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'Transformations' Conference 22.05.2019 paper: Making Music out of Architecture by various models—including by new theory: Total Field Theory (TFT).

Time changes

PhD evolution

As is the way with research, my research has moved on somewhat since writing the abstract. However, in order to stick to the brief as advertised I will continue with this theory, which I have since rather placed on a back burner, at the same time as putting it in context of some other theories. Also, I will mention some other methodologies, or models, of making music from architecture.

Introduction

Reasons for TFT: philosophical problems, except Deleuze: can 'translate' Architectural DNA to music

One of the aims of the theory was to obviate some problems as I saw them to do with translation from one medium to another and via various media (Adorno in Witkin, 1998; Heidegger and Dufrenne in Rusten, 2014; Deleuze in Smith and Protevi, 2018 and Protevi, 2011). Initially I saw this as an easy objective, then, I became rather disenchanted that the actual mechanism would not produce a faithful rendition to resonate with me as truthful, or 'from the heart'. This last statement is a personal test where one has to feel subjectively satisfied with the result, that it is not just the outcome of a removed theoretical process. That is not to say that some interesting results can ensue from such objective methodologies. In fact they can be meaningful and sought after where the contrary is true to my test, in that one wants to get away from personalised thinking and encourage new ways of thinking and methodologies that can produce music other than conventionally conceived.

Another aim has been to seek more than an atomised or granular approach. Hopefully, this will become apparent when we go through my theory.

The philosophical – Witkin's paradigm

Witkin: synthesises the philosophical problems: his narrative: Renaissance s.p. perspective to many ; 'inter -personal and -actional' to 'intra -personal and -actional'; all viewpoints needed to make sense of the world: implied even if not cogently aware of this. Modern life = increasing complexity, as evidenced in literature, art, music and urbanism leads to 'faceted' views of fractured reality to maintain the coherence

Witkin (1998) has expressed a large part of the philosophical problem whilst pointing the way to the answer. In outright classical philosophical terminology he discusses the object-subject problems in contexts of the changing world order from the Renaissance, through the nineteenth century to the twentieth century, the relationship with and in society, the autonomy of art, especially as seen by Adorno, identity and sensibility of the individual. There is a shift from 'inter-subjective' and 'inter-actional' to 'intra-subjective' and intra-actional'. This interaction is with the world of objects, reality and society. Where modern society, in Adornian Marxist terms of commodification and [Critical Theory of the Frankfurt School's] instrumentalization, pressurises the world order the only way for coherent intra-subjectivity is by employing a 'faceted' viewpoint. That is the relationship with complicated modern society, with cities and changing family structures and other relationships that remain intact and whole. This is the answer that relates to my theory and that is that Witkin sees the single point perspective of the Renaissance as necessitating a collective viewpoint of everyone else's viewpoint to make sense of the world order of reality. And where this order is challenged and starts to break down, become 'fragmented', then it is still possible to maintain a coherent world view via this faceted collective, but, all perspectives, however (paraphrasing Witkin)

‘deformed, twisted, wrenched and pulverised’, have to be there and of course the world view of the individual is internalised, is ‘intra-personal’, so, composed of lots of fragmented yet joined up other peoples’ fragmented internalised relationships with the world.

Witkin on music

It is worth noting before moving on to explaining my theory, relating musically to my research, that Witkin neatly parallels this fragmentation with a series of art and music movements: namely, in the celebrated writing sphere of Balzac (of ‘subject-centred naturalism’), moving through Zola and ‘the modernists’’ still ‘coherent ordered object world’, which then, starts to break down with the ‘stream of consciousness’ school. ‘Narrative historical structure’ is replaced by (paraphrased) ‘functional objective unity and historical reality’, which is ‘present centered’ and, importantly for this thesis, of a ‘multi-faceted synchronicity’ that constituted the ‘substantial unity of the subject’. This, in effect, reiterates Witkin’s coherent synthesis of the world view. In art, he likens this new fragmentation to the introduction of the Cubism of Picasso and Braque bespeaking a flat faceted reality (see image below). Musically, he traces the development through late Beethoven, Brahms, Wagner and Mahler. This is echoed movement-wise by starting with atonalism, analogous to Cubism, then moving into chromaticism, dissonance (which he states as non-chaotic and ordered), with some ‘vestiges’ of sonata form and all the other paraphernalia of tonalism, yet with new dimensions created by use of ‘rhythm, timbre and so forth’. His summarisation ends with constructivism and twelve tone music and in harking back to previous music he cites ‘early’ music. He finishes this resumé off by cataloguing the use of texts, numbers (and here he cites Berg) and new ‘dense tonalities’ where every note is ordered, yet not as the old tonalism. He cites Adorno in this context, where every note is needed. In conclusion, he states that modern music is broken down to ‘parts ordered in a dense multiplicity’. His *coup de grace* is that he brings this back to his rounded world view saying that this ‘densely faceted manifold of elements equates to the semiotic realisation of the ‘intra-subjective’, which in turn is equal to Cubism and the ‘stream of consciousness’ of internalised thinking and the outside world. He mentions the word ‘praxis’, which is also apparent in my theory. For Witkin, it is Adornos’ praxis of the autonomous aesthetic with social formation, where art can be viewed as having its own life yet somehow as related to society and as it changes.

Witkin analogises this to the development of music. A significant analogy for him is Cubism

In the following Cubist image the ‘facets’ can be plainly seen, like fractured planes of reality reassembled from multiple perspectival viewpoints. This image is chosen since it shows a house, a factory chimney and other edifices which plainly relate to architecture, hence to this research. Also shown are palm trees and other more abstract shapes, where patterns are a definite feature of this art form and indeed of nature and architecture. Colours and shadows form a part of this scheme in an analytical and idealised depiction of reality, yet from new angles. There is coherence. Perhaps one has to work harder to see it, put all the pieces together, as compared with the representational art of the Renaissance. Some of the colours and shapes are represented in different perspective planes, such as on the not-completely-true rendering of the pitched roofs and the parallogram face of the inclined object. It is not quite Escher-like (2019), breaking boundaries of perception, but it is close, as with the darkened door-like central object, which could also simply be the end of an object, a rectangular tube. Basically, it messes around with reality.

artyfactory.com

Factory, Horta de Ebbo, Pablo Picasso (1881-1973), 1909 (oil on canvas)

For the time being we will ignore other philosophers. Witkin has expressed sufficiently the classical philosophical problem for me

Witkin and me

Much of what Witkin says about music echoes in my quest, which is not only to represent architecture in music, but to wrestle with the degree of modernism and tonality to allow, where I have control over the music. Where I don't have so much control is when using devices to help generate music. I will outline a few techniques in this respect shortly.

Kant, Hegel, Heidegger, Nietzsche not mentioned—just Deleuze

More could easily be said about concerns to do with classical philosophical concepts and other philosophers could be singled out. In order to balance the viewpoint as expressed by Witkin, then minor mention is here made of Deleuze who had a more immanent view of reality than as described by Witkin. Whilst I would relish a discussion with Deleuze about 'differences', which I'll avoid here, except to say that it is the sort of concern addressed in my theory, there is possibly more correlation with Deleuze in the TFT theory than the *a priori* approach inherent in the

summation so far regarding reality. Deleuze is more *a posteriori* based in his view of reality as virtual. Otherwise, it is prudent to move on.

TFT

So, my theory, which as has been pointed out to me, is a theory of everything, attempts to address the issues above—and more. From a pragmatic point of view, as regards my research of making music from architecture, whilst there are many excellent prototypes as to how to 'translate' from one medium to another, such as in *Leiden Translations* (2014, 2017), here architecture to music, as stated earlier, I developed a disquiet about the actual mechanism. The terms that I saw it in was as to how much DNA of the first object, architectural, could I translate to the next object, musical. I thought that by the application of my theory all these concerns would melt away—because it is so rigorous, 'dense', to use Witkin's word, as to provide a ready and direct means of translation that would not require any intermediary stages.

Translation means; Protevi DNA

As regards DNA, Protevi in his talk *The Future of the Embodied Mind* (2011), who is an obvious Deleuzian expert as well as a biologist, propounds a very convincing discussion about how the cell works, replicates and evolves, and all in a Deleuzian interpretation. This alone could dispel worries about DNA in translation.

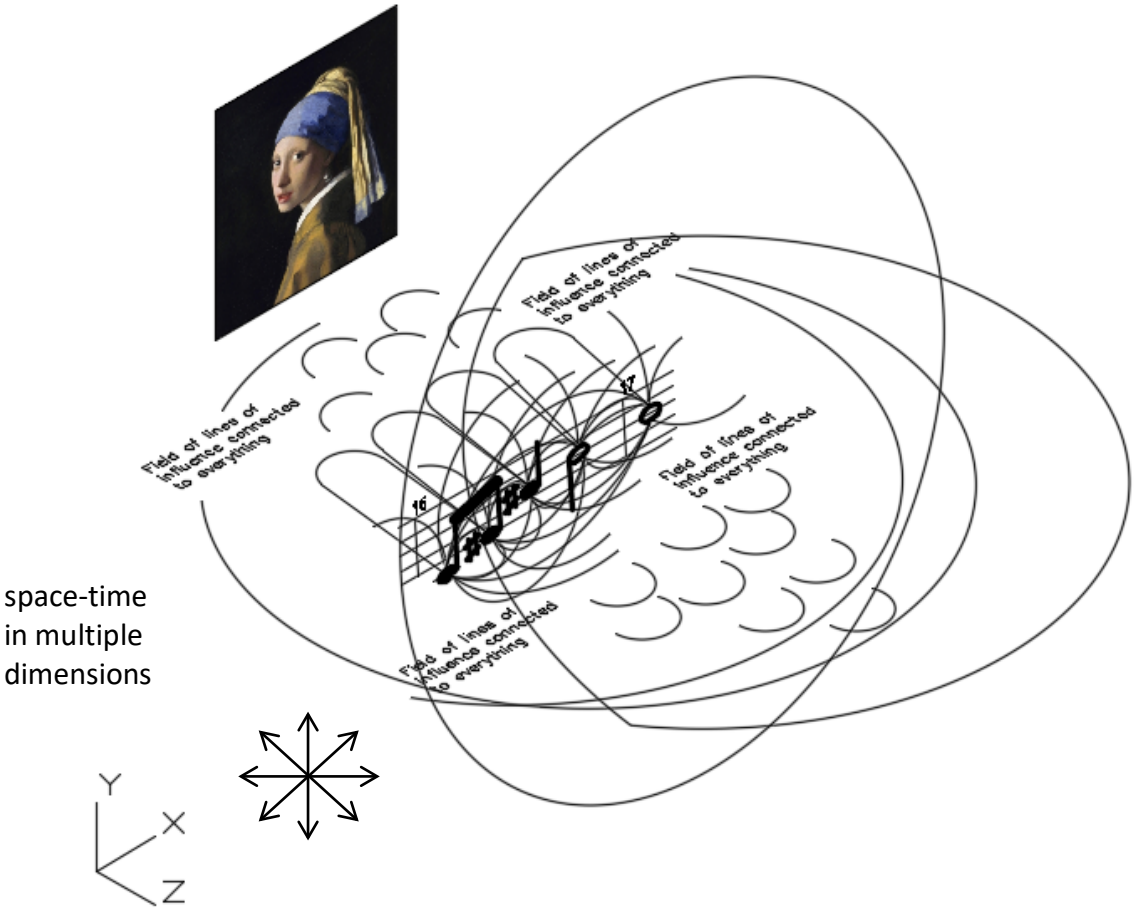
Remembering that I am going to discuss other mechanisms of making music as related to architecture, I will provide a condensed version of the theory as this:

What is TFT

All is related, in all of its parts, as atomised and even smaller divisions, in every conceivable form. Musically, all notes are related and especially with localised notes, so all notes in a piece of music are intimately related with eachother. Everything to do with the notes is relevant, so on the printed page the spacing, instructions and so forth form part of the relationship. There may be a hierarchy, yet to use the word that Witkin used, 'manifold', on an open infinitely extended manifold all things have equal standing. The theory uses the word 'total' and this is essential for this theory, otherwise properties of it would break down slightly. The relationships are as lines of relation and are as straight or curved lines. In the open manifold they would be direct and straight. They are direct anyway, and thus do not need any interpolation of translational medium. This does relate to the whole universe. There are many corollaries for science, cosmology and life.

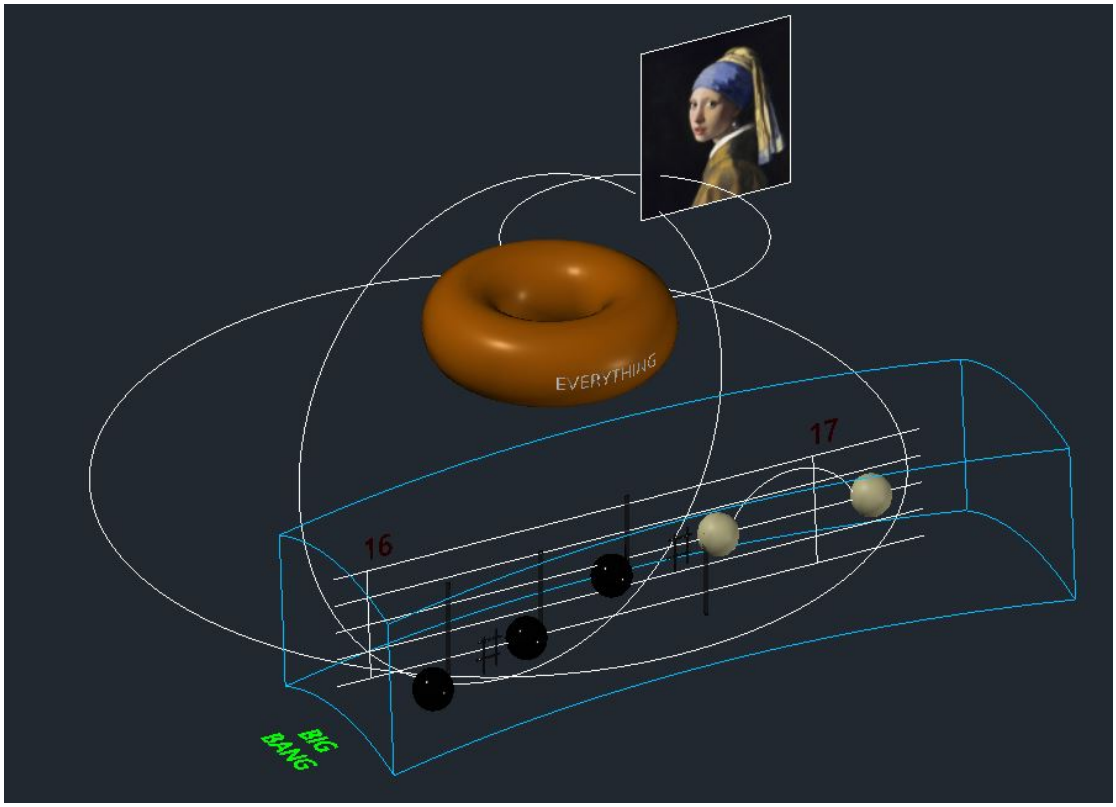
Read verbatim

I'll explain from here on in relation to the images



Isometric view of some notes in Bars 16 and 17 of *Total Field Theory*, 2018, by Grant Gover (see Appendices). *Girl with a Pearl Earring* by Johannes Vermeer from essentialvermeer.com

The next diagram illustrates the all-encompassing aspect. Infinite perspectives are implied and needed, as Witkin described in his system.

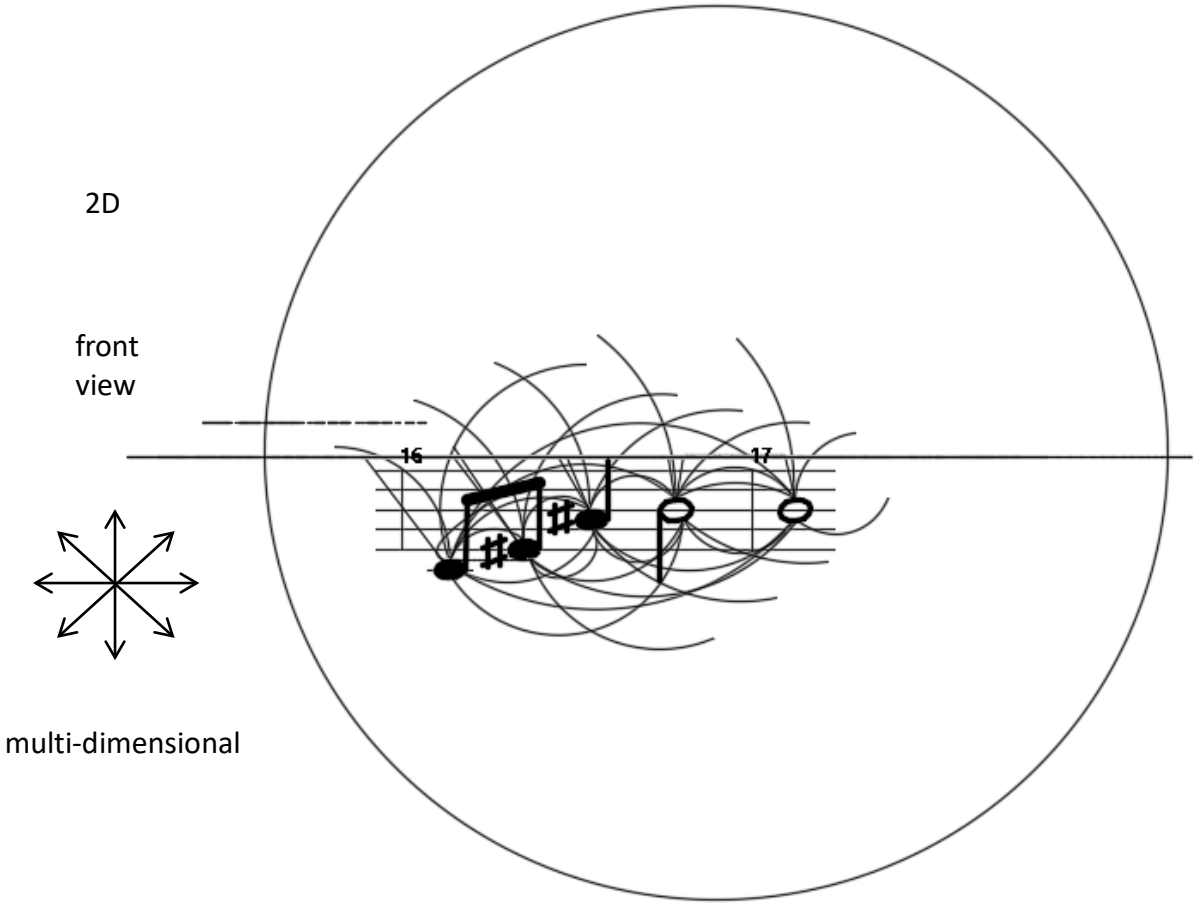


3D musical arch in space-time connecting to everything
in Bars 16 and 17 in *Total Field Theory*, Grant Gover, 2018

The image of *Girl with a Pearl Earring* came from this website and is interactive. All the gradations are interlinked and give an idea of the extent of interrelatedness of everything:

http://www.essentialvermeer.com/catalogue/girl_with_a_pearl_earring.html#.XOKuk6R7mCg

And the final diagram illustrates the connectivity of localised notes in a piece of music.



Orthographic view field around Bars 16 and 17 in *Total Field Theory*, 2018, Grant Gover

Abandonment

As stated earlier, this theory is largely abandoned from my research now. For three main reasons:

1. That the wide application of the theory is almost too wide for specific research in trying to write music that expresses architecture.
2. That, related to the last point, I do not have the same degree of concern about how to make music from architecture as I started to develop. In simple terms, it is possible, there are many examples of how to do it and I will endeavour to work through these examples, sifting, choosing, amending, making my own and then just get on with the task of writing and making music, then describe the processes.
3. As regards one of the main driving reasons to find this theory, to do with the directness of the relationships, this does not seem so important now. Via the directness property I justified that it would be possible to simply look at a piece of architecture and then write about it in an 'inspired' way. However, in discussion, and from an example of another composer, in his PhD, who is now a leading composer and educator, he plainly stated that he just wrote a passage of music in a highly organised modern piece of music as in this inspired way.

Apparently, another famous composer did precisely the same. So what is good for them is simply good for me too. So, that explodes that dilemma.

I still stand by this theory that I call TFT (Total Field Theory) and there is the possibility that I can draw from it in support of some of my research thesis points, but to outline some of the other methodologies promised at the outset, I would like to share with you some of my findings.

Other methodologies

Charles Jencks—*CaixaForum*: translation of building elements to music

A prime example is of Charles Jencks, who is a sort of modern Renaissance man, where he is able to draw together his knowledge and evident passion for both music and architecture. Just one example of his will show both how he connects in this way, whilst also providing a template to stimulate ideas.

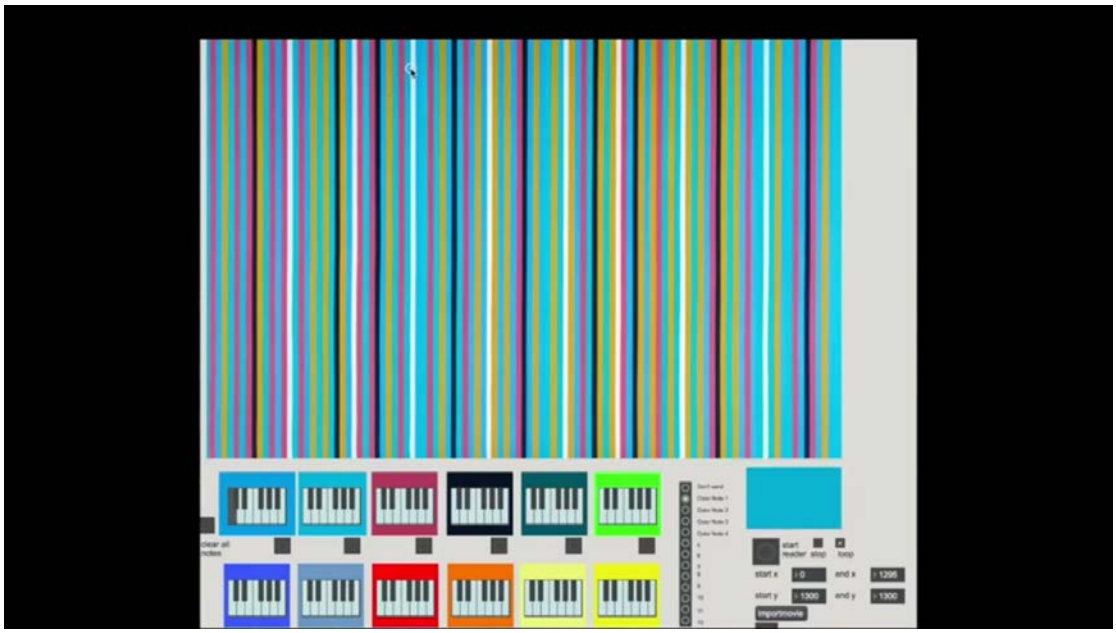
Architectural-review

CaixaForum, Madrid, Herzog and de Meuron, 2003-2008
Musical translation schematic, Charles Jencks and Megan Burke

As can be seen, the building *CaixaForum* is broken down by Jencks to various layers of music using metaphor, or semiotic inference, incorporating vertical harmony and melody and with what appears to him to be an Ab rhythm. The window elements are also seen as discrete musical elements that can be transcribed within this scheme.

Milton Mermikides—image to sound: electronica

Another example is of Milton Mermikides' electronic synthesisation of a painting by Bridget Riley. I have done the same—but, I did mine before I found this:



Miltonline.com

Image to Sound, Milton Mermikides, 11 August 2018 using Max/MSP Ableton Live

Here, notes of selected patches in different channels are assigned to the various colours. The patch sample sounds rather marimba-like. Then the player reads from left to right in a repeating loop and sounds each vertical colour stripe as a note. Each loop pass can be different according to what is activated, switched on or off, how the sample is played and what channel is used. It sounds rather like a soft Steve Reich syncopated rhythmic piece as notes are introduced gradually and more than one note can be assigned to a stripe. Initially, blue is assigned C4 and a short rhythmic pattern is introduced to the light brown stripe of D4 followed rapidly by D4 again then rapidly G4. After a while A4 in introduced to pink, quickly followed by D4 for the dark blue stripe yet, this time with a synth sound. A#4 then comes in for dark green. Later the dark blue D4 is assigned a lower beatier sounding techno groove sample which adds contrast and amplifies the gentle syncopated beat build-up. Then a different image, again one of Bridget Riley's, sine wave-like monochrome stripes and the cursor is sent at a 'different trajectory' diagonally down from left to right, reading as it goes, creating a tremolo sound, using D, G and A. The piece ends on another piece of Bridget Riley's, of perforated holes in a wavy sheet, reading the holes and

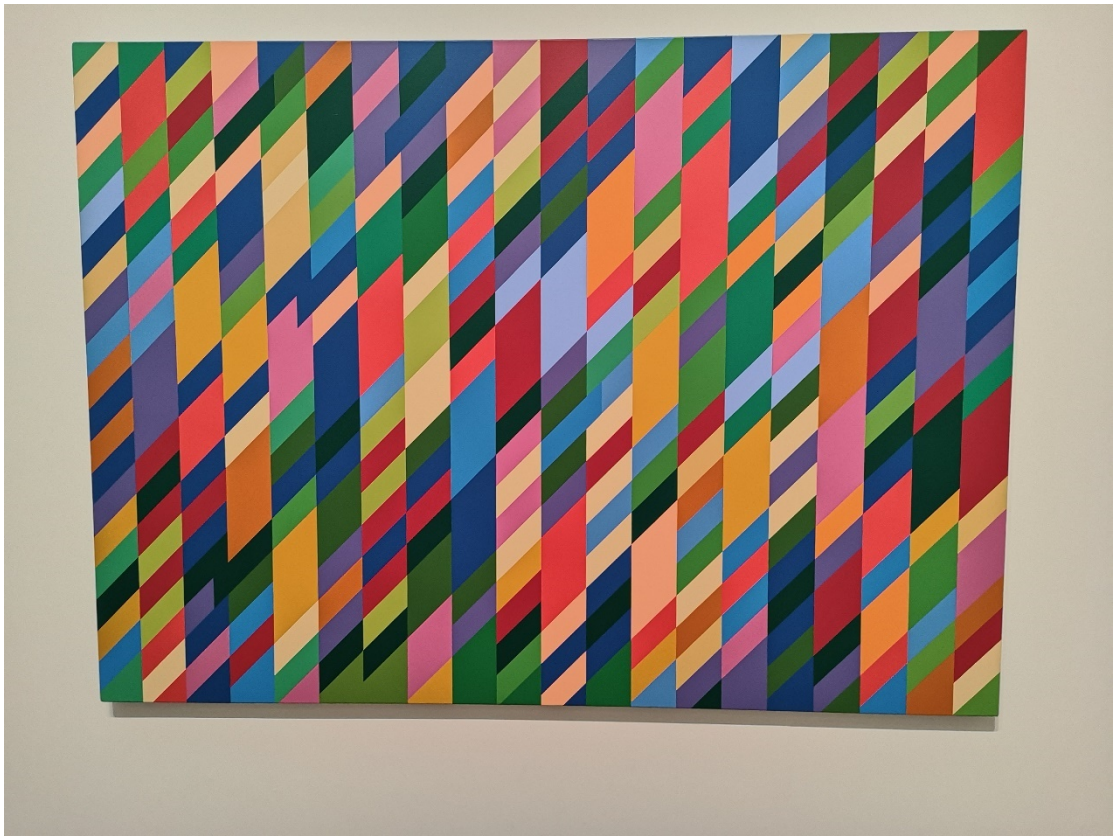
playing G and A together, then oscillating with A and A# played together, thereby creating a contrasting jazzy denouement, or outro.

This is an example of using electronic means of generating sound. It is a hybrid between human control and use of programs, especially suited to use of sampled and synthesized sound and the precise control of tempo and other issues to do with time, such as setting when notes and riffs are to play.

Again I share another interest with Milton Mermikides, and that is synaesthesia. In my research I have already noted the connection with Bridget Riley. She is very much concerned with colour. There is a nice touch of humour in his metonym of 'synaesthesizer' for 'synthesiser'.

Musical Synaesthesia—transposition of Bridget Riley colours to notation

My source of Bridget Riley came from an exhibition at the Tate Modern when we were allowed to photograph the exhibits. I chose *Nataraja*, in rather a similar way to Mermikides, yet instead of vertical coloured lines there are vertical lines broken up into different colours, with at the same time, a strong sense of horizontality from bottom left to top right, as below.



Bridget Riley, *Nataraja*, 1993, Tate Modern, 20 columns

As was obviously apparent with Mermikides, one difficulty was in differentiating the colours. It seems that where there were two shades of blue that he lumped together. My approach was to assign note values to the colours based on a quasi-synaesthetic

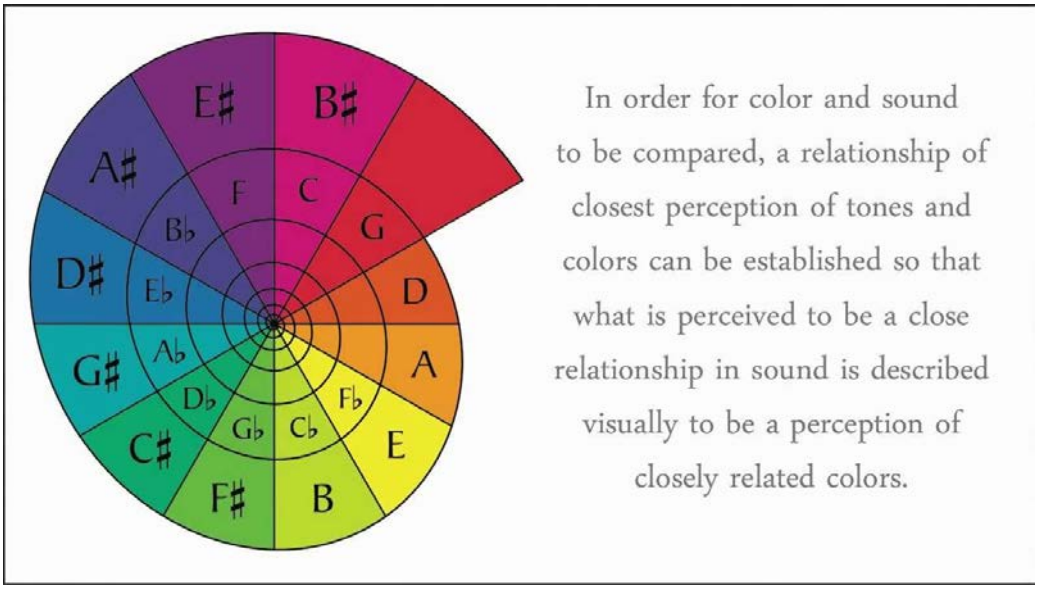
sense and then interpolate so that there was a logic to the scheme. As I have used before, during the masters programme in a piece entitled *A Study in Champagne* (2017), the reference colours came from what I considered to be the closest in actual Hertz to the note pitches as per the colour scheme of the Lucy colours as follows.

Note	**Hertz** LucyTuned	Equivalent **Wavelength** Angstroms/10 Nanometres	Approximate **Colour**
A	440	619.69	Orange-Yellow
A#	457.75	595.66	Yellow-Orange
Bb	472.27	577.34	Yellow
B	491.32	554.95	Yellow-Green
Cb	506.91	537.89	Green-Yellow
B#	511.13	533.44	Green
C	527.35	517.03	Green
C#	548.62	496.99	Green-Blue
Db	566.03	481.70	Blue-Green
D	588.86	463.03	Blue
D#	612.61	445.08	Blue-Violet
Eb	632.05	431.39	Violet-Blue
E	657.54	414.67	Violet
Fb	678.41	401.91	Ultra Violet
E#	**684.06**	**398.59**	**Invisible Violet**
F	**705.77**	**772.66**	**Invisible Red**
F#	734.23	742.71	Infra Red
Gb	757.53	719.86	Red
G	788.08	691.96	Red-Orange
G#	819.87	665.13	Orange-Red
Ab	845.89	644.67	Orange

harmonics.com

Lucy Scale from *Pitch, Pi, and Other Musical Paradoxes*, Charles E, Lucy © 1986-2000

There was an alternative source that claimed that they had empirically worked out the true logical relationship between sound and colour and there was a lot of merit to their argument, but even when using mechanisms to help with decision making and set parameters, there still is room for subjective interference, for taking control. I preferred the Lucy scale. The alternative scheme is shown below.



Colour Wheel Music Theory

Alternative Colour Scheme, from Video, 2013, and related book, Mark and Michael Sandborn and Nataliya Vatsyayana, 2014 'A Rosetta Stone: The Universal Harmonic Language Model'

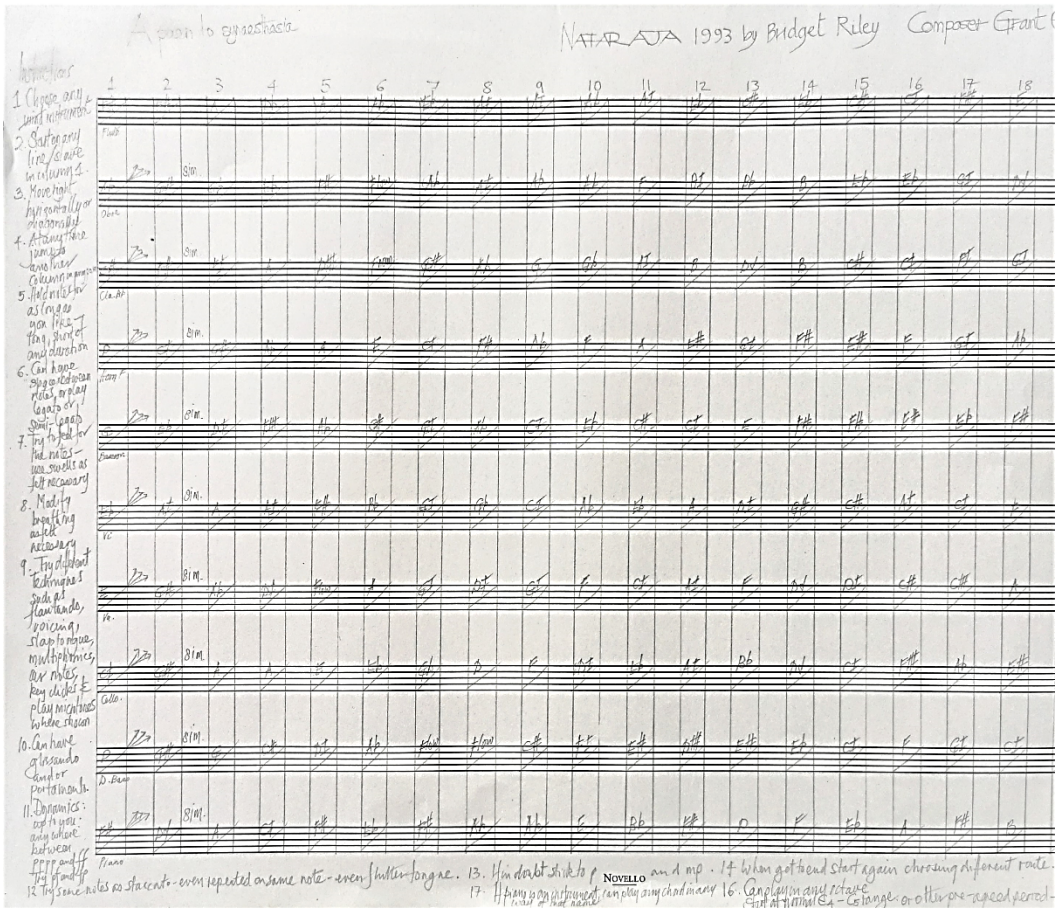
The ascription of colours to notes as based on the Lucy scale was headed 'Synaesthesia', which accords with Mermikides. This involved trying to get a 'feel' match between colours and notes, which could be seen partly as arbitrary, definitely subjective, also prone to error or non-rigid scientific allocation. Nevertheless, there was an element of honestly entering into a best-effort-first-time-right approach, to reduce cognitive rationalisation. The result is as follows.

Col 1		Col 2		Col 5	
Mid Green	Fμ4	Pale Purple	A∝	Pale Tan	D|
Pale Taupe	Dβ	Pale Yellow/ Taupe	DB		
Dark Navy	A	Pale Green	Gβ		
Pale Orange/ Pink	Aβ	Very Pale Green	F∝		
Pale Blue	Cμ	Bright Rich Taupe	D∝		
Mid Hue Taupe	D				
Pale Muddy Lilac	Eβ				
Mid Blue	C∝				
Brown	G				
Bright Taupe	C|				
Slightly Brighter Green	F∝4				
Black	F3				
Bright Rusty	Gμ				

Red					
Paler Green	E				
Darker Green	F |				
Mid Taupe	C |				
Lovely Ceramic Red	Eμ				
Col 6		Col 7		Col 12	
Bright Pink	Bβ	Mid Brown With Hint of Purple	G∝	Terracotta	B

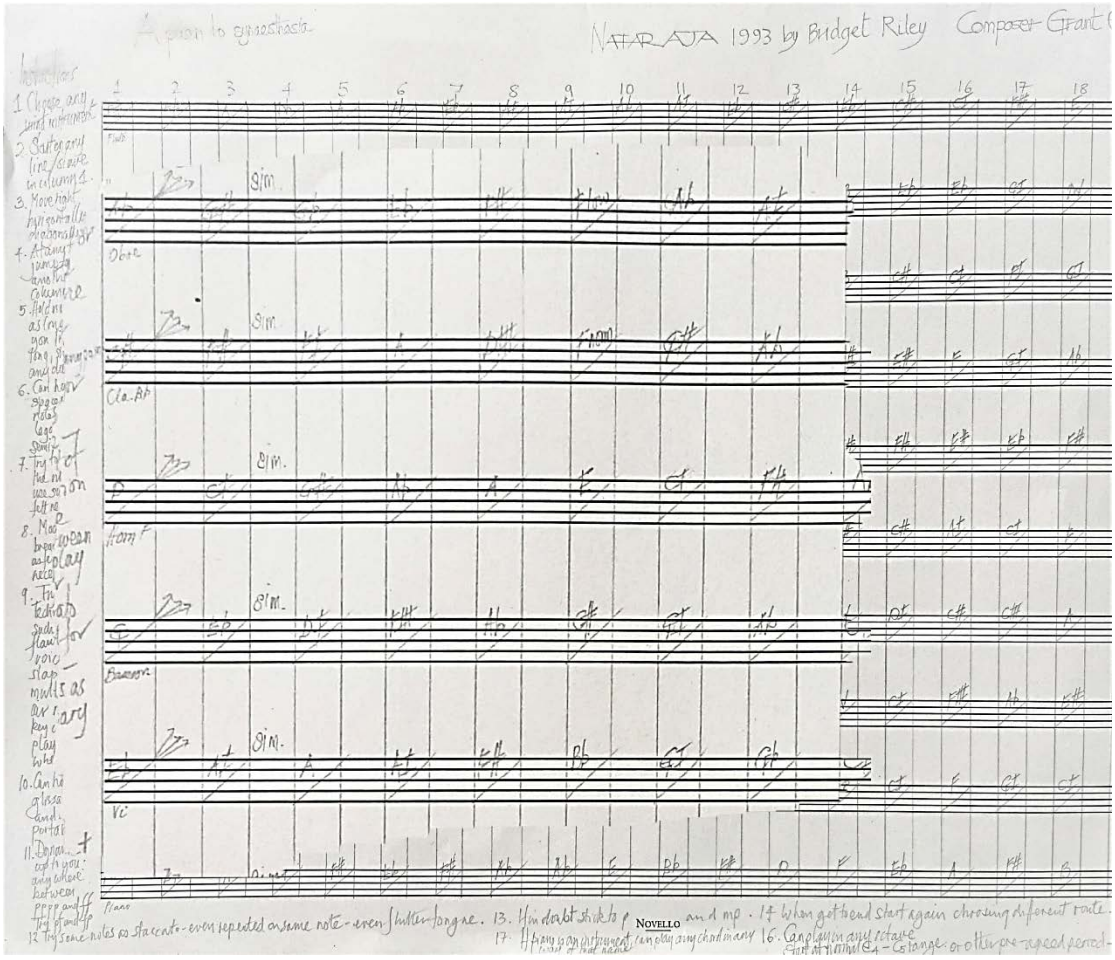
Table of allocation of colours to notes as based on Lucy scale for *Nataraja*

The score then became at matter of matching up colours in Bridget Riley's *Nataraja* painting and faithfully writing them in their appropriate columnar positions, as follows.



Score for *Nataraja*, 2019, Grant Gover, as Bridget Riley painting, 18 columns shown

Playing instructions are written in the margins and a close up view as a cut-out, showing direction of play and possibilities, as follows.



Score for *Nataraja*, 2019, Grant Gover, as Bridget Riley painting, cut-out

The direction of play matches Bridget Riley's diagonal impetus. Notes match the colours in Riley's chromatic painting as closely as possible within the constraints outlined. The playing instructions are explicit about what lines of notes to follow, the possibility of jumping, playing techniques, dynamics, note values and so on. An amendment is needed to fix the parameters of jumping, possibly by variable agreement for each performance. This will have an effect on degrees of freedom and the sense of tonality as against atonality, where less jumping should tend towards atonality. This is exemplified by a simulated imagined performance (first two bars shown in appendices) where unrestricted jumping led, after a while, to a coherent tonality which does not seem suitable in trying to express the inner relationships of notes and colours. The whole effect wanted is a sense of freedom, both for players' ability to express themselves and as a dynamic interpretation of the painting. It is believed that Riley's sense of immanence is close to Deleuze's and, of an early musical reference, Hildegaard of Bingen.

Painting is architecture

Incidentally, the inclusion of painting in architecture has been worked out in background research and in discussion. Essentially, it has to do with being a designed object, which relates to the classic subject-object discussion of philosophical aesthetics of Witkin, Adorno, Dufrenne (Rusten, 2014) and many others.

Architecture as painting

Jencks provides a comprehensively argued case, not only, for drawing parallels between architecture and music, but also, for vividly illustrating examples of cross fertilisation. One such supports the painterly in architecture and with resonances in music too. This is:

© noshe image courtesy brandhorst museum

Brandhorst Museum, Munich, Germany, Sauerbruch Hutton, 2009

The Brandhorst Museum by Sauerbruch Hutton Jencks describes as ‘a literal version of musical chromaticism, a blending of overtones’ (2013). This has obvious

resonances with Bridget Riley, Milton Mermikides and as Jencks points out Op Art, Seurat and the Pointillists, which by extension could be applied to Stockhausen.

In conclusion

The point is made, the links are established. There may or may not be a need for the TFT theory to substantiate or elucidate any points of the thesis or translation. It seems in terms of the TFT there are enough localised points to draw upon to be satisfied with correlations that can be made between the two disciplines of music and architecture.

Post scriptum

There are many other ways that music can be made from architecture, of which there is not the space here. I hope at some time in the future to present upon *The Life of Zaha Hadid* which is an exploration of electronic means of expressing five main period styles of Zaha Hadid's architecture shot through with commentary upon her character.

Another is *The Folkestone Bandstand* where the music is driven by architectural parametric draughtsmanship.

A personal favourite is a string quartet evocation of the Oxford Radcliffe Camera, *A Walk Around Oxford Late at Night*, which, for me, has unashamed, references to centuries' of architectural and musical styles. This, fittingly, *is* an exemplar of use of the TFT, since it was written as fast as possible using standard notation. There is much tonality evident, yet with quite a few modernistic twists of my own.

I am looking forward to exploring further into the world away from tonality, yet never abandoning it completely. In architectural modernism and post modernism, as for instance of Zaha Hadid, and to my mind similar sorts of architects, Daniel Libeskind and Frank Gehry, there are almost outrageous concepts and use of technology, but there is always the world of recognisable elements such as rooms, doors, walls ceilings and so forth—in other words, reality: which brings us full circle back to the TFT theory!

Post post scriptum

Some other ad hoc aesthetic theories that support the application of a generalised field theory are:

- Sandborn and Vatsyayana's fields in relation to colour and numbers (2014)
- Mermikides's analysis of John Coltrane note cloud possibilities (2010)
- Henri Pousseur's pitch class set field studies, layers, recordings, tapes, electronica and more (1957, 1970; Whiting, 2009; Iddon, 2013; Forced Exposure, 2019)
- Beverly Rubic (2018) with her bio-field theory
- Hildegaard de Bingen believing that all is related

References

Artyfactory. (2018). *Cubism*. Available at: https://www.artyfactory.com/art_appreciation/art_movements/cubism.htm. Accessed: 20.05.2019.

Escher, M. C. (2019). *M.C. Escher Gallery*: https://www.mcescher.com. Accessed: 20.05.2019.

Forced Exposure. (2019). Henri Pousseur 8 Titles. Available at : https://www.forcedexposure.com/Artists/POUSSEUR.HENRI.html. Accessed: 07.05.2019.

Iddon, Martin. (2013). *Music since 1900: New Music at Darmstadt: Nono, Stockhausen, Cage and Boulez*. Cambridge: Cambridge University Press.

Janson, Jonathan. (2019). 'Essential Vermeer 2.0, Girl with a Pearl Earring', c.1665-1667, oil on canvas, 46.6 x 40 cm. (18 ¼ x 15 ¼ in.), Mauritshuis, The Hague. Available at: http://www.essentialvermeer.com/catalogue/girl_with_a_pearl_earring.html#.XMwLnaR7mCg. Accessed: 03.05.2019.

Jencks, Charles. (2013) 'Architecture Becomes Music'. *Architectural Review*, (06) May. Vol. 233, Iss: 1395, pp91-108, 18p.

Mermikides, Milton. (2010). 'Changes Over Time: Theory, the theoretical modelling analysis and redeployment of jazz improvisational, and time feel mechanisms'. Partial PhD submission in composition. University of Surrey. Available at: http://www.miltonline.com/category/composition/page/2/. Accessed: 06.12.2018.

Mermikides, Milton. (2018). *Data Sonification*. 22 November. Available at: http://www.miltonline.com/category/data-sonification. Accessed: 06.12.2018.

Mermikides, Milton. (2014). 'New York Skyline Melody Visualised'. miltonline mermikides, Hidden Music milton mermikides. http://www.miltonline.com/category/composition/page/2. Accessed: 06.12.2018.

Pousseur, Henri. (1957). *Scambi*. Available at : https://www.youtube.com/watch?v=nTVNXVCzkK4. Accessed : 07.05.2019.

Pousseur, Henri. (1970). Les Éphémérides d'Icare 2, per un solista, concertino a tre parti e quattro quartetti strumentali (1970) --- Marcelle Mercenier, pianoforte solista; Concertino: Georges Dumortier, flauto; Francette Bartholomée, arpa; Wieland Kuijken, violoncello --- Ensemble Musique Nouvelle Bruxelles diretto da Pierre Bartholomée. Available at : https://www.youtube.com/watch?v=U5iQC0egUzU. Accessed: 07.05.2019.

Protevi, John. (2011). 'Deleuze's contribution to an enactive approach to biology'. *The Future of the Embodied Mind*, eSMC Summer School 2011, Donostia, San Sebastian. Available at:

https://uk.video.search.yahoo.com/search/video?fr=mcsaoffblock&p=John+Protevi#id=3&vid=63f70fecbb83540aee17057b951b3f35&action=click. Accessed: 30.04.2019.

Rubik, Beverly. Chapter 20 of "Energetics and Spirituality" by Lyn Freeman, in 'Measurement of the Human Biofield and Other Energetic Instruments'. © 2009-2018. Available at: http://www.faim.org/measurement-of-the-human-biofield-and-other-energetic-instruments. Accessed: 21.09.2018.

Rusten, Einar. (2014). 'From Heidegger to Dufrenne, and Back: *Bildung* Beyond Subject and Object in Art Experience'. *Philosophy of Music Education Challenged: Heideggerian Inspirations*, 02 September, pp. 213-228.

Sandborn, Michael and Vatsyayana, Nataliya. (2014). 'A Rosetta Stone: The Universal Harmonic Language Model'. *Language, Arts & Disciplines*, 16 August, 256p.

Smith, Daniel and Protevi, John. (2018). 'Gilles, Deleuze'. *Stanford Encyclopedia of Philosophy*, 14 February, Spring 2018 Edition, Edward N. Zalta (ed.). Available at: https://plato.stanford.edu/entries/Deleuze. Accessed: 30.04.2019.

Thaxton, Cirrelia. (2019). 'The Girl with a Pearl Earring by Vermeer: Painting Analysis and Overview', Chap. 14, Lesson 47. Available at: https://study.com/academy/lesson/the-girl-with-a-pearl-earring-by-vermeer-painting-analysis-lesson-quiz.html. Accessed: 03.05.2019.

Whiting, John. (2009). 'Henri Pousseur a leap into the void…'. *Thank you one and all!* Available at: http://thankyouoneandall.co.uk/letters/pousseur.htm. Accessed: 07.05.2019.

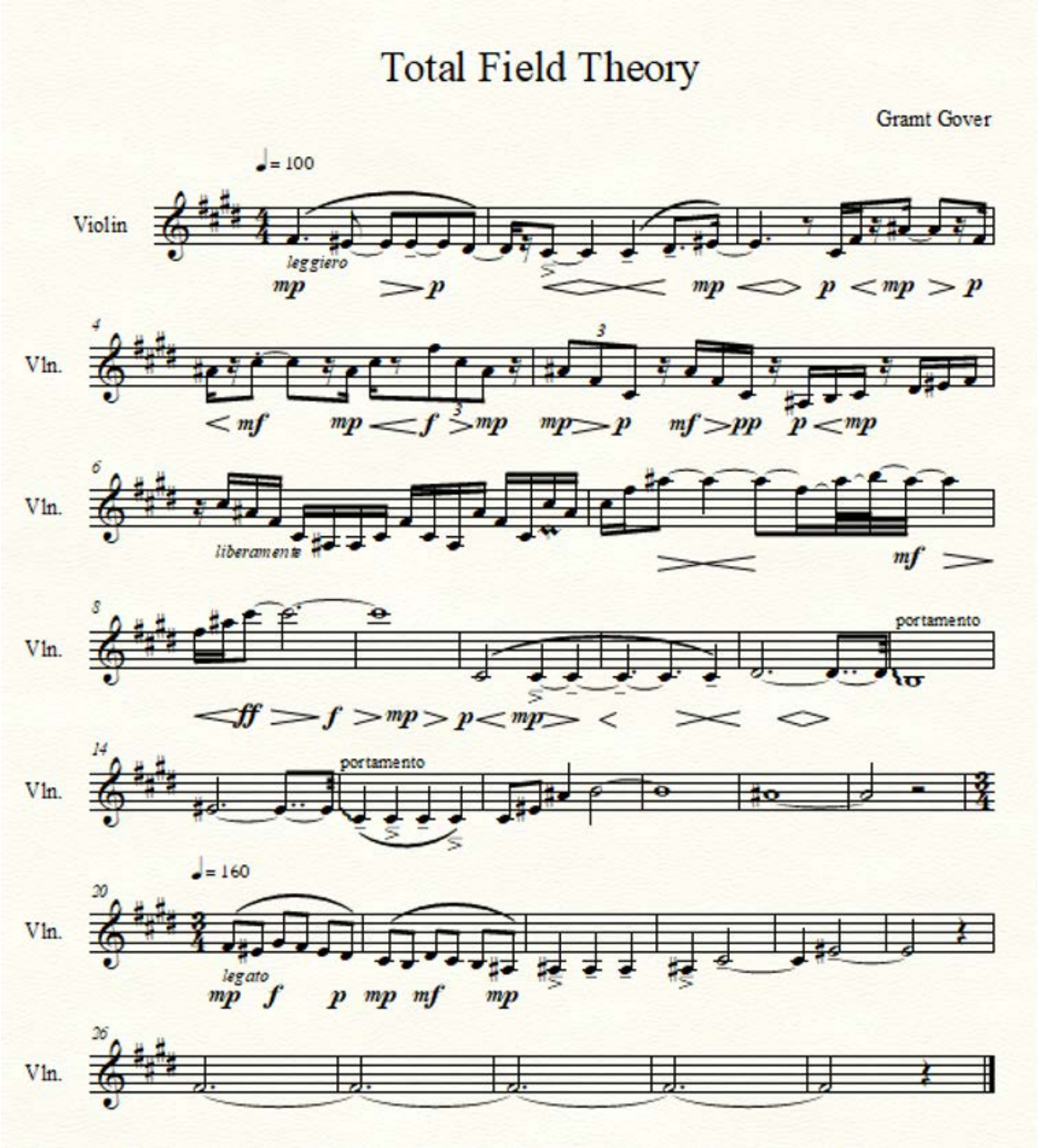
Window to the Universe team. (2012). *Democritus*. Available at: https://www.windows2universe.org/people/ancient_epoch/democritus.html. Accessed: 01.05.2019.

Witkin, Robert, W. (1998). 'Breaking the Code', Chap. 5 in *Adorno on Music*. London: Routledge, pp. 94-103 of 94-107.

Zaldua, Alistair. (2017). *Notation, Translation, Improvisation*, lecture with PowerPoint presentation, 20th April, Canterbury Christchurch University.

Zaldua, Alistair. (2014). 'Translation as Paradigm and Process for Pre-Composition in *Leiden Translations* Installation and Film, Goldsmiths, University of London.

Appendices



Extracted from PowerPoint Total Field Theory 18.10.2018, Grant Gover

Score

This is a composed version
as an imagined performance

Nataraja

Based upon a painting by Bridget Riley, 1993

Grant Gover

Freely ♩ = 76 This is ony a suggested tempo. Each player to play in their own time
Note length, rests and repetitions are as each player decides–notes determined from separate scheme
Expressively, dynamically and technique-wise as each player decides