns and similarities between individual responses in each section. While the number seven of the liturgy sections was a pure chance, it might be related to many other uses in the Coptic church including the seven sacraments, the seven great Masterly feasts and the seven small feasts and the seven clerical ranks, as well as its many uses in the Bible, e.g. the Book of Revelation. 191 The St Basil music-based section classification might support the notion of music evolution of the liturgy over the years but is unable to specify a particular era when each musical section was composed. Also, it seems that the majority of the liturgical melodies fit into the Huzam magam despite the occasional transpositions, modulations and modification to other magams. The last two dominating magams in the liturgy are the Nahawand and the Rast, which feature only few pieces at the end of the liturgy, again supporting the idea of evolution, as discussed in Chapter 2. Finally, our analysis identified a unique magam 'Kemi' which does not exist in the Arabic music and which is profoundly present across the consecration section of the liturgy as well as being oblation-related. The Kemi magam may represent an original

¹⁹¹ 'Meaning of Numbers in the Bible: The Number 7,' https://www.biblestudy.org/bibleref/meaning-of-numbers-in-bible/7.html - accessed on Febuary 2 2021

melody that is unique for this part of the world since it is present in the consecration section of the three liturgies used in the Coptic church; St Basil, St Gregory and St Cyril. Importantly, those *maqams* usually follow the priest chants *maqams*, so they are not independent, as discussed in Chapter 3. The melody analyses also provided evidence for musical relationship between the liturgy of the Sacrament and the liturgy of the Word, with findings suggesting that the liturgy of the Sacrament was established before the liturgy of the Word. This is another finding that has not been described before, and is worth further historical studies. The main limitation of the thesis is the use of Arabic *maqams* to describe, what we and other international renowned musicians believe, non-Arabic music. The lack of any prior foundation analysis of the Coptic music, in particular that of St Basil Liturgy directed us to focus on the contemporary well-established melodies and applying the available research methods, used before.

In conclusion, the search unsuccessfully continues to identify the original creation of the Coptic music. However, the empirical analysis of the available melodies of the St Basil Liturgy shed light on some of its unique features. It is clear that the music is not completely Arabic, nor Greek or Pharaonic. It is, therefore, likely to have developed perpetually over the years, being impacted by various existing and surrounding close cultures. The patterns identified in this thesis suggest a unique development which is worth describing as 'ancient Egyptian'. This claim is supported by both E Newlandsmith ¹⁹² and N Menard ¹⁹³, although this description cannot, at this stage, be generalised to all parts of the Coptic music. Hence, in my opinion, the more analysis of the accurately notated Coptic music, the better we may confidently be able to unravel the truth about its existence and unique structure and features. We will also be in a

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¹⁹² The Ancient Music of the Coptic Church," lecture delivered at the University Church, Oxford. London, 1931. A Musician's Pilgrimage. London.

¹⁹³ "Une étape de l'art musical égyptien: la musique copte—recherches actuelles." Revue de la musique 36 (1954): 21ff.

position to improve the performance tradition, since it will be based on strong academic ground and clear understanding of the contents of different sections of the liturgy both lyrically and musically. Moreover, similar academic analysis of St Gregory and St Cyril currently practised Coptic liturgies should bring forth a wealth of knowledge on the nature and features of the Coptic music. Finally, comparative studies, similar to the one I undertook with the Greek melodies, with other ecclesiastical music, particularly the Syriac might shed light on some melodic commonalities which will add to better historic assertion of the roots of the Coptic music.

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Appendix A

Score 1: by Mina Salama

Άλληλογία Φαι πε πιέδοος



Score 2: by Margaret Toth and Ragheb Moftah





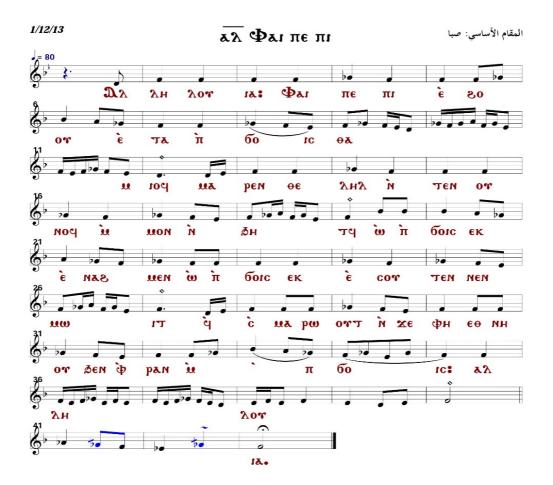
Score 3: by George Kyrillos



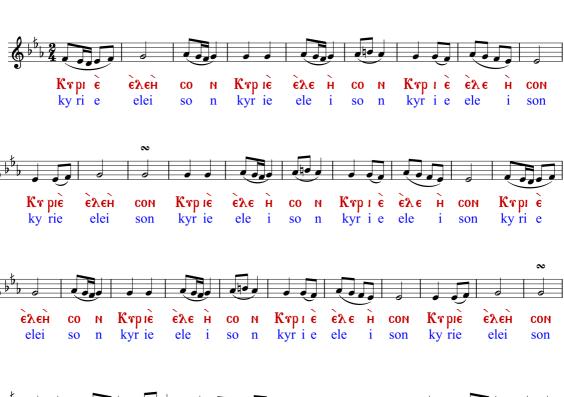
Music Transcription: George Kyrillos

الخنف غير الكامل (المتوسط) للنغمة الطبيعية (ميكروتون).

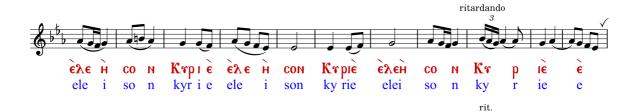
Score 4: A score by Abraam Guirguis



Kypie eleison





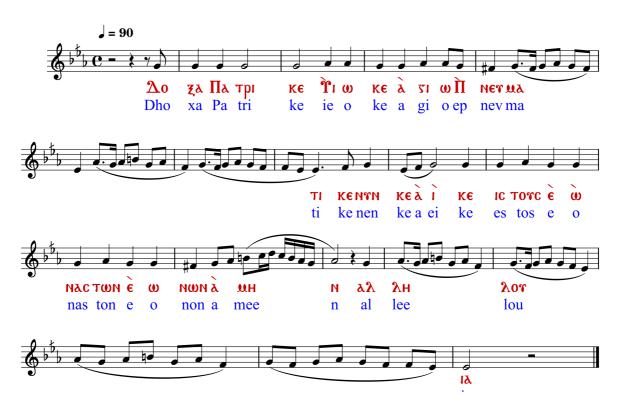




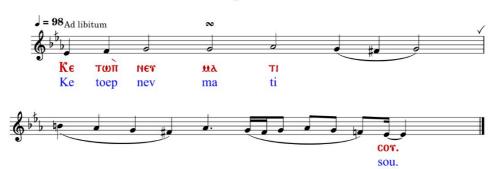
Δλληλογία. Φαι πε πιέδοον Alleelouia Vai Pe piehoou



$\Delta oza \prod_{Dohxa} \Pi atpi$



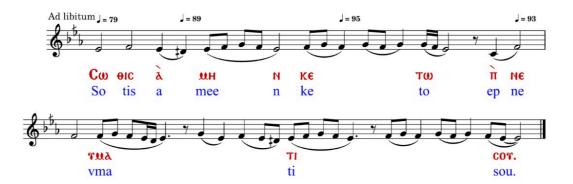
Ke to epevma ti so



Kγριε ελεμοοΝ Kyrie Eleison



Cweic auhn Sotis ameen



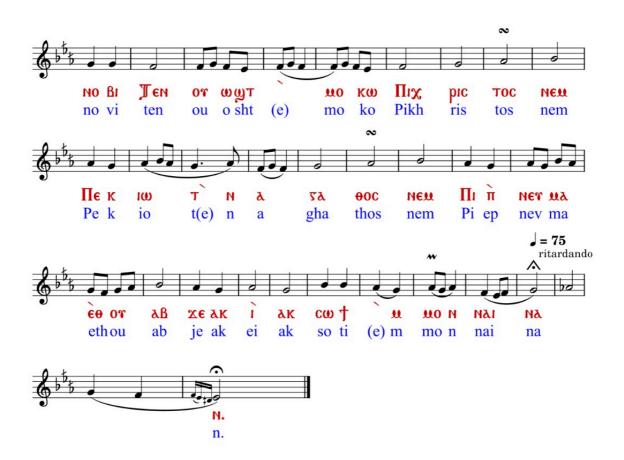
иэтіЅ

The Hymn of Intercessions









Xepe ne Uapia Shere Ne Maria



V210C



Δοχα ci Krpie Dhoxa si Kyrie



\mathfrak{A} $\lambda\lambda$ H λ OYI λ

Alleelouia

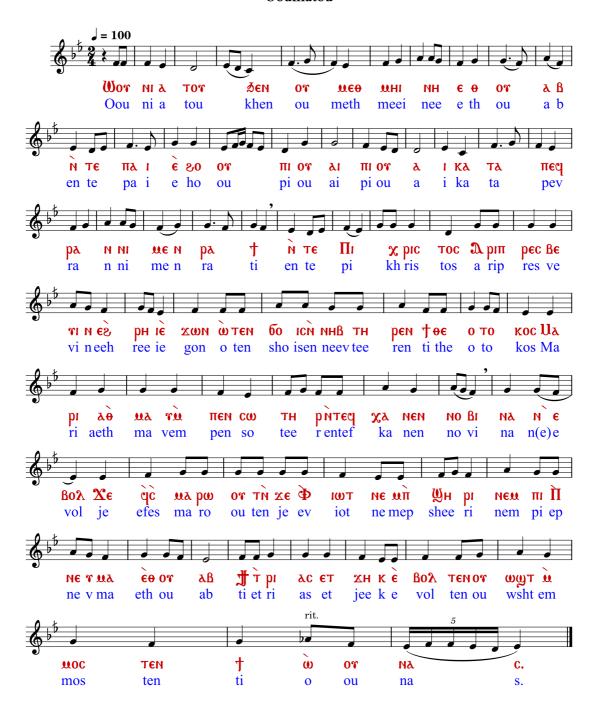


و المجدُ لله دامًاً Walmgdo lelahe Daeman

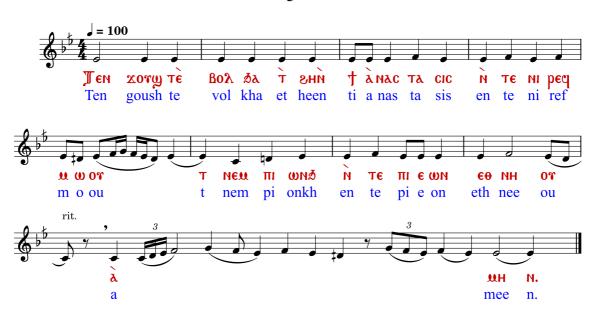


WOTHIATOR

Oouniatou



Jenzorwt Tengousht

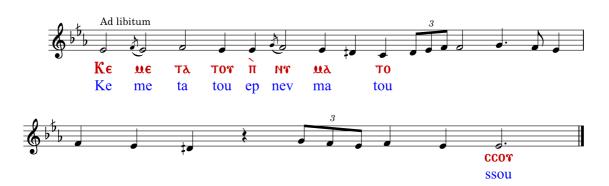


EITEN NIMPECBIA Hiten Niepresvia

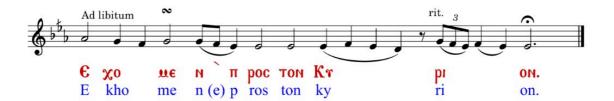


Κε μετα τον

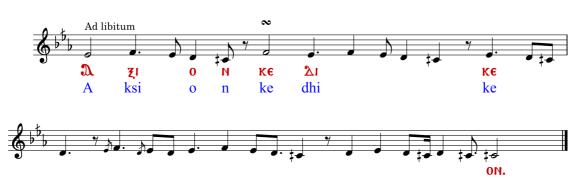
ke meta tou



Ekhomen Ekhomen



λξΙΟΝ ΚΕ ΔΙΚΕΟΝ Aksion Ke Dhikeon



on.

МіХєротвім

Nisheroubim



NHLL

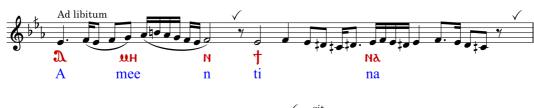
Ameen





tsan T nauc

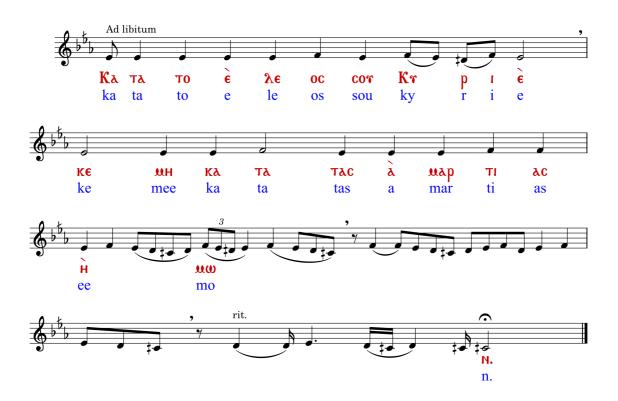
Ameen Tinahti





Score 26

Κατα το Kata to



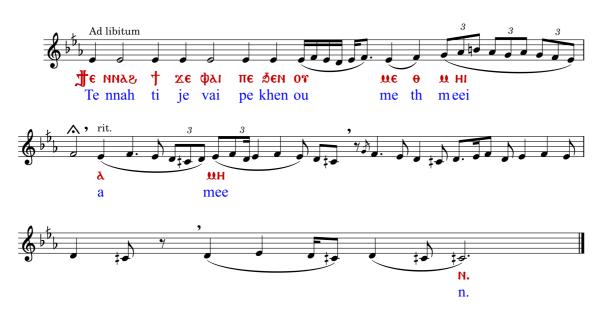
Score 27

TICTETOMEN Pistevomen



теннае те фаі

Tennahti je vai



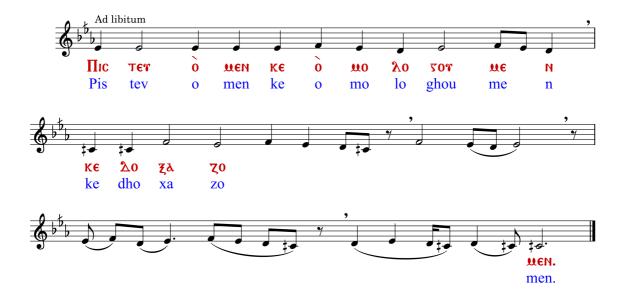
MULL

Ameen



Πιστετομέν κε ομολοσογιέν

Pistevomen Ke Omologhoumen



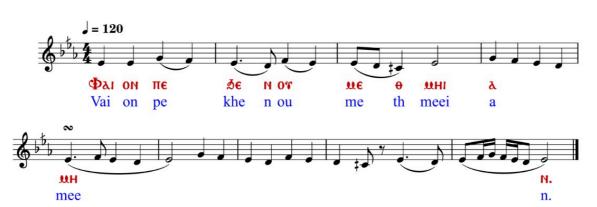
Фаі пе бен отпенині

Vai Pe Khen Oumethmeei



Фаі он пе

Vai On Pe

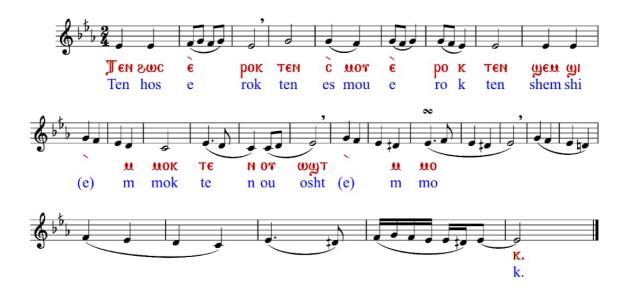


NOTANAO NOT NHUL

Ameen Ton Thanaton

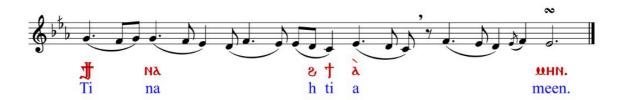


Tenswc epok Tenhos Erok



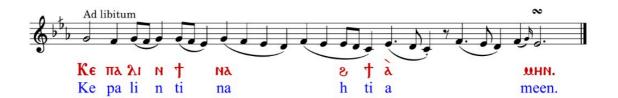
Score 35

#NAST AMHN Tinahti Ameen



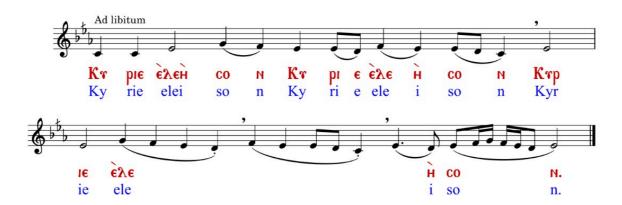
$K\varepsilon$ hadin that

Ke palin tinahti



Score 37

Krpie exemcon



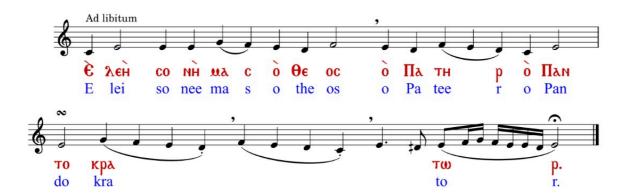
Score 38

Krpie exemcon



Score 39

EλεΗCON ΗΨΑC Eleison Eemas



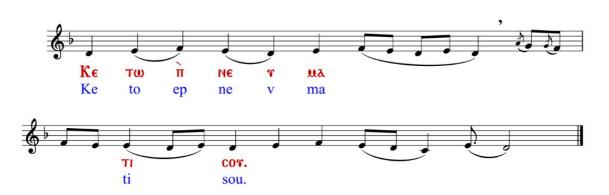
Epe norchor



Wcπερ HN Osper een

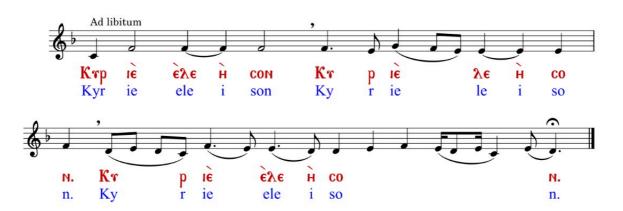


Ke to epnevma ti sou



Score 43

Krpie exemeon

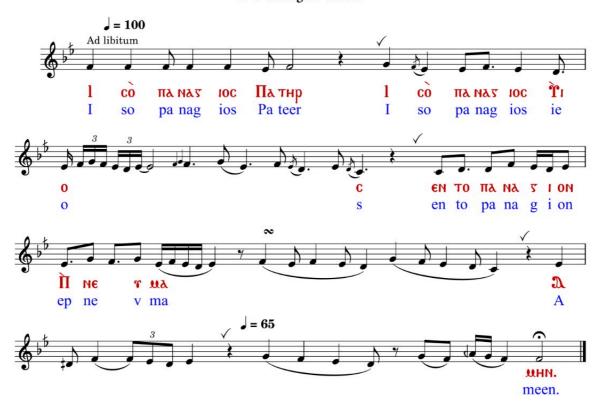


ΔωΗΝ Κτριέ ελεΗCONAmeen Kyrie Eleison



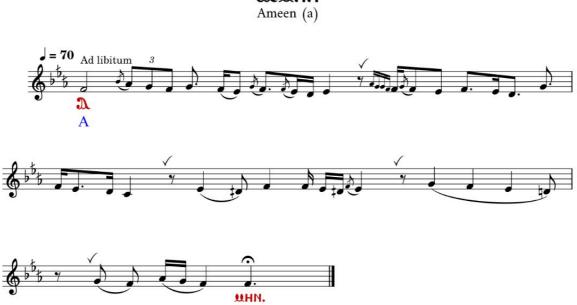
Score 45

lc ο πανασιος Πατηρ



Score 46

Ameen (a)



meen.

Score 47

Auth Ameen (b)











Score 48

Ameen Tinahti (c)





Δ oza ci Kypie Δ oza ci

Dhoxa si Kyrie dhoxa si



Appendix B

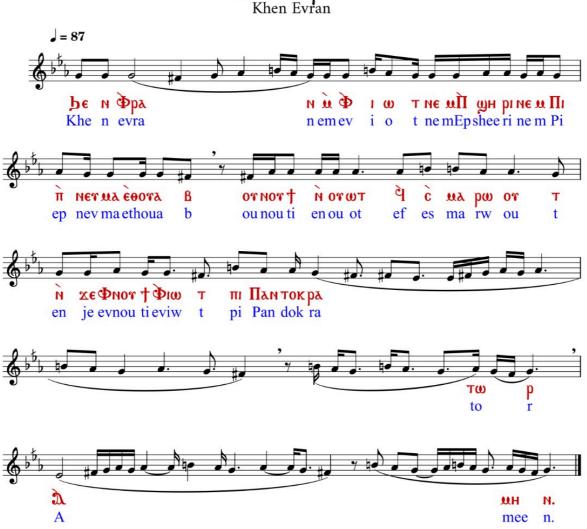
Score 1

Отшот нем оттаю

Ouwou nem otaio



Бен Фран Khen Evran





Ірнін πλсі Eriny Pasi

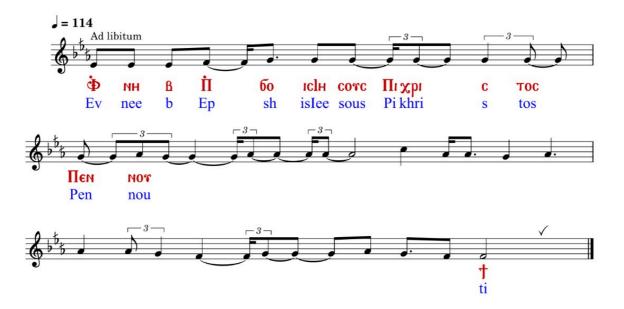


иарен шепбиот

Maren Shebehmot



Финв Пос

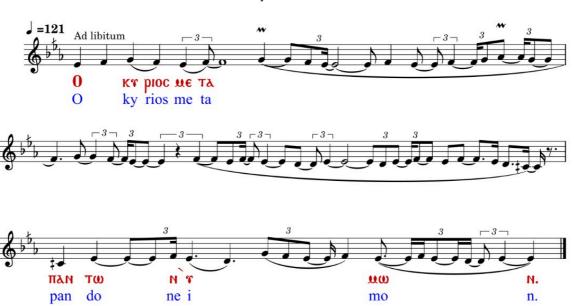


Score 7

Φ† πινιω† O God, the Great

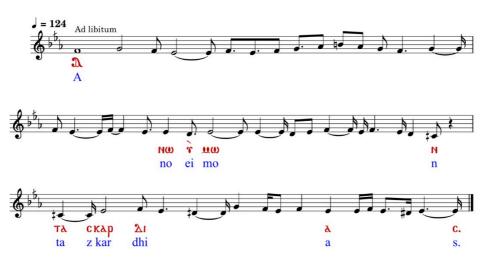


O Kyrios meta

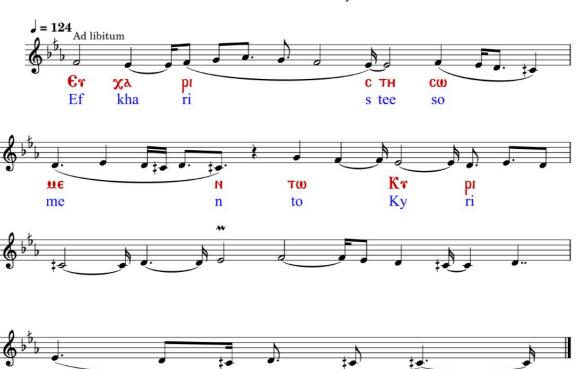


n.

Die ruwn tac καρδιας Ano eimon tac kardhias



ETXAPICTHCWMEN TW KYPIW Efkharisteesomen to Kyrio



w. 0.

\mathfrak{A} zion ke λ ikeon

Aksion ke Dhikeon





Aquicapz Afchisarks



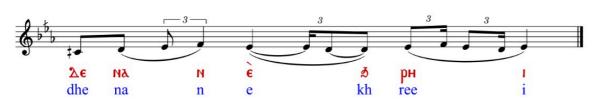
Actions evolkhen neethmwout



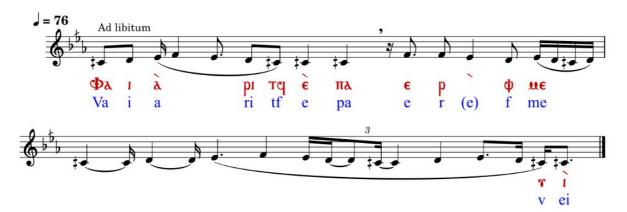


λqχω λε κλη εδρηι Afko dhe nan ekhreei





φαι αριτα επαερφωετί Vai aritf epaerefmevei



Score 17

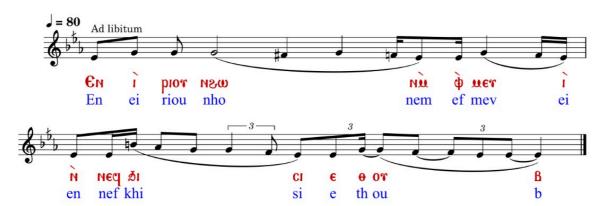
φαι αριτα επαερφωενί Vai aritf epaerefmevei (2)



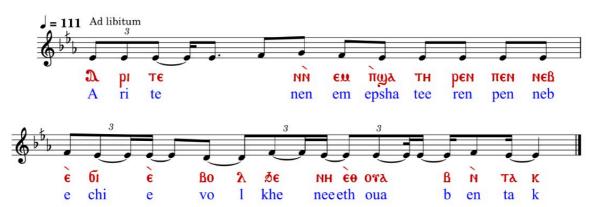
Con sap niben Sop ghar niven



Enipi orn zwn Eniri oun hon

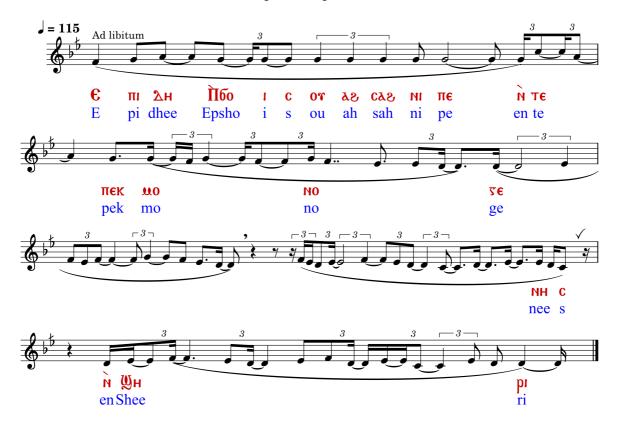


Apiten Neunwa Ariten Enemepsha



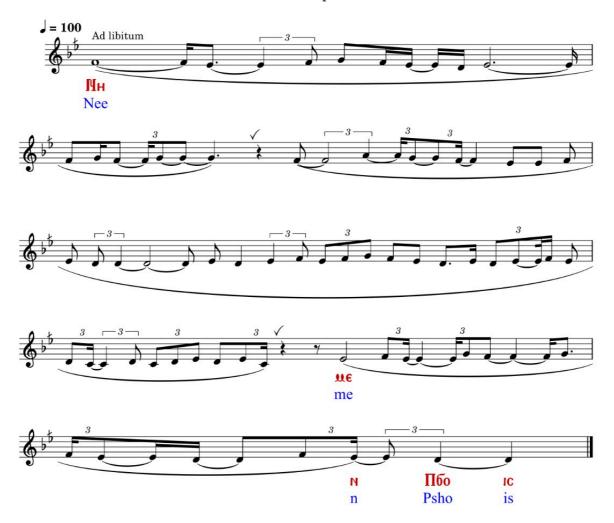
ϵ пі Δ н П $\overline{\sigma}$ с

Epidhee Epshois

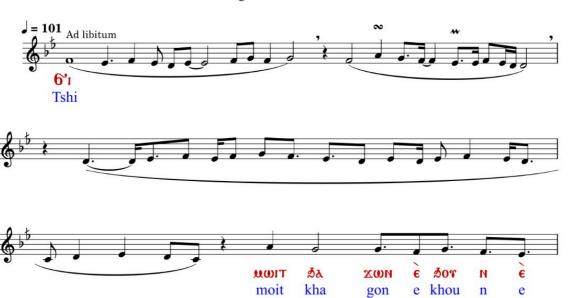


\mathbf{N} н мен $\mathbf{\Pi} \overline{\mathbf{\sigma}} \mathbf{c}$

Nee men Epshois

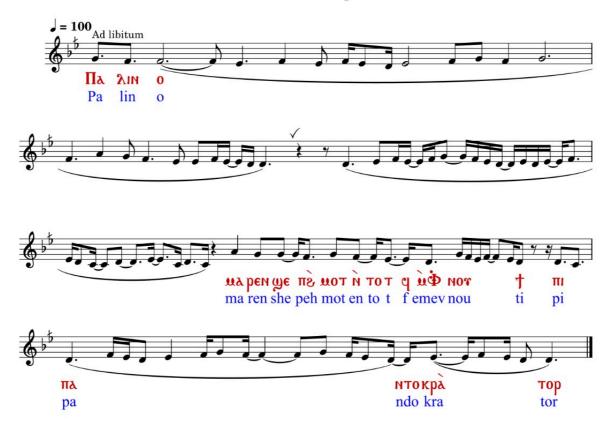


6 ในพา อัง พา e อัง พา e т e ห w e т o т po Tshimoit khagon ekhoun etekmetouro





Παλικ οκ μαρέκ ψεπεμοτ Palin on maren shepehmot



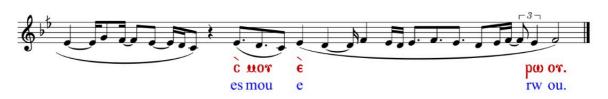
Score 25

القسمة The Fraction



Apiqueri Noc nnenzinewort Ariefmevei Pshois ennenjinthwouti





Score 27

Ta agia tis agees



Score 28

Coma agion



ATION TIMION

Agion Timion



Score 30

Pisoma nem piesnof



Appendix C

Table: A comparison of the St Basil liturgy lyrics between the two churches

(Yellow: priest prayers. Green: congregation/choir responses)

(Yellow: priest prayers. Green: congregation/choir responses)	
Coptic	Greek
Kyrie Eleison	Kyrie Eleison
Glory and honour, honour and glory to the all-Holy	Blessed is the kingdom of the Father, and of the
Trinity: the Father and the Son and the Holy Spirit.	Son, and of the Holy Spirit, now and ever, and
Peace and edification unto the one, only, holy	unto ages of ages.
catholic and apostolic church of God. Amen.	
Doxa Patri	Doxa Patri
Trisagion	Trisagion
Holy God, Holy Mighty, Holy Immortal, who was born of the Virgin, have mercy upon us.	Holy God, Holy Mighty, Holy Immortal, have mercy on us.
Holy God, Holy Mighty, Holy Immortal, who was crucified for us, have mercy upon us.	Holy God, Holy Mighty, Holy Immortal, have mercy on us.
Holy God, Holy Mighty, Holy Immortal, who rose from the dead and ascended into the heavens, have mercy upon us.	Holy God, Holy Mighty, Holy Immortal, have mercy on us.
Glory be to the Father and to the Son and to the Holy Spirit, both now and always, and unto the ages of ages. Amen. O Holy Trinity have mercy upon us.	Glory to the Father and to the Son and to the Holy Spirit, now and forever and to the ages of ages. Amen.
apon us.	Holy Immortal, have mercy on us.
	Deacon: Dynamis Holy God, Holy Mighty, Holy Immortal, have mercy on us.
Psalm	Psalm
	Epistle of St Paul
Irini paci	Irini paci
Ke tw pneumati cou	Ke tw pneumati cou
<i>Priest:</i> O Master, Lord Jesus Christ our God, who said to his saintly, honoured disciples and holy apostles, Many prophets and righteous men have desired to see the things which you see, and have not seen them, and to hear the things which you hear and have not heard them. But blessed are your eyes for they see and your ears for they hear. May	Priest: Make shine in our hearts, 0 Master who lovest man, the incorrupt light of your divine knowledge, and open the eyes of our mind to the comprehension of the preaching of your Gospel. Instill in us also the fear of the blessed commandments that, trampling down all carnal desires, we may pursue a spiritual way of life,

we be worthy to hear and to act according to your holy gospels through the prayers of your saints. Remember also, O our Master, all those who have bidden us to remember them in our supplications and prayers which we offer up unto you, O Lord our God. Those who have already fallen asleep, repose them. Those who are sick, heal them. For you are the life of us all, the salvation of us all, the hope of us all, the healing of us all, and the resurrection of us all.

Deacon: In the wisdom of God, let us attend. Lord have mercy. Lord have mercy. In truth

Glory to you O Lord.

Gospel

Again let us pray to God Almighty, The Father of our Lord, God and Savior Jesus Christ. We ask and entreat Your goodness, O Lover of mankind; Remember O Lord, the peace of Your one, holy, Catholic and Apostolic Church.

Congregation: Lord have mercy.

That which exists from one end of the world to the other; All peoples and all flocks do bless; the heavenly peace send down into our hearts even the peace of this life also, graciously grant unto us. The presidents, the armies, the chiefs, the counselors, the multitudes, our neighbors, our coming in and our going out, adorn them all with peace. O King of peace, grant us Your peace; for You have given us all things. Acquire us unto Yourself, O God our Savior, for we know none other but You, Your Holy Name do we utter. May our souls live by Your Holy Spirit; And let not the death which is by sins have dominion over us, we Your servants, nor over all Your people.

We ask and entreat Your goodness, O Lover of mankind; Remember, O Lord, our Patriarch, the honored father, the high Priest (Abba)

In keeping, keep him unto us for many years and peaceful times, Fulfilling that holy high Priesthood with which You have entrusted him, from Yourself, according to Your holy and blessed will; Rightly defining the word of truth; shepherding Your people in purity and righteousness. And all the Orthodox bishops, Archpriests, Priests and Deacons and all the fullness of Your one, holy, Catholic, and Apostolic Church. Grant them and us peace and safety in every place. Their prayers which they offer on our behalf, on behalf of all Your people, as

both considering and doing all things well-pleasing unto the.

For you are the enlightenment of our souls and bodies, 0 Christ God, and unto you do we send up glory, together with your Father, who is without beginning, and yours all-holy, and good, and life-creating Spirit, now and ever, and unto ages of ages. Amen.

Priest: Wisdom. Attend. Let us hear the holy Gospel. Peace be to all.

Glory to you, O Lord, glory to you

Gospel

Again we pray for the President, for all civil authorities, and for the armed forces.

Choir: Lord, have mercy. (3)

Again we pray for our brethren, the priests, the hieromonks, the hierodeacons, and for all our brotherhood in Christ.

Choir: Lord, have mercy. (3)

Again we pray for the blessed and evermemorablemost holy Orthodox Patriarchs, the founders of this holy Church and for all our fathers and brethren, the Orthodox gone to rest before us, who lie here and everywhere.

Choir: Lord, have mercy. (3)

Again we pray for mercy, life, peace, health, salvation, visitation, pardon and forgiveness of the sins of the servant of God, and of our brethren of this holy temple.

Choir: Lord, have mercy. (3)

well as our prays on their behalf; Do receive upon Your holy, heavenly and rational altar, as a sweet savor of incense. All their enemies, seen and unseen, trample and humiliate under their feet speedily. As for them, keep them in peace and righteousness in Your holy Church.

Congregation: Lord have mercy.

We ask and entreat Your goodness, O Lover of mankind; Remember, O Lord, our Congregations. Grant that they may be unto us without obstacle or hindrance, that we may hold them according to Your holy and blessed will. Houses of prayer, houses of purity, houses of blessing, grant them unto us, O Lord, and unto Your servants who shall come after us forever. Arise, O Lord God, let all Your enemies be scattered, and let all that hate Your Holy Name flee before Your face.

The Creed

We believe in one God, God the Father, the Pantocrator, who created heaven and earth, and all things seen and unseen. We believe in one Lord Jesus Christ, the Only-Begotten Son of God, begotten of the Father before all ages; Light of light, true God of true God, begotten not created, of one essence with the Father, by whom all things were made; Who for us men and our salvation came down from heaven, and was incarnate of the Holy Spirit and of the Virgin Mary, and became Man. And he was crucified for us under Pontius Pilate, suffered and was buried. And the third day He rose from the dead, according to the scriptures, ascended into the heavens; he sits at the right hand of his Father, and He is coming again in his glory to judge the living and the dead, whose kingdom shall have no end. Yes, we believe in the Holy Spirit, the Lord, the Life-Giver, who proceeds from the Father, who with the Father and the Son is worshipped and glorified, who spoke by the prophets. And in one holy, catholic and apostolic church. We confess one baptism for the remission of sins. We look for the resurrection of the dead, and the life of the coming age. Amen.

Priest: O God the Great and the Eternal, who formed man in incorruption, and death which entered into the world by the envy of the devil, you have destroyed, by the life-giving manifestation of your Only-Begotten Son, our Lord God and savior Jesus Christ. You have filled the earth with the heavenly peace, by which the hosts of angels glorify you saying,

Again we pray for those who bear fruit and do good works in this holy and revered temple, for those who labor and those who sing, and for the people present who await of the a great and rich mercy

Choir: Lord, have mercy. (3)

The Creed

I believe in one God the Father almighty, Maker of heaven and earth, and of all things visible and invisible. And in one Lord Jesus Christ, the Son of God, the only begotten, begotten of the Father before all ages, Light of Light, true God of true God, begotten, not made, of one essence with the Father, by whom all things were made, Who for us men and for our salvation came down from heaven, and was incarnate of the Holy Spirit and the Virgin Mary, and became man: and was crucified also for us under Pontius Pilate, and suffered and was buried; and the third day He rose again according to the Scriptures; and ascended into heaven and sits at the right hand of the Father. And He shall come again with glory to judge the living and the dead; of His kingdom there shall be no end. And in the Holy Spirit, the Lord, the Giver of life, Who proceeds from the Father, Who with the Father and the Son together is worshipped and glorified, Who spoke by the prophets. In one Holy Catholic and Apostolic Church; I acknowledge one baptism for the forgiveness of sins; I look for the resurrection of the dead, and the life of the age to come. Amen.

"Glory to God in the highest, peace on earth and good will toward men".

Congregation: Lord have mercy.

Priest: According to your good will, O God fill our hearts with your peace. Cleanse us from all blemish, all guile, all hypocrisy, all malice and the remembrance of evil entailing death. And make us all worthy, O our Master, to greet one another with a holy kiss, that without falling into condemnation, we may partake, of your immortal and heavenly gift in Christ Jesus our Lord.

Congregation: A mercy of peace, a sacrifice of

praise.

Priest: The Lord be with you all.

Congregation: And with your spirit.

Priest: Lift up your hearts.

Congregation: We have them with the Lord.

Priest: Let us give thanks to the Lord.

Congregation: It is meet and right.

Priest: Meet and right, meet and right, truly, indeed, it is meet and right. O You, who are, Master, Lord, God of truth, being before the ages and reigning forever, who dwells in the highest and looks upon the lowly, who has created the heaven, the earth, the sea and all is therein.

The Father of our Lord, God and Saviour Jesus Christ, by whom you have created all things, seen and unseen.

Who sits upon the throne of his glory, and who is worshipped by all the holy power.

Choir: A mercy of peace, a sacrifice of praise.

Priest: The grace of our Lord Jesus Christ, and the love of God the Father, and the communion of the Holy Spirit be with you all.

Choir: And with your spirit.

Priest: Let us lift up our hearts.

Choir: We lift them up unto the Lord.

Priest: Let us give thanks to the Lord.

Choir: It is meet and right to worship Father, Son, and Holy Spirit, the Trinity one in essence and undivided.

Priest: O you who are, Master, Lord God, Father Almighty adorable, it is truly meet and right, and befitting the magnificence of the holiness that we should praise you, hymn the, bless the, worship you, give thanks unto you and glorify you, the only truly existing God, and offer unto you with a broken heart and the spirit of humility this our rational worship, for You are He that has bestowed upon us the knowledge of your truth. And who is sufficient to speak of your mighty acts, to make all your praises to be heard, or to declare all your wonders at every time. Master of all, Lord of heaven and earth, and of all creation both visible and invisible, who sites upon the throne of glory, and looks upon the depths, who is without beginning, invisible, incomprehensible, uncircumscript, immutable, the Father of our Lord Jesus Christ, our great God and Savior, our hope, who is the image of your goodness, the seal of equal type, in Himself showing forth you, the Father, Living Before whom stand the angels, the archangels, the principalities, the authorities, the thrones, the dominion and the powers.

You are he around whom stand the Cherubim full of eyes, and the Seraphim with six wings praising continuously without ceasing saying.

Congregation: Holy, Holy, Holy, Lord of hosts. Heaven and earth are full of your holy glory

Priest: Holy, Holy, Holy, truly O Lord, our God, who formed us, created us and placed us in the paradise of joy. When we disobeyed your commandment by the serpent deceit, we fell from eternal life, and were exiled from the paradise of joy. You have not abandoned us to the end, but have always visited us through your holy prophets, and in the last days, you did manifest yourself to us, who were sitting in darkness and the shadow of death, through your Only-Begotten Son, our Lord, God and Saviour Jesus Christ, who of the Holy Spirit and of the holy Virgin Mary.

Was incarnate and became man, and taught us the ways of salvation. He granted us the birth from on high through water and Spirit. He made us unto himself a congregation, and sanctified us by your Holy Spirit; He loved his own who are in the world, and gave himself up for our salvation unto death which reigned over us, whereby we were bound and sold on account of our sins, he descended into Hades through the cross.

Word, true God, the Wisdom before the ages, the Life, Sanctification, Power, the true Light, through whom the Holy Spirit was revealed, the Spirit of truth, the Gift of adoption, the Pledge of an inheritance to come, the First-fruits of eternal good things, the life-creating Power, the Fountain of sanctification, by whom enabled, every rational and intelligent creature does worship you, and send up to you everlasting doxology, for all things are your servants. Yes, Angels and Archangels, Thrones, Dominions, Principalities, Authorities, Powers, and the many-eyed Cherubim praise you. Round about you stand the Seraphim, one with six wings and another with six wings, and with twain they cover their faces, and with twain their feet, and with twain they fly, calling out to one another with unceasing voices and unending doxologies:

Choir: Holy, Holy, Holy, Lord of Sabaoth, heaven and earth are full of the glory. Hosanna in the highest. Blessed is He that comes in the name of the Lord. Hosanna in the highest.

Priest: With these blessed Powers, 0 Master, Lover of man, we sinners also do cry out and say, Holy are you, in truth, and all-holy, and there is no measure to the magnificence of the holiness, and holy are you in all your works, for in righteousness and true judgment You have brought about all things for us. When You had fashioned man, taking dust from the earth, and had honored him with thine own image, 0 God, You did set him in a paradise of plenty, promising him life immortal and the enjoyment of eternal good things in the observance of Your commandments. But when he disobeyed You, the true God, who had created him, and was led astray by the deceit of the serpent, and was slain by his own trespasses, You did not banish him, in Your righteous judgment, 0 God, from Paradise in to this world, and did turn him back to the earth from which he was taken, dispensing salvation for him through regeneration, which is in Your Christ Himself. Yet You did not turn Yourself away till the end from Your creature which You had made, 0 Good One, neither did You forget the work of your hands, but You did look upon him in divers manners, through your tenderhearted mercy. You did send forth prophets; You has wrought mighty works through the saints who in every generation have been well-pleasing to You; You did speak to us by the mouths of Your servants the prophets, who foretold to us the salvation which was to

He rose from the dead on the third day; He ascended into the heavens and sat at your right hand, O Father;

He has appointed a day for recompense, on which He will appear to judge the world in righteousness and give each one according to his deeds.

He instituted for us this great mystery of godliness.

For being determined to give himself up to death for the life of the world.

Congregation: We believe.

come; You did give the Law as a help; You did appoint guardian angels. And when the fulness of time was come, You did speak unto us through Your Son Himself, by whom also You made the ages; Who, being the brightness of Your glory, and the express image of Your person, and upholding all things by the word of His power, deemed it not robbery to be equal to You, the God and Father. But albeit He was God before the ages, yet He appeared upon earth and sojourned among men; and was incarnate of a holy Virgin, and did 'empty Himself, taking on the form of a servant, and becoming conformed to the body of our humility, that He might make us conformed to the image of His glory. For as by man sin entered the world, and by sin death, so thine Only-begotten Son, Who is in your bosom, God and Father, was well-pleased to be born of a woman, the holy Theotokos and Evervirgin Mary, to be born under the Law, that He might condemn sin in His flesh, that they who were dead in Adam might be made alive in Your Christ Himself, and, becoming a citizen in this world, and giving ordinances of salvation, He removed from us the delusion of idols and brought us unto a knowledge of You, the true God and Father, having won us to Himself for His own people, a royal priesthood, a holy nation, and being purified with water, and sanctified by the Holy Spirit, He gave Himself a ransom to Death, whereby we were held, sold under sin. And having descended into hell through the Cross, that He might fill all things with Himself, He loosed the pains of death, and rose again from the dead on the third day, making a way for all flesh unto the resurrection from the dead - for it was not possible that the Author of life should be held of corruption - that He might be the first-fruits of those who have fallen asleep, the first-born from the dead, that He might be all, being first in all. And, ascending into heaven. He sat down at the righthand of your majesty on high, and He shall return to reward everyone according to his deads.

And He has left with us as remembrances of His saving Passion these Things which we have set forth according to His commandment. For when He was about to go forth to His voluntary, and celebrated, and life-creating death, in the night in which He gave Himself up for the life of the world,

Priest: He took bread into his holy, spotless, unblemished, blessed and life-giving hands.

Congregation: We believe that this is true. Amen.

Priest: He looked up towards heaven to you, O God, who are his Father and Master of every one. He gave thanks.

Congregation: Amen.

Priest: He blessed it, Congregation: Amen.

Priest: And he sanctified it. Congregation: Amen.

We believe, we confess, and we glorify.

Priest: He broke it, gave it to his own holy disciples and saintly apostles saying "Take, eat of it all of you. For this is My Body, which shall be broken for you and for many, to be given for the remission of sins. Do this in remembrance of Me.

Congregation: This is true. Amen.

Priest: Likewise also the cup after supper He mixed it of wine and water. He gave thanks,

Congregation: Amen.
Priest: He blessed it,
Congregation: Amen.
Priest: And He sanctified it.

Congregation: Amen. Again, we believe, we

confess, and we glorify.

Priest: He tasted, and gave it also to his own holy disciples and saintly apostles saying "Take, drink of it all of you. For this is my Blood for the new covenant which shall be shed for you and many, to be given for the remission of sins. Do this in remembrance of Me."

Congregation: This is also true. Amen.

Priest: For every time you shall eat of this bread and drink of this cup, you proclaim my death, confess my resurrection and remember me till I come.

Congregation: Amen. Amen. Your death, O Lord, we proclaim. Your holy resurrection and ascension, we confess. We praise You, we bless You, we thank You, O Lord, and we entreat You, O our God.

Priest: He took bread in His holy and immaculate hands, and when He had shown it to You, the God and Father, and given thanks, and blessed it, and hallowed it, and broken it

Priest: He gave it to His holy disciples and apostles, saying, Take, eat, this is my Body, which is broken for you for the forgiveness of sins

Choir: Amen

Priest: Likewise, having also taken the cup of the fruit of the vine, and mingled it, and given thanks, and blessed and hallowed it,

Priest: He gave it to His holy disciples and apostles, saying, Drink you all of this; this is my Blood of the New Testament, which is shed for you and for many, for the forgiveness of sins. Choir: Amen

Priest: Do this in remembrance of me, for as often as you shall eat this Bread and drink of this Cup, you do proclaim my death and confess my resurrection.

Choir: We hymn you, we bless you, we give thanks unto you, O Lord, and we pray unto you, 0 our God

Priest: Therefore, as we also commemorate his holy passion, his resurrection form the dead, His ascension into heavens, his sitting at your hand, O Father, and his second coming which shall be form the heavens, awesome and full of glory; we offer unto you your oblations form what is your, for every condition, concerning every condition and in every condition.

Congregation: We praise you, we bless you, we serve you, we worship you.

Priest: (Inaudibly) And we ask you, O Lord, our God, we, your sinful and unworthy servants. We worship you by the pleasure of your goodness, that your Holy Spirit descend upon us upon these gifts set forth, and purify them, change them and manifest them as a sanctification of your saints.

Priest: And this bread he makes into his Holy Body.

Congregation: We believe.

Priest: And this cup also, into the precious Blood of his new covenant.

Congregation: Again, we believe. Amen.

Priest: Our Lord, God and Savior Jesus Christ, given for the remission of sins and eternal life to those who shall partake of him.

Congregation: Lord have mercy. (3)

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Priest: Make us all worthy, O our Master, to partake, of your holies unto the purification of our souls, our bodies and our spirits. That we may become one body and one spirit, and may have a share and an inheritance with all the saints who have pleased you since the beginning.

Priest: Wherefore, 0 Master, we also remembering His saving Passion and life-creating Cross, His three-day burial, and resurrection from the dead, His ascension into heaven, and sitting down at the righthand, God and Father, and His glorious and fearful second coming Thine own of thine own we offer unto You on behalf of all and for all

Priest: Because of this, O all-holy Master, we also, Your sinful and unworthy servants, whom You have made worthy to minister at Your holy Altar, not through our own righteousness, for we have done nothing good upon the earth, but because of Your mercies and compassion, which You have richly poured out upon us, dare to draw nigh to Your holy altar, and, presenting unto You the antitypes of the holy Body and Blood of Your Christ, we pray to You and call upon You, 0 Holy of Holies, by the favor of Your goodness, that Your Holy Spirit may come upon us and upon these Gifts here forth, and bless them and hallow them, and show.

Priest: O Lord, who at the third hour didst send down thine all-holy Spirit upon thine Apostles, take not the same from us, O Good One, but renew Him in us who pray unto the.

Priest: This Bread to be itself the precious Body of our Lord, and God, and Savior, Jesus Christ. Deacon: Amen.

Priest: And this Cup to be itself the precious Blood of our Lord, and God, and Savior, Jesus Christ.

Deacon: Amen.

Priest: Shed for the life of the world.

Deacon: Amen.

Commemoration

Priest: And as for us all, partakers of the one Bread and of the Cup, do unit them to one another with communion of the one Holy Spirit, and make none of us to partake of the holy Body and Blood of the Christ unto judgment or unto condemnation, but that we may find mercy and grace with all the Saints who- have ever been well-pleasing unto the: Forefathers, Fathers, Patriarchs, Prophets, Apostles, Preachers,

Litanies

Priest: Remember, O Lord, the peace of your one, only, holy, catholic and apostolic church. *Congregation:* Lord have mercy.

This which you have acquired unto yourself with the precious Blood of your Christ. Keep her in peace, with all the Orthodox bishops who are in her. Foremost, remember, O Lord, our blessed and honoured father, the archbishop our patriarch Abba.....

Congregation: Lord have mercy.

And those who rightly define the word of truth with him, grant them unto your holy church to shepherd your flock in peace. Remember, O Lord, the Orthodox hegemonies, priests and deacons. *Congregation:* Lord have mercy.

And all the ministers, all who are in virginity, and the purity of all your faithful people, Remember, O Lord, to have mercy upon us all.

Congregation: Have mercy upon us, O God, the Father, the Pantocrator.

Remember, O Lord, the safety of this holy place, which is yours, and every place and every monastery of our Orthodox fathers.

Congregation: Lord have mercy.

And those who dwell therein in Gods faith. Graciously accord, O Lord, the air of heaven, the fruits of the earth, the waters of the rivers, the seeds, the herbs and the plants of the field this year, bless them.

Congregation: Lord have mercy. Lord have mercy. Lord have mercy.

Evangelists, Martyrs, Confessors, Teachers, and with every righteous spirit in faith made perfect, Especially our all-holy, immaculate, most blessed, glorious Lady, Theotokos and Evervirgin Mary.

With the holy Prophet, Forerunner and Baptist John, the holy glorious and all-laudable Apostles, Saint..., whose memory we celebrate, and all your Saints, at whose supplications You look upon us, 0 God. And remember all those who have fallen asleep heretoforein the hope of resurrection unto life eternal.

Litanies

Priest: Again we pray the, remember, O Lord, the Holy Catholic and Apostolic Church, which is from one end of the world to the other, and give peace to Her whom You have purchased with the precious Blood of the Christ, and establish this holy house, even unto the end of the age.

Remember, O Lord, those who have offered unto You these Gifts, and those for whom, and through whom, and the ends where unto they are offered.

Remember, O Lord, those who bear fruit and do good works in the holy churches, and who remember the needy; requite them with Your rich and heavenly gifts; give them things heavenly for things earthly, things eternal for things temporal, things incorruptible for things corruptible. Remember, O Lord, those in the deserts, the mountains, and in the caverns and pits of the earth.

Remember, O Lord, all those who continue in virginity and devotion, and in asceticism and a sober way of life.

Remember, O Lord, the President, all civil authorities, and the armed forces; grant them peaceful times, that we also in their tranquility may lead a calm and quiet life in all piety and sobriety. In Your goodness guard those that are good, and makegood those that are evil, by Your loving kindness.

Remember, O Lord, the people present, those that for good cause are absent, and have mercy on them and on us, according to the multitude of the mercies. Fill their garners with every good thing; guard their marriage bond in peace and in oneness of mind; rear the infants; train the young; support the aged; encourage the

Raise them to their measure according to your grace. Give joy to the face of the earth. May its furrows be abundantly watered and its fruits be plentiful. Prepare it for sowing and harvesting. Manage our life as deemed fit. Bless the crown of the year with your goodness for the sake of the poor of your people, the widow, the orphan, the traveler, the stranger, and for the sake of us all who entreat you and seek your holy name. For the eyes of every one wait upon you, for you give them their food in due season. Deal with us according to your goodness, O you who give food to all flesh. Fill our hearts with joy and gladness, that we too, having sufficiency in everything always, may abound in every good deed.

Remember O Lord, those who have brought unto you these gifts, those on whose behalf they have been brought, and those by whom they have been brought. Give them all the heavenly reward. *Congregation:* Lord have mercy.

Comemoration

Priest: As this, O Lord, is the command of your Only-Begotten Son, that we share in the commemoration of your saints, graciously accord, O Lord, to remember all the saints who have pleased you since the beginning: our holy fathers the patriarchs, the prophets, the apostles, the preachers, the evangelists, the martyrs, the confessors and all the spirits of the righteous who were consummated in the faith. Most of all, the pure, full of glory, ever-virgin, holy Theotokos, Saint Mary, who in truth, gave birth to God the Logos. And Saint John the forerunner, Baptist and martyr; Saint Stephen the archdeacon, the protomartyr; the beholder-of-God Saint Mark, the evangelist the apostle and martyr; the patriarch Saint Severus; our teacher Dioscorus; Saint Athanasius the Apostolic: Saint Peter the priestmartyr and the high priest; Saint John Chrysostom, Saint Theodosuius, Saint Theophilus, Saint Demetrius, Saint Cyril, Saint Basil, Saint Gregory the theologian, Saint Gregory the wonder-worker, Saint Gregory the Armenian; the three hundred and eighteen assembled at Nicea, the one hundred at Ephesus; our righteous father great Abba Antony, the righteous Abba Paul, the three saints Abba Macarii, and all their children the cross-bearers, our father Abba John the hegomen; our father Abba Pishoi the righteous perfect man, the beloved of our good Saviour; our father Abba Paul of Tammoh and Ezekiel his disciple; my masters the Roman fathers

fainthearted; gather together the scattered, and lead back those who wander astray, and join them to the Holy Catholic and Apostolic Church.

Free those who are vexed by unclean spirits; travel with those that journey by land, by sea, and by air; protect the widows; defend the orphans; deliver the captives; heal the sick. And those that are under trial, in the mines, in exile, in bitter bondage, in every tribulation, necessity, and danger, do thou remember, O God. And all those that are in need of the great goodness of heart, and those also who love us, and those who hate us, and those who have commanded us the unworthy to pray for them, remember, O Lord our God, and all Your people, and upon all pour out Your rich mercy, granting to all their petitions which are unto salvation. And those whom we through ignorance or forgetfulness or the multitude of names have not remembered remember them, O God, who knows the age and name of each, and knows every man even from his mother's womb. For You are the Helper of the helpless, the Hope of the hopeless, the Savior of the storm-tossed, the Haven of the voyager, the Physician of the sick. Be Yourself all things to all men, O You who knows every man, his petitions, each house and its need. Deliver, O Lord, this city and every city and country from famine, pestilence, earthquake, flood, fire, the sword, foreign invasion, and civil

Among the first, remember, O Lord, our lord, the Most Reverend Archbishop of City Metropolitanwhom You grant unto Your holy churches in peace, safety, honor, health, and length of days, rightly dividing the word of the truth.

Remember, O Lord, every bishop of the Orthodox, rightly dividing the word of the truth.

Remember, O Lord, according to the multitude of Your compassions, my unworthiness, pardon me every offense both voluntary and involuntary, and withhold not, because of my sins, the grace of the Holy Spirit from these Gifts here set forth.

Remember, O Lord, the priesthood, the diaconatein Christ, and every priestly rank, and put not to confusion any one of us that stand about Your holy Altar. Look upon us with Your

Saints Maximus and Domitius; the forty nine martyrs the elders of Shiheet; the strong Saint Abba Moses; John Kame the priest; our father Abba Daniel the hegomen; our father Abba Isidore the priest; our father Abba Pachom, of the Koinonia, and Theodore his disciple; our father Abba Shenoute the archimandrite and Abba Wissa his disciple. And all choir of your saints, through whose prayers and supplications, have mercy on us all and save us, for the sake of your holy name, which is called upon us.

Priest: Those, O Lord, whose souls you have taken, repose them in the paradise of joy, in the region of the living forever, in the heavenly Jerusalem, in that place, and we too, who are sojourners in this place, keep us in your faith, and grant us your peace unto the end.

Congregation: As it was, and shall be, from generation to generation, and unto the ages of all ages. Amen.

Priest: Lead us throughout the way into your kingdom, that as in this so also in all things your great and holy name be glorified, blessed and exalted, in every thing honoured and blessed, together with Jesus Christ, your beloved son and the Holy Spirit.

Priest: Peace be with all

Congregation: And with your spirit.

Priest: Again let us give thanks unto God the Pantocrator, the Father of our Lord God and Saviour Jesus Christ, for also he has made us worthe now to stand up in this holy place, to lift up our hands and to serve his holy name. Let us also ask him to make us worthe of the communion and partaking of his divine and immortal mysteries. Congregation: Amen.

Priest: The holy body.

Congregation: We worship your holy body.

Priest: And the Precious blood.

Congregation: And your precious blood.

Priest: Of his Christ, the Pantocrator, the Lord, our

God.

Congregation: Lord have mercy.

Priest: Peace be with all.

Congregation: And with you spirit.

loving-kindness, 0 Lord; reveal Yourself to us in Your rich compassions; grant us temperate and prosperous seasons; give peaceful showers upon the earth unto fruitfulness; bless the crown of the year in Your loving-kindness; make schisms in the Church to cease; quench the ragings of the nations; speedily destroy, by the power of the Holy Spirit, uprisings of heresies; receive us all into Your kingdom, showing us to be children of the light and of the day; and grant us Your peace and Your love, 0 Lord our God, for all things You have bestowed upon us.

And grant us with one mouth and one heart to glorify and hymn thine all-honorable and magnificent name, of the Father, and of the Son, and of the Holy Spirit, now and ever, and unto ages of ages.

O our God, the God of salvation, teach us how we may worthily give thanks unto You, for Your benefits, which you have done and which you have not done for us. Do, 0 our God, who accepted these Gifts, purify us from every polution of flesh and spirit, and teach us to perfect holiness in the fear; that we, in the witness of a pure conscience, receiving a portion of the Holy Things, may be made one with the holy Body and Blood of the Christ; and that having received them worthily, we may have Christ dwelling in our hearts and may become a temple of the Holy Spirit. Yea, 0 our God, make none of us blameworthy of these Your dread and heavenly Mysteries, or infirm in soul or in body, by partaking unworthily of them, but grant us even unto our last breath, worthily to receive a portion of the Holy Things, as provision on the way to life eternal, as an acceptable defense at the fearful judgment seat of the Christ, that we also, together with all the Saints, who in all ages have been well-pleasing to You, may be made partakers of Your eternal good things, which You have prepared for those who love You, O Lord.

And vouchsafe, O Master, that with boldness and without condemnation we may dare to call upon You, the heavenly God and Father, and to say:

The Fraction Prayer

Congregation: Our Father who art in heaven; hallowed be the name; the kingdom come; they will be done on earth as it is in heaven. Give us this day our bread of the morrow, and forgive us our trespasses, as we forgive those who trespass against us, and lead us not into temptation, but deliver us form evil. In Christ Jesus our Lord. For thine is the kingdom, the power and the glory, forever. Amen.

Congregation: Our Father, who art in heaven, hallowed be the name. The kingdom come; the will be done on earth as it is in heaven. Give us this day our daily bread, and forgive us our debts as we forgive our debtors. And lead us not into temptation, but deliver us from evil.

Priest: For thine is the kingdom, and the power, and the glory, of the Father, and of the Son, and of the Holy Spirit, now and ever, and unto ages of ages.

Priest: Peace be to all. *Choir:* And to the spirit.

Deacon: Bow your heads to the Lord. *Congregation:* Before you, O Lord.

Priest: Peace be with all *Congregation:* And with your spirit.

Priest: Remember, O Lord, our congregations;

bless them.

Congregation: Lord have mercy (3).

Priest: The Holies for the holy. Blessed be the Lord Jesus Christ the Son of God, the sanctification of the Holy Spirit. Amen.

Congregation: One is the All-Holy Father. One is the All-Holy Son. One is the All-Holy Spirit. Amen.

Priest: Peace be with all.

Congregation: And with your spirit.

Priest: The holy Body, and the precious and true Blood of Jesus Christ, the Son of our God. Amen. *Congregation:* Amen.

Priest: The holy and precious Body and the true Blood of Jesus Christ, the Son of our God. Amen. *Congregation:* Amen.

Priest: The Body and the Blood of Emmanuel our God, this is in truth. Amen.

Congregation: Amen. We believe.

Priest: Amen. Amen. I believe, I believe, I believe and confess to the last breath, that this is the life-giving body that your only-begotten Son, our Lord, God and Saviour Jesus Christ took from our lady, the lady of us all, the holy Theotokos Saint

Deacon: Bow your heads unto the Lord **Choir**: To the, O Lord.

Priest: Holy Things are for the holy.

Choir: One is holy, One is Lord, Jesus Christ, to the glory of God the Father. Amen.

Priest: I believe, O Lord, and I confess, that You art truly the Christ, the Son of the living God, who came into the world to save sinners, of whom I am first. And I believe that this is Your own immaculate Body, and that this is Your own

May. He made it one with his divinity without mingling, without confusion and without alteration. He witnessed the good confession before Pontius Pilate. He gave it up for us upon the holy wood of the cross, of his own will, for us all. Truly I believe that his divinity parted not from his humanity for a single moment nor a twinkling of an eye. Given for us for salvation, remission of sins and eternal life to those who partake of him. I believe, I believe, I believe that this is so in truth. Amen.

Congregation: Glory to you, O Lord, glory to You.

Congregation: Blessed is he who comes in the name of the Lord.

precious Blood. Wherefore, I pray You, have mercy on me, and pardon my trespasses, voluntary and involuntary, in word, or in deed, in knowledge and in ignorance, and make me worthe without condemnation to partake of thine immaculate mysteries unto forgiveness of sins and unto life eternal.

Priest: Of Your mystic supper, O Son of God, accept me today as a communicant, for I will not speak of the mystery to Your enemies, neither will I give You a kiss as did Judas, but like the thief will I confess You, remember me, O Lord, in Your kingdom.

Not for judgment nor condemnation be my partaking of Your holy Mysteries, O Lord, but to healing of soul and body.

Choir: Blessed is he that comes in the name of the Lord. God is the Lord that has revealed Himself unto us.

Let our mouths be filled with the praise, O Lord, that we may hymn the glory, for thou hast made us worthy to partake of the holy, immortal and life-creating Mysteries. Preserve us in the holiness, that all the day long we may meditate on the righteousness. Alleluia. Alleluia. Alleluia.