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# Towards Hermeticist Grammars of Music:

A Proposal for Systems of Composition Based on the Principles  
of the Hermetic Tradition, with Musical Demonstrations

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# Abstract

This thesis is a composer's manual on how to select and appropriately use musical materials in accordance with some of the parameters of the Hermetic Tradition.

It puts to the reader's consideration a few proposals for Hermeticist grammars of musical composition. 'Grammar' here is used in the sense of a set of rules which govern the construction of musical discourse. Musical grammars thus comprise rules pertaining to the construction and selection of both 'lineal' musical materials such as pitch rows, rhythms, motifs and timbres, as well as of simultaneous events such as harmonic or contrapuntal textures.

The adjective 'Hermeticist', derived from the noun *Hermeticism*, refers to a form of traditional Western urban, learned and humanist occultism. This occultism is distinct from folk, popular, or religious/devotional forms of magic, which also occur in the West as well as in other cultures and societies. It is also distinct from other Western occult movements that are either revivalist in their inspiration (such as Wicca or neo-pagan religions) or related to the 'pop culture' of the last quarter of the twentieth century, such as the movements of New Age and Chaos Magick.

The first part of the thesis, *the textual component*, briefly examines the historical encounters between Hermeticism and music theory, very few of which have produced sounding pieces of music, while most of them have happened exclusively at the theoretical, philosophical or mystical-speculative levels.

In the second part, *the portfolio of musical compositions*, I demonstrate the application of the proposed methods through pieces of music I have composed using the historical, theoretical and technical background presented at length in part 1. I further comment on these musical results through annotations and description of pre-compositional work, context research and composition processes used in each individual piece.

## Dedication

Hoc opus dedicatus est ad amicum meum carissimum, compositor neogranatensis Rodophus Adlitus [Hispanice *Rodolfo Acosta* dicitur], qui in decennium postremum saeculo vigentesimo provocatio aethetica creativitatisque mihi iecit: Hujus liber eventus illi est.



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# Acknowledgements

Since the focus of this thesis is a creative artistic proposal, I have not personally consulted, translated, edited or interpreted any original historical archival material which could be technically considered as primary sources. Nonetheless, I have reviewed a substantial number of studies on the history of speculative music to construct the first part of my thesis and so I am indebted to the arduous and meticulous work of many musicologists and historians who have done all this cataloguing and analysis, and whose work was the starting point of my own proposals. The bibliography and references give credit to their work, which I have consulted, but beyond credit, since their contributions are the basis for my theoretical proposals, I feel they more deserved to be *acknowledged* than simply *credited*. Most useful of them all was the substantial work on this direction carried out by Professor Joscelyn Godwin since the 70s up to the present time, undoubtedly the most systematic and meticulous historical analyses of speculative music that I came across in over five years of research for this thesis. As a composer I have taken all of their studies and contributions, and tried to build from them workable systems of musical composition, which I adapted and later used to compose the musical works submitted in the portfolio, as the second part of this thesis.

For their fascinating work which laid the foundations of my own proposals and compositions, I am truly thankful.

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I am also very happy to be able to include a CD with the recording of eleven of the twelve pieces from my portfolio, which were performed at a public concert thanks to the support and interest of several students of the Department of Music of Newcastle University (duly credited on the track list included in Appendix III to the portfolio), and the logistic and financial support of the ‘Centre for Excellence in Teaching and Learning – Music and Inclusivity’ of the International Centre for Music Studies, Newcastle University. This audio “bonus” to the written thesis and scores would not have been possible without the support of the Centre and the interest of my fellow students-performers, so their participation and faith in the project deserves acknowledgement.

Regarding the day-to-day support and interaction which makes a research project possible (even more so when embarking on one’s first extended research project of this kind), I would like to thank my supervisors, Professor Dr. Agustín Fernández and Dr. Paul Attinello of Newcastle University, as well as the academic staff at the International Centre for Music Studies of the same with whom I often held fruitful discussions. Among them, those that had to put up most frequently with my peculiar idea of esotericism and music deserve special mention: Drs. Ian Biddle, Richard Wistreich, Bethany Lowe, Richard Elliott, and Professor David Clarke.

My dear wife Julia Premauer had to endure a seven-year-long research and writing process, and this is quite a feat that I must thank her for, from the bottom of my heart.

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“To find the exact correspondences is the Hermeticist’s key to  
comprehending the Universal Plan.”

Joscelyn Godwin, *Music and the Occult: French Musical Philosophies 1750-1950*,  
New York, University of Rochester Press, 1995, p. 186

# Part I: The Thesis

# Introduction

## I.1 Research Questions

The research question for this thesis could be summarized as follows:

### I.3.1 Main Research Question

- Which methods and techniques of musical composition could be derived from the traditional Hermetic ‘Doctrine of Correspondences’?

While trying to answer this question the emerging data has prompted a few additional, secondary research questions:

### I.3.2 Secondary Research Questions

- Why has the assignment of musical parameters to the Hermetic doctrine of correspondences been so erratic and incongruent throughout history?
- Can a more rationalized, consistent and educated assignment be done by a researcher informed and experienced in both Hermeticism and music theory and composition?
- What would such a music theory comprise and consist of?
- How could musical pieces based on these theories be constructed?

## I.2 Aims and objectives of the thesis

The aims and objectives of my thesis could therefore be summarized as follows:

- To review historically the role of music within the Hermetic Tradition, especially in respect to the ‘Doctrine of Correspondences’.
- To identify theoretical lacunae and omissions in such a role, especially on the side of music theory and compositional practice.
- To propose solutions or possible completion suggestions for such lacunae.
- To use such proposals, as well as its historical precedents, as a basis for proposed ‘Hermetic’ theories of music and some sort of systems of composition derived from it.
- To compose some pieces that would practically demonstrate the use of the compositional systems proposed.

## I.3 What this thesis is about and how it is structured

The final aim of this doctoral dissertation in music composition is to compose several pieces of “Hermetic music”, that is, pieces of music based mainly on the Hermetic doctrine of correspondences, but also on other important doctrines, teachings or assumptions of the intellectual, mystical and para-religious cultural current known as the Hermetic tradition, through its so-called ‘doctrine of correspondences’, a doctrine which connects everything in the universe with other items at several other levels of reality, such as abstract concepts (for example strife, aggressiveness or pity) with planets, plants, metals, colours, and sounds.

In order to be able to compose such music, I have embarked on scanning the history of musical correspondences in Hermeticism, and the history of speculative music theory (the aspects of music theory interested in the connections between music and the occult) in search for these kinds of connections already explored or proposed by other researchers, theorists and composers of the past. My slant has not been chronological, focused on a specific period of history, but rather *ideological*, concentrating on speculative music theory as a perennial interest in the history of ideas in the West,<sup>1</sup> and thus in my historical review I have examined all of Western music theory in search for this speculative vein, starting with Pythagoras and highlighting the most important contributions in Hermetic speculative music since then up to the present time.

Because of this wide historical breath, the depth of treatment of these contributions is, by necessity, limited in detail, and my overview of speculative music theory has been compiled from the research of other historians, musicologists and music theorists. It is therefore not based on primary archival material, but solely on secondary sources. This has been necessary in order to give some space to the composition part of the thesis, and to the textual comments on the originally composed pieces. I do not find this to be particularly problematic for my purposes as a composer, especially considering I have taken due care in choosing my sources from among the most respected, reputed, rigorous, original and intriguing authors in the available literature.

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<sup>1</sup> Godwin, Joscelyn, 'The Golden Chain of Orpheus: a survey of musical esotericism in the West (Part 1)', *Temenos*, 4 (1984), pp. 7-25, part 2 *Temenos* 5, (1984), pp. 211-239.

But speculative music is not exclusively a theoretical endeavour, and throughout the history of Western concert music there has been a minor but perennial interest on the part of composers – both minor and canonically important, professional and amateur – in these kinds of theories, and this has given rise to a repertoire of speculative music, which I briefly discuss in chapter 1. Again, the discussion of this potentially enormous material is brief since this thesis not one of analytical musicology or repertoire studies, but of composition.

I have divided my thesis in two main parts, of which the first one is solely in the form of text, and the second one contains musical scores as well as commentaries, analyses or other textual components surrounding the pieces of the composition portfolio. Each of the sections contains in turn several sub-headings or chapters.

**Part I**, the textual component, focuses on the historical interrelation between music and the Hermetic Tradition: *Chapter 1* gives an overview of the sub-area of theoretical and historical musicology known as ‘speculative music’, which focuses on the esoteric aspects of music theory. This analogical epistemology<sup>2</sup> allows – it even demands – connections to be made between different symbolic systems, and this favours the assignment of extra-musical concepts or data – such as astrological, alchemical or cabalistic speculations and calculations – to musical parameters such as key, pitch or metre. This is precisely what allows a connection to be made between the theological, philosophical and technical aspects of the Hermetic Tradition and music, through the bridge of the Doctrine of Correspondences. The second part of the

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<sup>2</sup> See the extensive commentary on this epistemology that Tomlinson gives in the introduction and first chapter of his *Music in renaissance magic: toward a historiography of others* (Chicago: University of Chicago Press, 1993), pp. ix-43.



chapter presents my own proposal for a cataloguing method for the repertoire derived from such analogies in the past: through studying the composers and their speculative works I have concluded, that there are important differences in the depth and degree of influence of occult sub-texts on the music and its underlying theory, and thus it is misleading to group all of these works together in an indistinct category we could commonly call ‘occult music’, or more academically ‘speculative music’. This would be problematic, since there are, in my view, three distinct levels in which music can be inspired by, referential and tied to, influenced by, or structurally and theoretically dependent on extra-musical esoteric ideas. After I have laid my proposal for this cataloguing system, I mention some historically well-known pieces and composers I consider as representative of these three distinct levels. I have taken the decision of using the cataloguing system I develop here for my own works – as pieces of speculative music they are – and thus this chapter also determines the structure of my portfolio of compositions in Part II.

This first chapter thus constitutes the context of the thesis, in which I propose to discuss the influence of the Hermetic doctrine of correspondences on music theory (and eventually on musical composition), as well as assigning some of the repertoire associated to it and how I believe this repertoire could be catalogued.

*Chapters 2 and 3* constitute the theoretical and technical proposals that I suggest can be used to connect contemporary music composition with the Hermetic Tradition. In these chapters I discuss, comment, and expand on some of the findings I have made while researching the historical antecedents of speculative music. I will critically explore certain technicalities and specific aspects of some of the systems of musical

correspondences proposed by several authors throughout history. While researching for this thesis I discovered that there are several omissions, lacunae, misunderstandings, over-simplifications and in general inconsistencies in some theoretical aspects in certain of the musical correspondence systems proposed in the past. This is due to several factors, which I discuss in each case, but overall the main problem seems to be that many of the proponents of these systems seem to be either occultists with an incomplete or superficial understanding of music theory, or less frequently, composers with comparable limitations regarding occultism in general and Hermeticism in particular. Having studied both subjects intensely for over ten years, I point out and comment on some of these inconsistencies, and propose ways in which they could be improved, to reconcile music and Hermeticism without compromising or sacrificing the theoretical integrity of either, wherever possible. Yet sometimes even these inconsistencies have a good reason, in which case I have not ‘forced them into correctness’ in order not to sacrifice their own inner rationale, which I also strive to comment upon.

It is these two chapters which constitute the core of my original theoretical and procedural contribution, and in them I lay the bases for my own proposals for Hermeticist musical grammars, based on my own views, adoptions or adaptations of what I perceive to be in some cases the inspired insights of genius, or in others the oversimplifications, misunderstandings or *naivité* which can be found in some of the main authors on speculative music theory which I have reviewed for this research.

**Part II**, the portfolio of compositions, is in turn divided into three sections: **section 1 of the portfolio** groups two pieces which fall in what in chapter 1 I have catalogued

as ‘**pieces composed at the intuitional, inspired and aesthetic level of speculative music**’. The first of this pieces, the *Dicta Hermetica* or Hermetic Sayings, for SATB *a capella* choir, consists of four movements. The second one, *The Prayer of Osiris*, for solo baritone, sustaining instrument and additional melodic instruments and assorted voices, is in a single movement.

**Section 2 of the portfolio** groups four one-movement pieces, all of which correspond to the second level in my catalogation scheme, that which is reserved to ‘**pieces composed at the symbolic level of speculative music**’, in which there are clear symbolic relations or equivalences between musical and extra-musical (in this case esoteric) parameters, concepts or phenomena. This section includes the following pieces:

2.1 Ascension, for solo piano;

2.2 *Ararita*, for male choir, vocal soloist, low idiophone and sustaining instrument;

2.3 *HaShem*, for several vocal layers and idiophone(s), and

2.4 The Emerald Tablet of Hermes Trismegistos, for male vocal ensemble, organ, harp and three glass goblets.

**Section 3 of the portfolio** consists of six ‘**pieces composed at the speculative level of speculative music**’, that is to say, at a level in which esoteric theories have etched their mark and influence in underlying music theories, such as those that determine modes or scales, pitch selection, harmonic construction, prevalent key, etc. In this section I have included six different pieces:

- 3.1. *The first astrological house*, for solo piano.
- 3.2. I: ♀ 17°♁, for piano four hands.
- 3.3. *The Cabalistic Cross*, for voice and melodic instrument.
- 3.4. *The Cabalistic Cross*, for two voices and melodic instrument.
- 3.5. *The Cabalistic Cross*, for SATB *a capella* choir.
- 3.6 *The Lesser Banishing Ritual of the Pentagram*, for SATB choir and organ.

In Part II all of the pieces are prefaced by a preliminary commentary or analysis that gives account of the pre-compositional processes, theoretical systems, historical research and all other relevant extra-musical enquiries that have somehow directly influenced the composition of the piece that is being prefaced. These preliminary commentaries show in a clear way how the theory treated in Part I percolates down to the level of musical composition, and justifies the musical choices made in each piece according to the type of system or background used. The commentaries are therefore paramount in linking the theory of speculative music with the practice of musical composition.

At the end of the portfolio of compositions and their commentaries I have included some appendices which expand on certain texts or rituals which have been mentioned either in Part I (the textual component) or in the commentaries to the pieces, but which would have been too cumbersome to quote in full at that stage of the narrative. Nonetheless, the correct and complete understanding of certain compositional and pre-compositional processes often requires the knowledge and cross-referencing to the

sources in full, and this is the reasons that has motivated me to include them as appendices.

I have also included at the end of the thesis a CD with the recording of eleven of the twelve pieces presented in the portfolio (one of them, *The Emerald Tablet*, could not be performed and recorded due to logistical problems at the stage of concert preparation). These recordings were taken live at a concert with audience, which took place at the King's Hall of the Armstrong Building, University of Newcastle upon Tyne (England) on Wednesday November 21, 2007. The third appendix is the track list to this CD, and the performance credits where they are due.

## I.2 Why I got to this point: my personal artistic, aesthetic and ideological journey as a composer that led me to this project

The doctoral work of which this thesis is the summary is the result of a conscious decision to make my practice as a composer on one hand more reflexive, and on the other more rounded and complete. I have decided to do this because some ten years ago – when I was around 28 years old – I started feeling that my practice as a composer lacked depth in both of these aspects, and after much agonizing about this, I even thought about abandoning composition and adopting a ‘contemplative silence’ (and also a deafness, since I concurrently stopped listening to any music, when before this time music had been ubiquitous during all of my lifetime and in all aspects of life). I finally came to the conclusion that musicological research could become a

redemption from this creative crisis, injecting a new life and the energy of discovery into my creative practice as a composer, and decided to give it a try.

This was quite a risk, since before my thirties I had been a ‘sound-only’ type of musician, with very little interest, experience or inclination towards musical scholarship and a critical stance toward theoretical, aesthetic or cultural aspects of music-making.

But before going into that, I would like to offer a bit of background on my personal history and aesthetics, which might help to better understand my motivations to undertake this project:

I started composing music aged fourteen, more than twenty years ago. Until very recently, my practice was entirely devoid of any ideological, aesthetic, political or philosophical preoccupations. Only stylistic considerations were of importance to me, and they consisted mainly in adopting and adapting to my own mode of working the style of composers I admired and whose music I enjoyed. It seemed that my music was, as a respected Colombian musical critic once commented after a concert featuring some of my works, a “systematic review of the entire history of music through the lens of [my] own compositional work.”<sup>3</sup> The Western Canon of High Art music was something I considered very much my heritage and I felt part of it, a continuator of it, and I decided to, in Eco’s words, “accept the challenge of the past,

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<sup>3</sup> Barreiro Ortiz, Carlos: programme note for the concert of April 18, 1995, held at the *Sala Tairona* of the *Centro Colombo Americano* of Bogotá, featuring three of my compositions, p. 2. The translation from Spanish is my own.

of that which has already been said, which cannot be eliminated.’<sup>4</sup> This placed my music, even then, in what we could call a ‘postmodern style’, in the sense it is expressed by Beard & Gloag:

The increased self-conscious quotation of the music of the past [...] produces an intertextual postmodern music.<sup>5</sup>

Considering myself at that time not as a postmodern composer, but as someone forming part of and continuing in the tradition the Western classical spirit, I wished to fully acquaint myself with the Canon, and my method was through re-writing it through the filters of my own personality, as Mr. Barreiro rightly pointed in his comments.<sup>6</sup>

This was my personal appropriation strategy, which I applied for almost a decade. It was both a cultural and a pedagogical endeavour, though by the standards of modernity, and of high modernity in particular,<sup>7</sup> this project would not be considered of much value, as it did not fulfil the fundamental conditions of modern author-centred art, such as originality and a sense of being current, especially expressed

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<sup>4</sup> Eco, Umberto, *Reflections of the Name of the Rose* (London: Secker & Warburg, 1985) p. 67.

<sup>5</sup> Beard, David and Gloag, Kenneth, 'Postmodernism' in *Musicology: the key concepts* (Abingdon: Routledge, 2005), pp. 140-145.

<sup>6</sup> Cf. with Heidegger's concept of *Andenken* as interpreted by Vattimo: Vattimo, Gianni, 'The Death or Decline of Art' (pp. 51-64), and 'The Structure of Artistic Revolutions', (pp. 90-112), both in *End of Modernity: Nihilism and Hermeneutics in Postmodern Culture* (Baltimore, MD.: John Hopkins University Press, 1991).

<sup>7</sup> Williams, Alistair, *New Music and the Claims of Modernity* (Aldershot, Hants.: Ashgate Publishing Limited, 1997).

through the valuing of novelty, in the modern spirit of the cult of progress:<sup>8</sup> But in working thus I was not striving to be novel or original, but merely to being part of the tradition set by my respected models from the Canon; I wasn't aiming at progress, revolution or breaking their moulds, but my aim was to remember them and make continuous homage to their work and contributions through constant and personal re-elaboration of their styles and personal nuances. I lived in my time-less, progress-less, utterly un-modern (not *anti-*, or *pre-*, or *post-* modern, simple *un-* modern) bubble of undifferentiated time which we can scarcely call ever-present *history* (when everything is ever-present one loses sight of the separateness of the categories of past, present and future which define history as we currently conceive it). As Snyder puts it in his introduction to the first-ever English translation to Vattimo's *Fine della modernità*, the idea of history has two corollary notions of progress and overcoming,<sup>9</sup> and it is precisely these two ideas which for a long time I disregarded in my practice as a composer. It must be pointed out that back then – and even today, though to a lesser extent – the Colombian musical scene was notably conservative, and seldom is any post-war (post 1945, that is) repertoire ever played, even on the radio, much less

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<sup>8</sup> Schwartz, Hillel, *The Culture of the Copy: striking likenesses, unreasonable facsimiles* (New York: Zone Book, 1996). Godwin has this to say about the unseparability of certain style to certain epochs: “According to received academic opinion, a philosophical position or a musical style is valid only within its appropriate historical setting [...] In our own field of musicology, indifferent Baroque cantatas are valued, transcribed, published and performed; yet if one were nowadays to compose and indifferent Baroque cantata – even a good one – one would be laughed at and nobody would want to hear the result because it was not true to its time.” Godwin, Joscelyn, 'The Revival of Speculative Music', *Musical Quarterly*, 67/3 (1982) p. 386.

<sup>9</sup> Snyder, Jon R., 'Translator's introduction' in *End of Modernity: Nihilism and Hermeneutics in Postmodern Culture* (Baltimore, MD.: John Hopkins University Press, 1991), p. xvi



live.<sup>10</sup> This of course influenced my attitude toward tradition and modernity in a very profound way, and shaped the aesthetic outlook of my first years as a composer.

In many respects my outlook on the musical Canon back then was quite comparable to the one the *Castalians* have of their own cultural heritage in Hermann Hesse's novel *Das Glasperlenspiel*, which I read around this time, and which now I can see influenced me back then in a much deeper and fundamental way than I then acknowledged.<sup>11</sup>

In retrospect, it seems that since I started composing so young, being a teenager, I continued practising the craft with an adolescent outlook, regardless of my technical and personal growth. For me, composing was a playful and free activity devoid of any preoccupations or deep considerations, an activity connected very much to the constant re-enactment and bringing to the present of 'the past', a past that was very much my cultural present, being a constant an inseparable component of my daily life through an extensive record collection of the canonical works, which I heard incessantly over and over again for more than ten years. As I then saw it, the past was clearly not a superseded previous stage of our culture, nor did it conform to a modernist valuation of it on the basis of being the seeds or first shoots of our present

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<sup>10</sup> I still remember the obviously favorite piece of my local radio station for their programme devoted to "contemporary music" in the late '80s: Stravinsky's *The Rite of Spring*.

<sup>11</sup> I originally read it in the Spanish translation, Hesse, Hermann, *El juego de abalorios* (Buenos Aires: Editorial Sudamericana, 1985). For an English version see Hesse, Hermann, *The Glass-bead Game (Magister Ludi)* (New York: Picador, 2002). It is interesting to note that this novel has so many connections with speculative music and the hope of understanding the universe through music theory that Siglind Bruhn has dedicated a good proportion of her study in the musical order of the world to it. Bruhn, Siglind, *The Musical Order of the World: Kepler, Hesse, Hindemith* (Hillsdale, NY: Pendragon Press, 2005).

and the trunks from where our future can grow. Perhaps in a way, without proselytizing about it or even knowing what it was, how it was defined and what it stood for, I was truly a post-modern subject in the sense of being at the end of history, in this particular case at the end of the musical canon of Western history.<sup>12</sup>

Yet what I now theorize as a postmodern stance could be better labelled as I then lived it as a form of *naïveté*, since I was not only blindly uncritical about it, but in addition completely unaware of its philosophical and ideological background and cultural implications: I glided through the last two decades of the twentieth century as a ‘natural’ post-modern subject, a product of the spirit of his place and time, rather than having intellectually constructed – or chosen – such a stance. To cite a novel again, in a way I re-lived history as my persona present much like the character of ‘John the Savage’ in Aldous Huxley’s *Brave New World*, who spoke in Shakespearean English because that was the only English literature he had ever been exposed to in the remote Indian reservation where he had been born and had grown up.<sup>13</sup>

As I grew up and matured I started to show interest in other matters of intellectual and social import, but these I kept strictly separated from my compositional activity, which for long I considered steadfastly *had* to be kept separated from my non-musical life, in the purest romantic tradition of *ars gratia artis*, respecting the ‘pure’ and ‘immaculate’ romantic notion of the essence of Absolute Music.<sup>14</sup> However, after

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<sup>12</sup> Lyotard, Jean-Francois, *The Postmodern Condition: A Report on Knowledge* (Minneapolis, MN: University of Minnesota Press, 1984) [1979].

<sup>13</sup> Huxley, Aldous, *Brave New World* (London: Vintage, 2004) [originally published in 1932].

<sup>14</sup> Cf. Dahlhaus, Carl, *The Idea of Absolute Music* (Chicago: University of Chicago Press, 1989).

more than ten years of composing in this way, and achieving a certain degree of notoriety and respectability in the worlds of academia, contemporary arts, the Colombian *intelligentsia* and even at national cultural institutions, this long-held position of anachronistic and aristocratic detachment of art from all other social and ideological considerations became unsustainable, for several reasons:

On one hand, the completion of my university degree in composition required, in addition to the musical score which I had so happily and effortlessly written down in five days (after composing it entirely in the mind for a period of nine months), an analytical and reflective commentary. Having striven for more than a decade to actively sidestep – and even de-legitimize through elaborate romantic aesthetic rationalizations – any such reflexivity on my work, this proved to be an agonizing and passionately disliked activity which I almost did not complete due to the sheer repulsion I felt against it.

Secondly, my active participation for more than two years in the lively fortnightly or monthly research and reflection *fora* held in private homes of composers and musicologists in Bogotá, and centred to a lesser degree around traditional and art music, but chiefly around contemporary music, made it painfully clear that the only way to justify my previous position (to which the members of the forum were inimical) would be that, in addition to the cultural, ideological and aesthetic isolation I had experienced while growing up<sup>15</sup> I was also in a literal isolation, secluded in some log cabin in the woods (or, as my supervisor at Newcastle University once mentioned,

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<sup>15</sup> I was raised in a very small and closely-knit family with a marked tendency to establish and maintain a closed cultural ghetto desperately defending the ideals of Central-European *bourgeois* post-war cultural hegemonies against the realities of late twentieth-century Latin America.

more aptly for my idea of aristocratic isolation perhaps, in a Renaissance palace or feudal estate). This was not practicable at the time (but I must confess I have not totally renounced to the idea, of the cabin in the woods, that is). But it was clear that such a position would not be sustainable any further if I was constantly participating in these lively and extremely enriching *fora*, and very actively so, often acting as host, chair, moderator or main speaker. In these discussion groups I was slowly discovering that my previously isolationist mentality and aesthetics could not survive the challenge of open dialogue, discussion and sharing of ideas, readings, music, interpretations and points of view.

A third factor in my change of attitude was the surprising and almost passionate insistence of the attendees of these *fora* – along with the interest of my students at university and even the cultural media – that I spoke publicly about my music. These enquiries forced me to face the fact that since I almost never had any pre-compositional system or extra-musical idea, I had not much to say to these well-intentioned enquirers, apart from anecdotal information of how long it took me to do a piece, in what mundane circumstances I was ‘inspired’ to compose it, why I had chosen the titles or texts for vocal music, to which girl it was dedicated (and why) or what did its cryptic text mean.<sup>16</sup>

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<sup>16</sup> Back then I consistently wrote music with texts in languages the majority of listeners in Colombia would not be familiar with, and hopefully would not understand: Biblical Hebrew, classical Greek, medieval Latin, Russian, German or French. I avoided Spanish because it was the common language of the land and using it would inevitably create a cultural and social connection with my most immediate listeners, which I actively avoided for several years, again in the spirit of absolute music, from which text should not distract. Incidentally, I observed that my listeners never complained about this, or showed any curiosity on what the text meant. It seems that they understood it was all about absolute music, and so they should disregard the text, which I had purposely chosen in a language they could not understand.

But apart from these, there were two additional factors which became the strongest in making me revise the way in which I engaged music, and until then indulged in my detached practice of it: One was the friendly challenge of the most critical of my Colombian colleagues, the composer Rodolfo Acosta,<sup>17</sup> to ‘out-think myself’, as he called it: almost a Wittgenstenian exercise of thinking beyond one’s [usual musical] language,<sup>18</sup> to undertake the mind-expanding exercise of assuming the contrary position to that which one instinctively strongly defends. First, to at least acknowledge it, and at a later stage even to possibly allow the experience of thinking and working in the rejected mode of practice in order to ‘push’ one’s established practices, and thus expand them through test, almost as a medieval *disputatio*. Acosta’s ‘challenge’ was that I should try to compose *a bit* with the mind, which in my romantic compositional ideology was *anathema*: as an ideological romantic I blatantly rejected reason in the creative process and replaced Descartes’ *cogito* with Wackenroder’s *senso* (I feel), in the philosophical axiom *cogito ergo sum*.<sup>19</sup>

The other important factor was the need to justify and legitimize, and eventually integrate to my professional practice, my serious and thorough approach to what could

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<sup>17</sup> Currently the leading figure in the Colombian contemporary music scene in the simultaneous roles of concert promoter, contemporary ensemble conductor, broadcaster, performer, university lecturer and composer.

<sup>18</sup> Wittgenstein, Ludwig, *Tractatus Logico-Philosophicus* (London: Routledge, 2001) [originally published in 1921], aphorisms 5.6, “The limits of my language mean the limits of my world” & 6.54, “My propositions clarify because who understands me recognizes them in the end as absurd, when through them – over them – he has climbed out of them. (He must, so to speak, throw away the ladder after climbing with it). He must get over these propositions; then he sees the world correctly.

<sup>19</sup> Wackenroder, Wilhelm Heinrich, *Confessions and Fantasies* (University Park: Pennsylvania State University Press, 1971); Frey, Marianne, *Der Künstler und Sien Werk bei W.H. Wackenroder und E.T.A. Hoffmann* (Bern: Herbert Lang, 1970).

be judged at first sight as ‘a hobby grown out of control’: since the late 1980s I had started becoming interested in the Western occult tradition, and specifically in Hermeticism and its associated currents since 1994.<sup>20</sup> I read about these topics profusely, and with time developed a critical approach to the authors, movements and texts. Unfortunately, back then I had no notion that there actually was an academic field specialized in the academic study of Western esotericism, and, living in a Catholic country in which confessional universities (of different Catholic monastic orders and currents such as the *Opus Dei* or the Jesuit Order) vastly outnumber all non-confessional, state-run or secular educational institutions, I was still under the impression that there was no place in academia for the serious study of esoteric currents and beliefs. Furthermore, I was under the impression that the interesting polemic of the validity of the occult as a subject of knowledge was a decided matter, and it was decided that it was nonsense, full stop. Such was the atmosphere in Colombian academia when I left it in 2003.<sup>21</sup>

Later, after moving to Britain in 2003 and experiencing first-hand how a more secular society deals with knowledge or traditions which are clearly heterodox (and crucially with a different balance between confessional and secular educational institutions, and

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<sup>20</sup> By ‘associated currents’ I mean the ones which Arthur Versluis lists in an explanatory paragraph for the website of the ASE, Association for the Study of Esotericism: “Among areas of investigation included in the field of esotericism are alchemy, astrology, Gnosticism, Hermeticism, Kabbalah, magic, mysticism, Neoplatonism, new religious movements connected with these currents, nineteenth, twentieth, and twenty-first century occult movements, Rosicrucianism, secret societies, and theosophy”. Versluis, Arthur, ‘What is Esotericism?’ in *Association for the Study of Esotericism*, <http://www.aseweb.org/ASE/ASEDefinition.html> (Accessed 05 March, 2006).

<sup>21</sup> The politics of “paradigm control” and polemical attitude against esotericism on the part of both Academia and the Christian churches is beautifully treated in Hanegraaff, Wouter J., ‘Forbidden Knowledge: Anti-Esoteric Polemics and Academic Research’, *Aries, Journal for the Study of Western Esotericism*, 5/2 (2005), pp. 225-254.

the concomitant attitude towards this kind of research in Academia), I discovered that my interest in the esoteric aspects of Western culture were actually catered for in Academia, in what is the emerging area of ‘academic study of Western esotericism’.

During my stay in Britain (both before starting my PhD and during researching for it) I came into contact with the publications, scholars and academic associations that work in this area<sup>22</sup> and developed sufficient confidence in the validity of my own proposal of combining the academic study of esotericism with historical musicology, music theory and eventually music composition based on the research on the other three areas. This academic legitimization while in Europe of what in Colombia was almost a secret hobby (kept secret out of the fear of social and academic ridicule) enabled me to take the big leap and actually come forward with the idea of combining my long-standing interest in the esoteric with my training in, and inclination towards, music composition. This cultural and environmental factor, along with the other four already discussed, finally propelled me to accept the challenge posed by my colleagues, friends and my own reflection on my creative processes, and I decided, in 2004, to start the process of research towards finding the musical correspondences in the Hermetic Doctrine of Correspondences.

As the text of my thesis will show in detail, the panorama that unfolded before my eyes was overwhelmingly diverse and frustratingly inconsistent: whereas in my esoteric readings from the 80s and 90s I had found quite a stable system of attributions and correspondences for astrology, cabala, tarot and other typical esoteric

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<sup>22</sup> Crucially the Association for the Study of Esotericism, <http://www.aseweb.org/>, the *Societas Magica* <http://www.societasmagica.org/> and the European Association for the Study of Esotericism <http://www.esswe.org/> (latest access to their websites 10 Mar. 2010).

sub-areas (or ‘occult sciences’, as they are sometimes referred to), the correspondences to music parameters were not so ubiquitous. When they appeared, there seemed to be little or no connection to a tradition of sages or scholars on the matter, as is so common in other aspects of the Hermetic Tradition: some authors assigned one type of attribution or correspondence, but others would opt for a totally different one, apparently unaware of the contributions of their predecessors in these matters, yet almost always offering an original system based on interesting and usually logical rationales. Also, the prevalence of the pitch dimension became obvious, with references to keys, modes and pitch classes being very common, but with almost no mention of rhythmic attributions, which I therefore had to try and fill-in as my research developed and the reference to the rhythmic factor started becoming a necessity for the completion of the systems or ‘grammars of music’ I wanted to propose.

The awareness of these attributions in the history of music theory and composition propelled me to engage with the work of mystically or esoterically-inclined composers such as Satie, Scriabin, Cyril Scott, Thomas de Hartmann, Messiaen, Crumb and Stockhausen, and to examine both their music and their theoretical or esoteric writings.<sup>23</sup> Yet this thesis is not a report devoted to such enquiries, and it must be noted that its focus is not biographical, and analysis of existing repertoires is not my main methodology; but it is fair to mention here that I have not remained impervious or impermeable to the work of these masters, and that their contributions

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<sup>23</sup> Adamenko, Victoria, *Neo-Mythologism in Music: From Scriabin And Schoenberg to Schnittke And Crumb* (Hillsdale, NY: Pendragon Press, 2006)



have been part of my process of getting acquainted with an esoteric way of thinking as applied by composers of the recent – and not so recent – past.

All in all, after more than four years of research I came to have enough data on the systems proposed by these speculative music theoreticians of the past to critically examine them, adapt and correct them, and have enough usable systems to be able to try them out in different pieces of music. Of the many pieces I sketched or tried out using several of these systems, I have selected 12 which I finished entirely, and which I consider to be not only mathematical or technical exercises (as many of the sketches not included in this thesis turned out to be, not developing beyond the pre-compositional sketches and list of musical material), but of enough intrinsic artistic value and aesthetic depth, even when considered apart from the theory underlying them.

# Chapter 1: Speculative Music and its Repertoires

## 1.1 Chapter Introduction

My original idea at the start of this project back in 2004 was to dedicate a third of the body of the thesis to the discussion of the repertoires of speculative music. Thus the original structure was a first part dedicated to the history of speculative music and the Hermetic tradition, a second part dedicated to repertoire analysis and commentary and finally a third part dedicated to my own theoretical and technical contributions to speculative music, which I was hoping to extract from a combination and interconnection of the historical study with the analytical study of the existing repertoires, with a separate volume dedicated to the compositions portfolio.

But as I progressed in my research and gradually covered the relevant literature – both the theoretical and the musical one – the theoretical focus of the speculative tradition in music became more evidently apparent at every step. Not in vain is the term ‘to speculate’ used in common parlance to refer to baseless or even outlandish theorizing.<sup>1</sup> And indeed, more often than not, historical writers on speculative music clearly express their Platonic legacy which separates their music theory, almost in a prideful moral superiority, from the sounding music of the ‘lesser’ human world. Of

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<sup>1</sup> The Oxford Concise English Dictionary defines *to speculate* as to “form a theory or conjecture without firm evidence”. “speculate v.” *The Concise Oxford English Dictionary*, Eleventh edition revised. Ed. Catherine Soanes and Angus Stevenson. Oxford University Press, 2006. *Oxford Reference Online*. Oxford University Press. Accessed 23 January 2007.

<<http://www.oxfordreference.com/views/ENTRY.html?subview=Main&entry=t23.e54197>>

the three categories of music so influentially catalogued by Boethius in the 6th. century<sup>2</sup> (*musica mundana*, *musica humana* and *musica instrumentalis*, the musics of the universe, the human being and instrumental or vocal music), speculative music is mostly interested in the study and exploration of the first type, and its attitude throughout the centuries has been almost of shunning sounding music (*musica instrumentalis*) as inferior, in the philosophical sense of it being the expression of accidental phenomena rather than essential principles, and thus closer to the imperfection of matter and the clouding of essentials and the ontological reality of music – whatever that may be – through its flawed human moral and epistemological filters which separate this human music from the essence and *Being* of ‘actual’, Ideal Music.

During the process of researching this theses, the more I read both the actual theoretical treaties on the speculative tradition and their philosophical bases – mainly in the Platonist and Pythagorean traditions – the more I managed to understand this stance from within, and came close to ‘becoming native’ in it, to use anthropological parlance. In a moment of epiphany at the end of my second year of research, I felt that Music, (in capital letters to distinguish its idealist conception from that of the sounds which happen in the world of phenomena) as understood by the speculative tradition – and by then also by myself, as a recently-converted volunteer ‘*neo-speculative*’ – was more related to philosophy and mathematics than to the arts or cultural practices of human individuals or groups: as I learned to think *ex modo speculativo* I discovered that any considerations of details or specific cases of pieces of music were actually not the point of speculative music, and that the most faithful

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<sup>2</sup> Joscelyn Godwin, *Music, Mysticism and Magic: A Sourcebook* (New York: Arkana (Penguin), 1986)

understanding of this approach implied a trans-musical, architectural approach in which even pre-compositional plans, structures and other material sometimes judged as ‘too abstract’ in the compositions of the serialists and post-serialists are still far too ‘material’ for speculative music, in the sense that they are connected to a sounding result which, being a determinate object (a musical object) is not the central interest of speculative music, which focuses primarily on general ideas and grounding principles, and not on specific cases. In this sense, speculative music could be considered as a form of metaphysics of music. And musical materials, in the sense of being objects (sets of instructions to produce sounds) that eventually sound within a sounding musical piece (a phenomenon in the world) are far too ‘physical’ for the metaphysical interests of speculative music.

### **1.1.1 Speculative music as musical metaphysics**

In this moment of understanding the inevitable question I repeatedly got from interested parties since the outset (“how does speculative music sound?”) seemed frustratingly, almost annoyingly off the mark, because speculative music simply does not sound: it is concerned mainly with ideas and notions like the ones worked with in mathematics or philosophy; indeed, metaphysical notions around music and its relationship to the universe. Asking how does *that* sound seemed now as senseless as asking how does *Being* sound, or how does *Pi* sound: these concepts simply do not express themselves at that level. But this doesn't mean that an *effort* can not be made, of deriving inspiration from such things in order to make music, or to use them as starting point and grounding to generate *sounding* music (music in small letters). But the distinction must be made, and made clearly, that the *effort* of crossing the boundaries does not imply that the boundaries are not there, or that speculative music,

in the sense of being a metaphysics of music, does actually cross into the world of phenomena.

This effort of crossing from one to the other, of building this bridge between the metaphysical and the physical (or in this case the acoustical) was actually the original idea I had back in the first trimester of 2004, when I first drafted the proposal for this research: to try and express the philosophical concepts of Hermeticism (especially the doctrine of correspondences) in sounding pieces of music. But as I discovered speculative music in the first year of my research, and really got to understand its mode of thinking in my second year, I came to appreciate its supra- (or ultra-) sonorous nature: that its core principles, its main area of study, is so theoretical as to be mostly philosophical or mathematical rather than empirically musical.

### **1.1.2 The ‘phenomena of metaphysics’, or the pieces of speculative music**

It is not surprising then, that the repertoire of pieces composed in the tradition of speculative music is extremely small. Most of the contributions in the history of the speculative tradition are theoretical, when not downright mathematical, philosophical, metaphysical, or even theological.<sup>3</sup> It is the concern of the writers preoccupied with

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<sup>3</sup> A quick scan of the titles of some of the extracts collected by Joscelyn Godwin in his two compilations of writings of speculative music from Plato to the 1980s can give an idea of this. For example, in Godwin, *Music, Mysticism & Magic* we can read about ‘Hearing Angels Sing’ (Aurelian of Réôme), pp. 95-96; ‘The Music of God’s World’ (Adam Scot) pp. 100-101; ‘A Mystic’s Inner Song’ (Richard Rolle) pp. 106-109; ‘Singing and Dancing with the Angels’ (Henry Suso) pp.110-113; ‘Human, Angelic and Divine Song’ (Matthaus Herbenus) pp. 123-126; ‘On the Occult and Wondrous Effects of the Secret Music’ (Robert Fludd), pp. 144-147; ‘The Metaphysics of Harmony’ (Johannes Kepler), pp. 148-152; ‘The Ultimate Music’ (Athanasius Kircher), pp. 160-16; ‘A Composer’s Glimpses of the Music of

speculative music to show us the relationship between music and the cosmos, or music and God, or music and creation, and this relationship can hardly be apprehended through the example of individual pieces of composed music. Another important factor to consider here is that many of the contributors to speculative music have not been musicians but mathematicians, theologians or philosophers (whether concentrating on natural, occult, moral or of any other kind of philosophy). The very few which have been musicians have mainly or exclusively been music theorists (e.g. Zarlino, Ramis de Pareja, Mersenne) or if they were also practising musicians, (e.g. Ficino, Galilei) they seem to have grasped the metaphysical focus of speculative music which I have mentioned above, and voluntarily abstained from writing down their musical output when it was directly related to their musical speculations.<sup>4</sup>

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Spirits' (J.F.W. von Dalberg), pp. 178-183; 'Music as Cosmic Will Revealed (Arthur Schopenhauer ), pp. 213-215.

<sup>4</sup> Ficino does not tell us in his *De Vita* or his other writings in which he directly addresses music (or *Music*), why he chose to never write down the improvised planetary hymns and invocations for which he was so renowned. We therefore can't really tell for sure why he abstained from notation. The expert in Ficino, Angela Voss, is of the opinion that they were improvised "according to the quality of the moment", and "his planetary music (see *Three books on life*, 3.21) suggest[s] that [an "astrological music" should] do quite a lot of preliminary research into the astrological and musical identity of the client, then improvise calling on a mixture of "diligence and divine chance"'. (Email to the author, October 02, 2006). I venture and speculate from my own experience in understanding the metaphysical nature of speculative music which I described above, that he might have come to a similar conclusion, and perhaps did not hold the same appreciation for his "phenomenological" music improvisations in the *lira de braccio* that he held for his metaphysical writings on music and its relationship to the life of the cosmos and man. Marsilio Ficino, *Three Books on Life* (Tempe, AZ: The Renaissance Society of America, 1989). Perhaps Ficino was also worried that writing down his improvisations would 'freeze' their natural and uncontrolled flow and thus kill the magic in them. Because we know that for him "the frenzy of the poet or musician was the beginning of the initiatory process, the awakening of [the] dormant memory of divinity [...]" Angela M. Voss, 'Orpheus redivivus: The Musical Magic of Marsilio Ficino' in <http://www.rvrcd.co.uk/> (Accessed 6 Jun. 2005) and Angela M. Voss, 'The Music of the Spheres - Ficino and Renaissance harmonia' in <http://www.rvrcd.co.uk/> (Accessed 6 Jun. 2005). Was he perhaps worried that writing down the products of such improvisatory frenzies, and possibly correcting them according to his good grasp of musical theory, would make them products of reason rather than of

The result is that those – like myself – wishing to study the repertoires of speculative music need to dig very deeply and thoroughly, and once the digging is made we discover we have very little in the way of pieces of music written with the intention of addressing a particular issue in the speculative tradition. (This is not that surprising, as a clear delimitation of such a repertoire would point towards the existence of a canon of speculative music, and the process of creating canons can be seen as the process of separating self from other – *our* music from *theirs* – with the finality of somehow exerting a form of power. As Beard and Gloag put it, “the canon acts as a source of cultural power and as such it becomes a mechanism through which non-canonical music is excluded from the public domain.”<sup>5</sup> As my research revealed to me, the Hermetic tradition is particularly uninterested in hegemony and generalization, preferring individual – and not necessarily replicable – approaches and insights to generalizable set rules. And considering that “works included in the canon then assume an authority” since “they are seen to exemplify certain qualities and values”,<sup>6</sup> the establishment of a canon of speculative music in general or Hermetic music in particular is not in accordance with the *ethos* of the magical world-view these disciplines embrace).

Yet if one wishes to examine pieces of music written by composers or theoreticians who were either clearly and directly or marginally and in a veiled way close to or

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this divine frenzy, and thereby too human as opposed to divinely-inspired? Cf. Plato’s Divine Frenzy, also commented by Ficino. Ficino, Marsilio, *Sobre el furor divino y otros textos* (Barcelona: Anthropos, 1993).

<sup>5</sup> David Beard and Kenneth Gloag, *Musicology: the key concepts* (Abingdon, OX: Routledge, 2005) p. 33.

<sup>6</sup> Beard and Gloag, *Musicology*, p. 33.

interested in this Hermetic *ethos*, it is not unreasonable to consider certain of their musical works as exemplary of a certain non-canonized body of repertoire, even if so only by later interpretation rather than original intention.

If one wishes to delve into this kind of study of the repertoire, it is necessary expand a bit the definition and understanding of the notion of speculative music when trying to find pieces written in – or around – this mainly *theoretical* and *metaphysical* tradition. It is this expansion of a definition which I propose to undertake in the first part of this chapter.

Such expansion allows me to catalogue a wider repertoire not originally conceived as representative or demonstrative of speculative music theory as pieces in the *tradition* of thought and conception of music which speculative music has generated during the several centuries in which it has been alternatively either present in the foreground, or lingering in the underground of music theory and philosophy.<sup>7</sup>

## 1.2 A proposal for a model of cataloguing musical repertoire with occult subtexts

### 1.2.1 Speculative music as musical occultism – expanding a definition.

In his book *Music and the Occult, French Musical Philosophies 1750-1950*, Joscelyn Godwin defines speculative music as “the part of music theory that has nothing to do with practice, but is concerned with identifying the principles of music. It is the

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<sup>7</sup> Joscelyn Godwin, *Music and the Occult: French Musical Philosophies 1750-1950* (New York: University of Rochester Press, 1995) [Esoterisme musical en France, 1750-1950], pp. 4-10.



esoteric part of music theory, and as such readily absorbs ideas from theosophy, Hermeticism, and the occult sciences.”<sup>8</sup>

Thomas Christensen on the other hand, in the six paragraphs he dedicates to the discussion of this aspect of musicology in the entry for ‘Musicology’ in the Grove Dictionary of Music and Musicians, while recognizing that “Cosmological harmonics continued to hold fascination for a few individuals, although it was an interest largely motivated by esoteric or occult beliefs”,<sup>9</sup> states his position that along with the occult aspects, speculative music has also been interested in the purely mathematical perspectives of speculative music (as opposed to numerological or *arithmological*, that is, interested in the *symbolism* of numbers),<sup>10</sup> which have been cultivated especially by those musicologists or scientists with epistemological and methodological stances that tend more to the empirical than to the speculative.

The main difference between speculative music of the latter kind (or *harmonic science*, as Christensen and others refer to it) and physical acoustics or psychoacoustics of a more empirical, modern and scientific approach is nonetheless quite clear: whereas both the physical sciences of music and “musical harmonics [encompass] the abstracted study of musical elements – sounds, intervals, rhythmic proportions, scale systems and modes” the latter is intrinsically holistic rather than reductionist, and strives to seek “the place of these elements in the general

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<sup>8</sup> Godwin, *Music and the Occult*, p. 4.

<sup>9</sup> Thomas Christensen, 'Speculative Traditions', en 'Musicology, §II, 2: Disciplines of musicology: Theoretical and analytical method.' in *Grove Music Online*, 2004. <http://www.grovemusic.com> (Accessed 21 Jan. 2006).

<sup>10</sup> Matila C. Ghyka, *Filosofía y mística del número* (Barcelona: Apóstrofe, 1998) [1952], pp. 1-17

cosmological order”.<sup>11</sup> In this sense, by stubbornly adhering to a holistic view that seems to have become the target of reductionist scientific thought, it inevitably places itself at odds with the scientific paradigm which has reigned since the Enlightenment, since it seems to cling to an almost theological epistemology in which music is an important part of cosmology, and the laws of human music may be traced back to the laws of the universe, and conversely the latter may be discovered or clarified through the study of music and its governing laws.

Godwin’s definition, as presented earlier, is that of a historical musicologist who has painstakingly worked for several decades on the history of the specifically occult stream of speculative music,<sup>12</sup> and therefore, by being a pioneer in the study of this somewhat disdained area of musicology is faced with the need of choosing or adapting terms to describe his field of study. But his definition, even though perfectly workable, seems to me a little incomplete, wanting, as it were, a bit of expansion: In the sense that speculative music, even if intrinsically not interested in the sounding music of the mundane world, of the ‘uninitiated’ peoples and traditions of the world – as ethnomusicology and the musicological studies of the musical canons and repertoires, whether popular, traditional or of ‘high art’ are typically concerned,

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<sup>11</sup> Christensen, loc. Cit.

<sup>12</sup> Several of his writings review, comment or compile the writings, thoughts and musical endeavours of a wide variety of historical characters ranging from thinkers and philosophers to artist and musicians, including mystics, scientists, occultists and eccentrics of different origins, backgrounds and calibres. See especially his edited volumes *Music, Mysticism and Magic: A Sourcebook* (New York: Routledge & Kegan Paul, 1986); *The Harmony of the Spheres: A Sourcebook of the Pythagorean Tradition in Music* (Rochester, VT: Inner Traditions, 1993) and *Cosmic Music: Musical Keys to the Interpretation of Reality* (Rochester, VM: Inner Traditions, 1989). He further discusses the various approaches to speculative music from a technical rather than a philosophical point of view in *Harmonies of Heaven and Earth: the Spiritual Dimensions of Music from Antiquity to the Avant-garde* (Rochester, VT: Inner Traditions, 1987).

almost by definition. Nonetheless, the speculative approach has eventually given rise to experimental applications of its speculative, detached-from-the-world theories to musical pieces intended to be played, sung or in some cases only read and contemplated by a certain audience – admittedly small and select, but an audience nonetheless – and therefore the vehicle of social propagation of this type of music.

Therefore, if the theory of speculative music gives rise to a certain repertoire, and from this repertoire stems a study, a performance, a reception and in the end an admittedly minoritarian yet socially living musical tradition, and from the study of all of these by consequence a musicology, it would be fair to say that speculative music is not *only* “the part of music *theory* that [...] is concerned with identifying the principles of music”<sup>14</sup> but that we can consider speculative music, just as any other type of music, from the three perspectives of the theoretical, the practical – i.e. composition and performance – and the musicological – i.e. the commentary, analysis, study of reception and in general thinking and writing *about* this music.

I would therefore propose an expansion of Godwin’s definition, to include both the music and the commentary on it that arises from the originating esoteric music theory – the musical practice and the musicology that speculative music theory generates, once applied in the composition of music which is later put into practice and to the consideration of an audience. In the wider definition I propose, speculative music would not be “the esoteric part of music *theory*”, but rather the theoretical, practical

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<sup>14</sup> Godwin, *Music and the Occult* p. 4, emphasis mine.

and musicological aspects of esoteric music, that is to say, of the esoteric in these three levels of the study of music.<sup>15</sup>

Therefore, when I undertake in this article to examine how the esoteric is represented in music at three distinct levels, I am doing a theoretical cataloguing or ordering of some of the repertoire of speculative music, understood through the wider definition I propose of speculative music as generally the esoteric in music theory, but also including the study of how that theory filters into compositional practice, as well as the musicological study of the resulting repertoire, or the procedures it is based on.

A problem soon arises when one examines speculative music from this expanded perspective: whereas in the original definitions it is very clear that speculative music is a *speculative* undertaking as its name implies – an ontology of music, and an attempt to connect music to the wider world, to the *macrocosm*, and to understand how music fits (or suggest and propose how it *should* fit) into the wider perspective of the functioning of the universe and the divine or universal plan[s] or law[s] according to certain theological or cosmological perspectives, on the other hand by considering it not only an aspect of music theory but also of music repertoires and practices, we are exposing ourselves to the temptation of accepting any and all pieces of music with an occult theme, title or extra-musical pre-text as pieces of speculative music, worthy of entering this proposed ‘speculative repertoire’.

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<sup>15</sup> Incidentally, when I shared this proposed expansion with Professor Godwin, he replied that “I don't want to get involved in discussions of terminology, much less academic arguments of any kind. As far as I'm concerned, each one of us defines these terms as we understand them, and as long as we make that plain to the reader [...] we have a perfect right to that. It's not as though they're terms in everyday usage.” Email to the author, dated 20 March 2006.

But is this really a great pitfall, or one that should surprise or shock us? Isn't it inevitable, when revising or expanding a definition to encompass more than it was originally intended to cover, to find such grey areas just at the edge where the boundary is being pushed? The pin-pointing one might confidently propose one day might lie in another category as the boundary moves back and forth in the process of stabilizing itself and settling down, until another proposal, approach or comment comes to destabilize it again. This is one of the reasons why pinpointing with small, movable pins could be much healthier, academically, than doing so with steel and concrete unmovable land-markers.

The question 'should all music which support some sort of esoteric discourse be considered speculative music?' seems to me quite similar to that much-discussed one which changes the terms 'esoteric' and 'speculative' for 'religious': is any piece of music with a religious text or title a piece of religious music? What makes it religious, the intention, the context, the performance, the appropriation? Is a religious piece still religious if performed in a concert hall rather than in a temple or other religious space and setting? Is it still religious if performed outside of its original or intended liturgical, cultural, geographical or chronological contexts? These questions are a matter of much discussion, and can be considered as yet unsettled. But a stance is necessary sometimes, if only temporarily, in order to be able to continue working in a problematic, undefined field or subject, such as the ones discussed.<sup>16</sup>

So my temporary answer – for the sake of this proposed model of cataloguing – is *yes: any and all* pieces of music with an occult theme, title or extra-musical pre-text

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<sup>16</sup> John Taverner, 'The Sacred in Art', *Contemporary Music Review*, 12/2 (1995), pp. 49-54

can be considered as pieces of speculative music, albeit not at the same level. And it is here where my proposal comes in handy as a model for cataloguing this repertoire of occult music into three different levels, and not mishmashing all of its component pieces into the indistinct category of ‘music with occult themes’ or ‘speculative music repertoire’, as I propose it could be named.

### **1.2.2 Approaches to defining ‘esoteric’ and ‘occult’ when applied to music**

But what does exactly ‘the esoteric’ or ‘the occult’ mean, when applied to music? Godwin dedicates a paragraph in the first chapter of his book *Music and the Occult* to define these terms, among several other useful definitions and clarification of terms. Here is what he tells us of *Esoteric*, by comparison to *Exoteric*:

“Exoteric” and “Esoteric,” as used in this book, refer to the division within a field between what is generally known and accepted, and what is reserved for only a few. This “reservation” may be simply a matter of choice, as in the case of Christianity, whose esoteric doctrines interest only a minority of believers, or else it may be a formal division, as in the case of the Mysteries of Antiquity, which were only accessible after due qualification and trials. Because of such usage, “esoteric” often carries an implication of something mystical or spiritual that touches the deeper levels of the human being. When I use it in the context of music theory, it is to distinguish the exoteric theory that is content with rational analysis from the esoteric theory that introduces concepts from the occult sciences.<sup>17</sup>

Not only occultists, cosmologists and music theorists of the past have been interested in this peculiar interface between music and the esoteric, but composers as well. As a

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<sup>17</sup> Godwin, *Music and the Occult*, p. 3.

result, a corpus of musical pieces has developed which may be termed as pieces of speculative music, given the broader definition presented and discussed above.

But not all of these musical pieces have approached the occult theme to which their composers are drawn to or inspired by in the same way. An analysis of this proposed ‘repertoire of speculative music’ seems to suggest that we can identify three distinct levels of depth of understanding, familiarity and ultimately ideological commitment from the composer to the extra-musical, in this particular case occult, ideologies or systems of thought that have been a pre-text for their musical pieces.<sup>18</sup>

Yet the level in which a certain piece of music is situated within this model does not depend on the composer’s real or reputed understanding, of familiarity with, or ideological commitment to a particular occult ideological framework in general, but rather on how these affect the individual piece of music which is under consideration. In other words, in this model of cataloguing, the pieces are catalogued by their particular characteristics, independently of the composer’s other production, either related to the piece at hand or not, and not by how ‘initiated’ into occult systems the composer may allegedly or reputedly be.

A simple example will illustrate this point: It is a historical fact that Mozart was initiated a Freemason in the Viennese lodge *Zur Wohltaetigkeit* (To Charity) in December 14, 1784, and that he attained the highest degree of symbolic Freemasonry,

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<sup>18</sup> *Pre-text* is used here in the sense of existing previous to the musical text as texts in themselves, in any form of discourse, written or oral, implicit or explicit.

that of Master Mason, in the same lodge in April 22, 1785.<sup>19</sup> Yet to extrapolate this fact and to consider all of Mozart's production after 1784 as pieces of speculative – or Masonic – music just because he was a member of an esoteric society at the time would be preposterous: although there is ample evidence that *Die Zauberflöte* is indeed a deeply Masonic opera,<sup>20</sup> as are of course all the pieces that bear the words *Maurerfreude* or *Maurerische* on their titles, among other of his Masonic works,<sup>21</sup> we can hardly consider the *German dances, ländler, contradances* and other salon or dance music (pieces of a lighter nature and for different audiences and circumstances), as occult or speculative music. In Mozart, as in the case of all composers, initiation into an occult society or group, or serious interest in occult theories or worldviews, does not preclude the capacity, interest or indeed the need – to secure a livelihood for example – of composing 'mundane' music — which can be at times *very* mundane. The composer's 'initiatory status' does not limit or automatically determine all of his production from that moment on will be 'initiated' or 'occult' music: for different audiences, different music; for different circumstances, different approaches.

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<sup>19</sup> Jacques Chailley, *The Magic Flute Unveiled: esoteric symbolism in Mozart's masonic opera; An interpretation of the Libretto and the Music* (Rochester, VM: Inner Traditions, 1992) .

<sup>20</sup> Chailley's book, cited above, gives a comprehensive review of several works in this direction. On this respect I refer to his bibliography, in pages 333-336.

<sup>21</sup> For a catalogue of these, see Cecil Hill and Roger J.V. Cotte, 'Mozart's Masonic Music, in 'Masonic Music' in Macy (Ed.) *Grove Music Online*, 2004.

<http://www.grovemusic.com/shared/views/article.html?section=music.17993.3#music.17993.3>  
(Accessed 1 Feb. 2006).



### **1.2.3 The Three Levels of Representation of the Occult in Speculative Music**

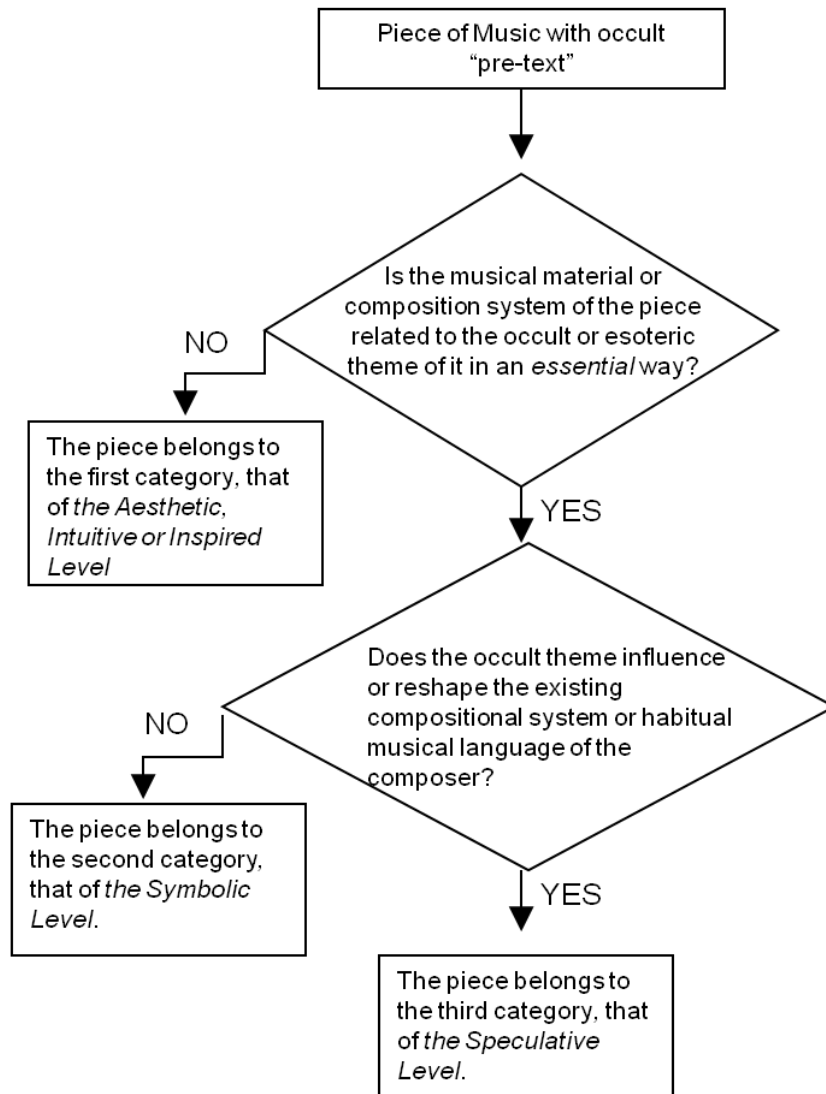
The three levels of the cataloguing I propose are determined by applying a qualitative approach to answering basically one question, and then qualifying the answer to this question a bit further, with other subsequent questions. The process is graphically explained in figure 1.1 below, and the qualifying questions are expanded on in the following section. The root question is:

*Is the musical material or composition system of the piece related to the occult or esoteric theme of it in an essential way?*

I am using the term *essential* in its philosophical sense, understood as “a thing's possession of its essential properties is necessary either for its individual existence or, at least, for its membership in a specific kind”<sup>22</sup> In other words, could the musical material be what it is, or be treated in the way it is treated, if it wasn't for its relationship to an occult, extra-musical idea, concept or system?

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<sup>22</sup> Garth Kemerling, 'A Dictionary of Philosophical Terms and Names' in 2002. <http://www.philosophypages.com/dy/i9.htm#intr> (Accessed 20 Jan. 2006)



**Figure 1.1: Flow chart of the process to determine to which category a certain piece belongs to.**

***Level 1 – The Aesthetic, Intuitive or Inspired Level***

If the answer to this root question is clearly *no*, because the occult connection does not determine the essence or existence of the musical material – for example if they are both related only thematically, or in any other way circumstantially – then we can

say that the piece belongs to the first, or more superficial level of engagement of the composer with the occult, a level which I call *the aesthetic, intuitional or inspired* level of representation of the occult in music, because the composer is basically inspired by a theme, an atmosphere, perhaps even a title, a character or a concept, and goes on to compose music for it in the same way that he would compose any type of music; in effect the occult theme does not influence his system of composition, his choice of material, his inclusion of it in the piece or his development of it in any way that we could say is different from the procedures that would be generally used for other types of ‘non-occult’ music.

Examples of this approach abound in the history of music, both in the classical and the popular genres. Opera is full of them, and any opera lover will immediately be reminded of a multitude of specific cases: whenever there is a scene with some sort of conjuring or sorcery in it, whether it be in the action or in the form of a character or someone or something which is mentioned, or when portentous magical events are going on, we can say that the composer was thinking of an occult theme, and that therefore there is a link – albeit a weak one at this level – between music and the occult, and that therefore this piece of music is speculative music, according to my expanded definition proposed above, though at a very superficial level.

But did the composer just continue the composition of this particular ‘occult’ section of his opera straight through, just as if he was composing any of the other arias, ensembles or numbers of the opera, or did he stop and think “okay, I am expressing something occult here, I should better use an appropriate musical material or

techniques for this”?<sup>23</sup> In other words, did he change something in his usual compositional approach, procedures or practices because of the occult theme he was tackling? If the answer is no, then we can say that the particular piece of music under consideration belongs to the first category of speculative music, namely *the aesthetic, intuitional or inspired level of representation of the occult in music*, so named because the composer is ‘inspired’ by the occult theme in question and goes on to write music for it in a very intuitive way, following his usual aesthetic outlook and technical practices.

I will discuss an example to clarify this point further: I am in possession of a rare double CD, called *Musiques Maçonniques*.<sup>24</sup> The first of the disks is devoted in its entirety to Mozart’s Masonic works, but the second one has a selection of works by other composers, earlier as well as later than Mozart, who have written works dedicated to or inspired by Freemasonry or Rosicrucianism. The earliest of them, Rameau, was born in 1683, and the latest, Satie, died in 1925; the CD therefore gives a quick overview of music with Masonic or Rosicrucian themes over more than two centuries. But just as knowing the architectural and ornamental codes of the Middle Ages enables one to walk inside a medieval cathedral and ‘read’ its religious and mystical symbolism, similarly one learns to read (or rather listen to) the codes and

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<sup>23</sup> *How* we, as musicologists, can determine if the composer indeed did this or not is a methodological issue, that be tackled in various ways, among them biographical information (correspondence, diaries, textual writings by the composer, reported speech and so forth) as well as through musical analysis. Analysis in particular is very useful to determine at which level of this typology would a piece of speculative music belong, to *qualify* how the musical material or composition system of the piece is related to the occult as well as to determine if it is in the first place, but musical analysis is not the only method to determine this.

<sup>24</sup> Various composers *Musiques Maçonniques*. 2 CDs. EMI Music France, 1992. Recorded between 1958-1990. EMI records 7243-5-69567-2-8.

symbolism of some of the more symbolically clear speculative music. And just as one does not see much medieval mystical symbolism in most administrative or government buildings of the 1950s (and one rarely needs to refer to the plans or the architect's recollections on his or her intentions in order to determine this), similarly even without score in hand, it would be clear to one who has heard and studied a certain number of pieces of speculative music that the piece *L'initiation d'Arlequin* for example, which is included in the disc as track 2, there is no mystical symbolism imbedded in the musical material or its treatment and which essentially determines its existence – as does happen in the other two levels of representation I will discuss below – and therefore we could say that this particular piece belongs to the first category, the aesthetic, intuitional or inspired level of representation of the occult in music.

Another good example of music at this level of representation is a lot of the so-called 'New Age Music' (though not all of it), especially that specifically composed for meditation or ritual, and of the type using electronic sounds: since many forms of meditation imply a state of relaxation and quietness, most of this music is slow, mellow and in general not conducing to any extreme of excitement or excessive mental or physical activity. Many composers of this type of music simply follow these stylistic parameters when composing, and write music that will be appropriate for this type of relaxed and contemplative meditative or ritual activity, but in this general character or 'atmosphere' lies all of what they consider of occult or magical value and power in their pieces: there is nothing *essentially* – in the philosophical sense –

esoteric in their musical material or treatment of it, since tempo or 'atmosphere' can hardly be considered essential to a piece of music.<sup>25</sup>

A radically opposite example which serves the purpose equally well is the supposed 'Satanic' music of some heavy metal bands: their intention is usually to arouse the opposite effect on their listeners to that which New Age meditation music aims at, and consequently the music is loud, fast, usually with intense and intentionally disturbing lyrics. But many of them limit their 'Satanic' connection to basically these factors, namely lyrics (extra-musical textual content), tempo, intensity, and instrumental and vocal colour (through playing and singing technique distortion and amplification). If these factors are essential to the music material, or merely 'accidents'<sup>26</sup> is something that could be discussed, and the answer would probably depend on the particular treatment a given band gives to these factors in a specific piece: in this case, like in many, generalizations might be misleading, and testing of individual samples might be called for. But should we consider them accidental and not essential to the musical material and composition system, then we can catalogue them in our first level of representation of the occult in music.

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<sup>25</sup> Proof of this being that a piece can be performed faster or slower within a reasonable range and it will still be recognized as a particular piece of music and not taken to be something else.

<sup>26</sup> Again in the philosophical sense of "a feature that something happens to have but that it might not have had. The thing could exist without having this feature, since it is not part of the very nature of the thing, unlike the essence without which the thing could not be at all." Kemerling, 'A Dictionary of Philosophical Terms and Names' in (Accessed 20 January 2006).

## *Level 2 – The Symbolic Level*

If, however, the answer to the first question “Is the musical material or composition system of the piece related to the occult or esoteric theme of it in an essential way?” is clearly *yes*, the piece will not be catalogued as belonging to the first level, but rather to the second or third levels of the proposed model (refer to the flowchart in figure 1.1), depending on the answer to a second question which will qualify our original positive answer. In order to refine this a bit more, we need to ask a second question:

*Does the occult theme influence or reshape the existing compositional system or habitual musical language of the composer?*

In other words, if the composer uses a particular compositional system or theoretical base consistently in his music, does he still use the same system for his pieces inspired by occult themes?

If the answer to this question is *no*, then we can catalogue the piece in the second category, *the symbolic level of musical representation of the occult*, so called because the occult theme of the music does filter itself in the music, and is represented *symbolically* in it: the music represents, in a direct way, something of importance in the occult theme or philosophy on which the piece of music is based.

If we are considering where to catalogue a piece of speculative music once we have determined that the musical material is indeed *essentially* related to the occult implications of the piece’s extra-musical theme, this second question further clarifies

the extent to which the material and its underlying theory has been modified by the occult ideas and world-views the theme implies.

I will take the of Mozart's opera *Die Zauberflöte* as an example of a piece of music belonging to this category. The constant reference to Masonic symbolism in the actual configuration of rhythmic and melodic musical motifs and themes – and not only in the libretto, as some authors have argued<sup>27</sup> – as well as the choice of principal keys and other essentially musical (as opposed to extra-musical) parameters leads us answer the first question with an emphatic *yes*.<sup>28</sup> Specific examples of these connections are discussed in detail elsewhere,<sup>29</sup> so I will limit myself to mentioning only one here: the repeated reference to the number 3 in the opera.

The number three is of extraordinary symbolic significance in the Masonic tradition, and both Schikaneder<sup>30</sup> and Mozart use it insistently in their respective contributions to the opera. In the libretto we can easily notice the three attendants of the Queen of the Night, the three boys who lead Papageno and Tamino in their mission, the three doors at the Temple, the three initiatory trials, and so on. But not only Schikaneder included these references to the triad in his libretto; Mozart also refers to it profusely in his score, even when the libretto would not 'force' him the include the ciphering of

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<sup>27</sup> A critique of this position can be read in chapter 2 of Chailley's *The Magic Flute Unveiled*, already cited.

<sup>28</sup> As a reminder, the first question was "Is the musical material or composition system of the piece related to the occult or esoteric theme of it in an essential way?"

<sup>29</sup> Joscelyn Godwin, 'The Revival of Speculative Music', *Musical Quarterly*, 67/3 (1982), pp. 373-389. Again, apart from the sources cited directly for this article, for more discussion on Masonic symbolism in *Die Zauberflöte* see the extensive bibliography cited by Chailley and Branscombe in their respective works.

<sup>30</sup> The author of the libretto of the opera.



the number in his music: it is clear that if whenever there are three boys or three attendants of the Queen of the Night on stage the music must be written for three parts, but it is also clear from the purely instrumental sections of the opera that it has also been Mozart's decision, as a composer, to use the number in this way, independently of the libretto. In the first minute or so of the whole opera no less, in the overture, three chords are repeated three times. They are in the key of E flat major, a key who we represent in Western musical notation with three flats at the beginning of the staff. This key is predominant in the whole opera, as it is in most of Mozart's Masonic music, having close association with the famous three dots of Freemasonry – which refer to many philosophically and theologically important triads, such as the Trinity, the past, the present and the future, the equilateral triangle, and many others. It is clear that Mozart is ciphering the number three in his score, to symbolically connect with this number so significant in the Masonic tradition, which he held in high regard.<sup>31</sup>

We can therefore determine that musical material of *Die Zauberflöte* is indeed related to the occult theme of the piece, in an essentially musical way (not only through the text or other extra- or para-musical parameters). It therefore does not belong to the first category of speculative music, the aesthetic, intuitional or inspired level.

But does belong to the second or to the third level of this model? This we can determine by answering the second question: “*Does the occult theme influence or reshape the existing compositional system or habitual musical language of the composer?*” In the particular case of *Die Zauberflöte* we have seen that *the material*

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<sup>31</sup> Katherine Thomson, *The Masonic thread in Mozart* (London: Lawrence & Wishart, 1977) .

is indeed affected by Masonic symbolism, but is the *compositional system* or *habitual musical language of the composer* similarly affected by it? Since Mozart consistently uses the tonal system in all of his music, does he change, adapt, modify or in any way challenge it in *Die Zauberflöte*?

He does not. We can therefore answer the second question with a *no*, and catalogue the *Die Zauberflöte* in the second level of representation of the occult in music, *the symbolic level*.

I will again refer to ‘Satanic’ heavy metal as a further example of speculative music in the realm of popular music. I discussed earlier that many of the bands that write this kind of music base their ‘Satanism’ on their texts, tempo, intensity and general atmosphere and instrumental and vocal techniques used in their music. But a simple musical device such as *retrograding* a melody or a rhythm might very well connect the music symbolically with one of the main tenets of Satanism, namely the idea that “*Demon est Deus inversus*” (The Devil is God reversed), as expressed also symbolically in the inverted pentagram or Latin cross, both profusely used in Satanism as an expression of its counter-religiousness. Likewise, if New Age meditation music symbolically represents in its *musical* material any of the occult ideas it adheres to or wishes to support, for example using seven notes to specifically represent the seven Chakras of Eastern subtle anatomy,<sup>32</sup> it would also mean that it is representing the occult at *the symbolic* rather than *the intuitional or inspired* level.

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<sup>32</sup> Shalia Sharamon and Bodo J. Baginsky, *Chakra Handbook* (Wilmont, WI: Lotus Light, 1999) [1988]; David Tansley, *Radionics and the Subtle Anatomy of Man* C. W. Daniel, 1972) ; Bruce Burger, *Esoteric Anatomy: The Body as Consciousness* North Atlantic Books, 1997) .

In his books ‘Music and the Elemental Psyche’ and ‘The Spiritual Dimension of Music’ the composer and author R.J. Stewart discusses the symbolic relationship between the repertoire of several progressive and experimental rock bands of the late seventies and early eighties and their occult and spiritual interests, and how both of these cross-fertilized each other. For a discussion and examples of how these pieces of music fit into what I call *the symbolic level of representation of the occult in music* I refer the reader to Stewart’s books.<sup>33</sup>

The reader might wonder at this point: “But why is it necessary to change the habitual musical system in order to write speculative music? Why isn’t the tonal system, or the modal system or the dodecaphonic system or any other theoretical system of composition the author habitually uses, appropriate for writing speculative music?” I must point out that am not saying it is not; actually I am saying that indeed this is usually done, so usually in fact that two of the three categories I propose cater precisely for the types of music written within the usual theoretical frameworks of their respective musical systems. What I am saying is that *some* speculative music does indeed subvert the habitual writing system of the composers, and I wish to consider that type as a special category in my cataloguing model.

### ***Level 3 – The Speculative Level***

Composing music based on, inspired by or in any way related to occult themes seems to offer some composers the opportunity to adapt existing musical languages or

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<sup>33</sup> R.J Stewart, *Music and the Elemental Psyche: A Practical Guide to Music and Changing Consciousness* (Wellingborough, Northamptonshire: The Aquarian Press, 1987) and R.J Stewart, *The Spiritual Dimension of Music: Altering Consciousness for Inner Development* (Rochester, VM: Destiny Books, 1990) [1987].

theories radically, or build entirely new ones by virtue of the theoretical and epistemological givens and tenets of the occult tradition in question. It seems clear that to do this requires a good understanding and familiarity with the occult system on which one is going to work musically, or at least some willingness to dedicate a significant amount of time studying it. It also seems clear that the composer must be really keen on exploring the musical implications and connotations of the occult system he is working with, and given the time needed to modify or design a whole musical system or language, we might also legitimately deduce that he considers this potentially lengthy exercise of some value, and does not dismiss the occult theory behind it as a mere curiosity, a good pretext for his piece, or the chance of a catchy title or subject-matter in order for his audience to be attracted to his work. We can therefore assume a certain *seriousness* in those that tread this path.

Considering all this, we could perhaps even venture to make a judgement on the ideological commitment and epistemological (perhaps even ontological) faith a composer might have towards a specific occult system or world view based precisely on how much of his music belongs to this, the third and last level of representation of music in the occult, which I call *the speculative level*, inasmuch as it is clearly related to Godwin's original definition of speculative music, which I will cite again:

“Speculative music [...] is the part of music theory that has nothing to do with practice, but is concerned with identifying the principles of music. It is the esoteric part of music theory, and as such readily absorbs ideas from theosophy, Hermeticism, and the occult sciences.”<sup>34</sup>

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<sup>34</sup> Godwin, Joscelyn, *Music and the Occult: French Musical Philosophies 1750-1950* (New York: University of Rochester Press, 1995), p. 4.

One must nonetheless point out that a person's religious practices or beliefs do not necessarily impinge on their professional practice, and this goes for composers as well (as a matter of fact, I was in this position, as already mentioned in the introduction. It is also known that Phillip Glass is a committed Buddhist, but his music on Buddhist themes stays at level 1, discussed above).

At this third level of representation of the occult in music, it is indeed *music theory* in general that is affected by the occult theme the composer is treating in his music, and not only, as in the previous two levels, extra-musical parameters or particular musical material. At this level, the way in which the composer *thinks* about music, and inevitably then how he works his particular material, is affected by the occult substratum of the theme he is tackling musically.

'Theory' is generally defined by Palisca as "[...] the study of the structure of music", but "at a more fundamental level theory includes considerations of tonal systems, scales, tuning, intervals, consonance, dissonance, durational proportions and the acoustics of pitch systems."<sup>35</sup> Many musicians take all of this for granted and work within the theoretical frameworks that their time, cultural tradition or school of musical training gives to them, leaving the consideration of theoretical questions to musicologists, especially music historians and music theorists.<sup>36</sup> This does not apply

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<sup>35</sup> Claude.V. Palisca, 'Theory, theorists' in Macy (Ed.) *Grove Music Online*, 2004.

<http://www.grovemusic.com> (Accessed 14 Nov. 2004)

<sup>36</sup> Boethius would call them *cantores* and not *musicos*, and would consider this kind of approach to music-making to belong to *musica instrumentalis* rather than to *musica theorica*, which always asks speculative questions about the nature of music and its relationship to wider nature, human, natural and supernatural. Gibson, Margaret, ed. *Boethius: His Life, Thought and Influence* (Oxford: Basil Blackwell, 1981) pp. 43-49.

to all musicians of course, and there have been several composers with keen interest in music theory; some even have excelled theoreticians as well as composers (eg. Schoenberg, Hindemith, Toch).<sup>37</sup> I observe that especially since the fall of the so-called “common practice” as general and basically unquestioned reference point for ‘academic’ or art music, the interest of composers in music theory has been more “hands on”, considering that the creation of musical systems or theories is a very explicit challenge to the “common practice”, a challenge more acceptable after the fall of it as a hegemonic and unchallenged approach in the past.<sup>39</sup>

It is of course this type of composer which will be naturally inclined to examine, critique, modify or remake their music theory – sometimes as often as in each different work – and a musical piece with an occult connection gives a great opportunity to examine music through the eyes of other types of theories, in this case occult, mystical or para-religious.

A very well known example of this kind of composer is Olivier Messiaen. His interest in the exploration of rhythm based on the Indian *talas* is well known, and other occult connections of his music (mainly on the mystical stream) have been thoroughly

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<sup>37</sup> Joseph Dubiel, 'Composer, Theorist, Composer/Theorist' in Cook and Everist (Eds.) *Rethinking Music* (Oxford: Oxford University Press, 1999), pp. 262-286.

<sup>39</sup> It must be noted that the term ‘Period of Common Practice’ and the concept it denotes is problematic, and has come under strong critique. For a very insightful deflexion on this matter, see Piekut, Benjamin, 'No Common Practice: The New Common Practice and its Historical Antecedents' in 2004. in the web magazine from the American Music Centre, at <http://www.newmusicbox.org/page.nmbx?id=58tp00> (Accessed Jan. 21 2006).

discussed in the academic literature.<sup>40</sup> The enormous *Turangalila* symphony, refers from its title, and also in its contents, to the dance of cosmic unity.

But Messiaen is not the only composer of art music who has shown interest in combining the mystical or occult with the musical in highly theorized and structured ways, and there are other examples. To mention a few names, Peter Maxwell-Davies, Dane Rudhyar, Harrison Birtwistle and Dmitri Smirnov, all of which have based some of their pieces in the study of aspects of occultism, particularly in the numerological possibilities of magical squares.<sup>41</sup>

Other examples may be cited from the popular repertoire: again referring to New Age music (which undoubtedly has, as a genre, important connections with occult movements and beliefs), those composers of music from this genre which refer to Celtic mythical or magical lore and which take the trouble to use Celtic harmonies, scale-systems or melodies – as transmitted down in oral and recently in written history – are transcending the symbolic level of use of musical material related to the occult, and going into the speculative level of actually modifying or subverting the musical system they usually work with for the sake of a deeper connection between the musical and the extra-musical, in this case occult, substrata of their theme.<sup>42</sup> Two

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<sup>40</sup> On this topic see the edited collection *Messiaen's Language of Mystical Love* (New York: Garland, 1998), edited by Siglind Bruhn, especially the following chapters: Theo Hirsbrunner, 'Magic and Enchantment in Olivier Messiaen's *Catalogue d'oiseaux*' pp. 195-214; Ian Darbyshire, 'Messiaen and the Representaton of the Theological Illusion of Time', pp. 33-54; Andrew Shenton, 'Speaking with the Tongues of Men and of Angels: Messiaen's 'langage communicable'', pp. 225-246 and Robert Sherlaw-Johnson, 'Rhythmic Technique and Symbolism in the Music of Olivier Messiaen', pp. 121-142.

<sup>41</sup> Rodney Lister, 'Peter Maxwell Davies' 'Naxos' Quartets', *Tempo*, 59/232 (2005), pp. 2-12.

<sup>42</sup> Of course there is the question of authenticity of the received material, and the problematic issue of its transmission through oral tradition and nationalistic historiographies and discourses. For more on this

cases in point is the work of Àine Minogue and even the earlier work of Enya, both of which on careful audition will reveal the underpinnings of modal systems traditionally associated to Celtic vernacular traditions.

Given the stringent parameters proposed for considering a piece of occult music at the speculative level one might deduce that the level of re-working and basic re-design that a musical system needs in order for the music to be composed in it to be considered in this category is such that it can only exist in the post-tonal era, or at least after the period of the so-called ‘common practice’, i.e. in the long historical period in which tonality was the norm, as opposed to modality, atonality or individually-constructed composition systems.<sup>44</sup> But this is not necessarily the case: there are examples of a musical works which could be considered as belonging to the speculative level of occult music, and which date from before the demise of the so-called ‘period of common practice’. One such example is the 1618 ‘multimedia’ work *Atalanta Fugiens* by the famous alchemist and court physician to the Hermetic-Friendly Emperor Rudolf II Michael Maier.<sup>45</sup> In this volume, as Godwin notes, “so

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see for example Dave Harker, *Fakesong: The Manufacture of British Folksong 1700 to the Present Day* (Milton Keynes: Open University Press, 1985)

<sup>44</sup> It must be noted that the term ‘Period of Common Practice’ and the concept it denotes is problematic, and has come under strong critique. For a very insightful deflexion on this matter, see Benjamin Piekut, ‘No Common Practice: The New Common Practice and its Historical Antecedents’ in 2004. <http://www.newmusicbox.org/page.nmbx?id=58tp00> (Accessed Jan. 21 2006) in the web magazine from the America Music Centre, at <http://www.newmusicbox.org/page.nmbx?id=58tp00> (Accessed Jan. 21 2006).

<sup>45</sup> I take the liberty of using the modern (or post-modern) term ‘multimedia’ in this case, since it is Mayer himself who refers to his work, in its lengthy subtitle, as “adapted partly for the eyes and intellect in figures engraved on copper, with legends, Epigrams and notes attached, partly for the ears and the soul’s recreation with about 50 musical fugues in three voices, [...] to be looked at, read, meditated, understood, weighed, sung and listened to, not without a certain pleasure”. Originally published by Hieronymus Gallerus at Oppenheim, 1618.



important [for Maier] was the concept that he set aside the rules (of which he must have been perfectly well aware) such as the prohibitions of consecutive fifths and octaves, or of unprepared and unresolved dissonances. In addition [...] he inserted some very capricious accidentals that are not necessitated by canonic imitation”<sup>46</sup> Moreover, “when one comes to sing the fugues in their entirety one discovers that some of them are only just practicable and one has to admit that there is a large element of eye-music and even of conceptual art that does not necessarily require enactment.”<sup>47</sup> This very disregard of the actual practicability – and therefore existence in the world of the senses – of some of the canons, and the rules of counterpoint and voice leading that are still today taught at the undergraduate level as a *conditio sine quae non* of being a composer is what makes these specific canons, if not the whole collection, a representative of occult music of the speculative or third level, even in a period before the rise of atonality and challenges to the common practice. There are other examples, which Godwin has cited and discussed, and which for the sake of brevity I will refrain from mentioning here.

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<sup>46</sup> Michael Maier, *Atalanta Fugiens: Edition of the Fugues, Emblems and Epigrams* (York Beach, Maine: Phanes Press, 1990) , p. 14.

<sup>47</sup> Preface to Maier by Godwin, Maier, *Atalanta Fugiens: Edition of the Fugues, Emblems and Epigrams* , p. 13.

### 1.3 Chapter Conclusions

This ends my exposition of the three levels in which I believe speculative music can be catalogued in this proposed model: The aesthetic, inspired or intuitional, the symbolic, and the speculative. I hope to, in offering this model, also be balancing the potential explosion of repertoire that can be accepted as ‘speculative music’ if my suggestion of expanding the definition of ‘speculative music’ is taken on board.

I will be using this model of cataloguing my own compositions in part II, in the portfolio of musical compositions for this thesis, and this is one of the reasons why this chapter has expanded on it to such a degree.

# Chapter 2: Alchemical and Astrological Grammars of Music

## 2.1 Astrology and alchemy: sister techniques

In the research on the Western esoteric traditions – and the Hermetic tradition in particular – that I had to undertake in order to systematize the interest and engagement I had had with the occult literature since the late 80s, I came to the conclusion that there are three distinct bodies of knowledge or ‘occult sciences’ which form the core of the contemporary Hermetic Tradition: cabala, astrology and alchemy.

Consequently, in planning this thesis I sought to cover each of them in their separate chapters. This was done with the chapter on cabala (chapter 3 of this thesis), but as I researched on alchemy I found firstly that I could not find direct musical attributions of alchemical processes, concepts or terms in the historical literature, and secondly, that there was a strong historic tendency of relating alchemy to astrology.

The seven planets, for example, are usually assigned to correspond to the seven metals most widely known in the ancient world (gold to the Sun, silver to the Moon, quicksilver to Mercury, copper to Venus, iron to Mars, tin to Jupiter, and lead to Saturn), in fact, “Both sciences [astrology and alchemy] work with common symbols. Thus, for instance, planetary signs are used for metals in alchemistic texts”.<sup>1</sup> The

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<sup>1</sup> Junius, Manfred M., *The Practical Handbook of Plant Alchemy: An Herbalist's Guide to Preparing Medicinal Essences, Tinctures, and Elixirs* (Rochester, VT: Healing Arts Press, 1993), p. 97.

planets are also referred to as “stages of the soul’s ascension”,<sup>2</sup> which is perhaps the main preoccupation of Western alchemy.<sup>3</sup> The traditional equivalences between planets and metals are shown below, in table 2.1.

<b>Planet</b> (name and astrological glyph)	<b>Metal</b> (name and chemical symbol)
Moon (☾)	Silver (Ag)
Mercury (☿)	Quicksilver (metallic mercury) (Hg)
Venus (♀)	Copper (Cu)
Sun (☉)	Gold (Au)
Mars (♂)	Iron (Fe)
Jupiter (♃)	Tin (Sn)
Saturn (♄)	Lead (Pb)

**Table 2.1:** Traditional alchemical equivalences between the planets and the metals

The alchemical processes or ‘works’ are also attributed to astrology, in particular to the signs of the zodiac, as shown below in table 2.2. A modern alchemical manual tells us that “astrology is closely linked to alchemy.”<sup>4</sup> It also reminds us that

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<sup>2</sup> Whitcomb, Bill, *The Magician's Companion: A practical encyclopedic guide to magical & religious symbolism* (St. Paul, MN: Llewellyn Publications, 2001), p. 117.

<sup>3</sup> Roob, Alexander, *The Hermetic Museum: Alchemy and Mysticism* (Cologne: Taschen, 2006), pp. 237-259.

<sup>4</sup> Junius, *op. cit.*, p. 96.

“Paracelsus was of opinion [sic] that every physician should simultaneously be an alchemist and an astrologer,”<sup>5</sup> and insists that “both sciences see the effect of archetypical forces behind the spirit-soul-material manifestation of the universe”.<sup>6</sup>

<b>Astrological signs</b>	<b>Alchemical processes</b>
Aries (♈)	Calcination
Taurus (♉)	Congelation
Gemini (♊)	Fixation
Cancer (♋)	Dissolution
Leo (♌)	Digestion
Virgo (♍)	Distillation
Libra (♎)	Sublimation
Scorpio (♏)	Separation
Sagittarius (♐)	Incineration
Capricorn (♑)	Fermentation
Aquarius (♒)	Multiplication
Pisces (♓)	Projection

**Table 2.2:** Equivalences of astrological signs with alchemical processes<sup>7</sup>

<sup>5</sup> Junius, *op. cit.*, p. 96.

<sup>6</sup> Junius, *op. cit.*, p. 97.

Thus, I came to the conclusion that if the metals of alchemy can be understood as the planets, while the processes can be read as the signs of the zodiac, this means that a single system (a ‘grammar’, I call it in this thesis) developed to translate astrology into music could also be used to represent alchemical formulae or processes musically.

The only potentially substantial pitfall here is that much of medicinal alchemy is performed with plants (*spagyrics*, is its technical name),<sup>8</sup> and that therefore some other kind of equivalency of correspondence needs to be found, which relates plants to any other of the parameters of astrology.

A quick glance at spagyric literature shows us that this correlation of plants to planets has indeed been done for a long time, but unfortunately a detailed analysis shows that there are considerable inconsistencies regarding these attributions: plants are not only assigned to different planets, but sometimes to planets which are qualitatively very different, such as Venus and Mars (soothing and aggressive), or Jupiter and Saturn (expansive and limiting). I spent several months researching eleven such catalogues currently in print and thus circulating in contemporary occult circles – from re-prints of renaissance texts to the latest publications for contemporary occultists – and preparing lists that show which authors attribute what plants to which planets. The results of this research were published online between 2006 and 2007.<sup>9</sup>

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<sup>7</sup> Junius, *op. Cit.*, pp. 128-129.

<sup>8</sup> Junius, *op. Cit.*, pp. 1-22.

<sup>9</sup> Hasler, J.F.W. 'Planetary Attributions of Plants: A Compilation According to Eleven Bibliographic Sources Currently in Print' divided in 3 parts, and published in *Alchemy Journal*, volume 7, issues 2 & 3 (2006) and issue 1 of volume 8 (2007). Available online at [http://www.alchemyjournal.com/archived\\_issues/AJ%20Vol.7%20No.2.pdf](http://www.alchemyjournal.com/archived_issues/AJ%20Vol.7%20No.2.pdf);

My text as such was not very long, but it implied long and unattractive tables of correspondences (one for each of the seven planets) extracted from the eleven sources, so the editors of the *Alchemy Journal* thought it was necessary to publish it divided in three parts appearing in three separate issues, and it is in this form that it appeared publicly between 2006 & 2007 (in issues 2 & 3 of volume 7, and 1 of volume 8).

My article wishes to bridge the gap of correspondences between plants and planets, in order to be able to apply principles of astrological musical correspondences to plant alchemy, and through astrology to be able to musicalize description of alchemical operations or processes as well. As mentioned before, the report on this research is in unattractive tabular form and extends through many pages, so I have decided not to include it in this chapter, for the sake of readability. But in the interest of completeness, I have included the full article as Appendix I to the textual component (after chapter 3).

Using the tables of plant correspondences to planets (table 2.1) and of alchemical processes to astrological signs (table 2.2) one could therefore read any spagyric process, such as the extraction of the three Philosophical Principles from plants, as a series of astrological configurations. I have used horsetail as an example of this transformation in table 2.3 below:

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[http://www.alchemyjournal.com/archived\\_issues/AJ%20Vol.7%20No.3.pdf](http://www.alchemyjournal.com/archived_issues/AJ%20Vol.7%20No.3.pdf) and  
[http://www.alchemyjournal.com/archived\\_issues/AJ%20Vol.8%20No.1.pdf](http://www.alchemyjournal.com/archived_issues/AJ%20Vol.8%20No.1.pdf) . Last access March 17, 2010.

<b>Steps of extracting the Philosophical Principles<sup>11</sup></b>	<b>In alchemical shorthand</b>	<b>Astrological equivalency</b>
<b>Step 1:</b> Through distillation, extract the Volatile Sulphur (the essential oil) from horsetail <sup>12</sup>	<i>Distillation</i> of horsetail	Saturn in Virgo
<b>Step 2:</b> Divide the remaining ‘soup’ from step 1 in two batches. Dry out the water from one, and leave the mass for step 9. Leave the other batch in a warm place, and let it <i>digest</i> in its water.	<i>Digestion</i> of horsetail	Saturn in Leo
<b>Step 3:</b> After a few days of digestion, the ‘soup’ in step 2 begins to ferment, thus producing the Mercury (the alcohol) of the plant <sup>13</sup>	<i>Fermentation</i> of horsetail	Saturn in Capricorn
<b>Step 4:</b> Separate the alcohol (Philosophical Mercury) resulting from step 2 from the water, through fractioning distillation <sup>14</sup>	<i>Separation</i> of the Mercury from horsetail	Mercury (or possibly Saturn, for the herb) in Scorpio
<b>Step 5:</b> Further separate water and alcohol from the previous step by benefiting from their different freezing temperatures <sup>15</sup>	<i>Congelation</i> of the Mercury of the horsetail	Mercury in Taurus
<b>Step 6:</b> Evaporate all of the remaining ‘soup’ (plant dissolution & water) to fix the sulphur <sup>16</sup>	<i>Fixation</i> of the plant Sulphur	Mars (planetary regent for sulphur) or possibly Saturn (for the herb) in Gemini
<b>Step 7:</b> Incinerate the fixed vegetable honey (the viscous mass resulting from step 5) to obtain the ‘salts of Sulfur’ [sic] <sup>17</sup>	<i>Incineration</i> of the plant Sulphur	Mars (planetary regent for sulphur) or possibly Saturn (for the herb) in Sagittarius

<sup>11</sup> As reported in Junius, *op. Cit.*, chapter 5 (pp. 60-95).

<sup>12</sup> Junius, *op. Cit.* pp. 61-69

<sup>13</sup> Junius, *op. Cit.* pp. 69-72

<sup>14</sup> Junius, *op. Cit.* pp. 72-75

<sup>15</sup> Junius, *op. Cit.* p. 75.

<sup>16</sup> Junius, *op. Cit.* pp. 86-87

<sup>17</sup> Junius, *op. Cit.* p. 87



<b>Steps of extracting the Philosophical Principles</b> <sup>18</sup>	<b>In alchemical shorthand</b>	<b>Astrological equivalency</b>
<b>Step 8:</b> Burn the incinerated plant honey to ashes. This gives the ‘salts of Sulfur’ [sic] proper <sup>19</sup>	<i>Calcination</i> of the plant Sulphur	Mars (planetary regent for sulphur) or possibly Saturn (for the herb) in Aries
<b>Step 9:</b> Dissolve the salts obtained in step 7 in water...	<i>Dissolution</i> of the water-soluble plant Sulphur	Mars (planetary regent for sulphur) or possibly Saturn (for the herb) in Cancer
The water-soluble salts are thus separated from the insoluble ones <sup>20</sup>	<i>Separation</i> of the of the soluble and insoluble components of the plant Sulphur	Mars (planetary regent for sulphur) or possibly Saturn (for the herb) in Scorpio
<b>Step 10:</b> Incinerate the dry batch from step 2.	<i>Incineration</i> of the plant remnant (after extraction of the Sulphur)	Saturn in Sagittarius
<b>Step 11:</b> Calcinate the dry batch from step 2. This produces the Philosophical Salt of the plant	<i>Calcination</i> of the plant remnant (after extraction of the Sulphur)	Saturn in Aries

**Table 2.3:** Expression of the extraction of the Philosophical Principles of a plant (horse tail) as astrological configurations

The astrological results of the equivalences expressed in table 2.2 can be charted astrologically as a cycle or planetary movements (below in table 2.3):

<sup>18</sup> As reported in Junius, *op. Cit.*, chapter 5 (pp. 60-95).

<sup>19</sup> Junius, *op. Cit.* pp. 87-88

<sup>20</sup> Junius, *op. Cit.* p. 91

<b>Alchemical step</b>	<b>Planetary position</b>
Step (or position) 1:	♃ in ♀
Step (or position) 2:	♃ in ♁
Step (or position) 3:	♃ in ♃
Step (or position) 4:	♀ in ♀ or ♃ in ♀
Step (or position) 5:	♀ in ☽
Step (or position) 6:	♂ in ♀ or ♃ in ♀
Step (or position) 7:	♂ in ♃ or ♃ in ♃
Step (or position) 8:	♂ in ♁ or ♃ in ♁
Step (or position) 9:	♂ in ♁ or ♃ in ♁
Step (or position) 10:	♂ in ♀ or ♃ in ♀
Step (or position) 11:	♃ in ♁

**Table 2.4:** Expression of the extraction of the Philosophical Principles of a plant as  
astrological configurations

Even though I have not included alchemical musicalizations in my portfolio of compositions – and thus I cannot give detailed reports on how these equivalences work in actual compositional practice – I am of the opinion that these close relationships between alchemy and astrology are worth exploring. Yet this is something that for the time being has remained outside of my experiments in Hermeticist grammars of music, though I have tried to lay the bases for future work here, through astrological work.

In the second section of this chapter I will refer precisely to these astrological grammars of music, that are only useful not only as an expression of alchemical processes (as outlined above), but in themselves, as one of the three major technical components of the Hermetic Tradition I have decided to explore in this thesis.

## 2.2 Astrological Grammars of Music

### **2.2.1 The four main components of the contemporary astrological chart**

In contemporary astrology one can clearly distinguish between four interrelated systems which work in tandem with each other: the planets, the signs of the zodiac, the houses of the astrological chart, and the so called ‘aspects’ of astrology. These are all included in the astrological chart, which is the main tool of the contemporary astrologer.

The astrological chart is basically a snapshot of the heavens as they looked from the place and at the moment of the event for which the chart is drawn. This event is often the birth of a person, but can be any other kind of event which can be pin-pointed to a

specific moment in time, and which happens at a specific place on Earth. (Incidentally this is why it also commonly known as ‘natal chart’ or ‘birth chart’, when it shows the positions of celestial objects at the moment of someone’s birth.)

Even though the ancient historian Flavius Josephus asserts in his *Jewish Antiquities* that it was the patriarch Abraham who invented astrology,<sup>21</sup> archaeological records show that “the first evidence of the consistent recording of planetary positions at birth”<sup>22</sup> was in the fifth century BCE. It is precisely the Persian period which “saw perhaps the most important developments in first-millennium astrology; the development of the 12-sign zodiac and the birth chart – lists of planetary positions for the day or, later, the moment, of birth.”<sup>23</sup> But the assignment of the point of the zodiac to musical parameters had to wait until the development of Greek musical theory, as we will see later.

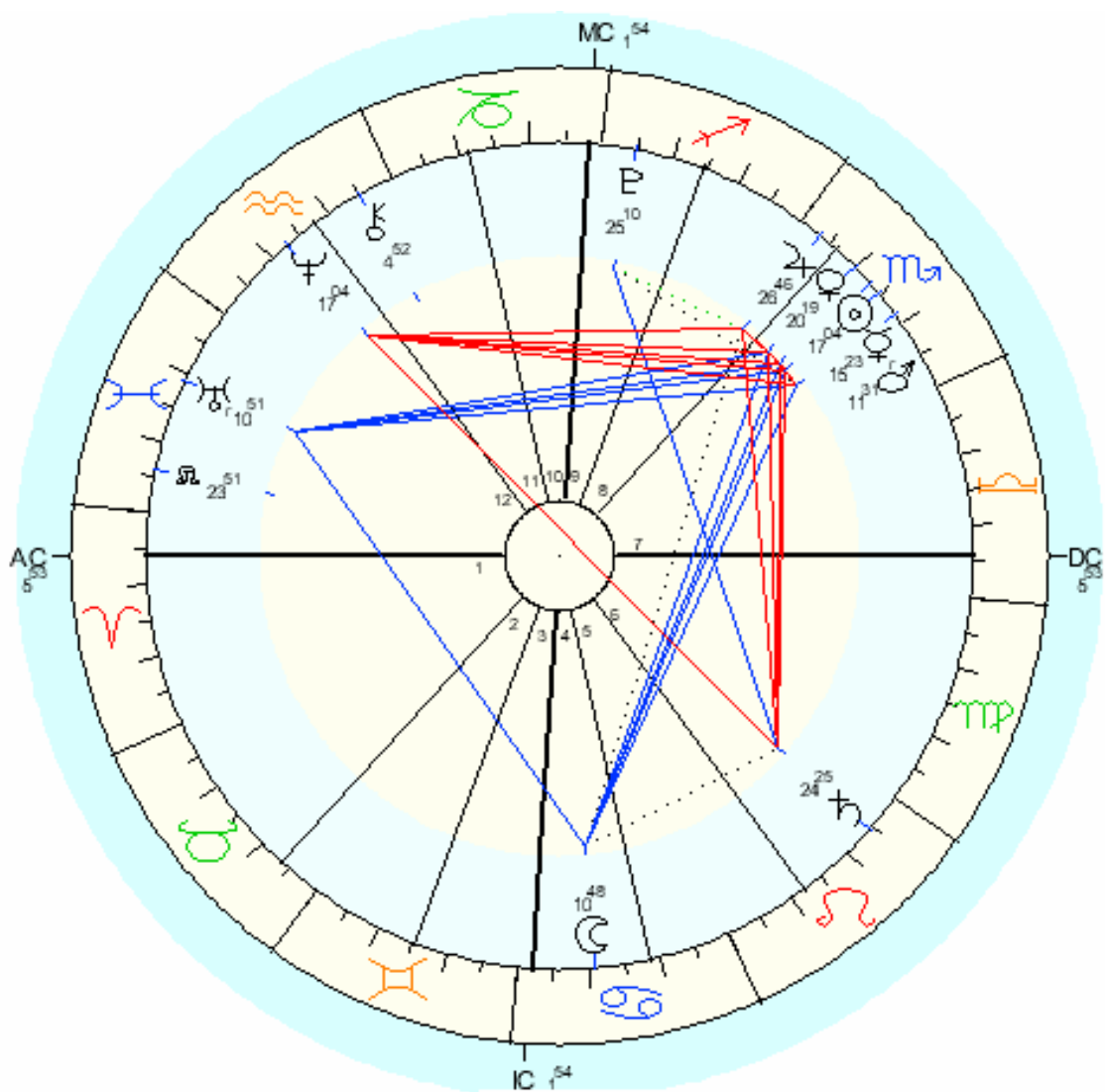
For the reader not familiarized with an astrological chart, I include one below as figure 2.1, in order to immediately explain its main components:

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<sup>21</sup> Josephus, *Jewish Antiquities* I.2.3, cited by Campion, Nicholas, *A History of Western Astrology: Volume 1, The Ancient World* (London: Continuum, 2008), p. 311

<sup>22</sup> Campion, op. Cit., p. 77

<sup>23</sup> Campion, Loc. Cit. Campion refers here to the first millennium before Christ: from the year 1000 BCE to the year 0.



**Figure 2.1:** Chart of the celestial sphere at the moment of first sketching this chapter (November 9 2006, 3 pm GMT, Newcastle upon Tyne, England, 54°N 59' 1°W35')

On the outer rim of the wheel we see the signs of the zodiac (for their glyphs see table 2.2. above). This wheel rotates a full turn after one year. Inside this white rim, in figure 2.1, we see the planets (again, for their glyphs refer to table 2.1 above). They all move at different speeds around the circle. The 'slices' of the great circle that are divided by radii towards the central circles are the *houses*, which are numbered

consecutively counter clockwise from the central line at the left (marked 'AC', the *ascendant*, in this chart). There are 12 houses in total. The red and blue lines that cross the circle are the *aspects*, or angular relationships between the planets.

In all, we have three systems which move independently:

1. the wheel of the zodiac (outer rim),
2. the planets (inside the rim), and
3. the houses of the chart ('slices' of the circle)

The aspects do not move as such, but are the result of comparing the angles of the planets in the signs of the zodiac, and establishing angular areas. More on this later (section 2.2.4).

The planets and the wheel of the zodiac move at different speeds (the fastest of which change their position in the astrological chart within minutes), and the size of the individual houses is determined by the latitude where the studied event happens. The variability of charts taken at the same latitude in different times, or at the same time in different latitudes, is therefore quite great, and very highly improbable that two astrological charts can be exactly the same – though this is certainly possible if the studied events happen at exactly the same moment in exactly the same place.

The astrological chart is a very suggestive concept for the speculative musician: the idea that a symbolic language – as both music and astrology are – can express the situation of the celestial bodies as perceived by humans from the Earth resonates

powerfully with the idea of the *musica mundana*, the symphony of the celestial bodies in their orderly and eternal motion around our static – from our perception – point of reference here on Earth.<sup>24</sup>

Theorists as early as Pythagoras (VIth century BCE) noticed this connection to harmonic intervals, as his various ancient biographers point out.<sup>25</sup> The astrological chart is a two-dimensional rendering of such positions, which occur in space in three dimensions, and ‘translating’ it into sound would be akin to adding to it the fourth dimension of time, therefore completing the expression of the event in the four dimensions to which we humans most commonly relate to.

From the point of view of the speculative musician, an astrological chart could be interpreted as a piece of music (as I have tried to do in piece 3.2 of the portfolio of music compositions). This would require, as in alchemy, to find the correspondences of the signs of the zodiac, of the planets, of the houses and of the aspects with musical parameters such as pitch, key, interval, duration, etc, in order to ‘read’ a chart as one would a score, or rather *translate* a chart into a score, since they are totally different symbolic systems.

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<sup>24</sup> On the *musica mundana* as a concept drawn by the late antiquity polymath Boethius, see Gibson, Margaret, ed. *Boethius: His Life, Thought and Influence* (Oxford: Basil Blackwell, 1981), and especially Godwin, Joscelyn, 'Boethius' Three Musicians', *Studies in Comparative Religion*, Autumn (1970), pp. 246-250.

<sup>25</sup> A particularly good compilation of the biographies of Pythagoras by Iamblichus of Chalcis, Porphyry of Tyre, Diogenes Laertius and Photius can be found in Fideler, David, ed. *The Pythagorean Sourcebook and Library: An Anthology of Ancient Writings Which Relate to Pythagoras and Pythagorean Philosophy* (Grand Rapids, MI: Phanes Press, 1988), especially pp. 57-158.

History has seen many of these musical attributions of astrological/astronomical parameters. I will review them in the following sections, not only for the sake of scholarship, but because I have used several of these correspondence systems in piece 3.2 of my portfolio of musical compositions (second part of this thesis), and the preliminary notes and commentaries to this piece will make reference to the attribution systems, as well as the score itself, which is annotated, expressly pointing out the correspondence systems used at each appearance of musical material based on them. Thus, I find it important to expand on these attribution systems here.

### **2.2.2 Musical attributions of the planets**

In the ancient world five of our modern planets were known (from Mercury up to Saturn), and the Sun and Moon were considered planets as well (because from our point of view they move and *planetes* means ‘wanderer’ in Greek). This gave a total of seven, which makes in interesting coincidence with the seven notes of Greek music theory, and of its main theoretical aid instrument, the lyre.<sup>26</sup> So it is quite understandable then that the notes of the scales were assigned to the planets.

The geocentric model placed the Earth at the centre of the solar system and the other planets in concentric spheres above Earth.<sup>27</sup> It was current in scientific circles from

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<sup>26</sup> If we disregard, of course, the monochord, barely a musical instrument at all, but more a mathematical and acoustical pedagogical and experimental aid. Landels, John G., *Music in Ancient Greece & Rome* (Abingdon, OX: Routledge, 1999), pp. 47-68 and 131-133.

<sup>27</sup> We can read a very detailed description of this arrangement in *The Myth of Er*, at the end of Book X of Plato’s Republic, esp. 614b-619. Plato, *The Republic Books VI-X* in ‘The Loeb Classical Library’, vol. 6 (Harvard: Harvard University Press, 1984). See also Aiton, E.J., ‘Celestial Spheres and Circles’, *History of Science*, 19/2 (1981), pp. 75-114.



the ancient world until the XVIIth century. It is arguably still the prevalent model in astrology and speculative music, since these disciplines tend more towards the subjective, observer-centred models and epistemologies than to purportedly ‘externalist’ or ‘objective’ ones.<sup>28</sup>

The leap from spheres of the celestial bodies to the notes of the scale is an easy connection to make: “just as the spheres are ranked like the rungs of a ladder set up to Heaven from Earth, so each sound should correspond to one pitch, the totality making a musical scale (from Latin *scala* = ladder; cf. German *Tonleiter*).”<sup>29</sup> Actually both Plato and Cicero record extra-bodily experiences in which the soon-to-be-resurrected deceased (Er, in the case of Plato) or the dreamer (Scipio, in the case of Cicero), have a direct experience (a *gnosis*, scholars of esotericism would call it)<sup>30</sup> of the celestial mechanics, and actually see sirens on the planets singing the seven pitches of the scale (Plato), or hear the sounds produced “by the rapid motion of the spheres themselves”<sup>31</sup> while ascending through the planetary levels.

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<sup>28</sup> “Cosmos, in this traditional sense, is a subjective thing. It is beautiful, and beauty is in the eye of the beholder, not as an external observer, but as a participant in cosmos itself. One cannot stand outside cosmos: to study it is to study one’s self.” Campion, op. Cit., p. x.

<sup>29</sup> Godwin, Joscelyn, *Harmonies of Heaven and Earth: the Spiritual Dimensions of Music from Antiquity to the Avant-garde* (Rochester, VT: Inner Traditions, 1987), p. 113.

<sup>30</sup> “[...] gnosis, or direct spiritual insight into cosmology or metaphysics”. Versluis, Arthur, *Magic and Mysticism: An Introduction to Western Esotericism* (Lanham, MD: Rowman & Littlefield, 2007) , p. 1. See also Faivre, Antoine, *Access to Western Esotericism* (Albany, NY: State University of New York Press, 1994), p. 19; Van Den Broek, Roelof, 'Gnosticism and Esotericism in Antiquity: Two Roads to Salvation' in R. Van Den Broek and W. J. Hanegraaff, (eds.) *Gnosis and Hermeticism from Antiquity to Modern Times* (Albany, NY: State University of New York Press, 1998), pp. 1-20.

<sup>31</sup> Godwin, Joscelyn, *Music, Mysticism and Magic: A Sourcebook* (New York: Arkana - Penguin, 1986), p. 10.

There are two ways in which ancient speculative music theory assigned the pitches to the spheres of the solar system. Godwin reviews them in the third part of his book *Harmonies of Heaven and Earth: the Spiritual Dimensions of Music from Antiquity to the Avant-garde* (Rochester, VT: Inner Traditions, 1987),<sup>32</sup> I will present a summary of these systems below.

### ***2.2.2.1 Planetary attributions based on the orbital distances between the planets***

This system is what Godwin calls in his book “Planet-Scales, Type A”, and he tells us that this arrangement is based on proposals by the School of Pythagoras.<sup>33</sup> Pythagoras represented the distance from the Earth to the Moon as a whole tone in his musical-mathematical-geometrical system,<sup>34</sup> and thus by comparing the distances of the planets between each other, it could be reckoned if the resulting intervals that separated them were of a tone, a half-tone, or a tone and a half. It must be pointed out that the geocentric system does not imply that all the orbits or spheres are equidistant to one another: the system was based on astronomical observations, and the resulting spherical model required, in order to comply with the data, that the circular orbits were not equidistantly spaced.<sup>35</sup> Kepler later built on this concept for his famous model of Platonic solids fitting between the orbits of the planets, discussed in his

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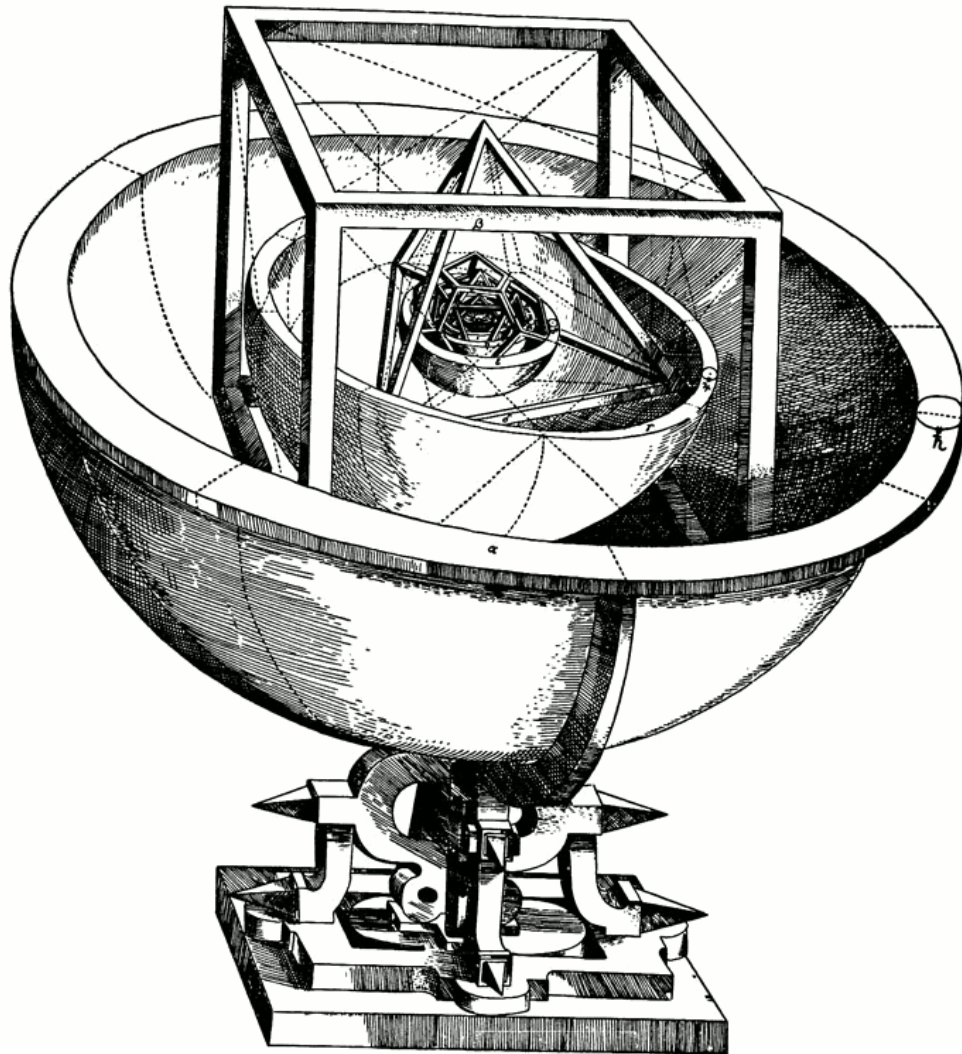
<sup>32</sup> Curiously this third and most technical part of the book is entirely left out in the Spanish translation by the prestigious Catalanian publishing house *Paidós*: Godwin, Joscelyn, *Armonías del cielo y de la tierra: la dimensión espiritual de la música desde la antigüedad hasta la vanguardia* (Barcelona: Paidós, 2000).

<sup>33</sup> Godwin, *Harmonies of Heaven and Earth*, p. 113.

<sup>34</sup> Fideler, David, 'The Monochord: The Mathematics of Harmonic Mediation' in D. Fideler, (ed.) *The Pythagorean Sourcebook and Library: An Anthology of Ancient Writings Which Relate to Pythagoras and Pythagorean Philosophy* (Grand Rapids, MI: Phanes Press, 1988), pp. 24-28 and in the same book 'Appendix III: The Formation and Ratios of the Pythagorean Scale' pp. 327-328.

<sup>35</sup> Campion, *A History of Western Astrology: Volume 1*, especially chapters 9 to 13, pp. 127-224.

*Mysterium Cosmographicum* (1596), of which a well-known illustration is reproduced below (figure 2.2).



**Figure 2.2:** Kepler's model of Platonic solids determining orbital distances. From *Mysterium Cosmographicum* (1596)<sup>36</sup>

This typically Pythagorean geometrical-musical rationale establishes a relationship between the orbital distances of the planets and the steps of the scale by proposing “a

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<sup>36</sup> This illustration taken from [www.starhopper.info/johanneskepler.htm](http://www.starhopper.info/johanneskepler.htm), accessed March 20, 2010.

projection into the heavens of a scale system based on the nine-stringed Greek lyre,<sup>37</sup> so even though the theoretical base for the attribution systems based on orbital distance is always the same, since this “is an attempt to make the heavens accord with a system of earthly music [...], it will change from age to age, as the musical system changes”.<sup>38</sup>

This is why we see that some of the resulting scales are ascending, while others are descending. The relationship between tones and semitones as we ascend through the spheres is also different in the diverse correspondence tables proposed: sometimes minor, sometimes major, sometimes starting in D, sometimes in C, sometimes in A and sometimes in G (see table 2.5, below for details).

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<sup>37</sup> Godwin, *Harmonies of Heaven and Earth*, p. 114.

<sup>38</sup> Godwin, *Harmonies of Heaven and Earth*, Loc. Cit.

Planetary spheres →	Earth	Moon	Mercury	Venus	Sun	Mars	Jupiter	Saturn	** (Fixed stars or primum mobile)
According to... ↓									
Pliny (1st. c.) & Martianus (5th. c.)									
Censorinus (3rd. c.) & Theon (1st. c.)									
Achilles Tatios (2nd. c.)									
Robert Fludd (17th. c.)	Not discussed								
Another attribution by Robert Fludd	Not discussed								
Reported by Jacques Handschin (12th. c.)	Not discussed								

**Table 2.5:** Pitch correspondences in the planetary systems based on orbital distances

(Godwin's 'Type-A systems', *Harmonies of Heaven and Earth*, p. 114).

### 2.2.2.2 Planetary attributions based on the orbital speeds of the planets

Of course calculating the distances between the orbits (or orbs, or spheres) of the planets is a scientific achievement that changes through time, as mathematical tools, scientific understanding and cosmological models vary. Another, seemingly less contentious way of assigning pitches to planets is by their apparent speed as viewed from the Earth: how long it takes for a planet to go around the celestial sphere and return to a point where it had been observed before: "Whereas the planetary distances have been the subject of debate for centuries, there has never been any doubt about

how long it takes them to go around the Zodiac.”<sup>39</sup> This therefore seems to be a more ‘certain’ deduction method that would generate less dissension. But it is not so, and again, many different attributions have been proposed. Godwin calls this second method of deduction of planetary pitches “planet-scales, type B”.<sup>40</sup>

But the speed of the planets depends on the vantage point, and it also varies if this vantage point is fixed or moving: one can compute, as Cicero does, from an immobile Earth, but medieval Arabic sources like Al-Kindī (IXth century) and the school of Basran encyclopaedists known as *The Brethren of Purity* (Ikhwān al-Safā’) of the tenth century<sup>41</sup> take the zodiac as their reference point.<sup>42</sup> Earlier Greek cosmologists such as Anaximander believed that the Earth rotated, and that it was the sphere of the fixed stars that was at rest.<sup>43</sup> All these different considerations have an impact on the musical model that will result from the cosmological one, because if for example the Earth is stationary and the zodiac moves, therefore the fixed stars are located in the fastest of the spheres, since they go around the celestial sphere every night, and the Moon is the slowest, since “it lags a whole cycle behind the Zodiac.”<sup>44</sup> If, on the other hand, the fixed stars are indeed on an unmovable (fixed) sphere, they would therefore not produce any sound (since without movement there is no sound), and the fastest of the spheres would be that of the Moon, while the slowest would be Saturn, while the stars would have no musical equivalent from this point of view. Some theorists, like

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<sup>39</sup> Godwin, *Harmonies of Heaven and Earth*, p. 118.

<sup>40</sup> Godwin, op. Cit. pp. 118-120.

<sup>41</sup> Godwin, Joscelyn, *The Harmony of the Spheres: A Sourcebook of the Pythagorean Tradition in Music* (Rochester, Vermont: Inner Traditions, 1993), pp. 112-122.

<sup>42</sup> Godwin, *Harmonies of Heaven and Earth*, p. 119

<sup>43</sup> Godwin, Loc. Cit.

<sup>44</sup> Godwin, Loc. Cit.

Nichomachus of Gerasa (1st. century CE), thinking about these various possibilities, decided to assign musical pitches to both cosmological models.<sup>45</sup>

Whereas the planet-scales of type A are more mathematical, relating the orbital distances to musical intervals and adjusting their proportional distances to a number of semitones (1, 2 or 3), type B scales are more symbolical, as they rest on the assumption that each sphere *should* have a different pitch attribution (after all, there are seven planets and seven different steps in the Greek scales, so the temptation to establish one-to-one correspondences seems irresistible). The precedent for this assumption comes from Plato's myth of Er and from Cicero's Dream of Scipio, as discussed above.<sup>46</sup>

I have included below a table summarizing the planetary attributions based on orbital speeds, named by Godwin as type B planetary scales (table 2.6).

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<sup>45</sup> Levin, Flora, ed. *The Manual of Harmonics of Nicomachus the Pythagorean* (Grand Rapids, MI: Phanes Press, 1994).

<sup>46</sup> In Plato's myth of Er, Republic Book X, 617b we read: "And on each of its circles there was seated a Siren on the upper side, carried round, and uttering a single sound on one pitch. But the whole of them, being eight, composed a single harmony" (Quoted from Godwin, *Music, Mysticism and Magic*, p. 6). Cicero clarifies that this 'single harmony' refers to the seven notes of the scale: "Thus it makes seven whole-tones [sic], which they [the ancient Greek authors] call the harmony *diapason*, i.e., a universal harmony." (Quoted from Godwin, *Harmony of the Spheres*, p. 8). Cicero himself puts in the mouth of Scipio's grandfather the following words confirming this septenary attribution to the planets: "The other eight spheres [apart from the Earth], two of which move at the same speed, produce seven different tones, this number being, one might almost say, the key to the universe." (Quoted from Godwin, *Music, Mysticism and Magic* p. 11).

Planetary spheres → According to... ↓	☾ Moon	☿ Mercury	♀ Venus	☼ Sun	♂ Mars	♃ Jupiter	♄ Saturn	* ** *** Fixed stars
Nichomachus (1st-2nd. c.) and Boethius (5th. c.)								Not discussed
Nichomachus, according to Bragard (1929)								Not discussed
Another system proposed by Nichomachus								Not discussed
Ramis de Pareja (15th. c.) interpreting Cicero (1st c. B.C.E.)								
Boethius interpreting Cicero								
Al-Kindī (9th. c.)								Not discussed
Bartolus (14th. c.)								Not discussed

**Table 2.6:** Pitch correspondences in the planetary systems based on orbital speeds

(Godwin's 'Type-B systems', *Harmonies of Heaven and Earth*, p. 119).



### ***2.2.2.3 Planetary attributions based on the spheres representing the full musical range***

A more complex system is also discussed by Godwin (he calls it “Planet-scales, type C”).<sup>47</sup> The attributions of this third system are not properly scales, but a tonal framework within music can occur, “the bare bones of music, to be clothed in multifarious ways”.<sup>48</sup> The rationale behind these types of systems is that “the heavens should correspond not to a single octave-species but to the entire range of notes used in music.”<sup>49</sup> The range of notes used in music varies, of course, with the instruments and the theory known or envisaged at certain points of history and in different geographical locations, and this accounts for the differences in the attributions, as we shall see.

One of the underlying bases for these systems is that in Greek music theory there are fixed tones that remain invariable (the ‘landmarks’ of the tetrachords, so to speak) regardless of the genus used (diatonic, chromatic or enharmonic).<sup>50</sup> These fixed tones and the intervals between them are shown in figure 2.4. The pitch attributions of the planets in type-C systems would therefore in theory represent these fixed notes, ascending through the planetary spheres in their traditional order (as suggested in figure 2.5), while the intermediate pitches could be ‘filled out’ according to the key, mode or species a composer or improviser wishes to work with. This ‘straightforward’

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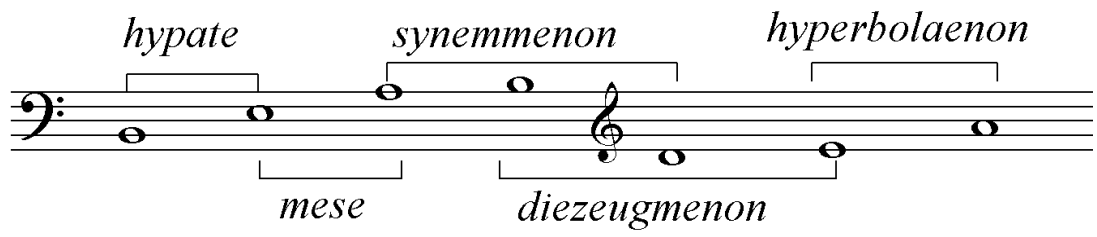
<sup>47</sup> Godwin, *Harmonies of Heaven and Earth*, pp. 126-128.

<sup>48</sup> Godwin op. cit., p. 128

<sup>49</sup> Godwin, loc. cit.

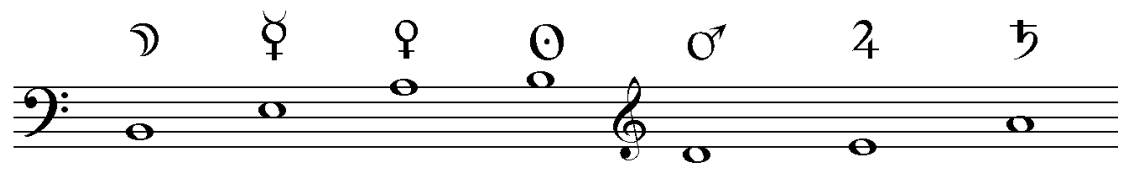
<sup>50</sup> Mathiesen, Thomas J., 'Greek music theory' in T. Christensen, (ed.) *The Cambridge History of Western Music Theory* (Cambridge: Cambridge University Press, 2002), pp. 109-138; Landels, John G., 'Scales, intervals and tuning' in *Music in Ancient Greece & Rome* (Abingdon, OX: Routledge, 1999), pp. 86-109; Gombosi, Otto, 'Key, Mode, Species', *Journal of the American Musicological Society*, 4/1 (1951), pp. 20-26.

way is the one in which it appears in some ancient sources, notably in Plutarch and Ptolemy, but also in the medieval manuscripts at Paris and Naples that transmit these attribution traditions. This direct attribution notwithstanding, other authors have proposed different pitches as equivalent to the fixed points of musical theory, corresponding in macrocosmic terms to the cosmological fixed points of the planetary spheres. Some of them, such as the third-century Bishop of Laodicea Anatolius of Alexandria and the nineteenth-century German philologist Carl von Jan, interpreted Ptolemy's mathematical-astronomical calculations as string lengths, and this is why we see that in some systems the tones descend rather than ascend: the longer a string, the lower it will sound. Other systems, such as the one from the Ikhwān al-Safā' (from Basra, modern day Iraq), predictably introduce non-Western intervals in their attributions. (See table 2.7 for a summarized tabulation of these assignments of correspondences).



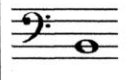
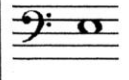
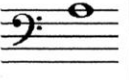

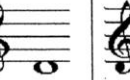

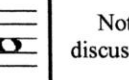
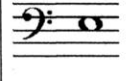
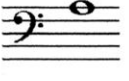
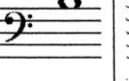
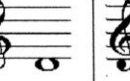

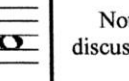

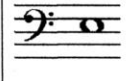
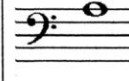
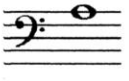
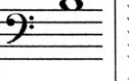

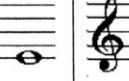


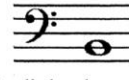

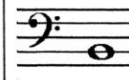
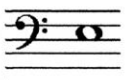

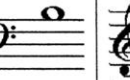
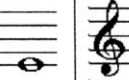
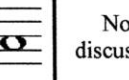
**Figure 2.3:** Fixed notes in Greek music theory and the intervals between them, with

Greek technical names



**Figure 2.4:** Fixed notes from Greek music theory with straightforward attribution of

planets to them

Planetary spheres → According to... ↓	⊕ Earth	☾ Moon	☿ Mercury	♀ Venus	☼ Sun	♂ Mars	♃ Jupiter	♄ Saturn	** Fixed stars
Plutarch (1st. c. CE)	Not discussed								Not discussed
Ptolemy in his book <i>Harmonics</i> (1st. c. CE)	Not discussed		Not discussed						Not discussed
Ptolemy's earliest work, the Canobic inscription (ca. 146/147 CE)	 for heavy elements (water and earth)								   for light elements (air and fire)
Ptolemy's Canobic inscription interpreted by Carl von Jan (XIX th. century)	Not discussed								Not discussed

**Table 2.7:** Pitch correspondences in the planetary Systems based on fixed tuning points (Godwin's 'Type-C systems'). Taken from Godwin, *Harmonies of Heaven and Earth*, pp. 126- 128.

Planetary spheres →	⊕	☾	☿	♀	☼	♂	♃	♄	♅	★	
According to... ↓	Earth	Moon	Mercury	Venus	Sun	Mars	Jupiter	Saturn	Fixed stars		
Medieval manuscripts in Paris and Naples transmitting Ptolemy											
Anatolius of Laodicea (3rd. c.)											
Ikhwān al-Safā' (10th. c. Basra)											

Table 2.7 (cont.): Pitch correspondences in the planetary systems based on fixed tuning points, continued.

As musical style and technique change through history, so do these attributions: it is notable that most of the correspondence systems presented in tables 2.5 to 2.7 give single pitches as sound equivalences to the planets, since they are mostly based on the authority of ancient Greek authors, copied, confirmed or slightly corrected by their medieval adherents. It is widely accepted – from the study of tuning systems among other sources of information – that ancient Greek music was monodic,<sup>51</sup> so the attribution of single pitches to individual planets is to be expected.

But matters change with the advent of polyphony: the Parmesan polymath Giorgio Anselmi (not to be confused with the Veronese painter of the same name) wrote in his treatise *De Musica*, which appeared in 1434:

A single sphere does not always produce the same harmony, but manifold *phthongoi, limmata, dieses* and *commata* [the smaller intervals of Greek theory]; so that the Blessed Spirits<sup>52</sup> must be imagined not only with the sound of their own spheres, but also with those situated nearby: now leading song, now following, now pursuing, now accompanying, and playing in wonderful harmony in an ever more graceful game.<sup>53</sup>

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<sup>51</sup> Landels, John G., 'Scales, intervals and tuning' in *Music in Ancient Greece & Rome* (Abingdon, OX: Routledge, 1999), pp. 86-109; Goldáranz Gaínza, J. Javier, *Afinación y temperamento en la música occidental* (Madrid: Alianza, 1992); Lindley, Mark, 'Pythagorean intonation' in L. Macy (Ed.) *Grove Music Online*, 2004. <http://www.grovemusic.com> (Accessed 10 Nov. 2004); Rash, Rudolf, 'Tuning and Temperament' in T. Christensen, (ed.) *The Cambridge History of Western Music Theory* (Cambridge: Cambridge University Press, 2002), pp. 193-222;

<sup>52</sup> On the changing conception of these 'Blessed Spirits' Anselmi mentions (the souls of the spheres), see Wolfson, Harry A., 'The Problem of the Souls of the Spheres from the Byzantine Commentaries on Aristotle Through the Arabs and St. Thomas to Kepler', *Dumbarton Oaks Papers*, 16/(1962), pp. 65-93

<sup>53</sup> Anselmi, Giorgio *De Musica*, Part I, 150. Quoted from Godwin, Joscelyn, *The Harmony of the Spheres: A Sourcebook of the Pythagorean Tradition in Music* (Rochester, Vermont: Inner Traditions, 1993), p. 149.

By then cosmological theory had ceased to be ‘neatly’ and geometrically simple as understood by Platonists, and a long and competing series of theories of orbits within orbits and circles within circles – the epicycles – had been developed in order to account for the eccentricities in the observed motions of the planets, based on the work of Aristotle, and especially Ptolemy.<sup>54</sup> The assignment of pitches to the planets needed to therefore acknowledge the variability of the planetary positions, sometimes taking the extreme points (as in Kepler’s aphelion and perihelion, to be discussed later), and sometimes averaging them out, as a median of their approximate locations.

Anselmi takes the results of empirical observations of the time of rotation of the planets, as the systems of type B do, but instead of fitting in the data with a pre-established cosmology, he establishes the proportions of the rotations of the planets, and through the Pythagorean laws of the harmonic ratio<sup>55</sup> he calculates the corresponding musical interval. Godwin gives us the example<sup>56</sup> of the ratio between the orbits of Saturn (30 years) and Jupiter (12 years), expressed mathematically as a 5:2 proportion. In Pythagorean harmonic ratio theory, this is represented musically as an octave plus a third.<sup>57</sup> In a similar way, Anselmi calculates the intervals between

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<sup>54</sup> Dorce Polo, Carlos, *Ptolomeo, el astrónomo de los círculos* (Madrid: Nivola Ediciones, 2006).

<sup>55</sup> Fideler, David, 'Appendix III: The Formation and Ratios of the Pythagorean Scale' in D. Fideler, (ed.) *The Pythagorean Sourcebook and Library: An Anthology of Ancient Writings Which Relate to Pythagoras and Pythagorean Philosophy* (Grand Rapids, MI: Phanes Press, 1988), pp. 327-328.

<sup>56</sup> Godwin *Harmonies of Heaven and Earth*, p. 131.

<sup>57</sup> Loy, Gareth, *Musimathics: The Mathematical Foundations of Music* (Cambridge, MA: The MIT Press, 2006), pp. 39-63. See also Godwin, Joscelyn, 'Speculative Music: The Numbers Behind the Notes' in J. Paynter, T. Howell, R. Orton and P. Seymour, (eds.) *Companion to Contemporary Musical Thought* (London: Routledge, 1992), pp. 256-271.

Saturn (the lowest pitch) and the Moon (the highest pitch). His proposal is shown in table 2.8.

<b>Planet</b>	<b>Interval between planets</b>
Moon	
	]
Mercury, Venus, Sun (all at the same level due to theories of the epicycles)	3 octaves
	]
Mars	an octave plus a fifth
	]
Jupiter	2 octaves
	]
Saturn	an octave plus a fifth

**Table 2.8:** Anselmi’s harmonic proportion between the planets

Notice that the intervals produce only octaves and fifths, and thus we indeed have a ‘consonant’ concord of planetary tones, and that Anselmi does not assign specific pitches to the planets, but rather describes their relationships to one another, just as we could nowadays describe a chord through its intervallic relationships (through figured bass, for example), without detailing specific pitches. Godwin additionally points out the fact that “one’s finding may break the bounds of current musical practice, as Anselmi’s 8-octave range did in an era when all music lay within a 3-octave limit.”<sup>58</sup> This tells us a lot about how ‘speculative’ his approach was, in the sense described in section 1.2.3 of the previous chapter.

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<sup>58</sup> Godwin *Harmonies of Heaven and Earth*, p. 131.

Almost two hundred years later, the famed astronomer Johannes Kepler (1571-1630) would take a similar route to find musical correspondences to the planets, but he crystallized Anselmi's insight that the planets would change their notes almost contrapuntally, "now leading song, now following, now pursuing, now accompanying, and playing in wonderful harmony in an ever more graceful game".<sup>59</sup> In book V of this *Harmonices Mundi* (1619) Kepler assigned each planet not only a single pitch, and neither solely a theoretical interval, but combined both (and what we have here reviewed as systems A and B) to express the angular velocities of the planets at perihelion and aphelion (that is, their point closest and furthest from the Sun) – following his recently calculated model of orbits as elliptical rather than circular – as the lowest and highest pitches in an *intervallic range* that expresses the differences between the two orbital points and their speeds.<sup>60</sup>

Moreover, Kepler's model is a *heliocentric* one, and as a fervent adherent to the Copernican model he was the first theoretician of speculative music to calculate the music of the spheres from the vantage point of the Sun, and not the Earth (in the sense that the intervals, speeds, distances, etc. are all calculated from the sun as one of the focal points of the elliptical orbits of the planets). This is why the Earth also has a range of pitches for its orbit in Kepler's system (see figures 2.5 and 2.6).

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<sup>59</sup> Quoted from Godwin, *Harmonies of Heaven and Earth*, p. 133.

<sup>60</sup> Kepler, Johannes, *The Harmony of the World, translated into English with an introduction and notes by E.J. Aiton, A.M. Duncan, & J.V. Field* (Philadelphia: American Philosophical Society, 1997), pp. 388-508.



Whereas Anselmi's model finds the proportion between the orbits of two adjacent planets, Kepler proposes also to, in addition to this, calculate the pitch of a planet by comparing its own extreme distances to orbital points, the farthest and the closest from one of the foci of its elliptical orbit (where, due to gravitational pull, the planet moves fastest and slowest during its orbital course). The result is of course a very complete set of proportions between adjacent planets and extreme orbital points of a single planet. These proportions can be expressed, as Anselmi did, in musical intervals, related to the harmonic series (see figure 2.5). Kepler's mathematical procedure is outlined by Godwin:

The ratios compare the velocities of the planets at their fastest (perihelion) and slowest (aphelion), by calculating how far they go in 24 hours, measured in minutes and seconds of arc as viewed from the Sun. These ratios are then simplified by octave reduction to give an interval between C and C'. For example, the ratio between Jupiter's maximum and Mars' minimum speed (ratio  $k:l$ ) is as 5:24. This is equivalent to the interval of two octaves plus a minor third. The two octaves are eliminated by dividing 24 by 4, which gives the ratio 5:6, a minor third.<sup>61</sup>

Kepler's calculations are so precise, that even the planets that were not known until the XXth century show the same type of harmonic ratios. Francis Warrain has designed the table shown here in Figure 2.5, which tabulates Kepler's data.<sup>62</sup> It also includes data Kepler did not have, regarding Pluto, Neptune and Uranus. Notice the harmonic proportions that occur also in these exterior planets.

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<sup>61</sup> Godwin, *Harmonies of Heaven and Earth*, p. 135.

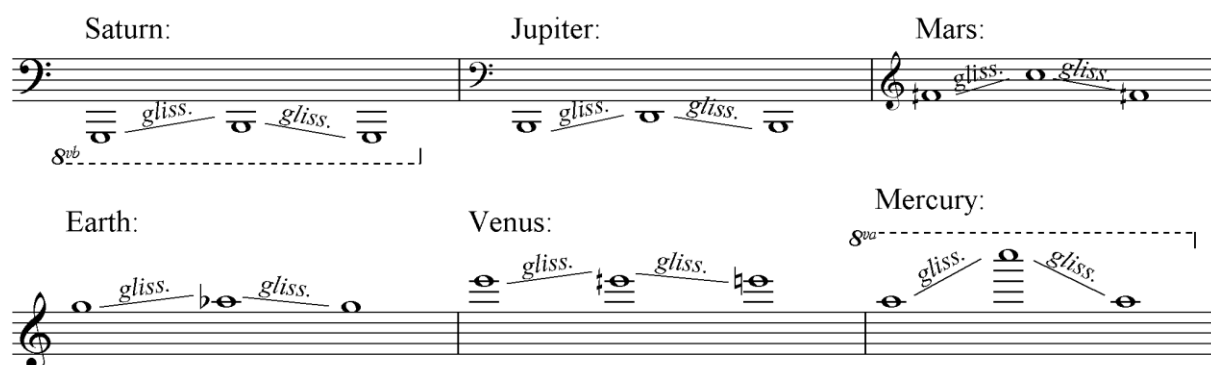
<sup>62</sup> Warrain, Francis, *Essai sur l'Harmoniques Mundi ou Musique du Monde de Johann Kepler* (Paris: Hermann & cie., 1942, 2 vols.), quoted in Godwin, *Harmonies of Heaven and Earth*, p. 135.

			Harmonic Number								
			1	9	5		3	25	27	15	2
Pluto	{	aphelion <i>a</i>	<i>a:b</i> = 9:25		D				G#		
		perihelion <i>b</i>	<i>a:c</i> = 5:24			E		G			
Neptune	{	aphelion <i>c</i>	<i>a:d</i> = 8:18	C	D						
			<i>b:c</i> [not given]	C	D						
		perihelion <i>d</i>	<i>b:d</i> = 8:9 <i>c:d</i> = 80:81					EE <sup>+1</sup>			
Uranus	{	aphelion <i>e</i>	<i>c:e</i> = 5:9		D	E					
			<i>c:f</i> = 9:20		D	E					
		perihelion <i>f</i>	<i>d:e</i> = 5:9 <i>d:f</i> = 15:32		D	E					B C'
Saturn	{	aphelion <i>g</i>	<i>e:f</i> = 5:6			E		G			
			<i>e:g</i> [not given]			E		G			
		perihelion <i>h</i>	<i>e:h</i> = 3:5 <i>f:g</i> = 5:6 <i>f:h</i> [not given]			E		G			
Jupiter	{	aphelion <i>i</i>	* <i>g:h</i> = 4:5	C		E					
			<i>g:i</i> = 2:5	C		E					
		perihelion <i>k</i>	* <i>g:k</i> = 1:3 * <i>h:i</i> = 1:2 <i>h:k</i> = 5:12	C				G			C'
			* <i>i:k</i> = 5:6 <i>i:l</i> = 9:50 ** <i>i:m</i> = 12:25 * <i>k:l</i> = 5:24 <i>k:m</i> = 4:27			E		G			
Mars	{	aphelion <i>l</i>			D	E		G	G#		
							E		G#		
		perihelion <i>m</i>	* <i>l:m</i> = 2:3	C				G			A
Earth	{	aphelion <i>n</i>	<i>l:n</i> = 9:20		D	E					
			* <i>l:o</i> = 5:12			E		G			
		perihelion <i>o</i>	* <i>m:n</i> = 2:3 <i>m:o</i> = 3:5	C				G			
			* <i>n:o</i> = 15:16 <i>n:p</i> = 3:5 * <i>n:q</i> = 3:5 * <i>o:p</i> = 5:8 <i>o:q</i> = 5:8			E		G			B C'
Venus	{	aphelion <i>p</i>				E		G			
						E		G			
		perihelion <i>q</i>	* <i>p:q</i> = 24:25 <i>p:r</i> = 5:9 * <i>p:s</i> = 1:4			E		G			C'
Mercury	{	aphelion <i>r</i>	** <i>q:r</i> = 16:27	C							A
		perihelion <i>s</i>	<i>q:s</i> = 81:320 ** <i>r:s</i> = 9:20				EE <sup>+1</sup>				

\*Ratios originally discovered by Kepler  
\*\*Ratios originally discovered by Kepler but wrongly estimated

**Figure 2.5:** Warrain's compilation of Kepler's proportion and pitch calculations for the solar system<sup>63</sup>

<sup>63</sup> Taken from Godwin, *Harmonies of Heaven and Earth*, p. 134.



**Figure 2.6:** Kepler's perihelion and aphelion musical ranges for the planets. Notice that those planets with a greater orbital eccentricity have of course a greater range between their lowest and highest pitches.

Kepler's cosmological model, being so modern that it is basically still in use, marks the latest update of the assignment of pitches to the planets. After his time speculative music fell into one of its periodic out-of-fashion stages, as both music theory and cosmology became more positivistic,<sup>64</sup> more 'disenchanted'<sup>65</sup> and, in the words of Hollander, the sky became 'untuned'.<sup>66</sup>

<sup>64</sup> Godwin, Joscelyn, *Music and the Occult: French Musical Philosophies 1750-1950* (New York: University of Rochester Press, 1995); Christensen, Thomas, 'Speculative Traditions', in 'Musicology, §II, 2: Disciplines of musicology: Theoretical and analytical method.' in *Grove Music Online*, 2004. <http://www.grovemusic.com> (accessed 21 Jan. 2006).

<sup>65</sup> Gauchet, Maurice, *The Disenchantment of the World: a political history of religion* (Princeton, NJ: Princeton University Press, 1999).

<sup>66</sup> Hollander, John, *The Untuning of the Sky: Ideas of Music in English Poetry 1500-1700* (New York: W.W. Norton, 1970). See also Duffin, Ross W., *How Equal Temperament Ruined Harmony (and Why You Should Care)* (New York: W. W. Norton, 2008).

### 2.2.3 Musical attributions of the zodiac and the houses

The twelve signs of the zodiac (listed below in table 2.9) have also had their musical correspondences during the history of speculative music theory. Ptolemy, Godwin tells us, outlined the first of these musical attributions to the zodiac in his last book, *Harmonics*.<sup>67</sup> but to a whole-tone scale in equal temperament. Since Ptolemy's proposal is a closed circle, and not a spiral, it deviates significantly from Pythagorean conceptions. Ernest McClain points out that Ptolemy's attributions do not relate to any Greek scale contemporary to the author, but are a perhaps the earliest proposal of a tempered system, with octave equivalences, which did not occur in Greek theory and tuning practice.<sup>68</sup> This is an extraordinary claim, considering the exceptionally long and convoluted route tuning theories had to take in order to solve the problem of equal temperament, only mathematically possible after the development of calculus.<sup>69</sup> Be it as it may, it is quite peculiar that Ptolemy's assignment does not correspond to the music theory – or practice – of his time; another witness to the speculative music tradition of the more metaphysical and abstract type. Ptolemy's proposal can be seen below, as figure 2.7.

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<sup>67</sup> Reported by Godwin in *Harmonies of Heaven and Earth*, p. 140. At the moment of writing the last draft of this chapter I had the chance of finally seeing a modern edition of this work, in Spanish: Ptolomeo, Claudio, *Armónicas* (Málaga: Miguel Gómez Ediciones, 1999).

<sup>68</sup> McClain, Ernest G., *The Pythagorean Plato: Prelude to the Song Itself* (York Beach, Maine: Shambhala, 1984), pp. 151-154.

<sup>69</sup> Sciememi, Benedetto, 'The Use of Mechanical Devices and Numerical Algorithms in the 18th Century for the Equal Temperament of the Musical Scale' in G. Assayag, H. G. Feichtinger and J. F. Rodrigues, (eds.) *Mathematics and Music: A Diderot Mathematical Forum* (Berlin: Springer, 2002), pp. 49-64.

<b>Astrological signs</b>	<b>Elemental attribution</b>
Aries (♈)	Fire (△)
Taurus (♉)	Earth (▾)
Gemini (♊)	Water (▽)
Cancer (♋)	Air (△)
Leo (♌)	Fire (△)
Virgo (♍)	Earth (▾)
Libra (♎)	Water (▽)
Scorpio (♏)	Air (△)
Sagittarius (♐)	Fire (△)
Capricorn (♑)	Earth (▾)
Aquarius (♒)	Water (▽)
Pisces (♓)	Air (△)

**Table 2.9:** The signs of the zodiac in order, with their glyphs and elemental attributions

Ptolemy's assignment of pitches to the signs of the zodiac can be seen in figure 2.7, below.

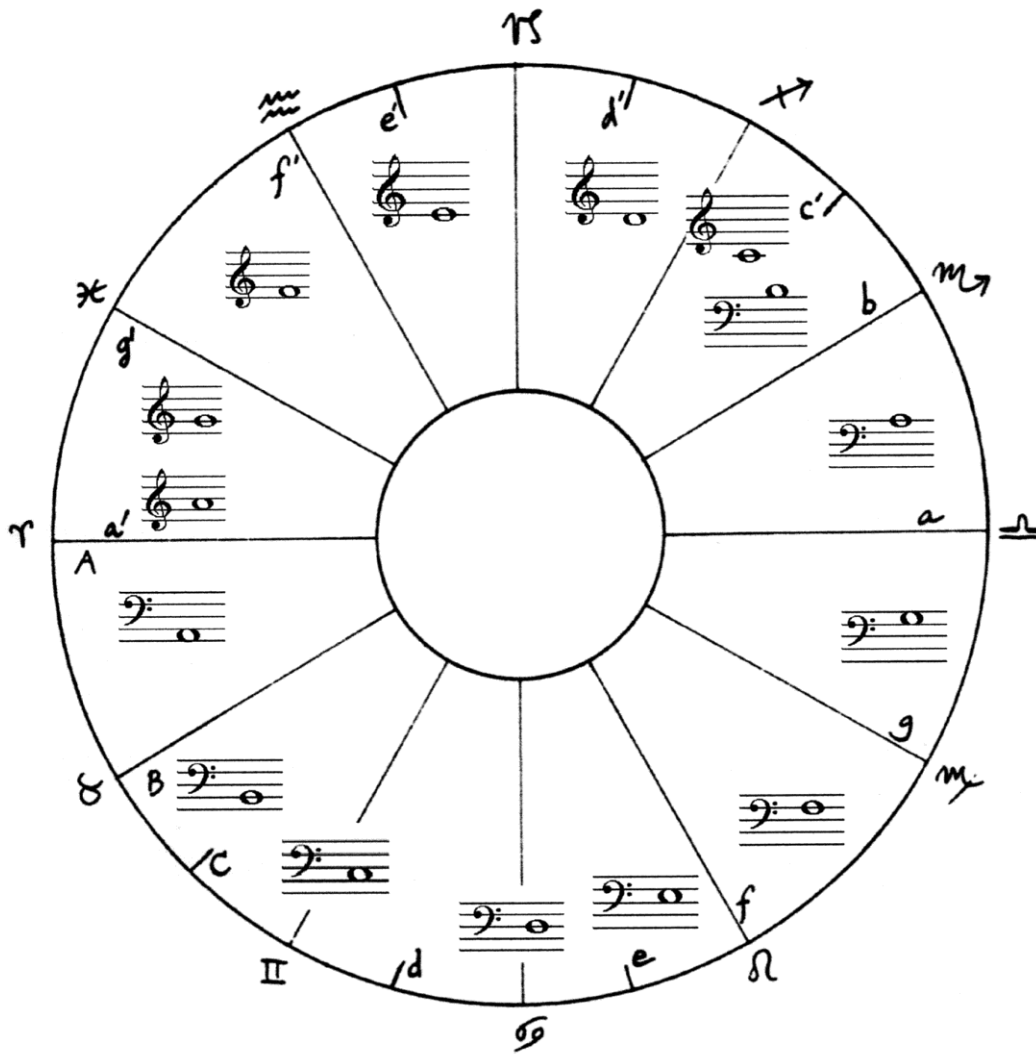


Figure 2.7: Ptolemy's tone-zodiac<sup>70</sup>

For some reason the assignment of musical parameters to the signs of the zodiac was not priority for speculative music theoreticians before the XXth century, so in comparison with the many musical models proposed for the planets since antiquity through the Middle Ages and up to the early modern period, all of the models for the

<sup>70</sup> Wheel chart taken from Godwin, *Harmonies of Heaven and Earth*, p. 141. The pitches in musical notation are my addition.

assignment musical parameters to the zodiac are quite recent. Consequently, and considering the apparently poor tools of theoretical critique and historical criteria that most speculative music theoreticians tend to show historically,<sup>71</sup> it is not that surprising that they all refer the equally-tempered system uncritically, as a given, as a *status quo* of music.<sup>72</sup>

### ***2.2.3.1 The Henschels' zodiac system***

One that follows from Ptolemy's approach is that of Thesophically-inspired Joan and Mary Henschel, who in the mid-XXth century<sup>73</sup> suggested assigning the first sign of the zodiac, Aries, to C, the first note of the basic theoretical scale in the Western system. Thus they proceed through the zodiac, assigning whole tones from C (C, D, E, F#, Ab, Bb) to the so-called 'positive' signs (the odd-numbered signs from table 2.9), and the remaining pitches (also in whole tones) to the 'negative' signs (the even numbered ones) – C#, Eb, F, G, A and B. From these binary division into 'positives' and 'negatives', they proceed to expand their starting notes into major modes/scales in the positive signs, and minor modes/scales in the negative ones. Their proposal is summarized in figure 2.8. (Please note that the signs of the zodiac are placed at the *cusps* of the houses, that is, at the moment where the house starts, and apply to the rest of the house, until the next cusp).

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<sup>71</sup> I have mentioned before, that trained musicians exploring speculative music have tended to focus their efforts in using the systems they have been trained in, mostly uncritically, while occultists and esoteric practitioners, while eager to revise the accepted systems, do not have the basic theoretical knowledge and training to tackle it competently.

<sup>72</sup> Duffin, Ross W., *How Equal Temperament Ruined Harmony (and Why You Should Care)* (New York: W. W. Norton, 2008).

<sup>73</sup> The book where they detail this system, *Van Chaos tot Harmonie*, was published in Amsterdam in 1954.

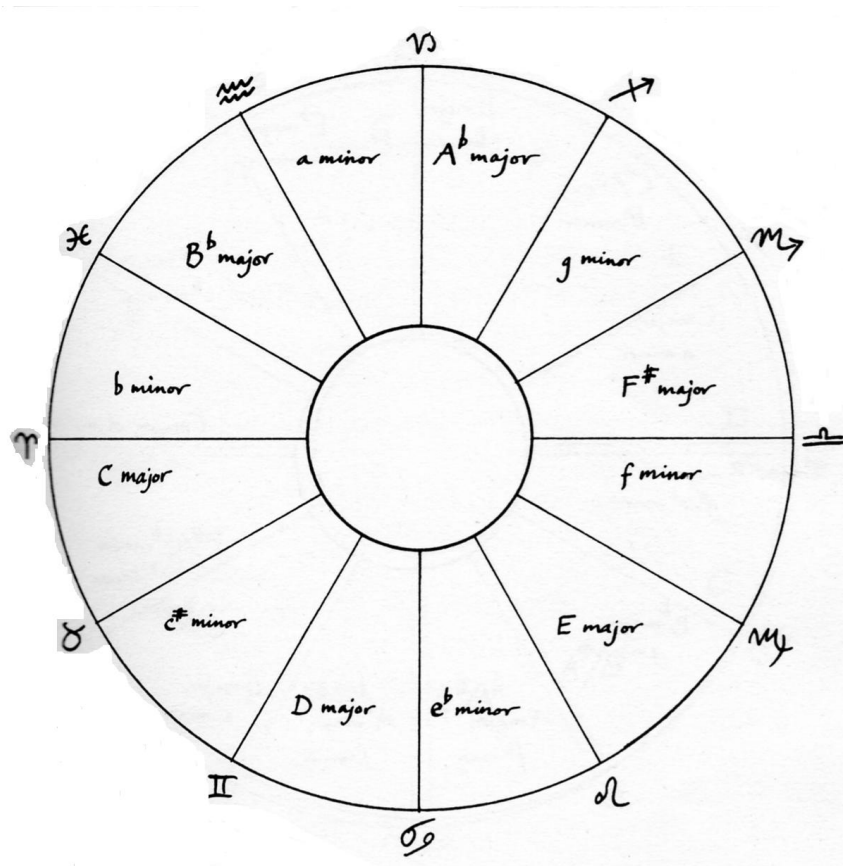


Figure 2.8: The Henschel's tone-zodiac<sup>74</sup>

But, as Godwin points out in his discussion of this system,<sup>75</sup> even though the rationale of assignment of majors to the 'positive' signs, and minors to the 'negative' signs seems elegantly simple from the astrological point of view, there are several problems in the proposal, from the musical point of view:

Firstly, when trying to form intervals or chords from these musical signs of the zodiac, we get musical results that do not match received astrological qualitative conventions: for example, the notes between inharmonious signs (those that are of an opposed elemental sign, and of a different quality – cardinal, mutable or fixed) such

<sup>74</sup> Illustration taken from *Harmonies of Heaven and Earth*, p. 143.

<sup>75</sup> Godwin, *loc. cit.*



as Aries and Virgo (cardinal Fire vs. mutable Earth) or Aries and Scorpio (cardinal Fire vs. fixed water) produce fifths or fourths. The Henschels call these intervals ‘dissonant’<sup>76</sup> because they relate dissonant astrological signs. Conversely, the two major thirds between the Fire signs (Aries, Leo, Sagittarius, C, E, G#), give a very unstable augmented fifth chord which in tonal theory always demands resolution and thus could be considered ‘dissonant’, but the Henschels call it ‘absolutely consonant’, based, again, on astrological attributions alone, and on the weak notion that seems to be prevalent in non-musicians that the major third is *always* consonant, regardless of its context and of how many of them are stacked up in a chord. Again we see the surfacing of the problem of too little musical understanding on the part of esoterists trying to theorize speculative music, a problem which I mentioned both in chapter 1 and in my introduction, and which gives rise to many of these weak arguments – musically – which we encounter usually in the history of speculative music.

A second important musical problem of this system is that, as can be seen in figure 2.8, it does not cater for all of the keys, nor does it *explicitly* give the option of having relative minors or majors when some keys are missing, to complete a full set of 12 major and 12 minor keys in the chromatic system.

### ***2.2.3.2 McMullin’s zodiac system***

A proposal by an astrologer who is also a musicologist is obviously more careful in including all of the keys, precisely by allowing the major key to be transposed into their relative minor. But this is not McMullin’s only innovation: He works chromatically (not by whole tones, like the Henschels) and *in reverse*, assigning C to

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<sup>76</sup> Quoted in Godwin, op. cit., p. 142

Pisces, C# to Aquarius, and so on (see figure 2.9). His attribution seems to me not so much in the spirit of what historian of astrology David Brown would call ‘the EAE paradigm’<sup>77</sup> in which “abstract systematization, based on the assumption that there was an ideal way for the world to operate”,<sup>78</sup> dealing less with what actually is rather than with what ought to be. McMillan’s tone zodiac rather seems to me more in the spirit of the competing ‘PCP [Prediction of Celestial Phenomenon] paradigm’, “which prioritized the prediction and observation of actual celestial positions”.<sup>79</sup>

In McMullin’s case, his data for this more ‘data-centred’ speculative music are not astrological, but interestingly, musical, and quite surprising: he compares his system to well-known pieces of the Western repertoire, and observes that, for example, for Sagittarius, which is ruled by Jupiter, he finds that Beethoven’s ‘Eroica’, and Fifth Symphony, Sibelius’s finale to his Fifth Symphony (depicting Thor, the Nordic Jupiter) and of course Holst’s Jupiter, all are written in the keys of Sagittarius according to his system, Eb major or C minor. McMullin concedes though, that, as in the case of the Henschel zodiac, there is little concordance between musical and astrological theories when intervals or chords are considered,<sup>80</sup> what I would call ‘exoteric’ harmony, the harmony of the technical courses for musicians.<sup>81</sup>

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<sup>77</sup> Letters derived from an obscure reference to an Assyrian astrological omen collection, the *Enuma Anu Enlil*, Brown, David, *Mesopotamian Planetary Astrology-Astronomy* (Groningen: Styx Publications, 2000), cited in Champion, Nicholas, *A History of Western Astrology: Volume 1, The Ancient World* (London: Continuum, 2008), p. 48.

<sup>78</sup> Champion, Nicholas, *loc cit.*

<sup>79</sup> Champion, Nicholas, *loc cit.*

<sup>80</sup> Godwin, *op cit.*, p. 143.

<sup>81</sup> On the differences between *exoteric* and *esoteric* see Versluis, Arthur, *Magic and Mysticism: An Introduction to Western Esotericism* (Lanham, MD: Rowman & Littlefield, 2007), p. 1. Also, Versluis, Arthur, ‘What is Esotericism?’ in *Association for the Study of Esotericism*, <http://www.aseweb.org/ASE/ASEDefinition.html> (Accessed 05 March, 2006).

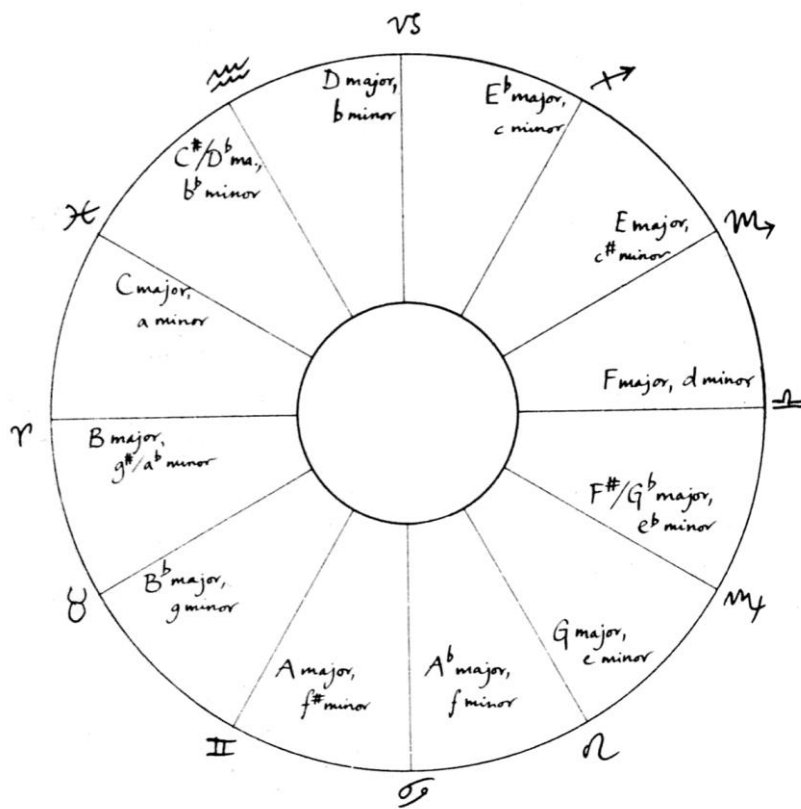


Figure 2.9: McMullin's tone-zodiac<sup>82</sup>

### 2.2.3.3 Rosicrucian zodiac system

Whereas both the Henschel's and McMullin's zodiacs arrange the signs of the zodiac as a scale (be it of chromatic or whole-tone steps), a modern Rosicrucian model uses a more esoteric rationale for this assignment: since according to Rosicrucian doctrine the twelve signs of the zodiac represent "twelve great life waves evolving in our scheme of evolution", and considering that "five of which have completely withdrawn from manifestation",<sup>83</sup> it seems clear that it is a matter of five withdrawn 'waves' and

<sup>82</sup> Illustration taken from *Harmonies of Heaven and Earth*, p. 144.

<sup>83</sup> Heindel, Max, *The Musical Scale and the Scheme of Evolution*, compiled by a student of Max Heindel (Oceanside, CA: Rosicrucian Fellowship, 1970), p. 36, quoted in Godwin, *Harmonies of Heaven and Earth*, p. 143-144.

seven 'active' ones. Since according to this author today's humanity is Piscean but is influenced by the preceding waves active on Earth,<sup>84</sup> it follows that the seven active waves can be deduced listing the horoscope backwards from Pisces. The five 'withdrawn' ones must therefore stretch to the time of the creation of the Universe, and therefore be the first five signs from Aries.<sup>85</sup>

For reasons that are not quite clear to me (but perhaps may be attributable to the author's technical limitations at the piano, I cannot think of any other reason), the five 'withdrawn' tones are assigned to the black keys of the piano: C#, Eb, F#, G# and A#, and their enharmonic equivalents, while the white keys are the 'active' tones, "active during the Earth period"<sup>86</sup>. No mention is made of the mode, or if, as in McMullin's system, it is assumed that the key signature is used as a determining factor (with different keys sharing the same key signature, e.g. c minor and Eb major), or if it is a matter of the starting note and tonal centre, regardless of the mode (either C# major or C# minor in the case of Aries). These matters are not clear in Heindel's system (for a zodiac wheel of his system, see figure 2.10).

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<sup>84</sup> Godwin, *op. Cit.* p. 144.

<sup>85</sup> Heindel, Max, 'The Rosicrucian Cosmo-Conception' electronic book available as PDF in <http://forgottenbooks.org/info/9781605065199> (Accessed Mar. 24 2010), pp 126-226.

<sup>86</sup> Godwin, *loc. Cit.*

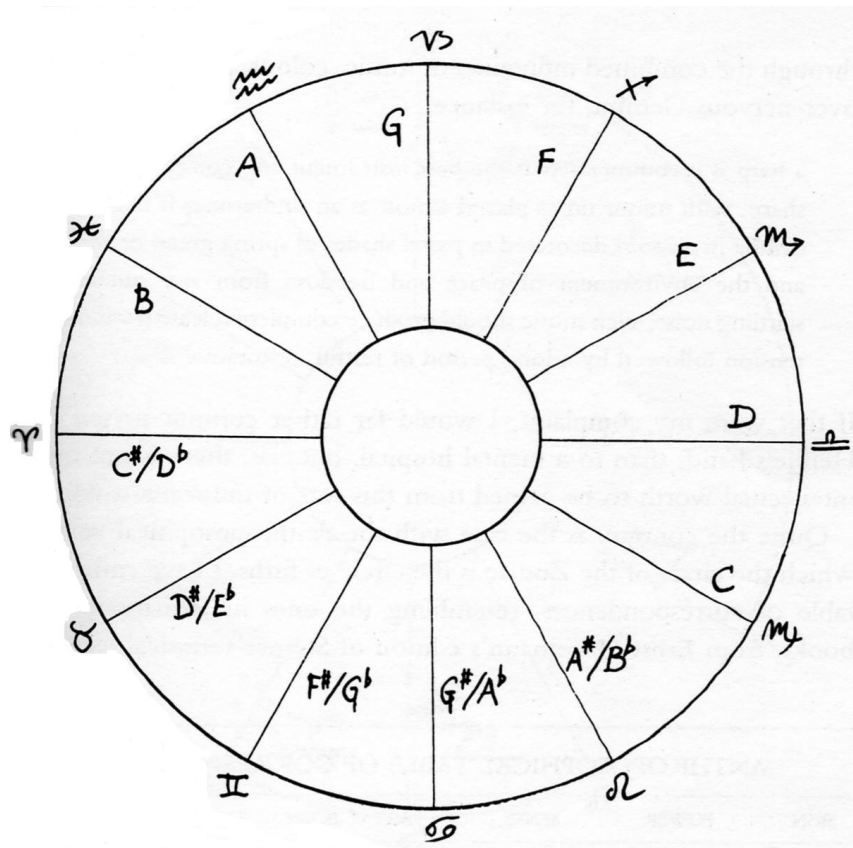


Figure 2.10: Heindel's tone-zodiac<sup>87</sup>

#### 2.2.3.4 Anthroposophical zodiac system

Another system also based on esoteric rationales more than on musical ones is the Anthroposophical one – which, although having ideological and genealogical connections with Theosophy (as the Heinschels') and being, according to Godwin, one of the sources for Heindel's system,<sup>88</sup> gives an entirely different correspondence system.

<sup>87</sup> Illustration take from *Harmonies of Heaven and Earth*, p. 145.

<sup>88</sup> Godwin, *op. cit.*, p. 143.

Ernst Hagemann edited and commented on the musical lectures of Rudolf Steiner, the founder of Anthroposophy.<sup>89</sup> The summary that Godwin presents us shows an esoteric explanation for the musical significance of the signs of the zodiac so idiosyncratic that I thought it better to quote it in full:

The zodiac is our symbol for the twelve creative figurations of the Seraphim and Cherubim. These angelic beings work on the human race to endow us with the powers, senses, and consciousness impulses given in the Table of Correspondences. [...] What is behind the colours and tones that we perceive is not merely vibration but spiritual being: each tone exists in the twofold mode of (1) the vibrating air in the ear, and (2) an inner experience on the etheric and astral levels. [...] The twelve tones and their keys are therefore vehicles for the impulses of the angelic hierarchy under whose care the human race develops.<sup>90</sup>

Another anthroposophical author, Anny von Lange,<sup>91</sup> claims that the zodiac represents the “formative laws which reveal themselves step by step to the spiritual seeker”.<sup>92</sup> Perhaps this is a reason for assigning the signs of the zodiac not to the steps of a chromatic or whole-tone scale, but to the circle of fifths (see figure 2.10), since they represent harmonic *progressions* to a new tonal area – or state of being (cf. the importance of the circle of fifths for tonal modulation). On these same lines Hagemann comments on the perceived ‘heavy’ or ‘light’ quality of the keys: at each new key/zodiac sign in sector C to A (the first four zodiac signs and first four fifths)

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<sup>89</sup> Steiner, Rudolf, *Vom Wesen des Musikalischen*, edited by Ernst Hagemann (Freiburg im Breisgau: Die Kommenden, 1974). Reported by Godwin, *op. cit.*, p. 147.

<sup>90</sup> Godwin, *loc. Cit.*

<sup>91</sup> von Lange, Anny, *Mensch, Musik und Kosmos* (Freiburg im Breisgau: Die Kommenden, 1968) [originally published 1956], vol. 2, p. 15, quoted in Godwin, *loc. Cit.*

<sup>92</sup> Godwin, *loc. Cit.*

the tonal colour becomes “brighter and higher”, and at the next three “inwardly higher, spiritualized”.<sup>93</sup>

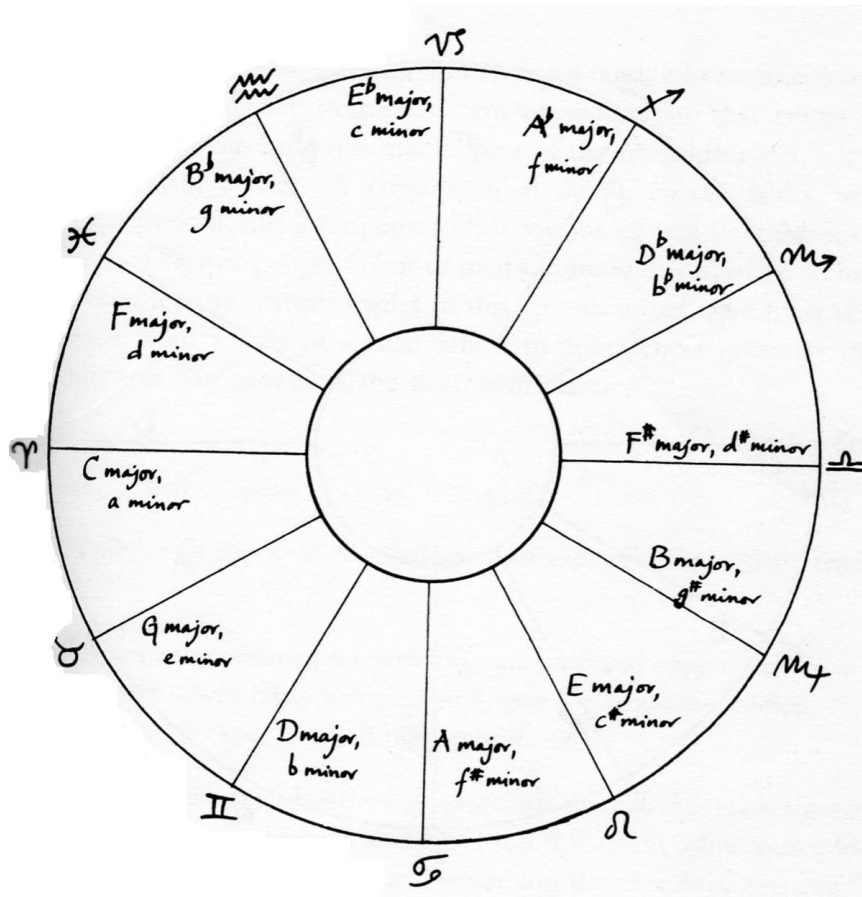


Figure 2.11: Anthroposophists' tone-zodiac

### 2.2.3.5 A short note on the astrological houses

The houses of the horoscope (the ‘slices’ of the celestial wheel as shown in figure 2.1, above) are closely related to the signs of the zodiac:

<sup>93</sup> Godwin, *loc. Cit.*

[...] the first house, as counted from that degree [the ascendant], will correspond in meaning to that of the first sign, but, whereas the *sign-meaning* will give an understanding of a MODE of action or behaviour, the *house-meaning* will give an understanding of the SPHERE OF LIFE to which this may be expected to relate<sup>94</sup>

The signs *and* the houses are both 12, and they always occur in the same relative order (house 1 is always followed by house 2, and the zodiac always follows the order expressed in table 2.9), but due to the daily rotation of the Earth, the inclination of our planet's axis and the effects this has on the vantage point at different latitudes and dates, it is not always the case that we find Aries is in house 1, Taurus in house 2 and so on. Even though this is indeed the *theoretical* synchronization point, the zodiac and the houses move at different speeds and depend also on geographical (not only temporal) factors, so this synchronization is not always the case in charts of events. Perhaps the easiest way of thinking about it is imagining a clock in which not only the hands of the clock (the planets) move, but also the face of the clock (the houses), and its rim (the zodiac) rotate, at different speeds: synchronization would indeed happen at some point (and is very useful for theoretical system-building and modelling), but the diversity in speeds and movement makes such perfect synchronization a rare event.

Suffice it to say that in the attribution of musical parameters to the houses of the natal chart the same types of correspondences apply than those used for the signs, but, as stated above, signs and houses do not always synchronize, impelling us to the almost inevitable use of *polytonality* in music which wishes to chart *both* the signs of the zodiac and the houses (see the preliminary commentaries to scores 3.1 and 3.2 in the

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<sup>94</sup> quoted in Mann, A.T., *The Round Art of Astrology: an illustrated guide to theory and practice* (London: Vega, 2003), p. 105



portfolio of compositions). This attests to the possibilities of speculative music in contemporary music, where these kinds of superimpositions are not restrained by normative approaches to music theory.<sup>95</sup>

## **2.2.4 Musical attributions of the angular aspects**

### ***2.2.4.1 What aspects are, and how they relate to music***

Astrological aspects express the angles that separate different celestial bodies from each other in their observable positions in the heavens, as seen from the Earth. In astrology the aspects represent how the energies of the planets (or other objects such as planetoids, satellites or asteroids) interrelate to each other. In charts, they are represented by the lines connecting the planets, sometimes coloured in blue to represent the aspects traditionally believed to be beneficial or positive, and in red to point out the negative or limiting aspects (refer to figure 2.1 above for an example of how these lines look in a full chart). The underlying principle is that the aspects generally believed to be positive (the conjunction, trine, sextile and semi-sextile) generate or stimulate resonances between the positions of the planets (in the manner of a consonant interval or chord in music) while those considered to be negative (the opposition, the square, the quincunx) generate tensions and “dissonances” which disrupt the energies of the planets concerned, and do not let them flow freely. Yet some contemporary interpretations of the qualities of the aspects tend to be less “black and white”, and speak of “intense energy”, “paradoxes”, “calm” or “tension” rather than directly attributing positive or negative characteristics to specific aspects.<sup>96</sup>

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<sup>95</sup> Christensen, Thomas, 'Introduction' in T. Christensen, (ed.) *The Cambridge History of Western Music Theory* (Cambridge: Cambridge University Press, 2002), pp. 1-26.

<sup>96</sup> The examples of this more nuanced wording are taken from Annie Lionett, *The Astrology Directory*

The assignment of musical parameters to angular aspects consequently follows a similar logic, and the musical parameter which most speculative music theorists in the past have chosen to represent the astrological aspects is the interval, a measurement of the distances between certain pitches, just as the aspect is a measurement of the angle between positions of the celestial bodies. This gives, as in planetary aspects, consonant and dissonant relationships (intervals).

In speculative music of astrological inspiration aspects are very important because they “are expressions of the proportional harmonies which exist in space and time”.<sup>97</sup> The major aspects are the angles which are produced when dividing the circle into 1, 2, 3, 4 and 6 equal parts, ( $360^\circ=0^\circ$ ,  $180^\circ$ ,  $120^\circ$ ,  $90^\circ$ ,  $60^\circ$ ), just as the first intervals in the harmonic scale (the octave, the fifth and the fourth) derive from dividing a vibrating string into equal parts.

There are also minor aspects, mainly the degrees of  $45^\circ$ ,  $135^\circ$ ,  $30^\circ$ ,  $150^\circ$ ,  $72^\circ$  and  $144^\circ$ , but also some other angles, considered less frequently or only by a few astrologers, such as the  $108^\circ$ , the  $36^\circ$  or the  $40^\circ$  aspects. These minor aspects are said to be “smaller harmonics of the ones already discussed [the major aspects] so that every pair of planets in the horoscope can be related in some way to each other.”<sup>98</sup>

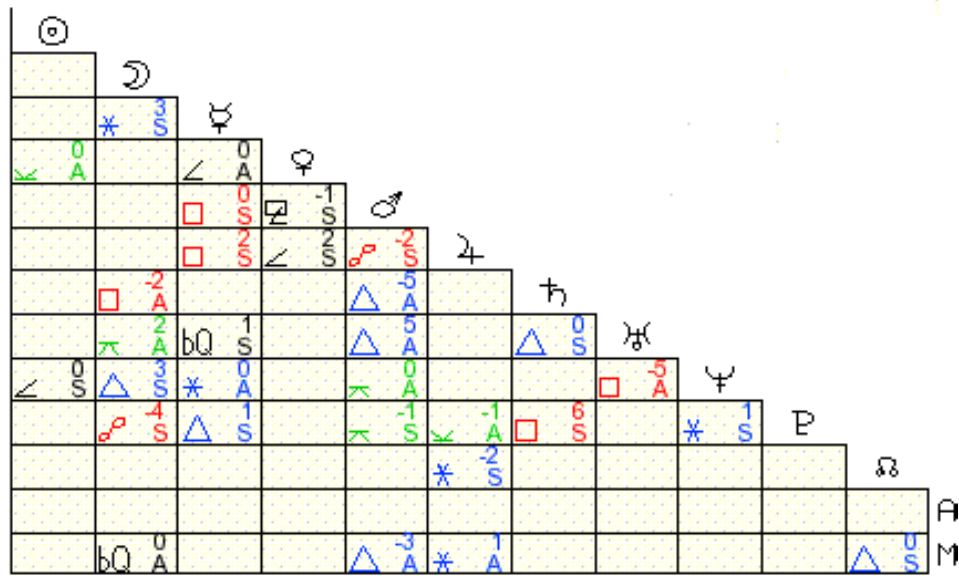
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pp. 154-157.

<sup>97</sup> Mann, A.T., *The Round Art of Astrology: an illustrated guide to theory and practice* (London: Vega, 2003), p. 163.

<sup>98</sup> Mann, *op. Cit.*, p. 166.

In an astrological chart (refer to figure 2.1), the aspects are graphically represented by blue and red lines that connect the planets as they appear in the chart. In order to make calculations easier, an *aspect grid* is also provided. The aspect grid for the horoscope shown in figure 2.1 can be found below, as figure 2.11:



**Figure 2.12:** Aspect grid of the example chart shown in figure 2.1

(zoomed-in here, to show detail).

An aspect grid is interpreted by knowing the symbols that represent each angular aspect. A table with the aspects most prevalently used in astrology, with their technical names and symbols and angular value, is included below as table 2.10:

Aspect symbol	Technical name of aspect	Angle of separation of the two celestial bodies
♌	Conjunction	0° or 360°
♍	Opposition	180°
△	Trine	120°
*	Sextile	60°
□	Square	90°
∟	Semi-square	45°
▤	Sesqui-square	135°
∨	Semi-sextile	30°
⋈	Quincunx or inconjunct	150°
Q	Quintile	72°
B or BQ	Biquintile	144°

**Table 2.10:** The astrological aspects most widely used

The aforementioned similarity between dividing a circle into successively shorter segments, and doing the same with a musical string – *alla* Pythagoras – has not gone unnoticed by theorists of speculative music throughout history. Mann tells us that “every pair of planets in the horoscope can be related in some way to each other”,<sup>99</sup> and so can every pitch be related to another by means of the *interval*. The assignment

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<sup>99</sup> Mann, *loc. Cit.*

of intervals to the aspects has thus been the traditional approach in speculative music. This traditional attribution holds even better if we consider that planets have consistently been assigned *itches* in the history of speculative music (see section 2.2.2 above), and that the distance between two pitches is an interval.

Just like the aspects of astrology, intervals also carry with them qualitative as well as quantitative meaning in the cultural context of Western tonal understanding. This qualitative weight of the intervals is usually related to aesthetic value and through it to the regulation of the desirable and the undesirable in terms of voice leading, simultaneity of voices (counterpoint) or chord formation, and the artistic negotiation of the harmonic tensions and their resolutions that the use of the intervals supposedly carries.

#### ***2.2.4.2 Ptolemy's assignment of intervals to aspects***

The basis for the procedure of assigning pitches to the astrological aspects derives from the observations of Claudius Ptolemy, who in his last book, *Harmonics* (written in the second century of the Common Era) observes that the most important aspects in astrology correspond to the most fundamental consonances in Greek musical theory: the octave, the perfect fifth and the perfect fourth.<sup>100</sup>

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<sup>100</sup> Ptolemy, *Harmonics* (Leiden: Brill, reprinted 2000). I didn't have the chance to work closely with this edition, but I worked with a Spanish translation, Ptolomeo, Claudio, *Armónicas* (Málaga: Miguel Gómez Ediciones, 1999).

In his early work *Mysterium Cosmographicum* (already mentioned), Johannes Kepler elaborates on this idea, and through a series of geometrical reasonings equates the circle of the zodiac to the string of a monochord:

[Kepler's] observation is basically that one can regard the zodiacal circle as a length to be divided as one would stop a monochord string. Comparison of the whole length to the greater proportion remaining will then give the interval corresponding to each aspect.<sup>101</sup>

Godwin has expanded on this to include all of the aspects in use in modern astrology, the result of which is presented in figure 2.12. Notice that in this system not all of the aspects get a corresponding interval.

Yet Godwin points out that the Swiss researcher Rudolf Haase, “who more than anyone else today carries on the Keplerian ideal of harmonic research”,<sup>102</sup> noticed a very important inconsistency in this system, otherwise perfectly correct from the geometrical point of view: And that is that the *qualitative* values of the aspects do not correspond to the aesthetic values historically ascribed to the intervals: “To take the most obvious example, the opposition, which here [in systems derived from Ptolemaic harmonics] makes a harmonious octave, is actually the most tension-producing of all aspects”,<sup>103</sup> because in astrology having one planet in opposition to another inhibits each other's influence, generating a great tension.<sup>104</sup>

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<sup>101</sup> Godwin, *op. Cit*, p. 136.

<sup>102</sup> Godwin, *op. Cit*, p. 137.

<sup>103</sup> Godwin, *loc. Cit*.

<sup>104</sup> “The opposition is the aspect of *maximum tension*, as the planets are in opposite signs and houses in the horoscope. They mutually antagonize [...]. It implies two events and principles in life which are

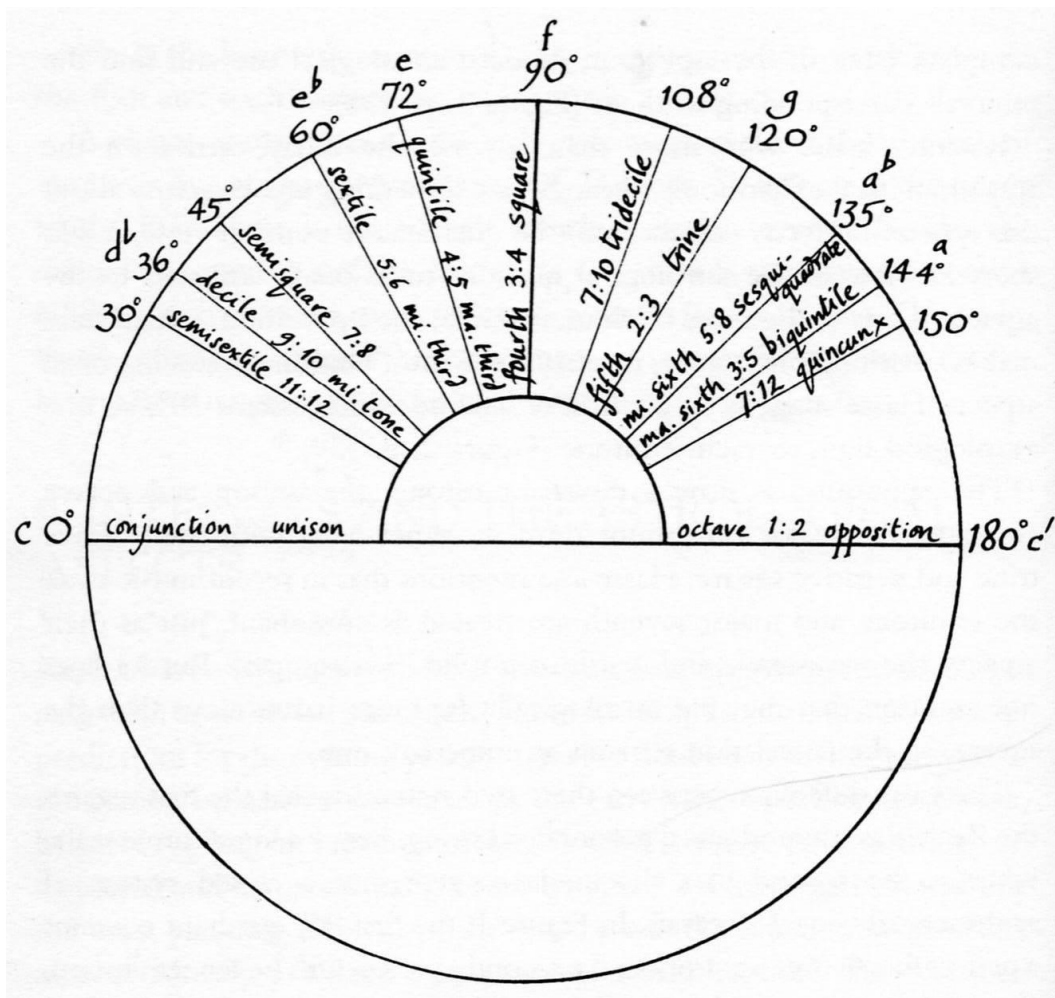


Figure 2.13: Ptolemy's aspect-interval correspondences, as expanded by Godwin

This is not the only case: another very 'dissonant' astrological aspect is that of the square,<sup>105</sup> which in terms of intervals is only the semi-dissonant (depending on its

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antithetical and occur at opposite times." Mann, *op. Cit.*, p. 165. "This aspect signifies conflict [...]. Oppositions may produce extreme swings of attitude or paralyzing indecision." Lionett, Annie, *The Astrology Directory* (Hoo, Kent: Grange Books, 2004) p. 129.

<sup>105</sup> "Squares operate through the same quadruplicity, but also through antithetical elements – from positive sign to negative sign and vice versa. For example, the signs square to the cardinal fire sign Aries are the cardinal water sign Cancer and the cardinal earth sign Capricorn. Positive fire is either drowned by negative water or smothered by negative earth. In square aspect the gender of each component will be different, producing tension and disruption." Mann, *op. Cit.*, p. 165.

context)<sup>106</sup> interval of the fourth (as opposed to the very dissonant second or seventh, either of which arguably would be more appropriate *qualitatively* for this second-most dissonant aspect than the fourth).

Godwin points out that this disagreement between the astrological and musical qualitative values of the aspects-intervals is of a mathematical origin, as it shows the incommensurability of a lineal vs. a logarithmic scale: “the incompatibility of musical and astronomical distance; the incommensurability of the logarithmic scale of the monochord, on which equal divisions produce increasing intervals, with the geometry of a circle divided into 360 equal degrees”.<sup>107</sup>

#### ***2.2.4.3 Haase’s compromise between logarithmic and lineal systems***

In order to compromise between the qualitative judgements of both systems Rudolf Haase proposes using the much-criticized equally-tempered scale<sup>108</sup> as a tool which already seeks to transform the logarithmic quality of harmonic mathematical relationships of the musical kind into lineal steps, albeit with detriment to the perfect tuning of the music.<sup>109</sup> In his astrological-musical scheme Haase assigns 30° (a full

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<sup>106</sup> Persichetti, Vincent, *Armonia del siglo XX* (Madrid: Real Musical, 1985), pp. 11-14.

<sup>107</sup> Godwin, *op. Cit.*, p. 137.

<sup>108</sup> Duffin, Ross W., *How Equal Temperament Ruined Harmony (and Why You Should Care)* (New York: W. W. Norton, 2008).

<sup>109</sup> “[In] the equal-tempered scale every key sounds as in tune (or out of tune), as every other key, just as we wanted, but at the expense of the pure integer rations, which have been virtually banished. It is somewhat reminiscent of the modern practice where an oak grove is ripped out to build a shopping center and then the shopping center is named Oak Grove. We are left with the impression of the pure intervals but not with their reality.” Loy, Gareth, *Musimathics: The Mathematical Foundations of Music* (Cambridge, MA: The MIT Press, 2006), p. 72.



zodiacal sign) to each semitone, and counts the zodiac in reverse, clockwise rather than counter-clockwise, as was also done in McMullin's system (discussed in section 2.2.3.2). Doing this and analyzing the interval qualities that correspond to the angular aspects, one can verify that indeed the opposition (the most 'dissonant' aspect in astrology) is assigned to the tritone, so dreaded during the Middle Ages due to its tonal instability. The major third does indeed correspond to the positive aspect of trine, but other consonant-positive, dissonant-negative pairings are not so convincing, such as the slightly dissonant full tone corresponding to the harmonious sextile, or the far more dissonant semitone to the also slightly harmonious semi-sextile, while the disharmonious square – only second in tension to the opposition – gets a not-so-dissonant minor third as its intervallic correspondence. Haase's proposal is reproduced below, as figure 2.13:

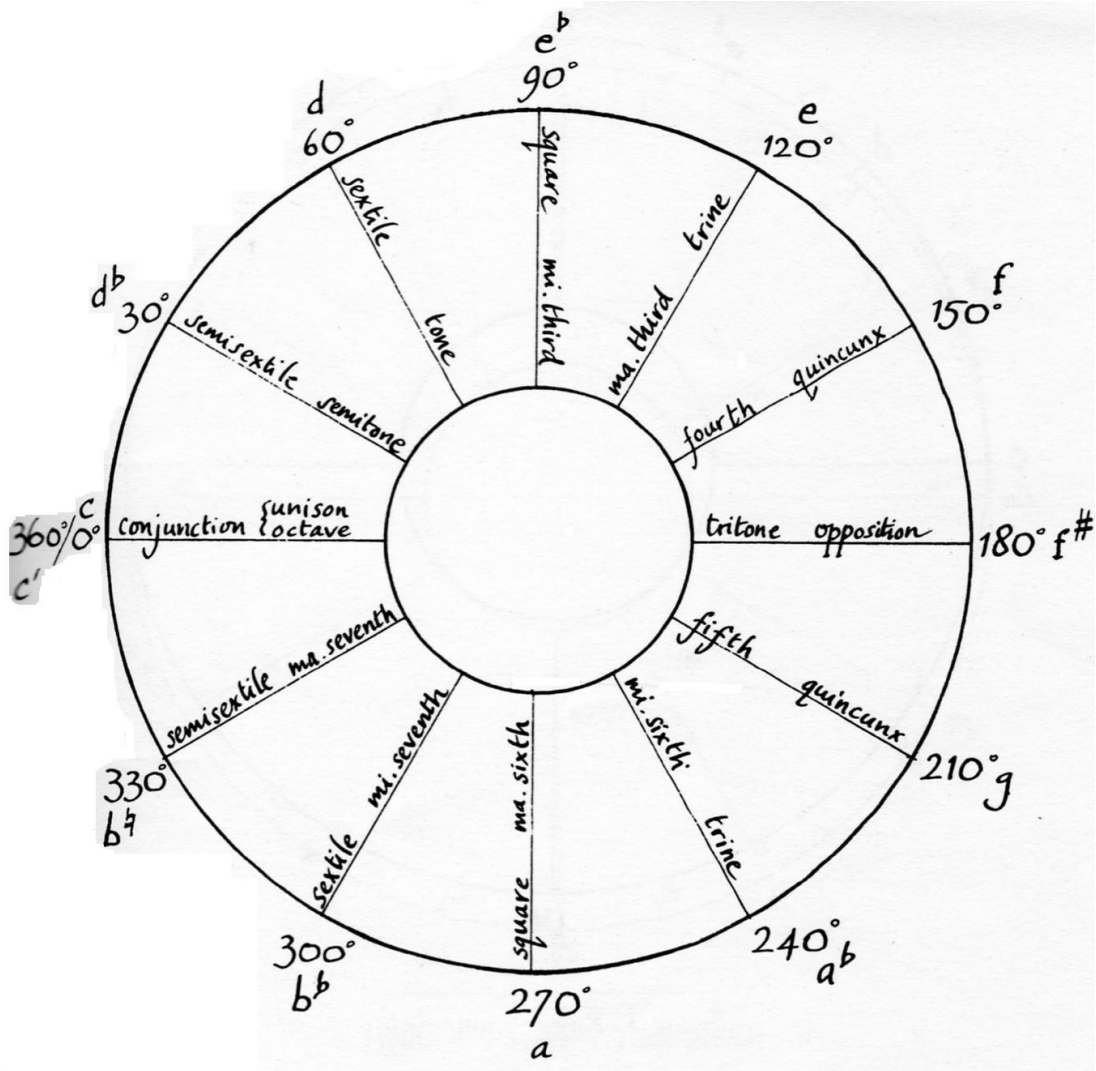


Figure 2.14: Haase's proposed aspect-interval correspondences<sup>110</sup>

### 2.3 Chapter conclusions

I have endeavoured to use all of proposals of the equivalence between astrology and music discussed here in my astrological musical pieces, included in section 3 of the portfolio (scores 3.1 and 3.2). As stated at the beginning of the chapter, I have not worked on alchemically-derived musical systems at this stage, although I have approached alchemical “occult music” through both the *intuitional* and the *symbolic*

<sup>110</sup> Illustration taken from Godwin, *Harmonies of Heaven and Earth*, p. 139.

levels of representation (discussed at length in section 1.2.3 of chapter 1). My alchemical pieces can be found as scores 1.1 (second movement) and 2.4 of the portfolio.

The reason for using all of the systems of astrological attribution rather than settling for one or a few selected ones is based on the recognition of an inherent logic in the design of the various systems, that technically validates them: in other words I was unable in most cases to simply discard one system or other based on its weak rationale of assigning musical parameters to the astrological concepts or its sloppy construction – although there are systems with these weaknesses and I indeed discarded them from my own musical usage, but most of them are fairly coherent.

A feature that might frustrate the reader unused to speculative music, is the great variability and constant incongruence between systems, which, contrary to generating consensus and elucidation, as hopefully happens in positivistic science, in matters *harmonic* (in this case in speculative music) generates even more variety and contending systems, which most often than not exclude or disprove each other. The methodological problems of validity, soundness, consistency, tautologies and a wealth of other philosophical conceptual tools<sup>111</sup> are at the basis of the inherent differences between philosophies of science and the occult, of their different sets of values and modes of thought,<sup>112</sup> and of their radically different epistemologies.<sup>113</sup>

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<sup>111</sup> Baggini, Julian and Fosl, Peter S., *The Philosopher's Toolkit: a compendium of philosophical concepts and methods* (Malden, MA: Blackwell Publishers, 2003).

<sup>112</sup> Grim, Patrick, 'Scientific and Other Values' in P. Grim, (ed.) *Philosophy and Science of the Occult* (Albany, NY: State University of New York Press, 1982), pp. 308-322.

<sup>113</sup> Tomlinson, Gary, *Music in renaissance magic: toward a historiography of others* (Chicago: University of Chicago Press, 1993).

But it must be remembered that it is only in the last four or five centuries that these types of differentiations have been in place. For most of Western history occult and scientific mentalities worked so much in tandem,<sup>114</sup> mainly through the process of analogy,<sup>115</sup> that a whole tradition developed of assigning occult thought the dubious ‘honour’ of being the superseded forerunner of Science, a form of ‘inferior’ and ‘incomplete’ science of our primitive, pre-modern forbearers.<sup>116</sup> This view has been hotly debated in esoterological academic circles for a while now, and postmodern critical thinking has instead favoured the view of different – not lineal and tautological – paradigms and modes of thought altogether.<sup>117</sup>

“The sign of truly harmonic thought” writes Godwin when considering this frustrating variability of systems, “is not to be conclusive but to open up the possibility of perceiving harmony everywhere in the universe: a harmony that is no less really there because it is sometimes perceived as a picturesque or extravagant analogy, unassimilable by rational thinking”.<sup>118</sup>

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<sup>114</sup> Vickers, Brian, *Occult and Scientific Mentalities in the Renaissance* (Cambridge: Cambridge University Press, 1986); Johannisson, Karin, 'Magic, Science and Institutionalization in the Seventeenth and Eighteenth Centuries' in I. Merkel and A. G. Debus, (eds.) *Hermeticism and the Renaissance: Intellectual History and the Occult in Early Modern Europe* (Cranbury, NJ: Folger Books, 1988), pp. 251-261

<sup>115</sup> Vickers, Brian, 'On the Function of Analogy in the Occult' in I. Merkel and A. G. Debus, (eds.) *Hermeticism and the Renaissance: Intellectual History and the Occult in Early Modern Europe* (Cranbury, NJ: Folger Books, 1988), pp. 265-292.

<sup>116</sup> Very important in this tradition is Lynn Thorndike's gargantuan multi-volume work *History of Magic and Experimental Science*, originally published in the 1920, which not only interrelates magic and science in the title, but also in the treatment of these two related subjects.

<sup>117</sup> See Tomlinson, Gary, 'Occult Thought and Hegemonic Histories' in *Music in renaissance magic: toward a historiography of others* (Chicago: University of Chicago Press, 1993), pp. 9-20, and 'Agrippa versus Foucault' in *op. Cit*, pp. 52-61.

<sup>118</sup> Godwin, *Harmonies of Heaven and Earth*, p. 141.

It is in this spirit of this openness to possibilities that I have studied all of the attribution systems reviewed in this chapter and used most of them in the selection of musical material and the construction of musical grammars for part 3 of my portfolio of compositions.

# Chapter 3: Cabalistic Grammars of Music

## 3.1 Chapter Introduction

In this chapter I will explore some possibilities for the application of the principles and traditions of Hermetic Cabala<sup>1</sup> to the creation and development of musical grammars.

I will approach this task by proposing different interpretations and translations of the main constituent aspects of music into cabalistic terms, so as to propose historically appropriate and ideologically consistent “cabalistic” theories of pitch, rhythm, harmony, counterpoint, texture and timbre.

I will be basing my interpretations and translations on the standpoints of both tradition and innovation: on the one hand I will be reviewing the existing Hermetic traditions regarding music and Cabala as I explore the different constituent aspects of music, but I will also offer my own insights and proposals on the matter, sometimes commenting on someone else’s theory or proposal which I have reviewed, while at other time and sometimes diverting a bit in order to add something related to the matter being discussed, yet not necessarily expounded by the authors which are being reviewed.

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<sup>1</sup> I will be consistently using this particular spelling of the Hebrew transliteration of the word when not citing from a source which uses a different spelling. Regarding issues of spelling and transliteration of this term, see section 3.1.1, “Issues on spelling and transliteration of the Hebrew term קבלה”, below.

I hope in this way to show how my own ideas either stem from and develop the tradition of Hermetic Cabala, or how I, through my musical understanding and experience, can propose solutions that in some cases could be more musically appropriate than those originally proposed by occultists which are not necessarily, in all cases, versed in the technicalities of musical theory or composition.

Given that cabala is one of the most basic constituents of Hermeticism since its assimilation into Christian mysticism and esotericism in the second half of the fifteenth century,<sup>2</sup> it constitutes an indispensable foundation for the Hermetic theory of correspondences, since it acts as middle-ground between several layers of correspondence systems such as astrology, alchemy and numerology. Consequently, this chapter will be significantly more substantial than the other chapters which constitute part 1 (the textual component), all of which seek to lay the grounds for a proposed Hermetic grammar of music. This is so because I believe once the cabalistic grammars of music have been explained, the musical interpretation of other Hermetic systems and practices such as the tarot, astrology or alchemy become much more straightforward, direct and frankly brief, since they relate so tightly to cabalistic numerological and cosmological theory.

At first I thought that the most appropriate way of deducing grammars on cabalistic music would be to thoroughly research Jewish devotional music, especially of the more mystical schools such as the Hassidim, which tend to be more lenient to cabala (usually discouraged by official religion, as is common with all esoteric practices). From this, I thought, a universalisation or adaptation of their proposals to

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<sup>2</sup> Frances Yates, *The Rosicrucian Enlightenment* (London: Routledge, [1972], 1986)

contemporary academic speculative music theory could be tried. Yet after perusal of several sources I found that “we have no reference to its [ancient Jewish song] theoretical basis, for so far as we know, there never was written, as in the case of Greek music, a theory of Hebrew music” [sic].<sup>3</sup> So I was limited to the review of modern sources on cabala and music. Yet most of these modern sources were very disappointing in their shallow and naive musical treatment that their non-musically trained authors gave to these themes, and even though the titles of their books were sometimes very promising,<sup>4</sup> their treatment of the matter was confined almost exclusively to exegesis on Bible passages, commentaries on Hebrew or Yiddish musical terms or qualifying adjectives, and mystical speculations on why the existing repertoire has developed in the way it has – with no musical examples illustrating the repertoire and only title references to popular devotional tunes, which are of course of little informative value to the reader not immersed in that particular musical tradition.

Academic scholars on Jewish music on the other hand treat the subject from the ethnomusicological or historical perspectives,<sup>5</sup> both of which are closer, in Boethian terms, to *musica instrumentalis* than to *musica mundana*. This of course is not surprising considering that speculative music became marginalized from academia

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<sup>3</sup> Abraham Z. Idelsohn, *Jewish Music: its historical development* (New York: Dover Publications, Inc., [1929], 1929), p. 22.

<sup>4</sup> Matityahu Glazerson, *Music and Kabbalah* (Northvale, NJ: Jason Aronson, 1997) and DovBer Pinson, *Inner Rhythms: the Kabbalah of Music* (Northvale, NJ: Jason Aronson, 2000)

<sup>5</sup> Such is the case with Amraham Z. Idelsohn and Moshe Idel. Idelsohn, *Jewish Music* ; Moshe Idel, 'Music' in Cohen and Mendes-Flohr (Eds.) *Contemporary Jewish Religious Thought: Original essays on critical concepts, movements, and beliefs* (New York: The Free Press, a division of Macmillan, Inc., 1987)



during the scientific revolution,<sup>6</sup> as has been described in chapter 1. But since the approach I am taking is in its focus far more speculative, and not concerned with the religious musical practices of certain populations, but rather with the extraction of musical correspondences from Hermeticist – or in this particular case cabalistic – principles, the approach of these respectable scholars is of little use to my purposes.

For all of these reasons, I abandoned my original idea of a systematic analysis of rhythms, modes, metres, scales or motives of traditional devotional Jewish music as a starting point for the development of cabalistic grammars of music (an approach which would have made my thesis more ethnomusicological) and have taken instead, for this chapter, the route of idealist mathematical speculation based on the abstract numerical (and numerological) significance of the letters of the Hebrew alphabet, as taught by literal cabala.<sup>7</sup>

### **3.1.1 Issues on spelling and transliteration of the Hebrew term קבלה**

David Godwin tells us in his *Cabalsitic Encyclopedia* that ‘“Cabala” is spelled any number of ways: beginning with *c*, *k* or *q*, with and without the *b* doubled; with and

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<sup>6</sup> See Penelope Gouk, 'The Role of Harmonics in the Scientific Revolution' in Christensen (Ed.) *The Cambridge History of Western Music Theory* (Cambridge: Cambridge University Press, 2002), 223-245 but especially Penelope Gouk, *Music, Science and Natural Magic in Seventeenth-Century England* (New Haven: Yale University Press, 1999) and Chua, Daniel K., 'Vincenzo Galilei, modernity and the division of nature' in Suzannah Clark and Alexander Rehding, (eds.) *Music Theory and Natural Order from the Renaissance to the Early Twentieth Century* (Cambridge: Cambridge University Press, 2000), pp. 17-29.

<sup>7</sup> For a description of each of the constituent aspects of cabala refer to section 3.2.1 below.

without the *l* doubled; and with and without a final *h*.<sup>8</sup> According to all these permutation possibilities, there would be 24 different ways of spelling the word.

The strictest way of interpreting, linguistically, the Hebrew characters קבלה which make up the word is, as Crowley noted, *Qabalah*.<sup>9</sup> Yet diverse respected authorities of the occult world have used different spellings in their writings:

Mathers and Waite use *Kabalah*. C.C. Zain used *Kabala*, and, on the theory that Q must always be followed by U (notwithstanding that, in this case, it is meant to designate a hard K), Franz Bardon, among others, spelled it *Quabbalah*.<sup>10</sup>

Among the more modern authors, the Ciceros<sup>11</sup> use *Qabalah*, Tyson uses *Kabbalah*, Whitcomb and Dening & Phillips<sup>12</sup> use *Qabalah*, while Farell<sup>13</sup> uses *Cabbalah*. On the other hand contemporary Jewish authors, especially if hailing from Israel, such as Glazerson, Kaplan or Pinson tend to prefer the spelling *Kabbalah* when writing in English, though in one of his books Halevi – or his publisher – uses *Cabala*.<sup>14</sup>

But David Godwin prefers the simplest *Cabala*, for the reason that ‘[it is] the spelling that is to be found in most dictionaries of the English language’,<sup>15</sup> and therefore can be considered to be an English bastardization of the word. Whereas I personally agree with Crowley that *Qabalah* is most linguistically correct way of transliterating the Hebrew characters קבלה, the fact that *Cabala* is the most commonly and widespread

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<sup>8</sup> Cited in David Godwin, *Godwin's Cabalistic Encyclopedia: Complete Guidance to Both Practical and Esoteric Applications* (St. Paul, MN.: Llewellyn Publications, 2004), p. 63.

<sup>9</sup> Cited in Godwin, *Cabalistic Encyclopedia*, p. 63.

<sup>10</sup> Godwin, *Cabalistic Encyclopedia* p. 63.

spelling – even among non-occultists – makes me side with Godwin on this issue, and it is for this reason that I will use this spelling throughout this thesis.

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<sup>11</sup> Chic and Sandra Tabatha Cicero, who always sign their books together, are described by their publisher, Llewellyn, as “Senior Adepts of the Hermetic Order of the Golden Dawn”. They run a Golden Dawn temple in Florida which was legitimized by a consecration ceremony performed by the last important survivor of the original Stella Matutina, Israel Regardie, and work incessantly for the dissemination and understanding of traditional Golden Dawn material. At the time of writing, they had published 14 books, and are continuously planning, drafting or writing new volumes (personal communication, Saturday October 9, 2004, Theosophical Hall, Nottingham, U.K.)

<sup>12</sup> Melita Denning and Osborne Phillips also tend to write together, and as heads of the magical order of the Aurum Solis, also known as the Order of the Sacred Word, O.:S.:V.:, ‘a practical school of ceremonial magick [sic] rooted in the Western esoteric tradition.’ Founded in 1897, they perform a similar function of keepers of this Tradition as the Ciceros do for the Golden Dawn. On the Ogdoadic tradition and the Aurum Solis/ O.:S.:V.:, see Bill Whitcomb, *The Magician's Companion: A practical encyclopedic guide to magical & religious symbolism* (St. Paul, MN: Llewellyn Publications, 2001) *Magician's Companion*, 558; Nick Farrell, *Making Talismans: living entities of power* (St. Paul, MN: Llewellyn Publications, 2001), ‘Official website of the Aurum Solis’ in <http://www.aurumsolis.net/> (Accessed February 11 2005), ‘Aurum Solis?’ in <http://www.geocities.com/athens/atrium/6331/as.htm> (Accessed February 11 2005), ‘The Ogdoaic Notes’ in <http://members.cox.net/knoughis/timeline.html> (Accessed February 11 2005).

<sup>13</sup> Another follower of the Golden Dawn Tradition, the Briton Nick Farell is head of a Golden Dawn Temple in Nottingham, one of the very few Golden Dawn Temples currently working in the United Kingdom. (Personal communication, Saturday October 9, 2004, Theosophical Hall, Nottingham).

<sup>14</sup> Glazerson, *Music & Kabbalah* ; Aryeh Kaplan, *Meditation and Kabbalah* (York Beach, ME: Samuel Weiser, 1982); Pinson, *Kabbalah of Music* ; Halevi, Z'Ev Ben Shimon, *Introduction to the Cabala* (York Beach, ME: Weiser Books, 1991) [Originally published in 1972]

<sup>15</sup> Godwin, *Cabalistic Encyclopedia* p. 63.

## 3.2 How Cabala can be applied to musical parameters

### 3.2.1 Constituent parts of cabala

There are, according to modern magical thought and practice,<sup>16</sup> four constituent parts to Cabala:

**The Dogmatic Cabala** – which is the study of the mystical, speculative and philosophical written sources of Cabala, especially those authored by Jewish sages. These include books or collections such as the *Sepher ha-Yetzirah* (3rd century C.E.), *the Sepher ha-Bahir* (12th century C.E.), and the *Sepher ha-Zohar* (attributed to Simeon bar Yochai of the first century, but first published by Moses de Leon in the 14<sup>th</sup> century).<sup>17</sup> But the Cabalistic interpretation of other Jewish literature of religious importance, such as the Talmud and the Torah or Pentateuch is also considered part of the Dogmatic Cabala. The long article the Jewish Encyclopedia dedicates to cabala gives a comprehensive list of tracts and commentaries on dogmatic cabala which starts with the Book of Jubilees, from the period of the biblical Kings.<sup>18</sup> A very important constituent of Dogmatic Cabala is the glyph of the Tree of Life (*Otz Chaim* in Hebrew), which is a symbolic representation of the emanationist (and therefore Jewish Gnostic) theory dominant in cabalistic cosmology and theology.<sup>19</sup> Certain applications of the Tree of Life for musical purposes will be discussed later in this

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<sup>16</sup> The information for this paragraph has been compiled from Cicero & Cicero, *The Essential Golden Dawn*, pp. 167-178 and MacGregor Mathers, *Kabbalah Unveiled* pp. i-42.

<sup>17</sup> Dates taken from Godwin, *Cabalistic Encyclopedia* p. 274.

<sup>18</sup> Kohler, Kaufmann and Ginzberg, Louis, 'Cabala' in *Jewish Encyclopedia.com*, 2005. <http://www.jewishencyclopedia.com/view.jsp?artid=1&letter=C&search=Kabbalah> (Accessed 11 Dec. 2005).

<sup>19</sup> Frank, Daniel H. and Leaman, Oliver, eds., *The Cambridge companion to Medieval Jewish Philosophy* (Cambridge: Cambridge University Press, 2003).

chapter, and an illustration of its astrological and Hebrew alphabet attributions can be found later in the chapter, marked as figure 3.4.

**The Unwritten Cabala** – which is the correct and proficient *understanding* – in the mystical sense of experiential living-through and embodiment of an idea, a sort of *epiphany* – of the doctrines and concepts of Dogmatic Cabala, as well as a certain proficiency in the use and understanding of the Tree of Life, the principal symbolic aid of practical Cabala (see below). It is called *Unwritten* because, being a form of experiential and individual understanding, strictly it can not be communicated, only personally lived and experienced.

**The Practical Cabala** – which consists of ‘magical practices intended to produce specific results.’<sup>20</sup> For example, the drawing of talismans or chanting of magical names and words, as well as many several other techniques of ceremonial magic. This form of cabala is also called ‘Theurgic Cabala’,<sup>21</sup> from the composite Greek word *theourgía*, which is composed of the roots *Theos*, God, and *-ergos*, working.<sup>22</sup> It is therefore ‘God-working’, or, in more day-to-day terms, miracle working, or magic. The Practical Cabala mainly uses two symbolic levels for its operations: one is the Tree of Life, more related to Dogmatic Cabala and cosmology, and the other one is the Hebrew alphabet, which allows for the cross-reference numerological and textual exegesis operations of the Literal Cabala.

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<sup>20</sup> Tyson, appendix VII, ‘Practical Kabbalah’, of his edition of Agrippa’s *Three Books of Occult Philosophy: The Three Books of Occult Philosophy: A Complete Edition* (St. Paul, Minnesota [reprint 2004]: Llewellyn Publications, 1533) [1533], p. 762.

<sup>21</sup> Kohler & Ginzberg, ‘Cabala’ in *Jewish Encyclopedia.com*.

<sup>22</sup> Kohler, Kaufmann and Ginzberg, Louis, ‘Therugy’ in *Oxford Reference Online*, 2005. [http://www.oxfordreference.com/views/SEARCH\\_RESULTS.html?q=Theurgy&category=t27&ssid=141659097&scope=book&time=0.125122843128526](http://www.oxfordreference.com/views/SEARCH_RESULTS.html?q=Theurgy&category=t27&ssid=141659097&scope=book&time=0.125122843128526) (Accessed 13 Jan. 2005)

**The Literal Cabala** – consists of a series of techniques for altering and mutating words for various purposes, such as cryptography, comparison of terms, elaborate exegesis and interpretation, talisman construction or other uses in practical or magical Cabala. There are three main techniques in literal Cabala:

**1. Temurah.** Which are techniques of permutation, or interchanging, of the Hebrew letters: ‘According to certain rules, one letter is substituted for another letter preceding or following in the alphabet, and thus from one word another word of totally different orthography may be formed.’<sup>23</sup> Apart from substituting the letters for the ones preceding or following them, the technique of *Tziruph* ‘involves folding the Hebrew alphabet upon itself so that one half may be substitute for the other half.’<sup>24</sup> These are of course cryptographical techniques which may obscure or encode a text, but ‘a new and comprehensible word [may result,] which can be related to the original word to provide a new vantage.’<sup>25</sup>

**2. Notariqon.** This is ‘a qabalistic technique for deriving meaning by viewing words as acronyms of phrases and vice-versa’.<sup>26</sup> It is used, like gematria (see below) to find conceptual synonyms and relationships between words and phrases, which can sometimes be deliciously elaborate. There are two forms of notariqon: The first one is called *expansion*, whereby ‘a letter of a word is taken to be the first letter of another word, thus forming a coherent sentence.’<sup>27</sup>

MacGregor Mathers mentions an interesting example: the word בראשית,

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<sup>23</sup> MacGregor Mathers, *Kabbalah Unveiled*, p. 9.

<sup>24</sup> Whitcomb, *Magician's companion* p. 440.

<sup>25</sup> Whitcomb, *loc. Cit.*

<sup>26</sup> Whitcomb, *op. Cit.* p. 524

<sup>27</sup> Whitcomb, *op. Cit.* p. 440.

*Bereshit* “in the beginning”, which is the first word of the Hebrew version of Genesis, and therefore the first word of all the Torah. The word *Bereshit* can be interpreted as the notariqon or acronym of the phrase *Berashith Rahi Elohim Sheyequebelo Israel Torah*, “in the beginning the Elohim saw that Israel would accept The Law”, a very appropriate notariqon-derived phrase for the first word of the five books of The Law. The Renaissance cabalist Prosper Rugere (or Solomon Meir Ben Moses before his conversion to Christianity 1665), had a different view after his conversion, and suggested that *Bereshit* could also be interpreted as the notariqon of *Ben, Ruach, Ab, Shalomshethem Yechad Thaubodo* “The Son, the Spirit, the Father, ye shall equally worship Their Trinity”.<sup>28</sup>

Another of the techniques of notariqon is *condensation*, whereby ‘the initial (or sometimes last, or other) letter of each word in a sentence is taken to form a word which is the synthesis of the entire sentence’.<sup>29</sup> Whereas expansion is chiefly used in doctrinal and unwritten Cabala, condensation is used profusely in practical Cabala, or ceremonial magic. A very well known example is the name of God in the northern quarter for the Lesser Banishing Ritual of the Pentagram, one of the core rituals of the Golden Dawn tradition.<sup>30</sup> The name is אגלא, *Aglā*, a condensation of the phrase “*Ateh Gibor le-Olam Adonai*, “Thou art mighty forever, O Lord.”<sup>31</sup>

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<sup>28</sup> MacGregor Mathers, *Kabbalah Unveiled*, p. 8.

<sup>29</sup> *Ibid.*

<sup>30</sup> Regardie, Israel ed. *The Original Account of the Teachings, Rites and Ceremonies of the Order of the Golden Dawn* (Saint Paul, MN: Llewellyn Publications, 2002)

<sup>31</sup> Godwin, *Cabalistic Encyclopedia*, p. 10.

**3. Gematria.** This is ‘the technique of converting names or words into numbers in order to find meaning in their mathematical<sup>32</sup> relationships, working from the premise that words or phrases which add up to the same number are somehow related.’<sup>33</sup> In this sense, it can be considered as an elaborate form of numerology.<sup>34</sup> The origin of the word itself is Greek, and not Hebrew. MacGregor Mathers tells us<sup>35</sup> it ‘is a metathesis of the Greek γραμματεία’<sup>36</sup> (grammar), but Tyson disagrees, suggesting it comes from γεωμετρία (geometry), because ‘one word may be linked with another that has the same value’, and in this sense both words could be said to be in a “geometrical” relationship.<sup>37</sup>

The technique of gematria has important applications in all the other constituent parts of Cabala (dogmatic, unwritten and practical): In dogmatic Cabala, it allows the cabalist to find different interpretations to passages he might be studying, and the relationship between them. In practical Cabala, it can be used in generating sigils,<sup>38</sup> finding appropriate synonyms or acronyms for magical names or words the magician might wish to use (this related to notariqon), while

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<sup>32</sup> Or more generally numerological or arhythmological, as will be explained later.

<sup>33</sup> Whitcomb, *Magician's companion* p. 502.

<sup>34</sup> ‘Gematria was originally practiced with the Hebrew language, but the approach can be applied to any set of letters. The practice of gematria formed the early beginnings of numerology.’ Whitcomb, *Magician's companion* p. 502.

<sup>35</sup> Although Tyson insinuates that he might have copied the idea from Christian D. Ginsburg: *The Kabbalah*, first published in 1863, and therefore predating Mather's *The Kabbalah Unveiled* by 14 years. Tyson, appendix VII, ‘Practical Kabbalah’, pp. 762-772 of his edition of Agrippa's *Three Books of Occult Philosophy*, as cited above.

<sup>36</sup> MacGregor Mathers, *Kabbalah Unveiled*, p. 7.

<sup>37</sup> Agrippa, Ed. Tyson, *Three Books of Occult Philosophy*, p. 762.

<sup>38</sup> This will be dealt with at greater depth later.



in unwritten cabala ‘this technique can be viewed as a form of meditation, since the aim is not so much to discover the “true” meanings of words but rather to discern as many patterns and connections as possible.’<sup>39</sup>

### ***3.2.2 Numerology applied to music***

Clearly, it is gematria which offers the greatest potential for musical application, since it allows the conversion of text into numbers. Throughout history different types and guises of Pythagoreans and neo-Pythagoreans have always held that music can be thought of as being “sounding number”,<sup>40</sup> in the sense that rhythmic, harmonic, scalar, textural and generally most parameters of music can be thought of as proportional relationships of quantities, or as some have called them, “qualitative mathematics”, rather than the more mainstream quantitative branch of this discipline (mathematics as generally understood), which is usually more concerned with actual quantities than with the relationships between them.<sup>41</sup>

This also promises to be an interesting source of “musicalization” (or “sonification”, if we apply a term already in use) of numbers and the numeric values of sounds or

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<sup>39</sup> Whitcomb, *Magician’s companion* p. 502.

<sup>40</sup> For an account of these traditions see the chapter 1.

<sup>41</sup> For an impressive account on qualitative mathematics applied to music thought and extracts see Joscelyn Godwin, ed. *The Harmony of the Spheres: A Sourcebook of the Pythagorean Tradition in Music* (Rochester, VT: Inner Traditions, 1993) and J. Godwin, *Cosmic Music: Musical Keys to the Interpretation of Reality* (Rochester, VM: Inner Traditions, 1989).

written representations of spoken languages (alphabets).<sup>42</sup> This “sonification” is precisely the basis of all algorithmic composition techniques and much of the software designed to help in the use of these theories and techniques. What I am proposing in this chapter is basically the use of an ancient mystical numerological system – the Hebrew Cabala – as the source of musical material in very much the same way as other numerical series are used in contemporary composition<sup>43</sup> or indeed, as they have been used in the past.<sup>44</sup>

Originally gematria was developed to mathematically process Hebrew letters, but with time, and especially with the transition and adaptation of cabalistic ideas into the Western Graeco-Latin world of the Renaissance, techniques were developed to process other alphabetical systems as well – mainly Greek and Latin, but also Enochian<sup>45</sup> – in ways inspired by or related to cabalistic procedures. The reaction to Euro-centrism which started in the latter half of the twentieth-century has led more recent occultists to also explore the numerological interpretation of other alphabetic systems not so

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<sup>42</sup> On mathematics and music, see the edited volume Gerard Assayag, Hans Georg Feichtinger and José Francisco Rodrigues (Eds.), *Mathematics and Music: A Diderot Mathematical Forum* (Berlin: Springer, 2002)

<sup>43</sup> Delatour, Thierry, 'Molecular Music: The Acoustic Conversion of Molecular Vibrational Spectra', *Computer Music Journal*, 24/3 (2000), 48-68.

<sup>44</sup> Eberhard Knobloch, 'The Sounding Algebra: Relations Between Combinatorics and Music from Mersenne to Euler' in Assayag, Feichtinger and Rodrigues (Eds.) *Mathematics and Music* (Berlin: Springer, 2002), 27-48, and Catherine Nolan, 'Music Theory and Mathematics' in Christensen (Ed.) *The Cambridge History of Western Music Theory* (Cambridge: Cambridge University Press, 2002), 272-306.

<sup>45</sup> The *Enochian* alphabet is a magical alphabet channelled by the Elizabethan Magus John Dee and his seer the alchemist Edward [Talbot] Kelley during a spirit communication on the night of May 6, 1583. See the section 'Enochian Numerology', pp. 95-96 in Tyson's *Enochian Magic for Beginners: the original system of angel magic* (St. Paul, MN: Llewellyn, 1997), but especially Donald C. Laycock, *The Complete Enochian Dictionary: Dictionary of the Angelic Language as Revealed to Dr. John Dee and Edward Kelley* (York Beach, ME: Weiser, [1978], 1994).

closely related to the history of Western culture, or of Western or Hermetic magic in particular, which uses the techniques of literal Cabala.<sup>46</sup>

The so-called “Pythagorean table” now classically cited in all books on numerology, is the standard way in which Latin letters are transformed into the numbers from 1 to 9 (see tables 3.1 to 3.3). The Pythagorean Table works by assigning the letters of a given alphabet in their respective order to each of the nine digits, (considering 10 as one unit of tens, and therefore assimilating it to 1). It must be noted that different alphabets have different numbers of letters, and even the Latin alphabet has additions and variables which are linguistically specific, in the form of letter combinations – such as ch – or duplications – such as ll – and letters with diacritics – such as č, đ, ł or ñ – which certain authors, in certain languages and at certain points of history, have considered as letters in their own right. Obviously in all of these linguistically-adapted systems, as the number of letters in a particular alphabet change, so do the attributions of them to numbers: an insertion of one single letter moves all of the ones which follow it one space forward in the Pythagorean table. The more we advance in the alphabet (and therefore the more possibilities for interpolation we get), the more striking these inconsistencies will be (see tables 3.1 through 3.3.)

This of course makes the assignment of numbers to letters quite linguistically specific, and questions its universal validity. (Yet it must be pointed out that the assumption of systems of “universal validity”, just like all “universals”, especially in human and cultural constructs like language and writing, is a very problematic issue which will not be treated here).

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<sup>46</sup> In this respect see pp. 434-438 of the section on ‘Literal Qabalah’ in Whitcomb’s *The Magician’s companion*, where Arabic and Sanskrit gematria is discussed. Llewellyn, 2002).

As an example, I have included three different alphabetical systems all based on the Latin alphabet: the letters used in the English alphabet (table 3.1), the letters used in the Spanish alphabet as it was taught to me in the late 1970s (table 3.2) and the letters used in the Czech alphabet as taught to me in Prague in 2006 (table 3.3). Notice the different numerical attributions of any letter after the first major difference, after C: in the alphabet used in English, H corresponds to the number 8, while in the alphabet used Spanish it is assigned to number 9, and in the Czech alphabet it is 1.

If this is the case with the linguistic and regional variations one single alphabet which is in general considered to be quite stable and standardized, we can well imagine the problems of inconsistency when applying the Pythagorean numerology system to different alphabets not related to the Latin alphabet. Methodologically, this has been tackled in different ways by practicing numerologists: one interpretation is the culturally-specific, in which the original alphabet in whichever the word to be turned into numbers is used, and no transcriptions or translations from one alphabet to another are allowed; this gives rise to what in numerological circles is termed as “Greek Numerology” or “Enochian Numerology” or “Latin Numerology”, whichever the case might be. Another method is considering the basic sets of characters (as table 1 below, for the Latin alphabet) as the standard, and taking all combinations, duplications or diacritics as separate instances or different forms of the standard basic alphabet. Thus *ll* would correspond to two instances of the letter *l*, *ch* to an instance of *c* and another one of *h*, and *č* would be reckoned as an ordinary *c*. In this later interpretation these variant forms are *not* assigned a place in the Pythagorean table, so that the unmodified alphabet with only one character per numerical unit (as shown in

table 1) is considered as “the golden standard”. While this graphically seems to make some sense to the naked eye (in the sense that a *č* is “merely” a *c* with a diacritic on top of it, and a *ch* is a *c* plus an *h*), it is of course linguistically and phonologically incorrect.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
A	B	C	D	E	F	G	H	I
J	K	L	M	N	O	P	Q	R
S	T	U	V	W	X	Y	Z	

**Table 3.1:** The Pythagorean Table for the letters of the English alphabet.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
A	B	C	CH	D	E	F	G	H
I	J	K	L	LI	M	N	Ñ	O
P	Q	R	S	T	U	V	W	X
Y	Z							

**Table 3.2:** The Pythagorean Table for the letters used in the Spanish alphabet.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
A	B	C	Č	D	Ď	E	F	G
H	CH	I	J	K	L	M	N	Ň
O	P	Q	R	Ř	S	Š	T	Ť
U	ů, ú	V	W	X	Y	Z	Ž	

**Table 3.3:** The Pythagorean Table for the letters used in the Czech alphabet.

Other authors have expanded the notion of the Pythagorean Table even further: Whitcomb for example, has gone as far in this respect as to include in his book *The Magician's Companion* a section in his appendix on 'Literal Qabalah' (pp. 429-447) devoted to the decimal, hexadecimal, octal and even the binary ASCII codes for several letters and other typographical items (mainly punctuation), in order to expand on the idea originally proposed by the Pythagorean table of using the principles of gematria for alphabets different than Hebrew.<sup>47</sup> Hulse also explores Cuneiform, Arabic, Sanskrit, Tibetan and Chinese, as well as Greek and Latin.<sup>48</sup> In the particular case of Whitcomb, the different ASCII codes that arise from capital and small letters, as well as the use of punctuation marks (originally inexistent in Hebrew and Greek), each with its respective numerical correspondence in four different encoding systems, give his proposed ASCII numerology a flexibility much higher than that one that relies on the Pythagorean table – and at the same time risk becoming practically unwieldy due to its sheer size (see figure 3.1).

<sup>47</sup> Whitcomb, *Magician's companion* pp. 431-433.

<sup>48</sup> Hulse, David Allen, *An Encyclopedic Guide to the Sacred Languages & Magical Systems of the World. Book 1, The Eastern Mysteries, and Book 2: The Western Mysteries.* (St. Paul, MN: Llewellyn, 2002).

The ASCII Table

ASCII	DECIMAL	HEXADECIMAL	OCTAL	BINARY	ASCII	DECIMAL	HEXADECIMAL	OCTAL	BINARY
!	33	21	041	00100001	A	65	41	101	01000001
"	34	22	042	00100010	B	66	42	102	01000010
#	35	23	043	00100011	C	67	43	103	01000011
\$	36	24	044	00100100	D	68	44	104	01000100
%	37	25	045	00100101	E	69	45	105	01000101
&	38	26	046	00100110	F	70	46	106	01000110
'	39	27	047	00100111	G	71	47	107	01000111
(	40	28	050	00101000	H	72	48	110	01001000
)	41	29	051	00101001	I	73	49	111	01001001
*	42	2A	052	00101010	J	74	4A	112	01001010
+	43	2B	053	00101011	K	75	4B	113	01001011
,	44	2C	054	00101100	L	76	4C	114	01001100
-	45	2D	055	00101101	M	77	4D	115	01001101
.	46	2E	056	00101110	N	78	4E	116	01001110
/	47	2F	057	00101111	O	79	4F	117	01001111
0	48	30	060	00110000	P	80	50	120	01010000
1	49	31	061	00110001	Q	81	51	121	01010001
2	50	32	062	00110010	R	82	52	122	01010010
3	51	33	063	00110011	S	83	53	123	01010011
4	52	34	064	00110100	T	84	54	124	01010100
5	53	35	065	00110101	U	85	55	125	01010101
6	54	36	066	00110110	V	86	56	126	01010110
7	55	37	067	00110111	W	87	57	127	01010111
8	56	38	070	00111000	X	88	58	130	01011000
9	57	39	071	00111001	Y	89	59	131	01011001
:	58	3A	072	00111010	Z	90	5A	132	01011010
;	59	3B	073	00111011	a	97	61	141	01100001
<	60	3C	074	00111100	b	98	62	142	01100010
=	61	3D	075	00111101	c	99	63	143	01100011
>	62	3E	076	00111110	d	100	64	144	01100100
?	63	3F	077	00111111	e	101	65	145	01100101
@	64	40	100	01000000	f	102	66	146	01100110
					g	103	67	147	01100111
					h	104	68	150	01101000
					i	105	69	151	01101001
					j	106	6A	152	01101010
					k	107	6B	153	01101011
					l	108	6C	154	01101100
					m	109	6D	155	01101101
					n	110	6E	156	01101110
					o	111	6F	157	01101111
					p	112	70	160	01110000

ASCII	DECIMAL	HEXADECIMAL	OCTAL	BINARY
q	113	71	161	01110001
r	114	72	162	01110010
s	115	73	163	01110011
t	116	74	164	01110100
u	117	75	165	01110101
v	118	76	166	01110110
w	119	77	167	01110111
x	120	78	170	01111000
y	121	79	171	01111001
z	122	7A	172	01111010

**Figure 3.1:** The ASCII table of Whitcomb, for purposes of what could be perhaps dubbed as “Latin cyber-gematria” (taken from *The Magician’s Companion*, pp. 431-433).

### 3.2.2.1 Hebrew numerology (*gematria*) applied to music

But for the purposes of Hermetic Cabala, it is the Hebrew alphabet which is chiefly employed. I will now proceed to explain how Hebrew numerology works, so as to be able to apply the principles of *gematria* to the deduction of several musical parameters.

Hebrew, like Greek, does not have a separate set of graphic symbols which express numerals. Because of this, the letters are traditionally used as numeric signs. It is this use of the same graphic sign to express different concepts (phonetic, numerical and also the ancient hieroglyphic concepts which each letter represents) which allows a straightforward translation from one to the other.

Since the letter *Aleph* (א) is the first letter of the Hebrew alphabet, the number 1 is assigned to it. The letter *Beth* (ב) is the second letter, so it gets number 2. Thus the numbers follow the order of the alphabet by units until we get to letter number 10, *Yod* (י). The next letter after *Yod*, the letter *Kaph* (כ), is assigned number 20, and so the sequence continues by tens, until we reach letter number 90. Hereafter the sequence starts by hundreds until we reach the final letter of the alphabet, *Tav* (ת), which is assigned number 400. From here one we use the *final* forms of the letters that have two forms (*Kaph*, *Mem*, *Nun*, *Peh* and *Tzaddi*), which leads us all the way up to 900 (This will be expanded on table 3.4, below).



Hebrew letter	Transcriptions into Latin characters commonly used in the Hermetic Tradition <sup>50</sup>	Numeric Value	Form of letter when last in a word ( <i>final form</i> )	Value if final letter
א	A, E	1		
ב	B, (V)	2		
ג	G	3		
ד	D, DH	4		
ה	H	5		
ו	O, U, W, V	6		
ז	Z	7		
ח	Ch	8		
ט	T	9		
י	I, Y	10		
כ	K, Kh	20	ך	500
ל	L	30		
מ	M	40	ם	600
נ	N	50	ן	700
ס	S	60		
ע	A, AA, NGH	70		
פ	P, Ph	80	ף	800
צ	Tz, Tz	90	ץ	900
ק	Q, Qh	100		
ר	R	200		
ש	Sh, S	300		
ת	T, Th	400		

**Table 3.4:** Hebrew letters, their phonetic transcription into Latin characters, and their traditional numerical values, as they appear in most sources on Hermetic magic.<sup>51</sup>

<sup>50</sup> These are the transcriptions of the Hebrew letters into the Latin alphabet used in most Hermetic texts since Agrippa to the modern day. They are not always phonetically correct, as anyone familiar with the Hebrew tongue will immediately notice. I have compiled them from several sources, cited below, just as they appear, without correcting them for linguistic precision.

<sup>51</sup> Compiled from the following sources: Henry Cornelius Agrippa Von Nettesheim, *The Three Books of Occult Philosophy: A Complete Edition* (St. Paul, MN: Llewellyn Publications, [1533], 2004),

In the traditional Hermetic cabalistic system which is still widely in use within occulture, there is no single letter that represents any number above 900, though numbers above this limit may be expressed either by juxtaposition of letters, in a way very similar to the one used in the Roman numeration system, or by marking them with ‘a great character’, (i.e. using a larger typeface) for the thousands, as Agrippa suggests in chapter XIX of his *Second Book of Occult Philosophy*.<sup>52</sup> This is by no means an invention on the part of Agrippa, as it is often used in traditional cabalistic sources: for example, going back to the first word of the Pentateuch, בראשית, this word has a numerical value of 913 when all of its letters are added up together, but in gematria it is often assigned the number 2910, since, being the first word of the Torah, it is usually written with a large initial ב, like this: בראשית. In this case the ב doesn't have a value of 2, as when it is written with a small letter, but rather a value of 1000 times its normal value, as is traditional with large Hebrew characters. Thus, the sum of the letters in the word is not  $2 + 200 + 300 + 10 + 400 = 912$ , as when it appears in any other instance in the *Torah*, but rather  $2000 + 200 + 300 + 10 + 400 = 2910$ , because of the large ב.

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p. 763; Chic Cicero and Sandra Tabatha Cicero, *Self-Initiation into the Golden Dawn Tradition* (St. Paul, MN.: Llewellyn Publications, 2003) p. 72; S.L. MacGregor Mathers, *The Kabbalah Unveiled* (York Beach, ME.: Samuel Weiser, [1888], 1992), pp. 3, 9; Farrell, *Making Talismans* pp. 46-7.

<sup>52</sup> Agrippa Von Nettesheim, *Occult Philosophy*, ed. Tyson p. 310: ‘every one of them [the letters] if they be marked with a great character, signifies so many thousands’.

### 3.3 Theories of Cabalistic Pitch

#### 3.3.1 Extracting pitch series from words, names, phrases or magical *sigilla*

By using any of the tables of numerical correspondences of letters – whether Latin, Greek, Hebrew, Enochian or any chosen alphabet – to interpret letters as numbers and at a later stage numbers as pitches, one can expand on the widely used practice of assigning letters of the alphabet to notes of the diatonic – and sometimes the chromatic – scale. This latter technique was widely used in the Romantic era, especially by composers from central or northern Europe who culturally and customarily used letters for pitch class names, instead of the more southern-European style of *Solfeggio* introduced by Guido of Arezzo (ca. 991–2; d. after 1033) based on the Hymn to St. John the Baptist *Ut queant laxis* attributed to Paolo Diacono (ca. 720 - 799).<sup>53</sup>

This method of letter-naming the pitches as used in the Western classical tradition is inherently limited by the fact that in the Anglo-Saxon system of note-naming – which is the one normally used for the practice of “musical acrostics” – only the letters C, D, E, F, G, A, B and sometimes H are used, with the addition of a suffix *-as* after the main letter in case the note is flattened, and *-is* in case it is sharpened.<sup>54</sup> This of course leaves out the other 14 or 15 letters of the alphabet, and whereas the name *Bach* can

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<sup>53</sup> Jander, Owen, 'Solfeggio' in L. Macy (Ed.) Grove Music Online, 2006. <http://www.grovemusic.com> (Accessed 13 Jan. 2005) and Palisca, Claude V., 'Guido of Arezzo' in L. Macy (Ed.) Grove Music Online, 2006. <http://www.grovemusic.com> (Accessed 13 Jan. 2005). 'Ut Queant Laxis' <http://www.utqueantlaxis.com/> (Accessed 13 Jan. 2006).

<sup>54</sup> This is used chiefly in the German-speaking countries.

be easily rendered into notes, and has been done widely,<sup>55</sup> other names or words required strange and sometimes imaginative compromises of this limited system.<sup>56</sup>

Instead of this traditional method of musically ciphering text into music, which as explained above leaves several letters unaccounted for, applying the principles of numerology would guarantee that each letter of any given text got assigned a separate numerical value. The result would be a numerical series in the place of the word or phrase. This is a quite straightforward method when using the Pythagorean table or any numerological system based on it, like Greek or Enochian numerology. When using Hebrew, the traditional numerical equivalencies shown on table 3.4 can be applied instead of the Pythagorean model.

Thus, for example, the first word of the Bible, *Bereshit*, בְּרֵאשִׁית, would be equivalent, in Hebrew numerology, to the numerical series 2, 200, 300, 10, 400, unless of course it was the very first word of the *Torah*, in which case 2 must be substituted by 2000, as explained above.

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<sup>55</sup> Robinson, S.W., *The B–A–C–H Motive in German Keyboard Compositions from the Time of J.S. Bach to the Present* (unpublished thesis, University of Illinois, Illinois, 1972); Boyd, Malcom, 'B–A–C–H' in L. Macy (Ed.) *Grove Music Online*, 2006. <http://www.grovemusic.com> (Accessed 13 Jan. 2005)

<sup>56</sup> Schumann for example, in translating the names of the female dedicatees of some of his piano pieces into pitches, had to compromise on this. I personally have suffered from this limitation quite frequently, as I have throughout my career as a composer had a long-standing interest in transforming words and names into pitch rows. I have had to resort to, for example, combine the *solfeggio* system with the Anglo-Saxon one, in order to get the L from the *la*, the I or S from the *si*, the R from the *re*. Even combining the two note-naming methods, several letters are left out, which doesn't happen when a system of numerological letter-values such as gematria is used, whether based on Latin characters or on any other types of alphabet.

Whichever numerological method one uses, the important thing is to arrive from a text to a numerical series. By “translating” these numerical series into pitches through various methods one could transform them into musical material of several kinds, and this has been done widely before.

What I intend to propose in the remainder of this chapter is how to *cabalistically* do so, that is, how to apply principles of *gematria* to the translation of cabalistic texts, or to texts naturally subject to cabalistic processes (such as names of Archangels or Angels in the Judeo-Christian tradition). Other materials closely related to Jewish Mysticism could also be quite congruently processed in this way, and of particular interest for the purposes of this thesis is the processing of Hermetic materials, textual as well as numerical, astrological or alchemical, for, as will be explained later, the Hebrew letters not only have numerical associations, but others at different levels as well.

To exemplify the multivalence of the Hebrew alphabet and how it can be used as a versatile bridge to translate other various important constituent aspects and practices of the Hermetic Tradition into musical material, I will now seemingly digress into the discussion of this process starting from seals of spirits, or *sigils*, common in the Hermetic tradition, especially in its cosmology and magical practices.

I say I *seemingly* digress because, as I hope will be clear by the end of the section, the discussion of this particular aspect of transformation of Hermetic material into musical pitch will show very clearly how the processes of cabala can be applied to material which at first sight seems totally un-related to text or numbers, which are

ostensibly the most straightforward applications of *gematria*. As I hope to show, cabalistic procedures, when applied to music, transcend these apparent limitations.

### 3.3.2 Extracting pitch series from the magical sigils of the Hermetic Tradition

In Hermetic magic, one of the conditions of communicating with spiritual entities has always been to know their individual signs and signatures,<sup>57</sup> also known by their Latin names, *sigillum*, or *sigilla* in the plural.<sup>58</sup> As a result, there is an enormous corpus of such sigils in all manuals and books dating from the later middle ages which deal with spirit conjuration. Sigils are also included even in those books from this period that vehemently reject conjuration, considering it dangerous – both physically and spiritually, for the soul’s salvation – and accordingly recommend more contemplative forms of meditation on the natural spheres of consciousness from which the magician wishes to gain knowledge.<sup>59</sup>

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<sup>57</sup> The word *sigil* is also used in occult circles in the sense of a personal signature: Whitcomb, *Magician's Companion* p. 461. An expert in spirit evocation, for example, tells us in his instruction manual to this technique that once a spirit has appeared before you after a successful evocation, one should ‘ask the entity to sign its name in your [evocation] book with an astral impression.’ Konstantinos, *Summoning Spirits: The Art of Magical Evocation* (St. Paul, MN: Llewellyn Publications, 2002), p. 142. This ‘signature’ is referring precisely to the sigil, although in the specific passage discussed the sigils discussed are not derived from the planetary squares, but from the Rosy-Cross Lamén, which for the sake of brevity will not be discussed in this chapter.

<sup>58</sup> The name *sigillum*, or in the plural *sigilla*, is consistently used in Hermetic literature, along with their English translation *sigil*. The word means ‘stamped or embossed figure’ in Latin. John C. Traupman, *The New College Latin & English Dictionary* (New York: Bantam Books, [1966], 1995), p. 388.

<sup>59</sup> This is the preferred method of what the renaissance magicians called ‘Natural Magic’, which was deemed ‘natural’ as it sought to contact the intelligences present in visible natural phenomena, as opposed to contacting the spirits or entities of other spheres or levels of existence, which was the area of ‘Spiritual Magic’. Marsilio Ficino, *Three Books on Life* (Tempe, AZ: The Renaissance Society of America, 1989), edited and translated by Carol V. Kaske, and John R. Clark. See also Daniel Pickering Walker, *Spiritual and Demonic Magic from Ficino to Campanella* (Pennsylvania: Pennsylvania State University Press, [1958], 2000), first published 1958.

The importance of the sigils in establishing this communication or communion with the spirits or spheres of consciousness is explained by the ‘Law of Magical Names’, by which ‘in magical symbol systems, a name *is* the thing named.’<sup>60</sup> Since the sigils are sometimes an abbreviation and sometimes just a signature that the entity has proposed for its name, they constitute a visual rendering of the True Name of the spirit, therefore constituting the closest a magician can get, in terms of signs, to the true nature of the entity.<sup>61</sup>

### **3.3.2.1 Planetary Seals**

‘Planetary Seals’ is the name given to certain of these linear designs that have occurred in the literature of the Western Esoteric Tradition – mainly the Hermetic Tradition – since the early sixteenth century, when they appeared for the first time in their modern form in the monumental *De Occulta Philosophia Libri Tres* (1533) by the German scholar and magician Henry Cornelius Agrippa of Nettesheim (1486-1535).<sup>62</sup> Antecedents of them appear in late medieval cabalistic and magical writings, and their final design had been prefigured by Agrippa’s mentor Abbott Johannes Tritemius (1462-1516) in his works *Polygraphiae* (1508), *De septem secundeis id est intelligentiis sive spiritibus orbes post deum movientibus* (ca. 1508), *Veterum sopherum sigilla et imagines magicae* (pub. 1612) and *Steganographia, hoc est, ars*

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<sup>60</sup> Whitcomb, *Magician's Companion* p. 16. Emphasis by the author.

<sup>61</sup> Umberto Eco, *Signo* (Barcelona: Editorial Labor, [1973], 1994).

<sup>62</sup> For modern editions of this work see Heinrich Conrelius Agrippa Von Nettesheim, *De Occulta Philosophia Libri Tres* (Boston, MA.: Brill Academic Publishers, [1533, Cologne], 1992), in Latin and English, edited by Vittoria Perrone Compagni, and Agrippa Von Nettesheim, *Occult Philosophy*, ed. Tyson, in English only, probably translated by James Freake in 1651, edited and annotated by Donald Tyson.

*per occultam scripturam animi sui voluntantem absentibus aperiendi certa* (ca. 1500).<sup>63</sup>

Therefore, it was Agrippa who established the currently accepted seals of the archangels, angels, spirits and intelligences of the planets, as well as the ‘general’ sigils of the planets themselves, as they have been used and passed on by Hermetic magicians since the sixteenth century up to our days. Indeed almost every publication dealing with Hermetic magic – and especially with planetary and talismanic workings – that has appeared since Agrippa’s *Occulta Philosophia* has either copied the magical squares he puts forward with varying degrees of accuracy,<sup>64</sup> or has proposed minor modifications or corrections to his system that do not affect its integrity in any important way.<sup>65</sup>

There are various types of sigils or signatures used to represent the names of spiritual entities of the Western Esoteric Tradition (see figure 3.2), but the ones that will be

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<sup>63</sup> From the entry devoted to Johannes Tritemius in Donald Tyson’s Biographical Dictionary at the end of his edition to Agrippa, *Occult Philosophy*, p. 833.

<sup>64</sup> One such publication in which the magic squares and seals do not match Agrippa’s entirely is reputed to be the first book dealing with Hermetic magic originally written and printed in the English language: Francis Barrett’s ‘The Magus’, published in London in 1801. There is still some academic controversy regarding the extent to which this book is an incomplete and un-acknowledged free translation – and in some sections even a transcription – of Agrippa’s *Occulta Philosophia*, or rather an important contribution to the development of the Hermetic Tradition in Great Britain. See Alison Butler, ‘Beyond Attribution: The Importance of Barrett’s Magus’, *Journal for the Academic Study of Magic*, 1/1 (2003), 7-32.

<sup>65</sup> One example of such corrections can be found on Farrell, *Making Talismans*, p. 121, where the author suggests that the seals of the Moon, Venus and Mars as proposed by Agrippa have been transmitted incorrectly, either intentionally or through the uncritical repetition and transmission of typographical errors edition after edition, and he proposes a new seal for each of these planets, corrected according to the system of their design. Donald Tyson also effects some corrections on the gematria of the names for Mars in his fifth appendix to Agrippa’s work. (*Occult Philosophy*, p. 748).

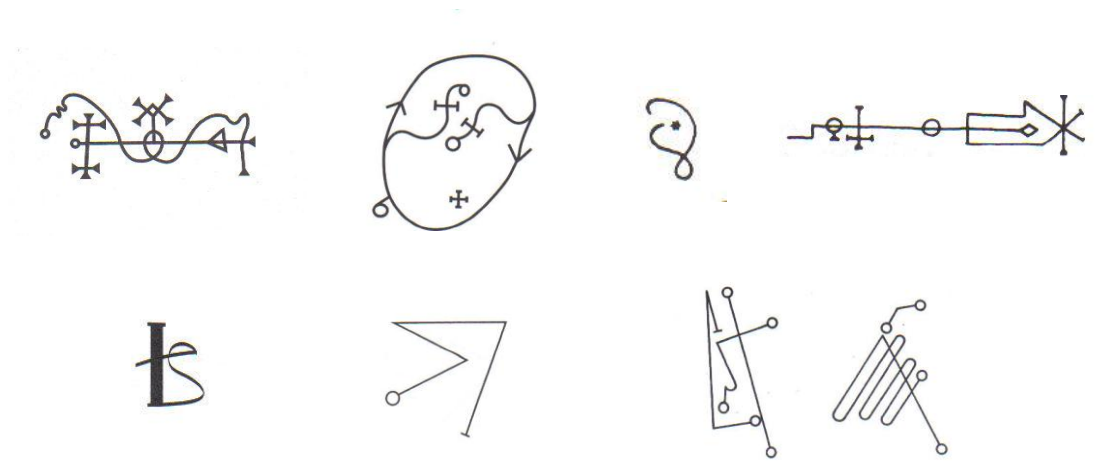


discussed in this section are those that are characteristically composed of straight lines united by angles, and only very rarely contain curves, which, if they occur at all, tend to be very short. In figure 3.2, sigils of this type correspond to the last three examples shown in the second row. They are also traditionally drawn with one circle at one of their ends, and a very small perpendicular line at the other end. The methods that will be suggested in this paper to extract pitch rows from the magical *sigilla* are based on these kinds of sigils, for they represent a linear design drawn with the aid of certain cryptographic procedures, which ultimately contain the name of the spiritual entity, sometimes completely spelled out and sometimes slightly permuted through the various cryptographic methods of literal cabala.<sup>66</sup> Other types of sigils also represent the entity and are said to be connected to its energy pattern, but are not directly derived from its name, rather produced in other ways, mostly not dependent on the existence of a previously determined grid, which is the basis of the methods I will be discussing here.<sup>67</sup> Therefore these kinds of sigils are not useful when trying to apply the methods I am proposing, and will not be discussed here.

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<sup>66</sup> The permutation tradition of cabalistic *Temurah* has a wealth of these cryptographic techniques, such as the Right, Averse and Irregular Tables of Commutations, the Table of the Combination of the Tziruph, The Cabala of Nine Chambers and the *Thasharaq*. For further details on these see MacGregor Mathers, *Kabbalah Unveiled* , pp. 9-11.

<sup>67</sup> Tyson, loc. cit.



**Figure 3.2:** Several types of sigils or signatures of spiritual entities in the Western Esoteric Tradition.

These linear designs are, as a recognized Hermetic magician of the twenty-first century states, ‘a way of refining and focusing the energy generated by magic squares.’<sup>68</sup> They do so by ‘linking the energy into a clear pattern. This pattern, if drawn correctly, links all the numbers into an intense unity.’<sup>69</sup> Another modern occult source tells us that ‘in magical terms, a sigil is a (unitary) glyph derived from a name, a word, or a magical formula by means of a direct analogical process (such as numerical conversion and tracing upon magic squares).’<sup>70</sup>

Both the sigils and the squares upon these sigils are drawn, and from where they are derived, are called ‘planetary’ because they are based on certain mathematical and symbolic ordering of letters/numbers.<sup>71</sup> This ordering of the letters/numbers is carried

<sup>68</sup> Farrell, *Making Talismans* p 148.

<sup>69</sup> Ibid.

<sup>70</sup> Whitcomb, *Magician's Companion* p. 461.

<sup>71</sup> In Hebrew, the language in which most magical squares appeared originally, letters have a numerical value, so numbers and letters are represented by the same signs, and therefore are interchangeable. This is why I use the slash (/) instead of the words *and* or *or*, since the Hebrew signs are polyvalent and can

out over the grids of certain magical squares, which correspond to each of the seven ancient planets known before the more powerful telescopes and astronomical data of the so called 'Age of Reason' made the observation or calculation of the positions of the three outer planets possible (Uranus in 1781, Neptune in 1846 and Pluto in 1930).<sup>72</sup> Before that, only the planets observable with the naked eye were known, and only they were used in astrology and magic, and thereby also in magic squares, which share ground with mathematics, magic and astrology.

In order to understand the design of the planetary seals and the way in which I propose they can be used as a source of tonic material, we must first refer to the magic squares from which they are derived, and briefly to the theory of magic squares in general.

### ***3.3.2.2 Magic Squares***

At first sight, a magic square is a two-dimensional square grid into which Hebrew letters or positive integers have been placed in no apparent order.<sup>73</sup> Yet under close examination the structure in which the literal or numeric units were placed within the

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refer to both symbols of numbers and representations of phonemes at the same time. As has been explained above, this is actually the basis of cabalistic numerology.

<sup>72</sup> Annie Lionett, *The Astrology Directory* (Hoo, Kent: Grange Books, 2004) pp. 110-18.

<sup>73</sup> An integer being 'one of the "whole" numbers' Christopher Clapham, 'Integer' in Clapham (Ed.) *The Concise Oxford Dictionary of Mathematics*, 1996.

<http://www.oxfordreference.com/views/ENTRY.html?subview=Main&entry=t82.e805> (Accessed 1 Nov. 2004), Christopher Clapham, 'Magic Square' in Clapham (Ed.) *The Concise Oxford Dictionary of Mathematics*, 1996.

<http://www.oxfordreference.com/views/ENTRY.html?subview=Main&entry=t82.e805> (Accessed 11 Feb. 2004 2004)

square in the first place is revealed, as well as other of their various interesting mathematical properties, some of which will be discussed later.

One mathematical definition of a magic square is this: ‘A magic square is a square array of numbers consisting of the distinct positive integers  $1, 2, \dots, n^2$  arranged such that the sum of the  $n$  numbers in any horizontal, vertical or *main* diagonal line is always the same number.’<sup>74</sup> The number  $n$  of the above formula also determines the number of columns and rows of the square.<sup>75</sup> The scholar of western occultism Donald Tyson defines them in less technical terms thus: ‘A magic square in its purest form may be defined as a series of consecutive numbers beginning with one, which is arranged in a square grid so that each row, column and diagonal of that grid has an equal sum.’<sup>76</sup> This sum is referred to both in the Hermetic Tradition and in modern mathematical theory as the square’s ‘magical constant’,<sup>77</sup> and is defined mathematically thus:<sup>78</sup>

$$M(n) = \frac{1}{n} \cdot \frac{n^2(n^2 + 1)}{2} = \frac{n^3 + n}{2}$$

Where  $M$  is the magical constant and  $n$  is the number of rows and columns of the grid.

**Equation 3.1:** Equation for calculating the magical constant of a magic square.

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<sup>74</sup> Eric W. Weisstein, 'Magic Square' in *MathWorld - A Wolfram Web Resource*, <http://mathworld.wolfram.com/MagicSquare.html> (Accessed 13 Oct. 2004).

<sup>75</sup> Christopher Clapham, 'Magic Square' in *The Concise Oxford Dictionary of Mathematics*, 1996. <http://www.oxfordreference.com/views/ENTRY.html?subview=Main&entry=t82.e805> Accessed 11 Feb. 2004

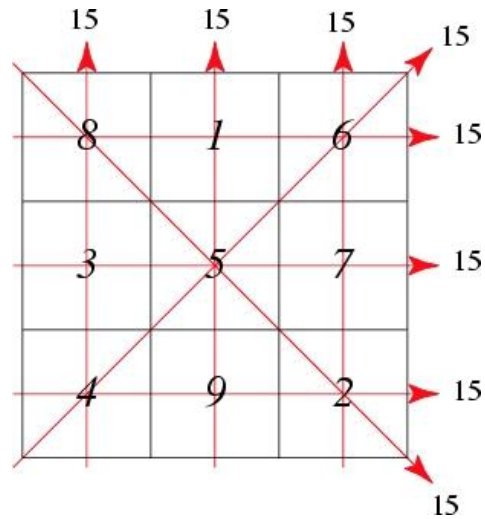
<sup>76</sup> *Occult Philosophy* Agrippa Von Nettesheim, *Occult Philosophy*, ed. Tyson p. 733.

<sup>77</sup> Weisstein, *ibid.*

<sup>78</sup> H Danielsson, 'Magic Sum' in *Magic Squares*, [www.magic-squares.de](http://www.magic-squares.de) (Accessed 20 Feb. 2005).

For an example of a magical square of order 3 and the calculation of its magical constant see figure 3.3

below:



**Figure 3.3:** A magical square of the order 3 with a Magical Constant of 15.<sup>79</sup>

The 'order' of square refers to the number of minor squares that make up each of the axes of its grid, or, in the mathematical definition mentioned above, the number  $n$ . A magic square of *order 3* would be a grid composed of 3x3 squares, an *order 4* magic square would be composed of 4x4 squares, and so

on.<sup>80</sup>

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<sup>79</sup> From Weisstein, *ibid.*

<sup>80</sup> H. Danielsson, 'Magic Sum' in *Magic Squares*, [www.magic-squares.de](http://www.magic-squares.de) Accessed 20 Feb. 2005)

The *order* of magical squares (that is, how many smaller squares make up each of its sides) that are attributed to each of the planets correspond to their traditionally accepted cabalistic attributions, and are consistent in all the literature of the Hermetic tradition since the inclusion of Cabala into its corpus by the later half of the fifteenth century, by Raimund Lull and especially Pico della Mirandola.<sup>81</sup>

The ordering and numeration of the ancient planets varies according to the source and specific magical tradition, yet in the Hermetic Tradition they are consistently ordered in the same way as in cabalistic theory, from most outer to most inner, meaning from the most (apparently) distant to the Earth to the closest, as befits the geocentric worldview in which these systems were originally developed.<sup>82</sup> They are, from outermost to innermost, or from farthest to closest: Saturn, Jupiter, Mars, Sun, Venus, Mercury and Moon.

The basic cabalistic numeric attributions of the ancient planets – based on their positions on the cabalistic tree of life, shown in figure 3.4 below – are as follows: 3 for Saturn, 4 for Jupiter, 5 for Mars, 6 for the Sun, 7 for Venus, 8 for Mercury and 9 for the Moon.<sup>84</sup> Thus, all magic squares of order 3 are attributed to Saturn, those of order 4 are attributed to Jupiter, and so forth until we reach the Moon, to which magical squares of order 9 are assigned. For the purposes of Hermetic theory, no magic squares above order 9 are used; though it could be argued that theoretically order 10 squares would correspond to the Earth, since the four elements and all

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<sup>81</sup> Frances Yates, *Rosicrucian Enlightenment* (London: Routledge, 1986), p. xii.

<sup>82</sup> Jamie James, *The Music of the Spheres: Music, Science, and the Natural Order of the Universe* (London: Little, Brown and Company, 1993).

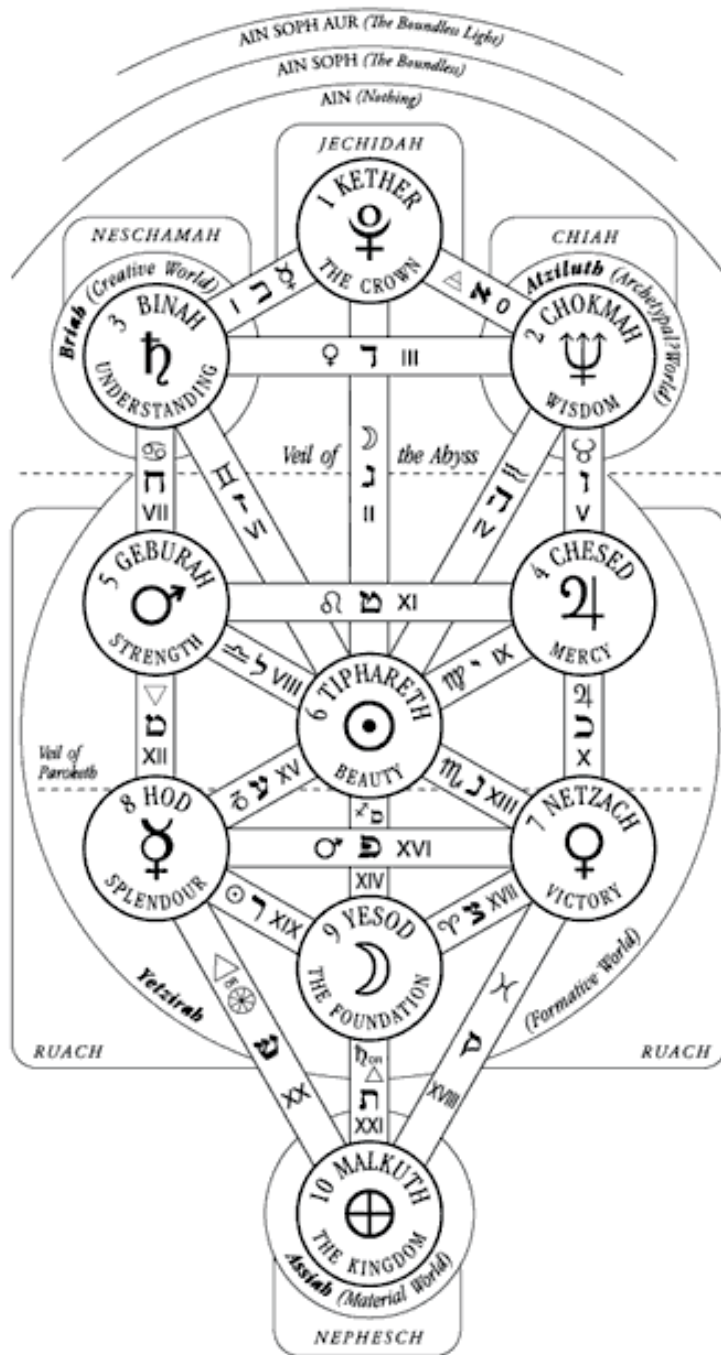
<sup>84</sup> Cicero and Cicero, *Self-Initiation*.

earthly manifestations of them are ascribed to Malkuth, the tenth Sephira or sphere of the cabalistic tree of life.<sup>85</sup> Yet this has not been used traditionally in Hermetic magical and astrological theory.<sup>86</sup>

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<sup>85</sup> Dion Fortune, 'Mystical Kabala' in PDF file from <http://www.hermetics.org/ebooks.html>, (Accessed 20 Feb. 2005), chapter 25 pp. 265-96. See also Z'Ev Ben Shimon Halevi, *Introduction to the Cabala* (York Beach, ME: Weiser Books, [1972], 1991).

<sup>86</sup> Agrippa Von Nettesheim, *Occult Philosophy*, ed. Tyson pp. 733-51.



**Figure 3.4:** The cabalistic Tree of Life with its astrological correspondences

(the symbols at the centre of the spheres).<sup>87</sup>

<sup>87</sup> Illustration extracted from the article 'Tree of Life' in *Thelemopedia: The Encyclopedia of Thelema & Magick*, [http://www.thelemopedia.org/index.php/Tree\\_of\\_Life](http://www.thelemopedia.org/index.php/Tree_of_Life) (Accessed Feb. 27 2007).



### 3.3.2.2.1 Origin of Magic Squares

The first documented appearance of magic squares occurred in China at the end of the Chou Dynasty (951-1126), although there is a legend that places the revelation of the first square to the Emperor Yu by a heavenly-sent turtle that had some peculiar patterns on its shell almost three thousand years before, in 2200 B.C.E. This magical square is known as the Lo Shu square.<sup>88</sup> In the West the Arabs used them as early as the ninth century, as an aid to their astrological work, and in the Judeo-Christian world they appear for the first time the eleventh century in a work by Abraham ben Ezra (1089-1164). Yet it was through the incorporation of Hebrew Cabala into Hermeticism that they entered the mainstream of Western Esotericism in the fifteenth century.<sup>89</sup> They have also been found in India, where they are carried as silver plate amulets, and in Malaysia,<sup>90</sup> so their occurrence is, if not universal, at least documented in Asia, the Middle East, North Africa and Europe, that is to say, in the so called 'Old World'. During the Middle Ages and the Renaissance they were used in Europe as diagrams for planetary and spiritual magic, but also as amulets, as they embody the properties and the vibrations of the planets which they represent and therefore could bestow their influence on those who carried a physical representation of the squares with them.<sup>91</sup>

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<sup>88</sup> Karpenko, Vladimir, 'Magic Squares in European Mysticism', *Hamdard Medicus, Quarterly Journal of Science and Medicine*, 34/2 (1985), 39-48

<sup>89</sup> Frances A. Yates, *The Occult Philosophy in the Elizabethan Age* (London: Routledge & Kegan Paul, 1979), especially chapters 2 & 3 (pp. 17-28).

<sup>90</sup> Walter William Skeat, *Malay Magic* (New York: Dover Publications, [1900], 1967), pp. 555-58.

<sup>91</sup> In the display case labelled 'Magic, Mystery and Rites' at the British Museum, very appropriately included in the exhibition room called "The Enlightenment", one can find, only a few feet away from John Dee's fabled instruments and aids for spirit conjuration, two numeric planetary squares engraved on metal bases, one of them misleadingly a disk, which seem to have been carried as amulets or worn as magical pendants. Private visit, February 20, 2005.

### 3.3.2.2.2 Numeric and Literal Magic Squares

By glancing at sources from the Western esoteric tradition it would also seem at first sight that there are two distinct classes of magical squares: those containing Hebrew letters in their inner squares, and those that include numbers: never have I seen a magic square that mixes both of them in the same diagram, and there seems to be a tacit agreement for consistency in this matter. In reality, both types of magic square are of the same class, since in Hebrew script letters are traditionally used as numeric signs, so they might be easily translated from one to the other in the way explained in section 3.2.2.1, Hebrew numerology (Gematria) applied to music.

This equivalence of Hebrew letters to numbers is the basis of literal Cabala and *gematria*, whereby words, phrases and whole sentences may be transformed into numerals and compared, equated and processed mathematically according to their numeric value in various different and sometimes complex ways.<sup>93</sup> The Hermetic Tradition has readily employed the possibilities of these letter/number correspondences, and the capacity of this system to equate words and phrases to numerical series or mathematical operations derived there from.<sup>94</sup>

This also promises to be an interesting source of ‘musicalization’ (or ‘sonification’, if we apply a term already in use), of numbers and the numeric values of sounds of spoken languages, since the operation of various parameters of music can be expressed, as has been done by many authors and composers in the past, as

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<sup>93</sup> MacGregor Mathers, *Kabbalah Unveiled* (York Beach, ME: Samuel Weiser, 1992).

<sup>94</sup> David Godwin, *Godwin's Cabalistic Encyclopedia: A Complete Guide to Cabalistic Magick* (St. Paul, MN.: Llewellyn Publications, 1994).

mathematical relationships.<sup>95</sup> This is precisely the basis of all algorithmic composition techniques and much of the software designed to help in the use of these theories and techniques. I am proposing in this chapter is basically the use of an ancient mystical numerological system – Cabala – as the source of musical material in very much the same way as other numerical series are used in contemporary composition<sup>96</sup> or indeed, as they have been used in the past.<sup>97</sup>

### **3.3.3 Transforming the numbers or letters of magical squares into pitches**

The mathematical properties of magical squares are various and fascinating, yet they will not be discussed here, as they lie out of the scope of this paper.<sup>98</sup> In terms of musical material though, they present with possibilities of serialization of all musical parameters in the manner of integral serialism,<sup>99</sup> but most conspicuously of rhythm and pitch. In this section I will propose seven methods for transforming magical squares into pitches, four based on a numerical approach, and three on an alphabetic approach. In the latter a system of symbolic correspondences and attributions of the Hebrew letters are taken into account following the Hermetic doctrine of correspondences.<sup>100</sup>

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<sup>95</sup> On mathematics and music, see the edited volume Assayag, Feichtinger and Rodrigues (Eds.), *Mathematics and Music*

<sup>96</sup> For example Delatour, Thierry, 'Molecular Music: The Acoustic Conversion of Molecular Vibrational Spectra', *Computer Music Journal*, 24/3 (2000), 48-68

<sup>97</sup> Knobloch, 'The Sounding Algebra: Relationships Between Combinatorics and Music from Mersenne to Euler, in *Mathematics and Music*, pp. 27-48, and Nolan, 'Music Theory and Mathematics' in *The Cambridge History of Western Music Theory*, pp. 272-306.

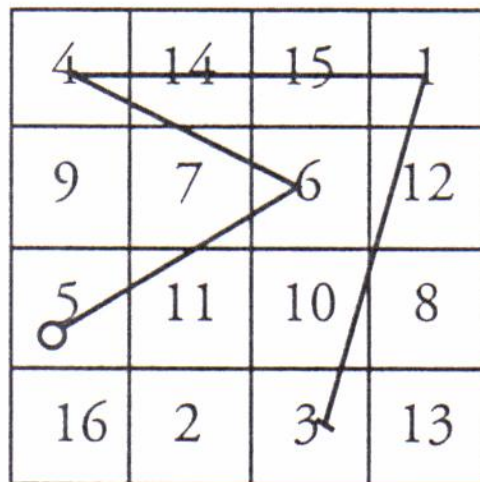
<sup>98</sup> Sandrach, Nineveh. *Occult Encyclopedia of Magic Squares: Planetary Angels and Spirits of Ceremonial Magic* (Burnaby: Ishtar Publishing, 2009).

<sup>99</sup> David Cope, *Techniques of the Contemporary Composer* (New York: Schirmer, 1997), pp. 66-70

<sup>100</sup> Whitcomb, *Magician's Companion* pp. 13-14.

### 3.3.3.1 The numeric approach and some proposed methods for applying it

I will start with the numeric approach, since it is in principle the most accessible to those not familiar with literal Cabala or the Hebrew language. The principle is very simple: If we take the numbers in the grid as units of *something*, and read the planetary seals as lines connecting these units in a linear way (as in figure 3.5), we have as a result rows of musical material derived from these units, generating series or lines of it. As this part of the thesis deals exclusively with the derivation of tonic material, I will limit the musical material derived from the sigils to pitches and not to rhythms or any other musical parameters, which I plan to discuss in further sections (from 3.4 onwards). In this case then, the seals commonly found inscribed over planetary magical squares would give us pitch rows.



**Figure 3.5:** Seal of the Spirit Hismael drawn over the planetary square of Jupiter.<sup>101</sup>

<sup>101</sup> Farrell, *Making Talismans*, p. 123.

Now, what do these numbers represent, in units? That is up to the composer or theorist to decide, as this is a creative proposal, not a quantitative one. They could be made to represent a number of things, of which I put forward a few proposals here:

They could represent a number of semitones from a chosen pitch (a tonal centre, tonal origin, scalar starting point, or other starting point that fits the tonal or scalar theory used as a framework for the work), considering ‘interval 1’ as the unison, not a semitone above the fundamental. This is so because in Hebrew numerology there is no number 0, so this does not correspond to the classic numbering of intervals used in post-tonal theory, which considers the unison ‘interval 0’.<sup>102</sup> If this was not done, the fundamental note of the system would never be enunciated in the material, and would be a hidden or silent starting point. This, of course, is also an option that the composer might wish to consider.

Notice that in order to keep octave equivalencies of pitch names, if that is desired, the negotiating of numbers higher than 11 in the magical squares of order higher than 3 could be done either by

- a) the application of mathematical or *arithmological* (i.e. numerological) operations performed on these numbers to reduce them so that the result is limited to one octave,<sup>103</sup> or

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<sup>102</sup> Lester, Joel, *Enfoques analíticos de la música del siglo XX* (Madrid: Akal, 2005) [1989].

<sup>103</sup> Such as the so called ‘theosophical reduction’, which reduces numbers higher than 10 to a single digit, by adding their components: For example 15 is reduced to 6, since 1 + 5 equals 6. Other possible ways of reducing numbers are the cabalistic techniques of Temurah, or permutation, such as ‘the Cabala of the nine chambers’, which drops zeros until a number within the limit of the working set is reached. For further details see MacGregor Mathers, *Kabbalah Unveiled*, pp. 9-11.

b) by not adhering to the pitch-class equivalency theory,<sup>104</sup> working instead within the parameters of octave differentiation. In this system, the number 13 would be equivalent to one octave plus one semitone above the starting pitch, 14 would be one octave plus one full tone above it, and so forth.

In another proposed system of pitch derivation, the numbers in the magical square could represent a factor by which a certain audible frequency or written pitch of the composer's choice will be multiplied, or the number of new units that will be added to it, in whatever system of musical units or division of the sound spectrum has been chosen by the composer, in order to give origin to new pitches: Methods 1a and 1b relied on addition of chromatic semitones to the starting pitch, whereas in this method the minimum measuring interval could be different, according to the composer's preference (for example the various types of microtonal divisions, scales with a number of steps different than twelve, of or even heptatonic diatonic modes different to those most commonly used).

The numbers could also represent the number by which the lowest perceptible pitch (or other acoustical 'point zero' or 'starting point') will be multiplied, or by which further units will be added to it, in Hertz or other acoustical or physical units, in order to obtain the new pitches. This method might be especially appropriate for computer music and other musics that do not adhere to traditional musical notation of pitch and the theoretical division of the sound spectrum into 12 semitones per octave.

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<sup>104</sup> That is, by considering every pitch as different from the other pitches that share its pitch name, whenever they occur in different octaves. John Roeder, 'Pitch Class' in Macy (Ed.) *Grove Music Online*, 2004. <http://www.grovemusic.com> (accessed 04 Feb. 2005).

The scholar of speculative music, Joscelyn Godwin, proposes a method by which any integer can be converted into a pitch by utilising the proportions between intervals – as described by consecutive integers in ‘just’ intonation<sup>106</sup> – to deduce what position within a diatonic major scale would be occupied by any given number.<sup>107</sup> Succinctly, this is performed as follows: First, the integer is halved as many times as it can be halved before it ceases to be being an integer, i.e., without it becoming a number only expressible with decimal points, representing quantities smaller than a unit. The number of times a number can be halved in this way tells us by how many octaves above we must transpose the final note of our exercise to get the *exact* note we are looking for. This is because the proportion of the octave is 1:2, that is, any frequency, when doubled, will yield a note an octave above its original. Similarly, multiplying a frequency by 3 is to raise it a perfect fifth plus an octave, by 5 is to raise it a major third plus two octaves, and so on, following the proportions of the harmonic series, as described in just intonation.<sup>108</sup> Thus, ‘by comparing any number to unity, it is possible to assign it a particular note within a given pitch-system.’<sup>109</sup>

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<sup>106</sup> Erich Neurith, 'The Mathematics of Tuning Musical Instruments: a Simple Toolkit for Experimenters' in Assayag, Feichtinger and Rodrigues (Eds.) *Mathematics and Music: A Diderot Mathematical Forum* (Berlin: Springer, 2002), 233-241

<sup>107</sup> Joscelyn Godwin, 'Speculative Music: The Numbers Behind the Notes' in Paynter, Howell, Orton and Seymour (Eds.) *Companion to Contemporary Musical Thought* (London: Routledge, 1992), 256-271, John Paynter, Tim Howell, Richard Orton and Peter Seymour (Eds.), *Companion to Contemporary Musical Thought* (London: Routledge, 1992). I insist on the major scale here, since the major scale seems to be derived from the series of natural harmonics.

<sup>108</sup> *Ibid.*, p. 270.

<sup>109</sup> *Ibid.*, p. 269.

Table 3.5 shows the working-out of all of these methods and the resultant pitches, indicated sometimes in Hertz sometimes as notes in the Helmholtz pitch nomenclature<sup>110</sup>. Figure 3.7 refers to exactly the same resultant calculations, but expressed in musical notation, whenever it has been practicable to do so (not, for example, when the calculations give as results frequency numbers which can not be easily expressed in standard musical notation).

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<sup>110</sup> Lloyd, LL. S. and Rastall, R., 'Pitch nomenclature' in L Macy (Ed.) *Grove Music Online*, 2004. <http://www.grovemusic.com> (Accessed 13 Oct. 2004).



According to method number (as described above)	Base pitch used for this example, expressed in Helmholtz pitch nomenclature <sup>111</sup> (when applicable according to method)	Number in magic square to be computed in accordance with the method described	Resulting pitch, also in Helmholtz nomenclature
<b>1a</b> (Pitch-class equivalency method, twelve-semitone system)	D in any octave D in any octave D in any octave D in any octave	8 (20 – 12) 8 1 6 (30 – 12 – 12)	A# in any octave A# in any octave D# in any octave G# in any octave
<b>1b</b> (No octave equivalencies applied, twelve-semitone system)	D D D D	20 8 1 30	a#' a# d# g#''
<b>2</b> (Using a heptatonal system, in this case, a myxolidian starting on F)	D in any octave	6 (20 – 7 – 7)	B in any octave
	D in any octave	1 (8 – 7)	D in any octave
	D in any octave	1	D in any octave
	D in any octave	2 (30 – 7 – 7 – 7 – 7)	E in any octave
<b>3</b> (Expressed in physical units, in this case Hertz) <sup>112</sup>	36.65 Hz	20	733 Hz
	36.65 Hz	8	293.2 Hz
	36.65 Hz	1	36.65 Hz
	36.65 Hz	30	1099.5 Hz
<b>4</b> (Godwin's 'Pythagorean proportions' method)	D	20 (1×5×2×2)	f#''
	D	8 (1×2×2×2)	d'''
	D	1 (1×5×3×2)	D
	D	30 (1×5×3×2)	C#'

**Table 3.5:** Examples of transformation of numbers into pitches, according to the methods previously discussed.

<sup>111</sup> LL. S. Lloyd and R. Rastall, 'Pitch nomenclature' in Macy (Ed.) *Grove Music Online*, 2004. <http://www.grovemusic.com> (Accessed 13 Oct. 2004).

<sup>112</sup> The Pythagorean tuning for d' has been taken as 293.2 Hz, in accordance with Rosette Broekaert-Devriendt and Johan Broekaert-Devriendt, 'The tuning of classic music instrumentation by means of objective pitch measurement' in *Harmony and Melody*, [http://home.tiscali.be/johan.broekaert3/Tuning\\_English.html](http://home.tiscali.be/johan.broekaert3/Tuning_English.html) (Accessed 12 Feb. 2005), and this value has been halved until the lowest (generally) audible Pythagorean D has been reached, at 36.65 Hz.

### 3.3.3.1.2 A practical application of the numerical methods discussed

As an illustration of the suggested methods, let us deduce the pitches that would be derived according to these four methods from the seal of the shortest of the names of entities associated with the planets (for the sake of brevity), namely that of the Archangel Raphael, drawn over the planetary square of Mercury, over which this archangel presides.

Mercury is assigned to the eighth Sephira or cabalistic sphere of Hod in the cabalistic Tree of Life (see figure 3.4), therefore the magical square of Mercury is an order 8 square, giving a total of sixty-four inner squares, and since according to the mathematical definition of a magical square, the numbers inside the smaller squares must be the series of integers from 1 to 64, arranged in such a way that the same number (or magical constant) is kept when adding up the numbers rows and columns, one of the possible organizations of this square is the magical square transmitted within the Hermetic Tradition since Agrippa, shown in figure 3.6.<sup>113</sup>

The name of the Archangel Raphael in Hebrew is רפאל, which is equivalent in numeric notation to 200, 80, 1, 30.<sup>114</sup> Since the magic square of Mercury only goes up to 64, the additional zeros of tens or hundreds beyond this limit are traditionally dropped until we get a number that does appear in the square, following the use of an

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<sup>113</sup> There is more than one way of arranging the integers of a magical square so that they still keep the magical constant. For further details on this and the mathematical process involved in it see Danielsson and Weisstein, op. cit.

<sup>114</sup> Resh=200 , Peh=80 , Aleph=1 and Lamed=30. Please note that Hebrew is read from right to left.

old cabalistic cryptographic system of permutation, the Cabala of Nine Chambers, or Aiq Bekar, which will be discussed in detail in the section of this chapter dedicated to rhythm, at number 3.5.1.3.2. In this particular case we will end up with the numbers 20, 8, 1, 30, which will be our starting series representing the numeric equivalency of the name of the Archangel Raphael within the square of Mercury.

8	58	59	5	4	62	63	1
49	15	14	52	53	11	10	56
41	23	22	44	45	19	18	48
32	34	35	29	28	38	39	25
40	26	27	37	36	30	31	33
17	47	46	20	21	43	42	24
9	55	54	12	13	51	50	16
64	2	3	61	60	6	7	57

רפאל 200, 80, 1, 30  
 20, 8, 1, 30

**Figure 3.6:** Seal of the Archangel Raphael, drawn over the square of Mercury.<sup>115</sup>

Since for methods 1, 2 and 3 we need to choose a base pitch, let us choose, for the sake of an example, one of the pitches that the Aurum Solis<sup>116</sup> magicians Denning &

<sup>115</sup> Compiled by the author from Farrell, *Making Talismans* p. 128, Agrippa Von Nettesheim, *Occult Philosophy*, ed. Tyson p. 326 & Cicero and Cicero, *Self-Initiation*, p. 385.

Phillips propose in their book *Planetary Magic* for the planet Mercury, namely the note D, from their ‘Greek Gnostic Mode’<sup>117</sup> (a descending mixolydian scale starting in F).<sup>118</sup> This is precisely the scale that will be used as an example of how to apply method number 2, namely the use of scales different than those in which the octave is divided into 12 semitones.

Through the reduction of all numbers to the number of semitones in an octave – in order to prevent octavation from happening (as required by method 1a) – we will resort to chromatic octave equivalencies, that is, reducing numbers higher than 11 by subtracting 12 from them necessary number of times for them to result in numbers lower than 11, the number of semitones that occur in an octave before octavation occurs.

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<sup>116</sup> Another name for the Order of the Sacred Word, O.:S.:V.:, ‘a practical school of ceremonial magick [sic] rooted in the Western esoteric tradition.’ It was founded in 1897, and places a greater emphasis on Gnostic and Neo-platonic concepts, following an Ogdoadic tradition, whereas the most known modern ceremonial magic groups, such as all the Golden Dawn derivatives, tend to a more cabalistic, rosicrucian and even Enochian emphasis, working more in the systems derived from the septenary, the decad and the duodecad. Whitcomb, *Magician's Companion*, p. 558; Farrell, *Making Talismans*, ‘Official website of the Aurum Solis’ in ‘Aurum Solis?’ in <http://www.geocities.com/athens/atrium/6331/as.htm>; ‘The Ogdoaic Notes’ in <http://members.cox.net/knoughis/timeline.html> (both accessed Feb. 11, 2005).

<sup>117</sup> Melita Denning and Osborne Phillips, *Planetary Magick: a complete system for knowledge and attainment* (St. Paul, MN: Llewellyn Publications, 1992), p. 103.

<sup>118</sup> A wealth of similar correspondences between planets and pitches can be found in different authors from classical antiquity up to the twentieth century (Plato, Cicero, Ptolemy, Boethius, Kepler, Blavatsky, Gurdjieff, Steiner, von Lange... ) For details on these correspondences see Godwin, Joscelyn, ed. *The Harmony of the Spheres: A Sourcebook of the Pythagorean Tradition in Music* (Rochester, VT: Inner Traditions, 1993) and especially Joscelyn Godwin, *Harmonies of Heaven and Earth: the Spiritual Dimensions of Music from Antiquity to the Avant-garde* (Rochester, VT: Inner Traditions, 1987) pp. 112-36, where tables of note-planet correspondences are listed in full.

For method 3, the ‘acoustical’ methods, the numbers in the magic square have been used as a factor by which the starting pitch is to be *multiplied* in order to produce new pitches, as the addition of such small numbers to the original frequency would not yield a pitch very differentiable from the starting one.

1a) By interval addition  
(Pitch-class equivalency method,  
twelve-semitone system)

1b) By interval addition  
(No octave equivalencies,  
twelve-semitone system)

2) Heptatonal system used  
(in this case mixolydian in F),  
octave equivalencies.

4) Pythagorean proportions method,  
as suggested by Joscelyn Godwin.

**Figure 3.7:** The calculated pitches, expressed in musical notation (where practical).

### 3.3.3.2 *The alphabetical approach and three methods of applying it*

All of the sonification methods proposed above have relied on the equivalency of Hebrew letters to numbers, and have performed mathematical or at least arithmological operations based on this assumption. Yet in the cabalistic tradition there are several other correspondences attributed to the Hebrew letters that may be used to compare them and mutate them into pitches. This is what I call ‘the alphabetical approach’, since it considers the letters not in their mathematical significance, but in their symbolic meaning at a host of different significance levels.

By reading the magic squares as letters, and interpreting the sigils of spiritual entities that are drawn over the squares as touching letters and not numbers, one can arrive to their sonification by non-numerical means. Even without a sigil and the original cryptographic matrix that was used to draw it some sonification could be achieved by writing out the name of the entity in Hebrew, and using any of the literal methods available – some of them described below – to convert the name into a pitch row. This effectively allows for the sonification not only of sigils, but of any Hebrew or Aramaic name: divine, angelic, spiritual, elemental or terrestrial.

Several of the symbolic equivalencies of the Hebrew alphabet can be found in occult literature, some of them already traditional and established, others original and innovative. I will briefly review three of them in the following pages.

#### ***3.3.3.2.1 Other classical Hermetic correspondences of the letters***

The classical astrological, elemental and tarot correspondences of the Hebrew letters are shown in table 3.6, and through following them one can cross-reference the value of the letters of a name to whichever correspondence system one wishes to use, and ‘translate’ the name of a spirit into the chosen system (for example write them as a series of astrological sigils), and then into pitches by going through the pitch-correspondence system developed by several authors which assigns notes of the scale to planets, signs of the zodiac and other important lists for the cabalistic or Hermetic traditions, such as the Tarot, the symbolic elements, the Enochian squares and letters, and the like.<sup>121</sup>

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<sup>121</sup> A very comprehensive list of these is given in part III of Godwin, *Harmonies of Heaven and Earth*, pp. 112-181

A word of warning though: contrary to the numeric method, which is fairly standard once the magic squares that will be used have been chosen, the assignment of pitches to astrological bodies, alchemical principles and the tarot has been quite inconsistent throughout the history of both speculative music and the occult, so those who try this method should expect to find many different authors proposing different and sometimes irreconcilable planet and zodiac scales,<sup>122</sup> which can be quite frustrating, especially if one believes, contrary to the nature of speculative music,<sup>123</sup> that one of them must be 'the correct one' and the rest are flawed, erred renditions or incomplete approaches to the final truth. In order to avoid such frustration, I adhere to Godwin's advice, and always remember that 'speculative music is not a body of knowledge, nor anything that can be learnt and enclosed in a book. It is, rather, a frame of mind'.<sup>124</sup> Therefore a correct attitude would be to pick up one of the various systems proposed and available without the preoccupation of having selected 'the wrong one', and proceed using the chosen system.

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<sup>122</sup> Ibid, pp. 114-53.

<sup>123</sup> 'Nothing in harmonics is conclusive: that is not its nature'. Joscelyn Godwin, 'The Revival of Speculative Music', *Musical Quarterly*, 67/3 (1982), 373-389 p. 387.

<sup>124</sup> Godwin, Ibid.

Hebrew letter	Astrological or elemental correspondence	Tarot correspondence (Major Arcana or Trumps)
א	△ (Air)	Trump 0, The Fool
ב	☿ (Mercury)	Trump 1, The Magician
ג	☾ (Moon)	Trump 2, The High Priestess
ד	♀ (Venus)	Trump 3, The Empress
ה	♈ (Aries)	Trump 4, The Emperor
ו	♉ (Taurus)	Trump 5, The Hierophant
ז	♊ (Gemini)	Trump 6, The Lovers
ח	♋ (Cancer)	Trump 7, Victory (also known as The Chariot)
ט	♌ (Leo)	Trump 8, Strength
י	♍ (Virgo)	Trump 9, The Hermit
כ	♃ (Jupiter)	Trump 10, The Wheel of Fortune
ל	♎ (Libra)	Trump 11, Justice
מ	♋ (Water)	Trump 12, The Hanged Man
נ	♏ (Scorpio)	Trump 13, Death
ס	♐ (Sagittarius)	Trump 14, Temperance
ע	♑ (Capricorn)	Trump 15, The Devil
פ	♂ (Mars)	Trump 16, The Tower
צ	♒ (Aquarius)	Trump 17, The Star
ק	♓ (Pisces)	Trump 18, The Moon
ר	☼ (Sun)	Trump 19, The Sun
ש	△ (Fire)	Trump 20, The Final Judgment (or simply 'Judgement')
ת	♄ (Saturn)	Trump 21, The Universe (also known as The World)

**Table 3.6:** Astrological, Elemental and Tarot correspondences of the Hebrew alphabet.<sup>125</sup>

Another potential pitfall is that almost all of these systems – with frustratingly few exceptions – rely on the correspondence of Hermetic symbolism with the notes of a heptaphonal diatonic scale, very often the scale of C major, as derived from the

<sup>125</sup> Compiled from Whitcomb, *Magician's Companion*, p. 214.



Pythagorean theory of natural harmonics of a string,<sup>126</sup> usually illustrated as starting in the note C as a widely used, alteration-free theoretical convention. So if one wishes to follow any of these systems closely, one must not expect intervals different from those that will appear in a major scale without chromatic alterations. This reduces the total steps of an octave to seven, and likewise the different combinations of pitches that will result from sonification operations, especially in those systems that apply octave equivalencies – which are the most common.

### **3.3.3.2.2 A proposal by a modern cabalist**

This is also the problem with one of the very few modern cabalistic proposals to convert letters into pitches by means other than their numerical values. In his book *Music and Kabbalah*, the Ieroselimitic lecturer in cabala (or *Kabbalah*, as modern Israeli sources prefer to spell it) Mattityahu Glazerson reasons that ‘each letter of the Hebrew alphabet is parallel to a different note of the scale.’<sup>127</sup> This is not so far removed from all of the other conceptions we have mentioned, but the problem is that it is not clear from his book if Rabbi Glazerson is accepting the theoretical convention of discussing harmony and harmonic science in the key of C *for the sake of convenience*, or if he earnestly thinks this is how things work in music, in all circumstances and ‘naturally’: ‘*The musical scale* is made up of seven notes: do; re; mi; fa; sol; la; ti.’ (emphasis ours). He consequently works on the remaining 27 pages of his book dedicated to the scale based on this rather limited assumption that ignores

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<sup>126</sup> J.A. Philip, *Pythagoras and Early Pythagoreanism* (Toronto: University of Toronto Press, 1966), pp. 123-33.

<sup>127</sup> Glazerson, *Music & Kabbalah*, p. 3.

modes different from the major, and scales with more or less than seven steps per octave, as well as all of the other keys different from C major.

Since the number of letters of the Hebrew alphabet is 22, Glazerson argues that by assigning *Aleph* to the first note of the scale, namely do (C), *Beth* to the second one, re (D) and so forth, and switching to a higher octave once the eighth letter is reached, and yet again once the letter number 15 is reached, we will have three octaves of C major (21 notes) once we get to the penultimate letter of the alphabet, *Shin*. This leaves out *Tav*, the twenty-second letter, (as 22 is not a multiple of 7), but this doesn't worry Rabbi Glazerson, and he tells us, based on his eschatological knowledge, that '⌒ can be considered a fourth scale of its own, denoting the otherworldly level of the world-to-come',<sup>128</sup> since, and I quote 'in the world-to-come the musical key [sic] will contain more notes: in the time of Moshiach (Messiah), the musical scale will contain an additional note, namely the ⌒.'<sup>129</sup> Until then it seems, the letter *Tav* has no sound, and Glazerson assigns to it the value of silence, for what remains of the current state of being in this world.

The minor scales are briefly and one would think uncomfortably mentioned, as an interesting permutation phenomenon that can be effected if the major scale is assigned to the cabalistic Tree of Life and the left and right pillars are subsequently inverted, since 'the left side [...] is the side representing the heart'<sup>130</sup> and of course, as we all know, the minor mode is the sentimental one, more appropriate for the 'music of the heart'...

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<sup>128</sup> Ibid, p. 18.

<sup>129</sup> Ibid, pp. 19-20.

<sup>130</sup> Ibid, p. 4.

As naive and limited musically both in theoretical profundity and in possibilities of generation of musical material as his proposal might be, Glazerson’s book represents one of the very few modern attempts by an expert cabalist to assign musical value to the letters of the Hebrew alphabet, and this is why I have briefly reviewed it here. His system of correspondences between letters and pitches is summarized in figure 3.8.



**Figure 3.8:** Mattityahu Glazerson’s pitch-letter correspondences.

Each new row of seven letters is interpreted an octave higher, and the final letter **ת** is left out as not belonging to the current state of worldly affairs.

### 3.3.3.2.3 A proposal by nineteenth-century occultist

A more elaborate approach was taken one hundred years before, during the last fifteen years of the nineteenth century by the French occultist Joseph-Alexandre Saint-Yves D'Alveydre (1842-1909), a mentor of the reputed magician Dr. Gérard Encausse, better known in occult circles by his *nom de plume* ‘Papus’ (1865-1916). Saint-Yves’ insights and proposals were compiled after the author’s death in 1909 by his ‘friends’ (so they sign the preface of his book) and printed in 1911 under the flamboyant title of

‘The Archeometre: Key of All the Religions and All the Sciences of Antiquity; Synthetic Reformation of All Contemporary Arts’.<sup>131</sup>

In this book Saint-Yves develops an apparatus similar in its operation to a sextant that will give the musical, chromatic, numeric and literal correspondences as derived from his historical and esoteric studies and interpretations, which are quite original and innovative when compared to the mainstream of the Hermetic Tradition.

Saint-Yves’ system to derive the correspondences between the Hebrew alphabet and the notes of the musical scale is fairly complex to describe in detail here,<sup>132</sup> but it certainly does not come to straightforward and rash conclusions of the type of Glazerson’s. For example, he assigns silence to the letter Aleph, not because of some obscure theological reason, but because the actual sound of this letter is not an A sound, like is usually assigned by Hermeticists or other Christian cabalists, but what is called in linguistics a ‘glottal stop’, and therefore a form of voiceless aspiration, dependent upon other surrounding letters to borrow some quality from them. But as to why the last letter of the alphabet is assigned the treble clef instead of any sound as its musical correspondence, and what this might mean, it is not clear from his text, and the several complex diagrams in his book do not help to clarify this either. His system

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<sup>131</sup> Joseph-Alexandre Saint-Yves D'Alveydre, *El Arqueómetro: clave de todas las religiones y de todas las ciencias de la antigüedad* (Bogotá: Editorial Solar, [1911], 1995). I have only seen the rare Colombian edition of this work, but Godwin tells us that the latest reprint of L’Archéomètre in its original French is by Guy Trédaniel, Paris, 1987. There is also a reprint by Gutenberg Reprints, 1979 (Paris) together with *La Théogonie des patriarches* and the piano scores of the musical demonstrations of his theories, *L’Archéomètre musical*. Joscelyn Godwin, *Music and the Occult: French Musical Philosophies 1750-1950* (New York: University of Rochester Press, 1995), pp. 195 & 252.

<sup>132</sup> For a good précis I recommend chapter 8 of Godwin, *Music and the Occult* dedicated in its entirety to this author and his work, both theoretical and musical, as well as Joscelyn Godwin, ‘The Creation of a Universal System: Saint Yves d’Alveydre and his Archeometer’, *Alexandria*, 1/(1991), 229-249.



*Musical Qabalah*.<sup>135</sup> In his article Parrott reviews a system of correspondences between the Hebrew alphabet and the notes of the chromatic scale, as originally devised by the erudite turn-of-the-century magician Allan Bennett, member of the notorious magical society known as “Golden Dawn”.<sup>136</sup> Parrott’s article also offers the only attempt I have seen in print of ‘translating’ the texts of two of the classic Hermetic rituals of the Golden Dawn, namely the Cabalistic Cross and the Middle Pillar – both traditionally performed in Hebrew – into pitch rows, with the purpose of using these rows as a musical basis for chanting the rituals instead of simply ‘vibrating’ them indistinctly in any pitch, as is traditionally done.<sup>137</sup> Parrott reports that Bennett, in order to bypass the apparent stumbling block of generating correspondences between a system composed of 22 units (the Hebrew alphabet) and another one composed of 12 (the chromatic system), resorted to the astrological, elemental and tarot correspondences of the Hebrew alphabet, as shown in this chapter

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<sup>135</sup> Thom Parrott, 'The Musical Qabalah' in Cicero and Cicero (Eds.) *The Middle Pillar: The Balance Between Mind and Magic* (Saint Paul, MN: Llewellyn Publications, 2003), 243-249.

<sup>136</sup> Allan Bennett was not only an advanced adept in the Golden Dawn, collaborator of Mathers and also Aleister Crowley’s magical instructor (“*proctor*”), but after a long pilgrimage to Burma and conversion to Buddhism he also became, in 1908, the founder of the first ever Buddhist mission in England, which later developed into The Buddhist Society as it now stands. See 'History' in *The Buddhist Society*, <http://www.thebuddhistsociety.org/aboutus/index.html> (Accessed April 05 2005); 'Allan Bennett' in *Golden Dawn Biographies*, <http://www.golden-dawn.org/biobennett.html> (Accessed 5 Apr. 2005); Inc. Hermetic Order of the Morning Star, 'Biography of Allan Bennett' in *Golden Dawn Research Centre Inc.*, <http://www.golden-dawn.org/biobennett.html> (Accessed April 05 2005) and Fr.'. Phaeton X°, 'History of the O.T.O.' in *Spring Equinox*, Anno 99. [http://www.uk-oto.org/oto/oto\\_history.htm](http://www.uk-oto.org/oto/oto_history.htm) (Accessed 5 Apr. 2005).

<sup>137</sup> Magical “vibration” of names in the ritual practice of contemporary Hermeticism is considered as ‘essential for a magician.’ (Kraig, 1988, 42). The rationale for this is explained by Kraig in his 11-lesson course on ceremonial magic, *Modern Magick*: ‘if you can control the vibration rate of one object such as yourself, you will be able to cause certain reactions in other objects, such as those which exist on other planes of existence. Therefore, and understanding of how to vibrate words is essential for a magician.’ Donald Michael Kraig, *Modern Magick: Eleven Lessons in the High Magickal Arts* (St. Paul, MN.: Llewellyn Publications, 1988), p. 42

in table 3.6. Since the astrological signs total a number of twelve, and yet they are related to the twenty two letters of the Hebrew alphabet, Bennett saw in this correspondence a way of assigning the letters to the twelve notes of the chromatic scale. He started by ordering the signs of the zodiac in their traditional way, that is, starting with the first sign of the astrological year, Aries, which begins its regency on the day of spring equinox. Once he had the signs of the zodiac in their traditional order, he assigned the chromatic scale to them as expressed in table 3.7 below:

<b>Dates</b>	<b>Order in the seasonal year</b> (starting on the spring equinox)	<b>Sign of the Zodiac</b>	<b>Ascending chromatic scale as assigned by Bennett</b>	<b>Colour in the Lotus or Rainbow Wand</b>
March 21 - April 20	1	Aries	C	Red
April 21 – May 21	2	Taurus	C#	Red-orange
May 22 – June 21	3	Gemini	D	Orange
June 22 – July 22	4	Cancer	D#	Yellow-orange
July 23 – august 23	5	Leo	E	Yellow
August 24 – September 22	6	Virgo	F	Yellow-green
September 23 – October 23	7	Libra	F#	Green
October 24 – November 22	8	Scorpio	G	Blue-green
November 23 – December 21	9	Sagittarius	G#	Blue
December 22 – January 20	10	Capricorn	A	Blue-violet
January 21 – February 18	11	Aquarius	A#	Violet
February 19 – March 20	12	Pisces	B	Red-violet

**Table 3.7:** Astrological correspondences of the 12 chromatic notes, as deduced by Allan Bennet.<sup>138</sup>

Once he had assigned the pitches of the chromatic scale to the signs of the zodiac, Bennett resorted to the correspondence systems of the Hermetic Tradition as coded by

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<sup>138</sup> Parrott, Op. Cit.

the magical order he belonged to, the Golden Dawn.<sup>139</sup> One of the instruments of the Adept in the Golden Dawn system is the Lotus Wand, also known as the Rainbow Wand.<sup>140</sup> This wand receives both its names because for one it is crowned with a lotus flower, and also because it is divided into twelve segments, which are brightly coloured in accordance with the colour assigned to the particular sign of the zodiac the segment represents.<sup>141</sup> This is also shown in table 3.7, in the last column.

By cross-referencing these colours and zodiacal signs with those of the 22 paths of the cabalistic glyph known as the Tree of Life – which among many things also relates colours and signs of the zodiac with the letters of the Hebrew alphabet – Bennett arrived to the correspondences shown in table 3.8.

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<sup>139</sup> For a history of the Golden Dawn magical order see Ellic Howe, *The Magicians of the Golden Dawn: A Documentary History of a Magical Order, 1887-1923* (York Beach, ME.: Red Wheel Weiser, 1978)

<sup>140</sup> For a physical and symbolic description of the Lotus Wand, see Chic Cicero and Sandra Tabatha Cicero, *The Magician's Craft: Creating Magical Tools* (St. Paul, MN.: Llewellyn Publications, 1999).

<sup>141</sup> *Ibid.*



Hebrew letter	Astrological correspondence in the Tree of Life	Colour of the path in the Tree of Life	Corresponding pitch in the zodiacal (12-stepped) system
א	△ (Air)	Yellow	E
ב	☿ (Mercury)	Yellow	E#
ג	☾ (Moon)	Blue	G#
ד	♀ (Venus)	Green	F#
ה	♈ (Aries)	Red	C
ו	♉ (Taurus)	Red-orange	C#
ז	♊ (Gemini)	Orange	D
ח	♋ (Cancer)	Yellow-orange	D#
ט	♌ (Leo)	Yellow	E
י	♍ (Virgo)	Yellow-green	F
כ	♃ (Jupiter)	Violet	A#
ל	♎ (Libra)	Green	F#
מ	♊ (Water)	Blue	G#
נ	♏ (Scorpio)	Blue-green	G
ס	♐ (Sagittarius)	Blue	G#
ע	♑ (Capricorn)	Blue-violet	A
פ	♂ (Mars)	Red	C
צ	♒ (Aquarius)	Violet	A#
ק	♓ (Pisces)	Red-violet	B
ר	☼ (Sun)	Orange	D
ש	♋ (Fire)	Red	C
ת	♄ (Saturn)	Blue-violet	A

**Table 3.8:** Hebrew correspondences of the 12 chromatic notes, as deduced by Allan Bennet.

It will be noted that Bennett uses the note C as a starting point to his system, assigning it to Aries, the first sign of the zodiacal year (as expressed in table 3.7). This seems to be a purely arbitrary assignment, as Parrott has pointed out,<sup>142</sup> but it could also well

<sup>142</sup> Personal communication through e-mail, May 10, 2005.

be, like in other similar cases (as mentioned in discussing Glazerson's arrangement), a theoretical abstraction for the sake of convenience (fewer accidentals to write), just as the harmonic series is usually shown as starting in C, and basic harmonic theory and voice leading exercises are also presented in this accidental-free key. None would argue that the authors of acoustics or harmony texts are implying that the harmonic voice-leading they are discussing occurs only in the key of C major, and I believe that we could safely assume that this, like all other similar abstractions of speculative music, are fully transposable, and may start in whatever note the composer wishes. The important thing here is the order, for it implies proportion and hierarchy, and not the exact note, which moves around anyway as tuning systems change from time to time and even from performer to performer.

By ingeniously using the colours of the paths to complement the correspondences of those letters that do not have a zodiacal but an elemental or planetary correspondence, we could say that Bennett successfully “squared the circle” of fitting the chromatic system of 12 steps per octave into an alphabetical system of 22 Hebrew letters. Parrott goes further in using this system to calculate the pitch rows of two basic Hermetic rituals, and gives additional advice on performance issues of the pitch rows in the context of contemporary Hermetic ritual practice, including indications on breathing, adaptation of the material to different voice types, and rhythmic considerations,<sup>143</sup> some of which I will discuss later, in the corresponding sections of this chapter.

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<sup>143</sup> Parrott, *ibid.*

But David Allen Hulse noticed in the 1990s, not without some discomfort, that “the mathematical correlation between color and sound as frequency relationships does not completely support these [Bennett’s] allocations”.<sup>145</sup> Therefore he proposes a table, reproduced below as figure 3.10, in which he approximates “the mathematical correspondences between color and sound in cycles per second”.<sup>146</sup>

**23B. Color-Sound Frequency Relationships**

Gradations of 12 Prismatic Colors	Frequency (x 10 <sup>12</sup> )	Traditional Astrological Color Correspondences	Corresponding Sound	Frequency (Pitch)
Red	430-470	Aries, Mars	G	392
Red-Orange	480	Taurus	G#	415
Orange	490-500	Gemini, Mercury	A	440
Yellow-Orange	510	Cancer	A#	466
Yellow	520	Leo, Sun	B	494
Yellow-Green	530-550	Virgo	C	523
Green	560-590	Libra, Venus	C#	553
Blue-Green	600-610	Scorpio	D	587
Blue	620-630	Sagittarius, Jupiter	D#	622
Blue-Violet	640-680	Capricorn, Saturn	E	659
Violet	690-710	Aquarius, Moon	F	698
Red-Violet (Dark Violet)	720-750	Pisces	F#	740

**Figure 3.10:** Hulse's colour to pitch correspondences<sup>147</sup>

Here again we encounter, as often happens, the detail-aware occultist applying esoterically and mathematically correct logic to speculative music, fatally unaware of important acoustical and musical principles (details which, as seen before, don't escape a musicologist such as Godwin):<sup>148</sup> Hulse is applying in his table a direct decimal relationship between colour and sound (by simply subtracting the 12 zeroes which mark the difference in *hertz* between the *number* of cycles per second for

<sup>145</sup> David Allen Hulse, *The Key of it All: An Encyclopedic Guide to the Sacred Languages & Magickal Systems of the World. Book 1, The Eastern Mysteries* (St. Paul, MN: Llewellyn, 2002), p. 58

<sup>146</sup> Ibid.

<sup>147</sup> Taken from Ibid., p. 58

<sup>148</sup> Godwin, Joscelyn, 'Speculative Music: The Numbers Behind the Notes' in J. Paynter, T. Howell, R. Orton and P. Seymour, (eds.) *Companion to Contemporary Musical Thought* (London: Routledge, 1992), pp. 256-271.

colour and sound). Yet, as Godwin has already pointed out and everyone versed in basic acoustics knows, the relationships between the octaves are not decimal but *geometrical*: a sound is double or half the frequency of another sound an octave above or below it, not ten times its value. Thus, in order to establish this kind of relationship between colour and sound, subtracting zeroes (reducing powers of ten) will not suffice: we need a method of halving the frequencies of colours until we reach frequency capable of being heard (roughly between 20 and 20,000 *hertz*), as Godwin has proposed.<sup>149</sup>

Paul Foster Case, another Golden Dawn figure (as he once was a member of the Golden Dawn temple in Chicago)<sup>150</sup> and later founder of the esoteric order B.O.T.A (Builders of the Adytum), in his book 'Highlights of the Tarot' of 1934 reports on the traditional Golden Dawn assignment of pitches to the seven lower Sephirot of the Tree of Life (the first or higher three, also known as *The Supernals*, are assigned non-pitch qualities of sound). These attributions are reproduced below in table 3.9.<sup>151</sup> Notice how even though there are seven available Sephirot, the scale derived is not a traditional diatonic heptatonic scale, but lies closer to a whole-tone scale, except for the peculiar interpolation of an A natural assigned to Malchut. This scale is shown in conventional musical notation in figure 3.11. Case does not specify the octave of each pitch, but since it is generally assumed in cabala that Kether represents the first manifestation of Divine Power while Malchut constitutes Its last manifestation, as the

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<sup>149</sup> Loc. Cit.

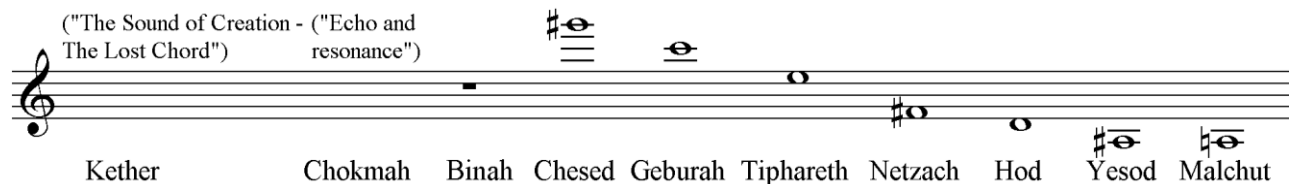
<sup>150</sup> Hulse, *The Eastern Mysteries* p. xxxiv; Ithell Colquhoun, *Sword of Wisdom: MacGregor Mathers and "The Golden Dawn"* (New York: G.P. Putnam, 1975).

<sup>151</sup> As reported by Hulse, p. 57

material world, I have arranged the pitches in descending order to symbolically reflect this descent into matter.

Sephira number	Sephira name	Sound attribution
1	Kether	Sound of Creation – The Lost Chord
2	Chokmah	Echo and Resonance
3	Binah	Silence
4	Chesed	G#
5	Geburah	C
6	Tiphareth	E
7	Netzach	F#
8	Hod	D
9	Yesod	A#
10	Malchut	A

**Table 3.9:** Case's pitch attributions to the Sephirot.



**Figure 3.11:** Case's pitch attributions to the Sephirot in conventional musical notation.

### 3.3.4 Conclusion to the section on pitch: Cabalistic pitch systems as mystical serialism

So far I have reviewed and discussed several proposals on how letters from the Hebrew, Latin or other alphabets can be turned into numbers, and a similar thing can be done with the *sigilla* of spirits in the Hermetic magical tradition. These numbers

can be derived either through processes of Pythagorean numerology, or through cabalistic processes of the type used in literal cabala, explained in section 5.2.1 above.

After the original data is transformed into numbers, a second process of transformation can be applied to turn them into pitches. The end result of the operations is a row of pitches extracted from either a row of numbers or of letters, which in turn could have been derived from a previous symbol, as for example magical squares, sigils, seals or signatures of spirits or other graphic data.

The transformation of numbers into pitches has been done widely in the history of music, especially in the twentieth century – though it must be pointed out that not exclusively in this time.<sup>152</sup> In twentieth-century music dodecaphonism, serialism & total serialism have used pitch series as bases to organize their pitch material. Actually it could be said that the kinds of proposals I am reviewing, commenting and expanding are a Hermetic or cabalistic form of serialism, a serialism in which the musical series have an additional, extra-musical meaning, and spiritual or mystical significance for the practitioner or believer in Hermeticism or cabala.

As cabala allows cryptographical permutations of words and phrases (through the techniques of *temurah*, explained in section 5.2.1), this could lead to the creation of full, “properly serialist” matrices of transposed, inverted or otherwise derived pitch series. These could be, through *temurah*, “literal transpositions” rather than strictly musical ones, since rather than applying musically-based transposition or inversion

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<sup>152</sup> Knobloch, Eberhard, 'The Sounding Algebra: Relations Between Combinatorics and Music from Mersenne to Euler' in G. Assayag, H. G. Feichtinger and J. F. Rodrigues, (eds.) *Mathematics and Music* (Berlin: Springer, 2002), pp. 27-48.

methods, the original Hebrew material could be “transposed” to different literal “keys” through the use of *temurah* (the sequence A, B, C, D... in the “key of B” would be B, C, D, E..., in the “key of C” would be C, D, E, F... and so on, to give a very simple example). In strongly committed cabalistically-based serialist systems, in which the underlying cabala would be of more importance than the technical procedures of mundane music, it would be from this “transposed” or permuted literal material that new series could be extracted in the first instance; musical transposition being an additional, extra-cabalistic method at the disposal of the composer.

The development of Cabalistic theories of harmony, counterpoint, rhythm and timbre will therefore be quite similar in their genesis to those which are developed from other forms of musical serialism. I will discuss them in the remaining sections of this chapter, more briefly, since the basis of how to construct a pitch series from Hermetic material has already been explained with great detail.

Whereas much has been speculated on the implications and correspondences of the Hebrew letters and the Sephirot and paths of the cabalistic Tree of Life in musical pitch, other parameters of music such as rhythm, harmony, counterpoint and texture have been largely ignored by authors on speculative music, and a literature search on these matters proves to be frustrating and disappointingly squalid.

One reason for this might be that the many occultists that have studied these matters have been non-musicians who tend to minimize the importance of all these non-pitch parameters in music, either considering in good faith that since they have covered the

pitch aspect, they have covered all of what is important in music, or who have decided to focus on pitch precisely because of their lack of musical expertise, which prevents them from discussing in depth more specialized and technical aspects of music theory.

### 3.4 Theories of Cabalistic Harmony and Counterpoint

Since harmony and counterpoint are pitch-based, and a lot of work has been done in the past around theories of cabalistic pitch, the deduction of cabalistic grammars of harmony and counterpoint is pretty much straight-forward, and will be treated in this short section.

#### 3.4.1 Chords

##### 3.4.1.1 “Serialistically” derived chords

The derivation of chords from the pitch series can be done following the same procedures commonly used in serial composition, for, as has been stated, I have approached cabalistic music almost as another form of numerically-based serialism, stemming as it does from gematria (numerical cabala). Rather than further taxing the reader here with the repetition of this far more common knowledge, I will simply point out certain useful sources which explain these procedures in depth.<sup>153</sup>

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<sup>153</sup> On books detailing non-tonal harmonic theory and techniques see Vincent Persichetti, *Twentieth-Century Harmony: Creative Aspects and Practice* (New York: W. W. Norton, [1961], 1961); Reginald Smith Brindle, *Serial Composition* (Oxford: Oxford University Press, 1966) and the more polemical Nachum Schoffman, *From Chords to Simultaneities: Chordal Indeterminacy and the Failure of Serialism* (Oxford: Greenwood Press 1990)



In my own music derived from cabalistic material (see volume 2, the portfolio of compositions), I have derived my chords from the free and otherwise unstructured superposition of material in the linear pitch series, guiding my operation through the judgement of the ear rather than anything else. This is of course only one way of doing it, and there are indeed other ways of working which could be used, but which I have not focused on or explored in my present creative research. Thus the chords can be derived from the pitch-rows generated from the methods described above, as is traditionally done in the twelve-tone system proposed by Arnold Schoenberg.<sup>154</sup>

#### ***3.4.1.2 Cabalistically derived chords***

Another possible way of deriving cabalistic harmonies is through the vertical, mirrored and diagonal as well as horizontal reading of the original Hebrew text. While this way of reading Hebrew text has come to the public's attention recently when used to extract prophetic messages from "The Bible Code" in the book series of the same name by Michael Drosnin<sup>155</sup> and the series of replies and spin-offs derived from his books,<sup>156</sup> this procedure is not Drosnin's own eccentric idea, but has been in use in Jewish cabala and Hermeticism for a long time – it is actually discussed in the core

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<sup>154</sup> John Rahn, *Basic Atonal Theory* (New York: Schirmer Books, 1987)

<sup>155</sup> Michael Drosnin, *The Bible Code* (London: Phoenix Press, [1997], 2004); Michael Drosnin, *The Bible Code II: The Count Down* (London: Phoenix Press, 2002) and *The Bible Code III: The Quest* (London: Phoenix Press, [2006], 2007)

<sup>156</sup> To mention *just a few* of the ones in the market for this kind of literature:, Joseph Noah, *Future Prospects of the World According to the Bible Code* (Boca Raton, FL: New Paradigm Books, 2002); Waldo L. Larson, *The Code that Counts: Bible Code Truth* Illuminating Press, 1999); Bonnie Gaunt, *The Bible's Awesome Number Code* Adventures Unlimited Press, 2000)

texts of dogmatic cabala, the *Bahir* from the 12<sup>th</sup> century and the *Zohar*, attributed to Simeon bar Yochai of the first century.<sup>157</sup>

A well-known case of the use of this technique in traditional cabala is the extraction of the *Shem ha-Mephorash* or name of God of 72 letters (literally “the divided Name”).<sup>158</sup> Skinner describes the process of generating the names of “the seventy-two angels bearing the mystical name of God Shemhamphorae”:<sup>159</sup>

[The names of the angels] are generated from three verses in the Bible, specifically Exodus 14: 19-21. Each verse has exactly 72 Hebrew letters. The procedure for generating the names of the 72 angels is to write the three verses, one on top of the other in three lines. The trick however is to write the top line from right to left (the normal Hebrew writing direction), the second line from left to right, and the third line from right to left. This order is called *boustrophedon*, which literally means ‘ploughed like a field’, first one way then another. *Then you read each group of three Hebrew letters vertically*, so that you derive 72 three-letter root words.<sup>160</sup>

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<sup>157</sup> Whitcomb, *Magician's Companion*, p. 290 and Godwin, *Cabalistic Encyclopedia*, p. 274.

<sup>158</sup> Whitcomb, *Magician's Companion*, p. 289.

<sup>159</sup> As expressed by Barrett in his 1801 *The Magus*. Quoted from Gustav Davidson, *A Dictionary of Angels* (New York: The Free Press, [1967], 1971), p. 345.

<sup>160</sup> Stephen Skinner, *The Complete Magician's Tables* (London: Golden Hoard Press, 2006), p. 303. Emphasis on the last sentence is mine.

These are the Hebrew verses used for deriving the name:

1 ויסע מלאך האלהים ההלך לפני מחנה ישראל וילך מאחריהם ויסע עמוד  
הענן מפניהם ויעמד מאחריהם:  
2 ויבא בין מחנה מצרים ובין מחנה ישראל ויהי הענן והחשך ויאר את הלילה  
ולא קרב זה אל זה כל הלילה:  
3 ויט משה את ידו על הים ויולך יהוה את הים ברוח קדים עזה כל הלילה  
וישם את הים לחרבה ויבקעו המים:

Figure 3.12: Hebrew verses of Exodus 14:19-14:21 used to derive the *Shem ha-Mephorash*<sup>161</sup>

And here are the three-letter names derived from reading them vertically after applying the *boustrophedon* technique:<sup>162</sup>

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<sup>161</sup> Image taken from <http://altreligion.about.com/library/glossary/bldefshemhamforash.htm>, accessed March 09, 2007. The English translation of these verses is:

*Exodus 14:19* “And the angel of God, which went before the camp of Israel, removed and went behind them; and the pillar of the cloud went from before their face, and stood behind them.”

*14:20* “And it came between the camp of the Egyptians and the camp of Israel; and it was a cloud and darkness [to them], but it gave light by night [to these]: so that the one came not near the other all the night.”

*14:21* “And Moses stretched out his hand over the sea; and the LORD caused the sea to go [back] by a strong east wind all that night, and made the sea dry [land], and the waters were divided.”

<sup>162</sup> Image taken from <http://www.darkmother.com/insert2.html>, accessed March 09, 2007.

8	7	6	5	4	3	2	1	
כהת	אכא	ללה	מהש	עלם	סיש	ילי	והו	1
הקם	הרי	מבה	חל	ההע	לאו	אלד	הזי	2
ההו	מלה	י	נלכ	פהל	לוו	כלי	לאו	3
רשר	לכב	אום	ריי	שאה	ירת	האא	נתה	4
י	רהע	חעם	אני	מנר	כוק	להח	יחו	5
מיה	עשל	ערי	סאל	ילה	וול	סיכ	ההה	6
פוי	מבה	נית	ננא	עמם	החש	דני	והו	7
מחי	ענו	יהה	ומב	סצר	הרת	ייל	נמם	8
מום	היי	יבמ	ראה	חבו	איע	מנק	דמב	9

**Figure 3.13:** Three-letter roots of the *Shem ha-Mephorash* derived from Exodus 14:19-14:21

Hermetically speaking these names are quite a clear representation of the Divine Essence, since they summarize the verses from Exodus where God's presence is quite literally among its people, guiding them and manifesting itself physically in front of them. Athanasius Kircher – a key figure in Christian Hermeticism, dubbed by Edward Smith as “the last Renaissance man” (since he flourished just when Descartes and other rationalists of the 17<sup>th</sup> century were definitely tilting the balance towards the scientific and empirical world views)<sup>163</sup> includes a beautiful engraving summarizing this idea in his *Oedipus Aegyptiacus* of 1652-54, which is reproduced below as figure 3.14.

<sup>163</sup> Edward W Schmidt, 'The Last Renaissance Man: Athanasius Kircher, SJ.' *The World of Jesuits and Their Friends*, 19/2 (2002),



If, through the methods described in the previous section, the lines are transformed into pitch rows, and each line is considered as a ‘voice’, reading the notes vertically would produce 72 triads, which would be the chord for that particular three letter root of the name of the angel (the names of angels are completed by adding לאל- (-AL) or יה- (-YH) at the end of the three-letter root thus derived, depending on the severity or gentleness of their attributes).<sup>165</sup> Once the names are derived, they can be used in meditation and practical magic.<sup>166</sup>

By extrapolating this already established cabalistic technique of turning around Hebrew phrases and reading them in several directions, or combining several lines of text in order to create new words (such as is done in the *Shem ha-Mephorash*) chords could also be generated from other Hebrew phrases, in addition to the harmonic methods used by classical twelve-note theory, which can be summarized by the simultaneous (harmonic rather than melodic) use of elements of the original pitch-row.

Actually this has already been done, though not by using traditional Western harmonic theory and notation – as I propose here – but through “programming the Code into a musical format”:<sup>167</sup> A CD with the recording of the harmonies for the

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<sup>165</sup> Skinner, *Complete Magician's Tables*, p. 303

<sup>166</sup> A detailed description of the uses of the Name and their esoteric associations and symbolism can be found at Patrick Mulcahy, 'The SheM Ha-MePhoRaSh: The Extended Name (of 72)' in 2002. <http://www.fortunecity.com/roswell/leadbeater/0/72name.htm> (Accessed 09 March 2007)

<sup>167</sup> DarkMother.com and deCygne, 'The Harmonic Kabbalah: Harmonic Translation of the 72 Names of God' in *DarkMother.com: Music for Life, Rebirth and Immortality*, <http://www.darkmother.com/kabbalah/about-hk.html> and <http://www.darkmother.com> (Accessed 09 March 2007)

Name of 72 thus derived has been produced, excerpts of which can be heard online at <http://www.elveasystems.com/index2html>. The result of the digital encoding approach in this particular case is that, perhaps predictably, the music sounds distinctly electronic and synthesized, and it reminds me personally of different ring-tones of older telephones or alarm clocks rather than being distinctly musical. But the readers will of course judge by themselves.

Regardless of the somewhat disappointing musical results, the work of DarkMother in translating several types of mystical information into sound (“sonifying” it) is quite representative of what Godwin calls “the revival of speculative music”, i.e. the blooming of the interest in the connection between music (our sound) and both the macrocosm and the microcosm in the later part of the twentieth century, and into the twenty-first century, after centuries of dormancy and confinement of this approach to obscurity and ridicule.<sup>169</sup>

### **3.4.2 Proposals for Cabalistic Counterpoint**

#### ***3.4.2.1 Dyads and “cabalistic first-species counterpoint”***

Since the other important symbolical basis of practical cabala in addition to the Hebrew alphabet is the sigil of the Tree of Life (see figure 3.15), certain intervallic relationships can be deduced from the superimposition of the former on top of the latter: indeed whereas prominent on the Tree of Life are the *Sephiroth* or spheres which represent different levels of manifestation from the Absolute down onto the

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<sup>169</sup> Godwin, 'Speculative Music', ; Godwin, *Music and the Occult* , pp. 4-10.

material world (interestingly nicely presented as a Pythagorean decad),<sup>170</sup> these spheres are connected by twenty-two paths (the lines that connect the circles), and each path is assigned a letter from the Hebrew alphabet, as shown on figure 3.4, originally presented above but re-inserted here for convenience.

So, for example, if we select the letter Tzaddi (צ), we can see it connects the *Sephiroth* of Yesod and Netzach (*Sephiroth* numbers 9 & 7), and when we cross-reference the pitches astrologically attributed to these *Sephiroth* (via planetary correspondences, *Yesod* corresponding to the Moon and *Netzach* to Mercury), we can see that this letter, Tzaddi (צ), represents a particular interval. This we can consider then as a “contrapuntal unit”, in which each letter does not represent a single sound, but the interval that connects a pair of pitches: this because each letter stands in the connection or relationship between two symbolic entities (*Sephiroth*) which can also be assigned to pitch, among many other possible attributions. In musical terms, the path would be the representation of an interval between two pitches, and since we can thus read each letter as a pair of *two* pitches rather than a single one, we can easily theorize as a basis for a “cabalistic first-species counterpoint”.

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<sup>170</sup> Fideler, David, 'The tetraktys: Number as Paradigm' in D. Fideler, (ed.) *The Pythagorean Sourcebook and Library: An Anthology of Ancient Writings Which Relate to Pythagoras and Pythagorean Philosophy* (Grand Rapids, MI: Phanes Press, 1988), pp. 28-30; Ghyka, Matila C., *Filosofía y mística del número* (Barcelona: Apóstrofe, 1998), pp. 18-24. See also Philip, *Pythagoras and Early Pythagoreanism*. (Toronto: University of Toronto Press, 1966).



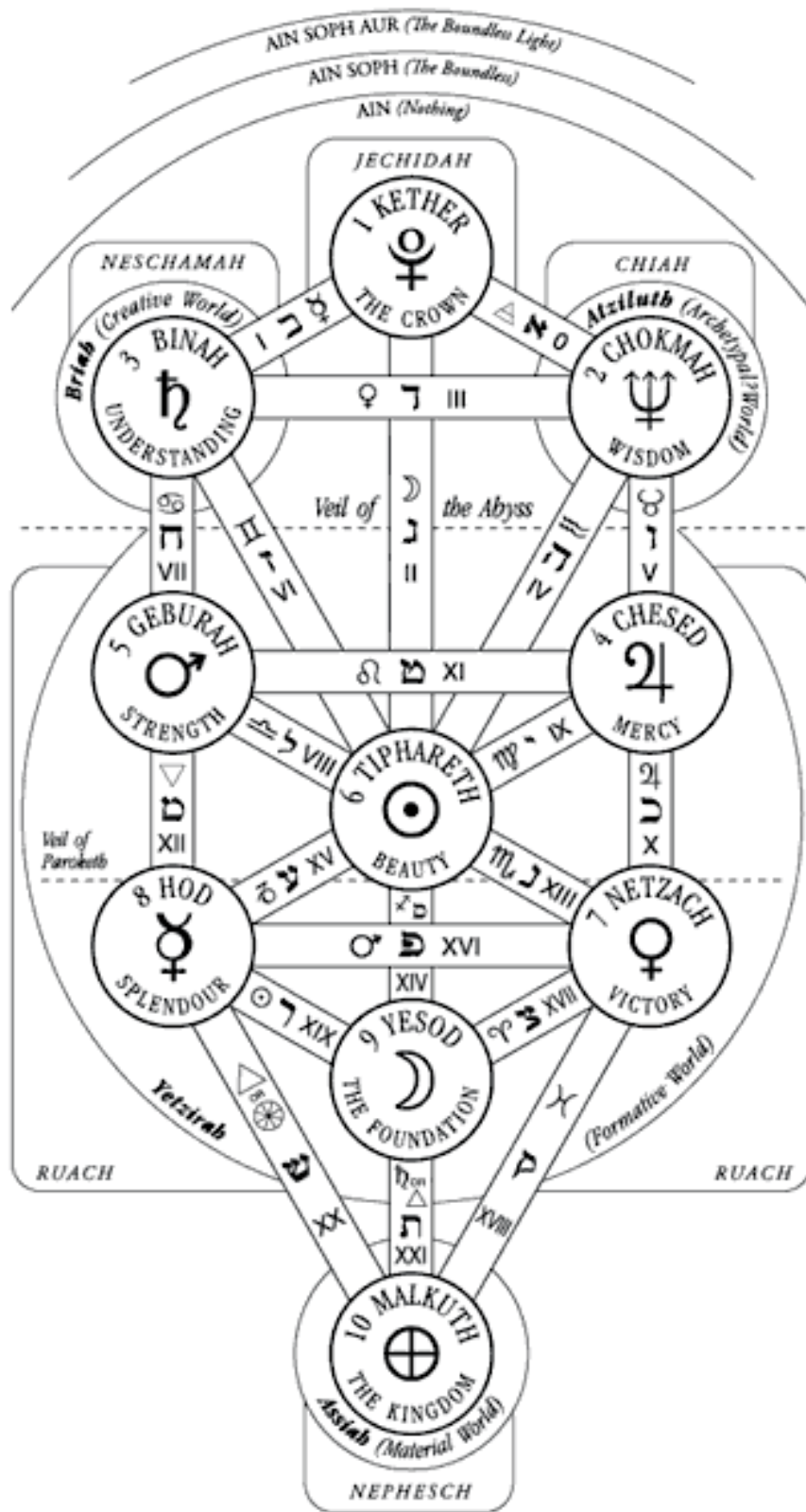


Figure 3.15: The Cabalistic Tree of Life with Hebrew letters assigned to each path.

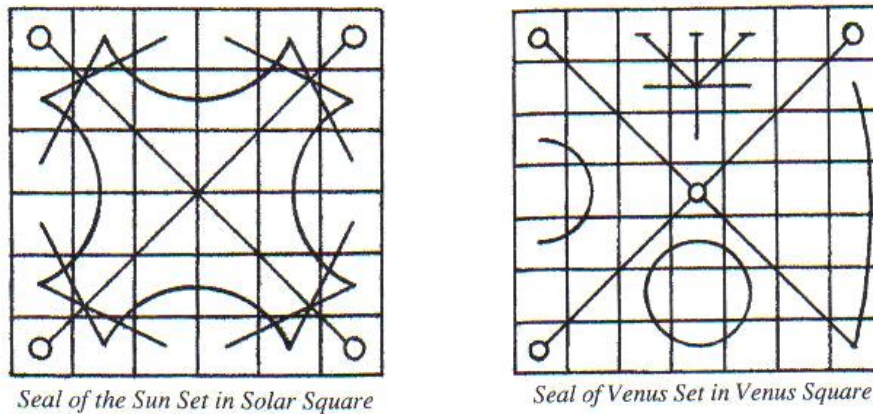
So for example if, like in Boethius' planetary attributions system (discussed in the previous chapter), where Mars is assigned the note E and Saturn the note G, then the letter ך (which joins the Sephirot usually assigned to these planets)<sup>171</sup> would therefore represent an interval of a third. "Composite" intervals can also be derived by using two intervals when the Sephirot involved are not connected by only one path, but by two or more.

#### ***3.4.2.2 'Contrapuntal Units' Derived from Hermetic Material***

There are, in the Hermetic tradition, some sigils which are 'polyphonic' in the nature of their design, being composed of more than a single continuous straight line with clear starting and ending points (see figure 3.16). These sigils usually depict a greater realm or sphere of operation, influence or habitation of spirits instead of a particular individual spiritual entity – for example the sigils that represent a whole planetary sphere – and perhaps it is precisely because of this that their overall designs are clearly comprised of several individual lines, shapes or smaller designs rather than of a single one, like sigils of spirits usually are.

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<sup>171</sup> I say "usually" because there are, in early cabalistic-Hermetic sources, contentions regarding the assignments of the planets to the Sephirot, though by the seventeenth-century they are already established as they are currently used. Kaufmann Kohler and Louis Ginzberg, 'Cabala' in *Jewish Encyclopedia.com*, 2005.  
<http://www.jewishencyclopedia.com/view.jsp?artid=1&letter=C&search=Kabbalah> (Accessed 11 Dec. 2005)



**Figure 3.16:** Two planetary seals drawn over planetary squares. Notice the rich polyphonic possibilities they suggest, if every line is interpreted as a pitch row.<sup>172</sup>

The possibilities of such sigils to represent contrapuntal textures instead of simply linear pitch rows are obvious and jump to the attention of the mind attuned with speculative music. In a certain way the contrapuntal treatment seems the only acceptable manner of dealing with these complex seals composed of many intersecting and simultaneous lines. They would render, after sonification, a sort of ‘contrapuntal unit’, instead of a pitch row, to be treated as a unified grouping of musical material, and not as individual lines, at least if its unity as a representational sign wishes to be kept,<sup>173</sup> in line with speculative music and the tenets of sonification.

These contrapuntal units in turn could be transposed, inverted or superimposed to generate other material, either through cabalistic or through musical methods of motive development. Perhaps a similar approach could be tried with other complex non-linear sigils as some of the ones shown in figure 3.2, provided that the

<sup>172</sup> From Donald Tyson, 'Magic Squares' in Tyson (Ed.) *The Three Books of Occult Philosophy: A Complete Edition* (St. Paul, MN: Llewellyn Publications, 2004), pp. 744-55.

<sup>173</sup> Eco, Umberto, *Signo* (Barcelona: Editorial Labor, 1994) [1973].

cryptographic base upon which they are drawn has been established. If it hasn't or can't be established, then other methods to sonify these sigils could be used, which fall out of the scope of the research at hand, but could prove an interesting and fertile branch of further research into speculative music of the Hermetic kind.

Similarly, other sorts of Hermetic materials with complex designs based either on letters or numbers, such as magic tables, both letter-based as well as number-based magical squares (like those found in the third book of famous medieval grimoire of Abramelin, translated by MacGregor Mathers),<sup>174</sup> the planetary magical sigils found in Agrippa's *Occulta Philosophia Libri Tres*<sup>175</sup> or the complex and sometimes surprising multi-lineal and coloured sigils found in the spirit-directories of Bardon<sup>176</sup> and Barrett<sup>177</sup> could be treated in this contrapunctual way, via their cabalistic interpretation.

### 3.5 Theories of Cabalistic Musical Time: Rhythm and Metre

#### 3.5.1 Rhythm

During my three years of research on the history of musical applications of cabala I have been unable to find systematic work on rhythm, unlike the case with pitch, for which several correspondence systems have been suggested in the past. The reasons

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<sup>174</sup> S.L. MacGregor Mathers (Ed.) *The Book of The Sacred Magic of Abramelin the Mage* (Mineola, NY: Dover Publications, 1976)

<sup>175</sup> Agrippa Von Nettesheim, *Occult Philosophy*, ed. Tyson

<sup>176</sup> Franz Bardon, *The Practice of Magical Evocation* Merkur Publishing, [1970], 2002)

<sup>177</sup> Francis Barrett, *The Magus: Complete System of Occult Philosophy* (York Beach, MN: Red Wheel/Weiser, [London, 1805], 2000)

for this, I venture, may be two-fold: Firstly, in traditional Jewish devotional music there is, in the words of Jewish-music scholar Idelsohn, a “complete absence of rhythmical music.”<sup>178</sup> This is due to “the abolition of bodily movements and percussive instruments from the [Jewish] service” for theological reasons.<sup>179</sup> There are indeed rhythmical modes, derived from Arabic music,<sup>180</sup> but as expressed in the chapter introduction, I am not interested here in doing an ethnomusicology of Semitic music, but rather a theoretical/speculative exercise of assigning musical parameters to cabalistic theories and principles.

A second reason for this lack of a cabalistic rhythmic tradition could be a mathematical one: the 22-fold (or at best 9-fold, as will be explained in detail below, in section 3.5.1.3.2) division of the Hebrew alphabet is mathematically incompatible with the primarily binary subdivision of Western traditional notated rhythm, as I will explain shortly (section 3.5.1.1.3), and besides that rhythmic parameters, being potentially more vast than pitch ones (at least when considered in the chromatic and diatonic systems), need a more detailed treatment, one that is more focused on the mathematical.

Since due to the above reasons I was unable to find historical work on cabalistic rhythm, this section is entirely speculative, in the sense that it only puts forward my particular suggestions to fill in this particular theoretical void, and does not offer any reviews of similar or related attempts done in the past by historical speculative music

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<sup>178</sup> Abraham Z. Idelsohn, *Jewish Music: its historical development* (New York: Dover Publications, Inc., [1929], 1992), p. 112.

<sup>179</sup> Ibid.

<sup>180</sup> Op. Cit., pp. 24-28.

theorists. My speculative endeavour is to correlate the cabalistic system with the modern *Western* musical system, and thus, methodologically, ethnomusicological data on the rhythmical practice of traditional Semitic music (whether Jewish or Arabic, liturgical or profane), have not been considered.

Rhythm is the musical parameter which can be most straightforwardly assigned to number. As has been already mentioned, through the techniques of literal cabala all the letters of the Hebrew alphabet can be turned into numbers. In this way single words in Hebrew (like names of Angels, Archangels or Spirits) as well as complete phrases (such as prayers or passages from the Bible) can be turned into streams or series of numbers which can later be ‘translated’ into musical material and transformed accordingly, either via techniques of musical transformation (of the kind used in counterpoint, motivic and thematic development) or through cabalistic techniques or letter-number modification, such as those used in permutation and other cabalistic cryptographic techniques (see section 3.2.1, *Constituent parts of cabala*, above, especially the section on literal cabala).

In this section I will discuss how the numbers commonly assigned to the letters of the Hebrew alphabet can be transformed into the most common rhythms used in Western classical notation. I will propose two basic techniques: that of addition and that of equal subdivision.

















































#### ***3.5.1.1 The rhythmic technique of addition***

In the technique of addition, an *atomic rhythmic unit* is chosen, below which no smaller rhythmic events will happen (therefore the appellation “atomic”, in its

etymological sense of *undivisible*). The streams of numbers derived from the cabalistic data inform us of how many of these units occur in a particular word, which would become, in cabalistic music, a contained unit of rhythmic and melodic content – a motive – just as a word is the first grouping of letters which has a meaning in language and is able to perform syntactic functions and be subject to grammatical inflection.

During the whole process one must refer to the numerical equivalencies of the Hebrew letters, as expressed in table 3.4.

Let us then set an example of how the method of addition works. For the sake of an example with lower letter-values, let's take the word אבבא (ABBA, *father*). The numerical equivalence of the Aleph is 1, while for the Beth it is 2 (refer to table 3.4). Therefore our example word would correspond to the numerical series 1-2-2-1. If we have decided our *atomic rhythmic unit* is the semiquaver, our motivic rhythm would be ♪ ♪ ♪ ♪. If we have decided the atomic rhythmic unit will be the quaver, then our resulting rhythm would be ♪ ♪ ♪ ♪, and so on, depending on the *atomic rhythmic unit* chosen, as shown in table 4.10 below:

Hebrew letter	Numeric Value	If the <i>atomic rhythmic unit</i> is 	If the <i>atomic rhythmic unit</i> is 	If the <i>atomic rhythmic unit</i> is 
א	1			
ב	2			
ג	3	 	 	 
ד	4			
ה	5	 	 	 
ו	6	 	 	 
ז	7	  	  	  
ח	8			
ט	9	 	 	 

**Table 3.10:** Rhythmic equivalencies of the first nine Hebrew letters, in the method of *addition*.

### 3.5.1.2 The Rhythmic technique of equal subdivision

The other technique I am proposing is that of equal subdivision. In this technique the method is exactly the opposite to addition, and so the results are therefore inverse: basically a very long unit is chosen, and then divided equally by the number of sub-units that the Hebrew letter-number suggests. In the example above (*ABBA*), if we










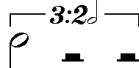


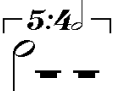

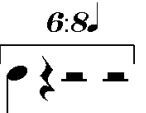
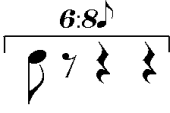
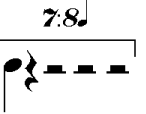
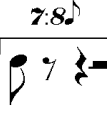


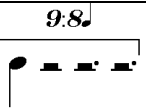

chose a semibreve as our unit to be divided, since a semibreve divided by 2 is a breve, the rhythmic equivalence of *ABBA*, 1-2-2-1 would be  $\circ \text{ } \downarrow \downarrow \circ \text{ } .$

Table 3.11 below shows some possible results for the first nine letters of the Hebrew alphabet. Notice that since this technique entails the dividing of a starting note by an  $x$  amount of notes of *equal* duration, the rhythms are not necessarily the most common ones which can be derived from the usual binary subdivision of rhythms found in basic rhythmic theory, as shown in figure 3.15. The consistent use of these types of rhythms could make notation extremely confusing, since our standard rhythmic subdivision is in halves, and all other rhythmic segmentations require the use of triplets. In this respect, it might be useful to see how Cowell's proposed rhythmic notation for non-binary subdivisions could be adapted to this type of cabalistic rhythmic rationale.<sup>181</sup>

A combination of rhythms derived from the additive and equal subdivision methods would therefore give the rhythmic material of a cabalistically-constructed piece more variety and interest.

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<sup>181</sup> Cowell, Henry, *New Musical Resources* (Cambridge: Cambridge University Press, 1996), quoted in Morgan, Robert P., *Antología de la música del siglo XX* (Madrid: Ediciones Akal, 2000), pp. 284-288.

Hebrew letter	Numeric Value	Fraction of the “whole” (1/1) note	If the “whole” note is  the fraction would be:	If the “whole” note is  the fraction would be:
א	1	$\frac{1}{1}$		
ב	2	$\frac{1}{2}$		
ג	3	$\frac{1}{3}$		
ד	4	$\frac{1}{4}$		
ה	5	$\frac{1}{5}$		
ו	6	$\frac{1}{6}$		
ז	7	$\frac{1}{7}$		
ח	8	$\frac{1}{8}$		
ט	9	$\frac{1}{9}$		

**Table 3.11:** Rhythmic equivalencies of the first few Hebrew letters, in the method of *equal subdivision*

### 3.5.1.3 Problems with the techniques as proposed, and cabalistic solutions to them

It must be stated that there are important practical problems with *both* techniques explained above, which I will examine in the following pages.

Both problems have to do with the fact that rhythmic notation and Hebrew numerology have different levels of subdivision: In the traditional rhythmic-tree diagram commonly used to express the binary subdivisions of rhythmic units by halves (illustrated below as figure 3.17, starting from a semibreve as first level of subdivision) there are a total of around seven levels of subdivision (though some theoreticians and composers have used additional, shorter rhythms after the hemidemisemiquaver).

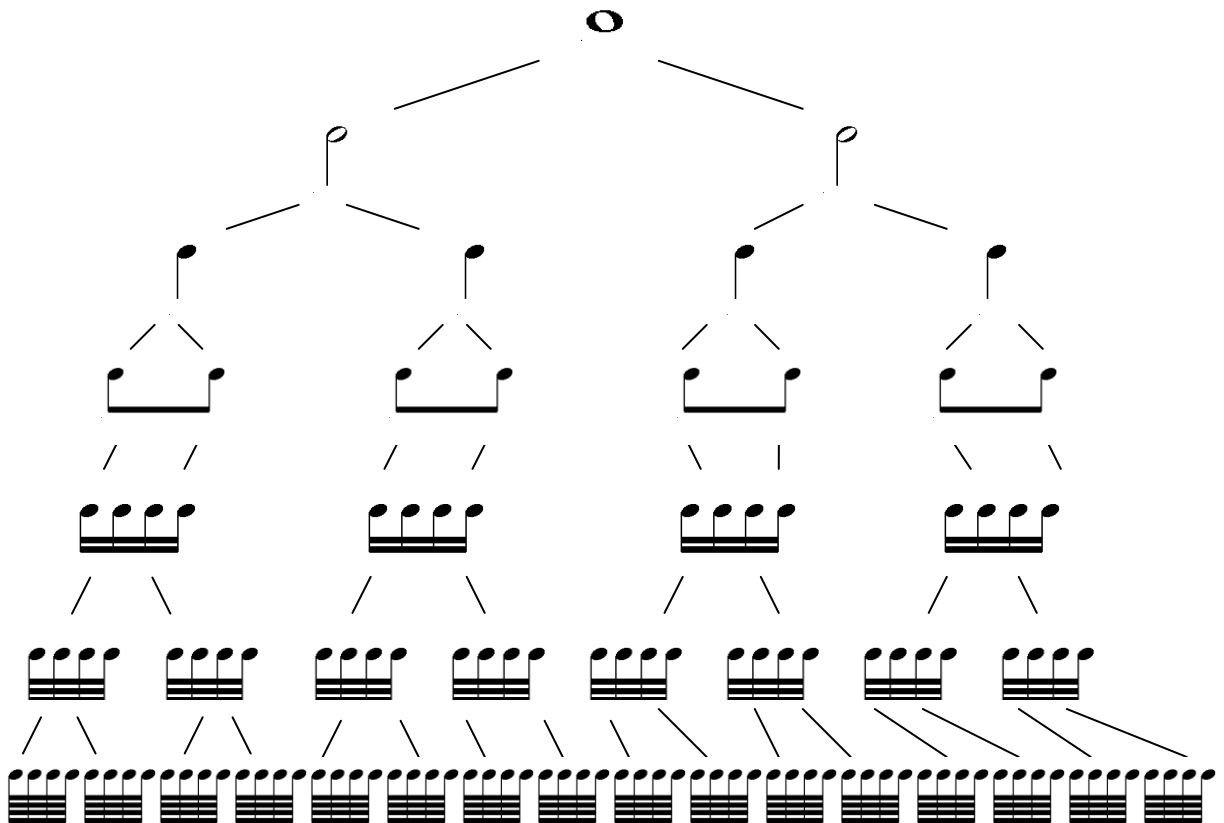


Figure 3.17: Traditional binary subdivision of the *breve*, levels 1 to 7.

As can be seen this system operates by halving or doubling: two lesser units make one at the next, higher level of longer duration, or one can be divided into two of half of its duration.

The numerology of the Hebrew alphabet on the other hand, as can be seen on table 3.4, operates not by doubling but by addition of successive ten steps within units, tens or hundreds. Thus there is a letter for each of the units from the numbers 1 to 10, but no individual letters from 11 to 19, since after 10 the next nine letters start increasing by tens: 20, 30, 40 and so on until 100, after which point a similar thing happens, each letter increases by a hundred with respect to the one previous to it. This is illustrated in table 3.12 below:

Value of steps	“Family” or stream increasing by steps of unit	“Family” or stream increasing by steps of tens	“Family” or stream increasing by steps of hundreds
1	א (1)	י (10)	ק (100)
2	ב (2)	כ (20)	ר (200)
3	ג (3)	ל (30)	ש (300)
4	ד (4)	מ (40)	ת (400)
5	ה (5)	נ (50)	ך (500)
6	ו (6)	ס (60)	ם (600)
7	ז (7)	ע (70)	ן (700)
8	ח (8)	פ (80)	ף (800)
9	ט (9)	צ (90)	ץ (900)

**Table 3.12:** "Families" of Hebrew letters, according to the size of the “steps” separating them.

Thus we can see that while the system for rhythms shown in figure 3.17 only has one stream with around seven steps which are related to each other by doubles or halves, the cabalistic system has 26 steps (because in traditional literal cabala the final letters are counted as separate numerical entities). These 26 letters are grouped in three streams or families of nine subdivisions in which each term in each stream is related to the others of the same stream by units, but since the steps in the different streams can be of units, tens or hundreds interesting distances between the terms might happen: just as one letter might be related to another by 1 unit (like from Aleph א to Beth ב, one term in that “stream” of units), the same letter can also be related to another one by up to 899 steps of its kind (like from Aleph א to final Tzaddi ז, written ז׳, nine steps down the lines of the table, but between two streams in which the steps operate by different quantities, totalling 899 units).

As can be foreseen, the process of simply superimposing one system over the other will yield results which are out of the logic of the one which is forcefully made subject to the other – in one word it will be nonsense: either unmusical results if the rhythms are calculated strictly cabalistically, or “un-cabalistic”, accommodated or simply un-systematized rhythms if they are calculated following the traditional musical logic of rhythmic binary subdivision disregarding numerical cabala. This might explain why in my literature review no instances of utilizing cabala to derive rhythms or other duration parameters of music emerged – apart from those directly

related to emotional expression as sole arbiter and guiding point.<sup>182</sup> This might also explain other musically very weak correspondence systems hinted at by some authors regarding other musical parameters, such as the pitch correspondences of the Hebrew letters proposed by Glazerson, discussed before, in section 3.3.2.4.<sup>183</sup>

### 3.5.1.3.1 *Examples of non-correspondence between musical and cabalistic numeric correspondences when applied to rhythm.*

For the above reasons, whereas words having adjacent letters or letters very close to each other (in the same stream or family as shown in table 3.12), such as אבנא (ABBA, father), would produce cabalistic rhythms which seem playable and musically logical enough (such as the motives ♪ ♪ ♪ ♪ or ♪ ♪ ♪ ♪), most words of a natural languages such as Hebrew are obviously not constructed following these kinds of parameters. Therefore a mix of low-value and high-value letters is the norm rather than the exception. Such words as ארץ (ARTz, earth) with letter-number values of 1, 200 and 900 are common, and, when following the additive or equal subdivision systems outlined above, would give three rhythmic events proportional in duration to



in the additive


method, or even worse, 1,  $\frac{1}{200}$  and  $\frac{1}{900}$  times a starting unit in the method of equal


<sup>182</sup> Pinson's book, for example, focuses on Hassidic mystical chant and dance, and his discussion of the subject is either stylistic, religious or theological, but never technical or musicological. Pinson, DovBer, *Inner Rhythms: the Kabbalah of Music* (Northvale, NJ: Jason Aronson, 2000).

<sup>183</sup> Glazerson, *Music & Kabbalah*

subdivision (I will not even try to write these fractional values in standard musical notation here).

Not only the disparities between members of different letter families are a problem: even words composed of letters from the same stream or family might be problematic when transformed to rhythm if their values are too high, due to the differences in proportion between cabalistic and musical rhythms. An example is the word  $\text{שמש}$  (ShMSh, *Sun*), for which the corresponding numeric series is 300-40-300. This would

give, in the method of addition, rhythms binarily proportional to  ,

 (shorter by halves or longer by doubles depending on the *atomic rhythmic unit* used), while in the method of equal subdivision, it would give rhythms equating

$\frac{1}{300}$ th  $\frac{1}{40}$ th and  $\frac{1}{300}$ th. of the value of the starting note (ibid.), which obviously is

impossible to write down in traditional musical notation (and it would be quite foolish to even try to do so, since even if written it would not hardly readable or playable by human musicians).

Similarly, since metric markings in traditionally notated music are based on the standard binary subdivision shown in figure 3.17 (or the “exceptions” or “accommodations” to it which resorts when using triplets, a few of which are expressed in table 3.11), metrical markings are susceptible to these same problems, with the aggravating factor that a metrical marking has *two* numerical components (numerator and denominator, which correspond to number of beats per bar and the type of subdivision of the semibreve used as “beat”), so therefore the problems is

potentially doubled. The steadfast application of the methods proposed above would render metric markings such as  $\frac{x}{y}$ , with  $x$  amount of beats (possibly to be determined by other cabalistic factors, such as total numerical value of a particular word or underlying dominant number, for example), of  $y$  type of equal subdivision of the semibreve, which may well be so eccentric as  $\frac{1}{30}$  th. or  $\frac{1}{900}$  th. of a semibreve. These metrical markings are clearly highly abstract and often even impossible to express in standard musical notation, and again it is dubious they would be of any perceptible musical significance.

Even though the hypothetical rhythms or metres thus derived could be certainly considered as consistent musical renditions of Hebrew letter values according to the methods proposed above, they are to be judged mostly, or to a certain important degree, as impracticable. Perhaps more importantly, I am not entirely convinced of the musical effectiveness of such nearly-impracticable, unwriteable and possibly even imperceptible mathematizations of sound. But here I must confess I am not a total serialist, so my judgement on this matter may be biased by my lack of experience and practice writing music in styles and with construction methods which defend utter and millimetric control of the pre-compositional material for the sake of their internal congruence and consistency.

Yet the possible application of these equations to music which does not involve human performers but which can be controlled by the composer to the most minute detail (such as electronic or computer music) should be considered. In this type of compositions rhythmic units could be, for example, a second of chronometric time



rather than a quaver, crotchet, semibreve or other figure of traditional musical notation, and so a final *tzaddi*, ( ץ ), worth  $\frac{1}{900}$  of a time unit in the method of equal subdivision, could be rendered as a  $\frac{1}{900}$  th. of a second, almost a millisecond, which is perfectly possible to produce in this kind of music, though again one may argue if it is significantly perceptible by the audience.

This possible application in electronic music of the methods discussed just as they stand is the reason why I include them here, rather than just expurgating them from my text and offering only the “corrected” version I explain further in the following section.

But for the sake of music designed to be played by human performers, and written in conventional musical notation, I have tried to correct these imperfections, and this by using the logic and the tools put forward by literal cabala, specifically the technique of *Aiq Bekar*, or cabala of the nine chambers, one of the various techniques of *temurah* or esoteric cryptography.<sup>184</sup>

### ***3.5.1.3.2 Cabalistic solutions to these problems***

The *Aiq Bekar* effectively reduces the 22-unit system of the Hebrew alphabet to the 9-unit system of the Pythagorean table, as expressed in the tables on Pythagorean numerology above, tables 3.1 through 3.3.

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<sup>184</sup> Godwin, *Cabalistic Encyclopedia*, p. 13.

This means that only *nine* terms are counted, regardless if they are units, tens or hundreds. Thus values 1, 10 and 100 are considered of the same type, belonging to a single of the nine “chambers” of the table, and the same goes for all of the other numbers.<sup>185</sup> Here is the table for the Aiq Bekar:

300 30 3 ש ל ג	200 20 2 ר כ ב	100 10 1 ק י א
600 60 6 ם ס ו	500 50 5 ך נ ה	400 40 4 ת מ ד
900 90 9 ץ צ ט	800 80 8 ף פ ח	700 70 7 ן ע ז

**Table 3.13:** The Aiq Bekar or Cabala of Nine Chambers

The method derives its name from the first six letters of the table (read from right to left from the upper right corner) which are **אִיק בְּכַר**, or *AIQ BKR*.

As can be seen through the system of *Aiq Bekar* all numbers of the Hebrew alphabet can be reduced to nine digits, and so the complications of higher rhythmic or metric additions or subdivisions are reduced to those shown in the first nine terms of tables

<sup>185</sup> MacGregor Mathers, *Kabbalah Unveiled*, p. 10

3.10 and 3.11. This still leaves some rhythmic subdivisions (if working by subdivision) which present unusual tuplets, or rhythmic units (if working by addition ) which are the equivalent of double- or triple-dotted notes, again not very common in notated music, but however unusual they may be, at least they can be expressed by ordinary musical notation, which is certainly not the case in the metric aspect without resorting to the *Aiq Bekar*.

Thus cabala has solved for us the problem of fitting one type of mathematical system into another structurally different, very much like astrology helped us solve a similar problem when trying to fit the 22 letters of the Hebrew alphabet into the 12 notes of the chromatic scale, as was explained in section 3.3.3.2.4 above.

### 3.6 A short note on timbre

Historically, many of the theories which relate timbre to extra-musical aspects resort either to a perceived emotional quality or to an association of specific instruments or groups of instruments in order to formulate these associations. For example, string instruments, having the capacity of being especially mellow, are usually related to Venus and sensuality, while brass instruments, being loud, heroic and often used in military bands, tend to be related to Mars. These associations are clearly planetary, and as such they should be treated astrologically, as explained in the previous chapter.

Other association systems work with visual metaphors, and this is why timbre is also known as ‘tone colour’. Instrumental colours are therefore sometimes defined as dark or light, shiny or opaque, shimmering or dull, etc.

Both these kinds of associative trains of thought rely on emotional or subjective appreciations, and therefore can be closely related to the emotional aspect of the human being. Yet some occult systems are more resistant to these kinds of interpretations than others. Cabala, being of a mathematical and metaphysical nature, is notoriously abstract. As has been seen, literal cabala deals with abstract mathematics in the form of letter/numbers, and thus emotional qualities are not usually discussed or admitted in it (like questions around if a certain letter/number is happy or melancholic, outgoing or inward-looking, etc.) Even though numerology is often considered as ‘qualitative mathematics’, this qualitative interest does not go to the point of assigning emotional qualities to mathematical abstractions (though forms of contemporary Latin alphabetical numerology do assign restrictive or positive influences to numbers, very much as is done in traditional astrology).

### 3.7 Chapter Conclusions

I have thus covered in this chapter the musical parameters of pitch, harmony, counterpoint as well as rhythm and metre as they can be related to cabala.

The variety of the methods described, and the considerable differences in the results obtained by applying them, highlights one of the main characteristics of speculative music throughout its history: namely, its non-sectarian attitude towards knowledge, which results in a very free and almost individualistic approach to its problems, breeding in those who work in it a tendency to shun the construction of a unified and historically consistent corpus of knowledge. This might baffle those who approach the construction of knowledge with a modernist scientific mindset, seeking to unearth underlying universals rather than aiming for individual yet coherent explanations of

the world.<sup>186</sup> But one must remember that the latter, rather than the former, was considered of higher spiritual value and therefore assigned priority in the original Hermetic method, and because of this universalism and repeatability are not part of its intrinsic spirit of enquiry.<sup>187</sup>

Another matter that might seem a little problematic in the light of the modern scientific mindset is the apparent arbitrary assignation of correspondences from one system to another. One may ask quite legitimately “Why does the note C correspond to the letter Aleph or Aries and not Pisces and Shin, for example?” This is a problem that magical scholar Bill Whitcomb has also noticed, and I can not find a better way to respond to this challenge than to quote his own reply, included almost at the end of his 592-page-long manual on magical correspondences *The Magician’s Companion*:

While this system (like many magical systems) may seem arbitrary and simplistic, the names produced do have an analogical relationship to the interaction of concepts labelled by them. In the magical sense, the relation of two elements by meaning is an action. The act of relating, of perceiving pattern, creates a magical link between the elements so perceived.<sup>188</sup>

In this sense, since all of the systems reviewed in this chapter relate musical parameters with other categories of units such as letters or numbers, and furthermore perceive, explore and find patterns between them, they are as magically correct as can be expected of a magical system of correspondences. They are their author’s own proposals to include pitches in the intricate and inter-connected correspondence

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<sup>186</sup> Schumaker, *The Occult Sciences in the Renaissance: A Study in Intellectual Patterns* (Berkeley, L.A.: University of California Press, 1972)

<sup>187</sup> Godwin, 'Speculative Music'

<sup>188</sup> Whitcomb, *Magician’s Companion*, 447

systems so typical in the Hermetic Tradition. They are, in a sense, different approaches to a Hermetic theory of pitch. Which of these methods is to be accepted, embraced, used or modified is up to the individual music-maker to decide, and I would be betraying the spirit of Hermetic individualistic spirituality and non-sectarian approach to its vast corpus of knowledge if I were to suggest that any of the methods reviewed is to be taken at face value as superior to the others. I do have my preferences, and I believe these are clear from my way of explaining or commenting on the material. But I do not wish to close the door of exploration of any of the methods described by intrigued and interested experimenters, no matter how limited I might consider some of them. The limitations of any given system are after all my own opinions and understanding of them, based on my particular, individual and utterly irrepetible musical, intellectual, aesthetic, theoretical and even personal life experiences, and I will not fall in the trap – though I have been lured into it by some reviewers and commentators of this text in its embryonic form – of firmly establishing or rejecting the “validity” or “correctness” of one system over another, offering my readers the quintessence of ultimate Truth in musical symbolism. This, I believe firmly, would contradict the epistemological stance of contemporary Hermeticism, and be ideologically inconsistent, and by being so, it would inevitably become ethically questionable. I leave it as it is then, for the mentioned reasons, for the perusal and individual weighing of the reader.

In the following section of my thesis (Part II, the portfolio of compositions and commentaries on them), I hope to show in a very explicit manner how several of the theories, techniques, procedures and general inspirations that have been explained in this and previous chapters come to fruition in my compositional creative processes,

either at the extra-musical, pre-compositional or compositional levels of working on the pieces.

## Part II: The Portfolio of Compositions



# Preface to the musical portfolio

In this second part of the thesis I have included the musical compositions on which I have ‘tried out’ the various theories and techniques discussed in the textual component.

During my research many more pieces were sketched trying out other techniques and theories in the spirit and tradition of speculative music (using magic squares for example, as discussed in chapter 3, section 3.3.2.2), but in many cases the data was insufficient, the techniques as presented by the sources were underdeveloped, or the musical results that came about from developing my own techniques based on the extant reports, and later applying these techniques to composition, did not reach a level of aesthetic or technical development mature enough for the pieces to prosper, or for me to find them artistically worthy of being included here, as the practical demonstrations of the techniques and theories reviewed and discussed in chapters 2 and 3.

Therefore, the following portfolio includes only the pieces that I find most representative of my technique-building experiments, based on the theories of speculative music, especially of the Hermetic strand on which I focused my research. Most of these pieces were performed publicly in a concert at the King’s Hall, Armstrong Building (Newcastle University, Newcastle upon Tyne, England) on Wednesday November 21, 2007. I include a CD recording of this concert as an annex to this volume, and a track list is included as Appendix III.

The attentive listener will notice that the performance versions don't always match, in all cases, the scores, line by line. This is due to several reasons: for one, the preparation and public performance of the pieces allowed me to re-think some of them, and revise them. The printed text of the scores presented here includes the most recent and updated versions of the works, which not always match the performance given in November 2007. Other of the pieces are of an open or variable structure, so each performance would naturally differ from any other, sometimes substantially. Moreover, I am a staunch believer in the autonomy of the performer from the written text (which may sound a bit unusual for a composer): I believe a score *suggests* rather than binds, and that circumstances from the real world force the conductor or other musician responsible for the preparation and performance of a work to take certain decisions that may distance the final sounding result from the composer's *suggestions* as written in the score. In other words, *not* to follow the score *ad literam* in order to cope with certain demands of the circumstances of rehearsal and performance is a right I grant to the performers, a right with which I have never had any problems in my more than twenty years of career as a composer. Sticking to my guns, I sometimes follow this same guideline when performing, conducting or preparing my own works; this concert has not been an exception: certain things had to be changed in order to accommodate for particular demands of the space, the performers or the proposed duration of the concert, and these changes were made accordingly. A case in point is the piece *HaShem* (number 2.3 in this portfolio), which if performed as notated would last close to an hour. As a composer I certainly wish it to last that long, but since the programme for the night had to include other pieces from the portfolio, a shorter version was performed that night, more as a sample of the general ambiance of the piece than as the whole piece in itself. The same can be said of *The Prayer of Osiris*

(number 1.2). Other changes are more conductor's decisions: in *Sicut Superius est Inferius* (first movement of 1.1) for example, the score indicates that the first, legato section should be sung only by men. This is a compositional decision that affects sound colour, and was made very consciously when composing. But when rehearsing the piece, due to the imbalance in numbers of the choir (many more women than men, and even less when the solo parts were taken from the men's section), the effect was almost inaudible: the conductor suggested (and I as producer accepted) that the timbric concerns of the composer had to be bypassed if the melodic/harmonic drone that is performed throughout the piece was to be heard: therefore, it was decided that the women also sang this part. Comparable situations account for other variations between the written score and the performed version.

Due to the above reasons, a certain discrepancy can be noticed between the recorded performance and the written scores. But it has to be considered that the scores are my proposals as a composer (and this is why they are included here) , while the concert I managed and prepared is my proposal as a concert producer and manager, and both are different roles, even if undertaken by the same individual to perform his own pieces. If the reader/listener has an issue with this discrepancy, it could be blamed on the concert producer, for taking the decision of making changes or cuts, or even on the composer, for being so lenient with producers and performances (as he has always been), but the text mainly under discussion in the portfolio is the written scores, and not the recorded version of a concert of samples or selections of longer works, and therefore the recording should be approached as a further *illustration* of the scores (an appendix indeed, as it is presented here), and not as canonical text.

I have decided to order the portfolio following my own proposal of catalogation of speculative music in three levels, presented in chapter 2, “The Repertoires of Speculative Music”, especially in section 2.2.

Thus, I will first present the scores of two **pieces at the intuitional, inspired and aesthetic level**, that is to say, pieces in which ‘inspiration’ has been allowed to flow freely, with very little pre-compositional or technical considerations underlying the piece, except for a general ‘ambiance’ or ‘atmosphere’ of occult themes, texts or styles, especially of the Hermetic outlook and the tradition of Jewish synagogue song.

The pieces included in this first section are “*Dicta Hermetica*”, a cycle of choral *capella* songs inspired by Hermetic sayings or principles, and the “*Prayer of Osiris*”, a prayer to the Lord of the Universe used in many ritual and initiatic instances by the influential Hermetic Order of the Golden Dawn, and the tradition of ceremonial magic it spawned in contemporary practical Hermeticism.

The second part of the portfolio includes **pieces at the symbolic level of speculative music**, that is to say pieces in which certain musical gestures represent extra-musical ideas – in this case mostly esoteric – by virtue of analogy or comparison, playing with our culturally inherited associations of ideas. For example, in the first piece of this section, “*ascension*”, for solo piano, the lofty realm of the spiritual is represented by a light passage in the high section of the piano, while the weight of the earthly realm is summoned into the piece by a low and slow attack on the lowest register. Similarly, the other pieces of this section, “*Ararita*”, “*HaShem*” and “*The Emerald Tablet of*

*Hermes Trismegistos*” also muster common cultural associations to represent the esoteric ideas the pieces are based on.

The third and last section of the portfolio consists of the **pieces at the speculative level**, in which the musical material itself has been selected or in some cases derived by using correspondence theories that connect the musical and the esoteric aspects through patterns of association that are more elaborate and calculated than in the type of direct symbolic association referred to in the previous section. These patterns are sometimes geometrical, sometimes philosophical, sometimes numerological, sometimes astrological/astronomical or sometimes theological-speculative, depending on the systems that I have reviewed, adapted or developed for each individual piece. Whatever the case may be, I have explained the procedures and rationale at length in the commentary preceding each work. This third section includes my pieces “*The first astrological house*”, “*In the first house, Venus at 17 degrees of Scorpio*”, the musical setting of the Golden Dawn ritual of the “*Cabalistic Cross*”, in three different formats, and another setting, this time for choir and organ, of the *Lesser Banishing Ritual of the Pentagram*, another important ritual in the Golden Dawn tradition.

All scores are prefaced by a commentary, which sometimes is highly technical, sometimes explanatory, sometimes it gives a report on the authors and sources that were researched and studied in order to provide a background for the piece, and at times it is merely anecdotal, referring to the circumstances of the creation of the piece that follows. The idea of all of these commentaries is to situate the reader in the intellectual or creative processes that allowed the development of the piece, or explain

the motivations behind the music, as well as the technical choices that were made in its composition.

The scores themselves are also sometimes – especially in the case of the last two levels of music with occult subtexts as defined in my catalogation proposal – ‘critically edited’, that is to say, they include commentaries right on the spot of the score where I have wished to point out a certain structural or symbolic element to the reader. They are therefore not strictly ‘performance scores’, but rather ‘study scores’, or more precisely, ‘analytical scores’.

# Section 1 - Pieces Composed at the Intuitional, Inspired and Aesthetic Level of Speculative Music

1.1. *Dicta Hermetica*, song cycle for SATB choir *a capella*

1.2. *Prayer of Osiris*, for solo baritone, sustaining instrument and additional melodic instruments and voices.

## 1.1 *Dicta Hermetica* (Hermetic Sayings), a song cycle for SATB choir *a capella*

This song cycle sets to music the texts of three traditional Hermetic sayings or aphorisms: one from the ancient *Emerald Tablet* (see commentary to piece 2.4 for additional background on this)<sup>1</sup>, one from medieval alchemy,<sup>2</sup> and a third one attributed to one of the founders of the Hermetic Order of the Golden Dawn, Samuel Liddell MacGregor Mathers (1854-1918).<sup>3</sup> The fourth of the ‘sayings’ provides a humorous note to the cycle, as it sets to music the *motto* of the fictional magic school *Hogwarts*, from the best-selling *Harry Potter* saga by J.K. Rowling.<sup>4</sup>

These choral songs are composed in what I have called in chapter 1 ‘the intuitional, inspired or aesthetic level of speculative music’ (chapter 1, section 1.2.3). As I have said, at in this level “the composer is basically inspired by a theme, an atmosphere, perhaps even a title, a character or a concept, and goes on to compose music for it in the same way that he would compose any type of music; in effect the occult theme does not influence his system of composition, his choice of material, his inclusion of

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<sup>1</sup> “*Sicut superius est inferius*”, as above so below.

<sup>2</sup> V.I.T.R.I.O.L., an acronym for *Visita Intereriores Terrae, Rectificando Invenies Occultam Lapidem*, (visit the inner most parts of the Earth, through rectification you will find the Occult Stone). Hauck, Dennis William, *The Emerald Tablet: Alchemy for Personal Transformation* (London: Penguin Compass, 1999), p. 168.

<sup>3</sup> His aphorism is “There is no part of me which is not part of the gods”.

<sup>4</sup> The motto goes *Draco dormiens nunquam titillandus*, ‘never tickle a sleeping dragon’. Kirk, Connie Ann *The J.K. Rowling encyclopedia* (Westport, CT: Greenwood Press, 2006), p. 98.



it in the piece or his development of it in any way that we could say is different from the procedures that would be generally used for other types of ‘non-occult’ music.”<sup>5</sup> In the case of this cycle, it is the text which has inspired a connection to the occult (the Hermetic tradition in this case), but no occult paradigm, idea or method has informed the choice of musical gestures, materials or systems. An arguable exception – and a long shot at that – would be the fourth piece, *Draco dormiens*, in which the snoring of the sleeping dragon is imitated by the male voices, while the female voices naughtily ‘tip-toeing’ the text about not waking up the dragon. But this is an instance of traditional setting of text to music which depicts the scenes of the text, and has no deeper connection with the occult at levels different than the text, as happens in the pieces included in sections 2 & 3 of the portfolio.

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<sup>5</sup> Chapter 1 of this thesis, p. 37.

## The texts

The texts set to music, and their origins, are given below. I have included translations at the right hand side of the page:

1. Sicut superius est inferius.	1. 'As above so below' (from the Emerald Tablet of Hermes Trismegistos).
2. <i>Visita Intereriores Terrae, Rectificando Invenies Occultam Lapidem</i>	2. 'Visit the inner most parts of the Earth, through rectification you will find the Occult Stone'. (From the medieval alchemical tradition).
3. There is no part of me which is not part of the gods	3. (Reputedly stated by Samuel Lyddell MacGregor Mathers, founding member of the Hermetic Order of the Golden Dawn 1888).
4. <i>Draco dormiens nunquam titillandus</i>	4. 'Never tickle a sleeping dragon' (from J.K. Rowling's 'Harry Potter and the Philosopher's Stone' – 1997).

# 1. Sicut superius est inferius

Musical score for the piece "1. Sicut superius est inferius". The score is arranged for a choir and soloists. The parts are:

- Solo baritone 1
- Solo baritone 2
- Solo bass 1
- Solo bass 2
- Sopranos
- Altos
- Tenors
- Basses

The score is written in 4/4 time. The Tenors and Basses parts are marked *pp* (pianissimo). The Tenors part includes a vocal line with a slur over the first two measures and a "U" marking below the first measure. The Basses part includes a vocal line with a slur over the first two measures and a "U" marking below the first measure. The Soprano and Alto parts are currently blank.

5

Bar. 1

Bar. 2

B. 1

B. 2

T.

B.

U

U



9

Bar. 1

Bar. 2

B. 1

B. 2

T.

B.

*H mp*

Si - - cut su - pe - ri - us

*pp*

*pp*

U

U

13

Bar. 1

Bar. 2

B. 1 *mf*  
est in - fe rius

B. 2

T.  
U

B.  
U



17

Bar. 1

Bar. 2 *H mf*  
Si - - cut su - pe - ri - us

B. 1 *mp*  
Si - - cut su - pe

B. 2

T.  
*molto p*  
U

B.  
*molto p*  
U

21

Bar. 1

Bar. 2

B. 1

B. 2

T.

B.

*mp*

est in - fe -

ri - us est in - fe

U

U



25

Bar. 1

Bar. 2

B. 1

B. 2

T.

B.

*mf*

*mp*

*p*

Si -

fe - - - rius.

rius. Si - - cut

U

U

Bar. 1  
cut su pe - ri - us

Bar. 2  
- cut su - pe - ri - us

B. 1  
su - pe ri - us est in - fe -

B. 2

T.  
U

B.  
U



Bar. 1  
est in - fe - ri - us

Bar. 2  
est in fe - ri -

B. 1  
- rius Si - -

B. 2  
*f non tanto* H

T.  
*mp* U

B.  
*mp* U

37

Bar. 1  
Si - - cut su - -

Bar. 2  
us Si

B. 1  
cut su - pe - ri - us est

B. 2  
cut su - - pe - ri - us

T.  
U

B.  
U

*mf*

41

Bar. 1  
pe - ri - us es

Bar. 2  
cut su - pe - ri - us

B. 1  
in - fe - - - - rius

B. 2  
est in - fe - ri - us

T.  
U

B.  
U

*mf*



45

Bar. 1  
in - fe - ri - us Si - cut su

Bar. 2  
est in - fe - ri - us

B. 1  
Si - - cut su - pe - ri - us

B. 2  
Si - - cut su - - pe - ri

T.  
U U

B.  
U U



49

Bar. 1  
pe - ri - us est

Bar. 2  
Si - cut in - fe - ri - us

B. 1  
est in - fe ri - us

B. 2  
us est in - fe - ri - us

T.  
U U U

B.  
U U U

54

Bar. 1  
 Si - - cut su - pe - rius est in - fe - ri - us

Bar. 2  
 su - pe - ri - us

B. 1  
 est in - fe - ri - us

B. 2  
 Si - - cut su -

T.  
 U U U

B.  
 U U U



58

Bar. 1  
*f* Si - - - - cut

Bar. 2  
*f* Si - - - - cut

B. 1  
*f* Si - - - - cut

B. 2  
*f* Si - - - - cut  
 pe - rius

T.  
*mf* U U U

B.  
*mf* U U U

63

Bar. 1  
su - - pe - ri - us

Bar. 2  
su - - pe - ri - us

B. 1  
su - - pe - ri - us

B. 2  
su - - pe - ri - us

T.  
U

B.  
U



67

Bar. 1  
est in - fe - ri - us.

Bar. 2  
est in - fe - ri - us.

B. 1  
est in - fe - ri - us.

B. 2  
est in - fe - ri - us.

T.  
U

B.  
U

*morendo tutti al niente*

*morendo tutti al niente*

Duratio: ca. 4'

## 2. Visita Interiora Terrae...

Moderato meditativo (♩ ca. 68 m.m.)

Sopranos

Vi - si - - ta in - te - rio - ra

Altos

Vi - si - - ta

Tenors

Basses



8

S.

Te - rrae

A.

in - - - te - - - rio -

T.

*p* Te - rrae *mp* Ve - ri - fi - can -

*p poco crescendo* -----

B.

ve - ri - fi - can -

**molto meno mosso** ♩ ca. 58 m.m.)

13 *p* misterioso

S. *p* in misterioso ve - ni - es

A. - ra in - ve - ni - es

T. do in - ve - ni - es

B. do in - ve - ni - es



Duratio: ca. 1'

18 *più p* e diminuendo al fine -----

S. *più p* e diminuendo al fine ----- cul - tam la - pi - dem.

A. oc - cul - tam la - pi - dem.

T. oc - cul - tam la - pi - dem.

B. oc - cul - tam la - pi - dem.

## 3. There is no part of me which is not part of the Gods.

$\text{♩} = 100$

Soprano solo

Sopranos

Altos

Tenors

Basses

*p dolce*      *poco ritenuto*      *in tempo*      *poco ritenuto*

Ah ah ah      ah      ah ah ah      ah

Ah ah ah      ah      ah ah ah      ah

Ah ah ah      ah      ah ah ah      ah

Ah ah ah      ah      ah ah ah      ah

**==**

S. solo

*mf dolce, espressivo*

There is no part\_\_\_ of me      which is\_\_\_ not      part of the e-

*simile il tempo a fine (poco ritenuto al 3/4 e in tempo al 4/4)*

S.

A.

T.

B.

ah ah ah      ah      ah ah ah      ah

ah ah ah      ah      ah ah ah      ah

ah ah ah      ah      ah ah ah      ah

ah ah ah      ah      ah ah ah      ah

5

S. solo

ter - nal Gods

S.

ah ah ah ah ah ah ah ah

A.

ah ah ah ah ah ah ah ah

T.

ah ah ah ah ah ah ah ah

7

S. solo

There is no part of me

S.

ah ah ah ah

A.

ah ah ah ah

T.

ah ah ah ah

8

S. solo

which is not part of the Gods!

S.

ah ah ah ah ah ah ah ah

A.

ah ah ah ah ah ah ah ah

T.

ah ah ah ah ah ah ah ah





# 4. Draco Dormiens Nunquam Titillandus.

Playful (♩ ca. 68 m.m.)

Sopranos

Altos

Tenors

Basses

The men singing with their eyes closed, as a sleeping dragon:  
Softly whistled or half whistled (attention to the octave sign, this must be a middle C starting!)\*

*molto p*

B.C., almost mumbling:  
(the lowest pitch basses can sing)

*molto p*



5 Softly and naughtily, trying not to get caught!

S. *p* Dra-co dor-miens

A. *p* Dra-co dor-miens

T. *p* Dra-co dor-miens

B. *molto p*

\*Whistling while inhaling works especially well in this context

16

8

S. nun - quam ti - ti - lland - dus!

A. nun - quam ti - ti - lland - dus! Very suddenly open eyes and cut your note: you have been awoken!\*

T. *gliss.* (almost a quick growl)

B. *gliss.* *mp* subito

(lungo il glissando)

\*Suddenly opening the mouth while whistling works especially well in this context!

## 1.2 Prayer of Osiris

for solo baritone, sustaining instrument and additional  
melodic instruments and voices

This prayer is uttered to the Lord of the Universe by the leader of the ceremonies in a Golden Dawn Temple, the *Hierophant*,<sup>1</sup> during the 0=0 or *Neophyte* ceremony, the first of the 5 initiatory ceremonies of the curriculum of the Outer Order of the Golden Dawn.<sup>2</sup> It is said after the candidate has undergone the central part of his or her initiation, and technically has been duly accepted into the Order as an initiate. Its name, “the Prayer of Osiris” is somewhat cryptic, due to an obscure esoteric association: the Hierophant takes on the ‘Divine Form’ of Osiris at certain points the Golden Dawn ceremonies. Thus, since the Hierophant utters this prayer while in the Divine Form of Osiris, (and initiates of the Golden Dawn Tradition mention that advanced members with clairvoyant abilities will be able to see the Divine Form walking around, if it has been properly formed and energetically ‘fed’)<sup>3</sup> the prayer is therefore called “The Prayer of Osiris”, as to the clairvoyant eye it is Osiris who utters it, through the mediation or channelling of the Hierophant, who assumes his ‘godform’.

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<sup>1</sup> A term taken from Ancient Greece: the initiator at the Eleusinian Mysteries of Athens was called *Hierophant*. *Hiera* means ‘the holy’ while *phainein* is ‘to show’. The Hierophant is therefore “the expounder of the mysteries”, as indeed he tells his congregation at the beginning of the ceremony of initiation of the first grade of the Golden Dawn, the *Neophyte* ceremony. Israel Regardie, (Ed.) *The Original Account of the Teachings, Rites and Ceremonies of the Order of the Golden Dawn* (Saint Paul, MN: Llewellyn Publications, 2002), p. 119.

<sup>2</sup> Chic Cicero and Sandra Tabatha Cicero, 'Chapter 4: The Structure of the Golden Dawn System' in *The Essential Golden Dawn* (St. Paul, MN.: Llewellyn Publications, 2003), pp. 95-143, but for the Outer Order grades especially pp. 115-134.

<sup>3</sup> Christine Zalewski, *Secret Teachings of the Golden Dawn* (Saint Paul, MN: Llewellyn Publications, 1992)

This is the complete text as uttered in that ceremony:

Lord of the Universe - the Vast and the Mighty One!  
Ruler of the Light and of the Darkness!  
We adore Thee and we invoke Thee!  
Look with favour on this Neophyte who now kneeleth before Thee.  
And grant Thine aid unto the higher aspirations of his Soul,  
So that he may prove a true and faithful Frater Neophyte among us.  
To the glory of Thine Ineffable Name. Amen!<sup>4</sup>

This prayer is also used in other circumstances as well, albeit with slight textual changes. For example in the *Requiem* ceremony, it reads as follows:

O [sic] Lord of the Universe, the vast and the mighty one, ruler of the light and the darkness, we adore thee and we invoke thee, Look thou with favour upon this pilgrim who is now before thee, and grant thine aid unto the highest aspirations of his soul, to the glory of the ineffable Name.<sup>5</sup>

It is also often paraphrased, and sections from it used for many other meditative or magical workings within the Golden Dawn in many other circumstances, as for example in the ritual for spiritual development also outlined by Regardie<sup>6</sup> and in some rituals of consecration or charging of talismans.<sup>7</sup> Some Golden Dawn groups also use it as a general devotional prayer to precede other practices, such as the well-known

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<sup>4</sup> Regardie, (Ed.) *The Golden Dawn* , p. 125.

<sup>5</sup> Regardie, (Ed.) *The Golden Dawn* , p. 448.

<sup>6</sup> Regardie, (Ed.) *The Golden Dawn* pp. 435-441

<sup>7</sup> Chic Cicero and Sandra Tabatha Cicero, *The Magician's Art: Ritual Use of Magical Tools* (St. Paul, MN.: Llewellyn Publications, 2000)

exercise of The Middle Pillar, which energises the chakras along the spine from the top of the head down towards the feet.<sup>8</sup>

Ritually, it functions as a form of aspirational focus, dedicating the Great Work (a coded expression used to refer obliquely to alchemical and magical work) to God.<sup>9</sup>

My own take on the text (slightly changed from the original sources, but keeping the aspirational spirit of the prayer), is as follows:

Oh Lord of the Universe,  
the Vast and the Mighty One,  
Ruler of the Light and of Darkness,  
We (I) adore Thee and we (I) invoke Thee.  
Look Thou with favour upon us (me) who now standeth humbly before Thee,  
and grant us (me) the highest aspiration of our (my) souls:  
That we (I) may be allowed to accomplish the Great Work,  
To the Glory of the Ineffable Name.  
Not onto me (us) but onto Thee be all the Power and the Glory, forever.  
Amen.

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<sup>8</sup> Chic Cicero and Sandra Tabatha Cicero, (Eds.), *The Middle Pillar: The Balance Between Mind and Magic* (Saint Paul, MN: Llewellyn Publications, 1998).

<sup>9</sup> It must be remembered that the Golden Dawn, derived from a lineage of Freemasonry and through it from historical Rosicrucianism, is strongly monotheistic, when not outright Christian. In this respect see Case, Paul Foster, *The True and Invisible Rosicrucian Order: An Interpretation of the Rosicrucian Allegory & An Explanation of the Ten Rosicrucian Grades* (York Beach, MN: Red Wheel/Weiser, 1989); Yates, Frances, *The Rosicrucian Enlightenment* (London: Routledge, 1986) [1972] and especially Zalewski, Christine, *Secret Teachings of the Golden Dawn* (Saint Paul, MN: Llewellyn Publications, 1992) & Zalewski, Christine, *Inner Order Teachings of the Golden Dawn* (Loughborough, Leicestershire: Thoth Publications, 2006), where the Rosicrucian influences on the Rosae Rubrae et Aurae Crucis (The Inner Order of the Golden Dawn) is thoroughly discussed.

### *The setting of the prayer to music*

When setting this prayer into music, I decided to paraphrase the style of the synagogue sacred cantillation, which I knew beforehand, but which struck me even more strongly when I listened to it live in its ‘proper’ setting, during a concert of sacred Jewish music I attended in the Spanish Synagogue of Prague in 2005.<sup>10</sup> Idelsohn tells us that “the manner of reading [the Jewish sacred texts], according to tradition, is a cantillation, a chanting of the text, a recitation in which music plays a great part”.<sup>11</sup> I wanted to keep this style in my own rendering of this non-Jewish prayer. But why a Jewish style of signing for a non-Jewish text, of a non-Jewish tradition?

This choice of Jewish music as the stylistic ambiance for my composition came about from my impression that many of the rituals of the Golden Dawn tradition – and of contemporary Hermetic practice in general – seem to me, in their external form at least, more Judaic than Christian. Jesus Christ is not mentioned ubiquitously in every single one of the lines of the prayers for example, as is common in most medieval grimoires, which document medieval magical practice.<sup>12</sup> Moreover, in contemporary Hermetic practice the Hebrew tongue is retained as a matter of standard procedure in many rituals, and it is not an option to translate the prayers to any other language.<sup>13</sup>

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<sup>10</sup> For information on the building and the cultural activities held here – such as concerts – see Spanish Synagogue, in <http://www.jewishmuseum.cz/en/aspanish.htm> (Accessed 11 March 2010).

<sup>11</sup> Idelsohn, Abraham Z., *Jewish Music: its historical development* (New York: Dover Publications, Inc., 1992), p. 35.

<sup>12</sup> *Grimores* are magic books or rather manuals, usually focused on evocation or conjuration of spirits. They were especially popular in the Middle Ages, though there are also earlier and later grimoires. See Davies, Owen, *Grimores: A History of Magic Books* (Oxford: Oxford University Press, 2009), especially chapter I, ‘Ancient and Medieval Grimoires’, pp. 6-43.

<sup>13</sup> For example, the Lesser Banishing Ritual of the Pentagram, which will be discussed in section 3.3 of this portfolio, has entire sections in Hebrew which should not be translated to other tongues.

Regarding the form and instrumentation of the piece, I decided to follow Idelsohn's indication that "three forms of public singing were customary, which were based on the principle of response."<sup>14</sup> He also tells us that "besides the responsive form, the unison and solo forms were used".<sup>15</sup> In my piece I decided to use these forms of solo and responsory: the solo baritone states the text on his own at the start of the piece (the solo form), and in the following section (section A of the score) the instruments respond, performing variations on the music that the baritone already performed. In section B the other voices say the prayer once again, but not singing it, as the baritone did, but rather in individual litany or prayer.

The meter and rhythm are also influenced by the uses of traditional religious Jewish music: "the metrical text leaves the impress of its meter upon its tune",<sup>16</sup> that is to say, that "since music is mainly vocal, its rhythm, when there is any, is not like that of European music divided in small measures [...] but is derived from the meter of the text".<sup>17</sup> This has also been followed in the rhythmic and metric aspects of my piece: in other words, it is the correct enunciation of the text that dictates where the accents go, and this is why there are so many metric changes in the piece: the barline has been used as a graphic convention, in our musical writing system, after which an accent always comes. A careful pre-compositional division of the text in phrases, and an analysis of its stresses and accent points, has dictated the beats, the phrasing and the duration of long and short notes.

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<sup>14</sup> Idelsohn, Abraham Z., *Jewish Music: its historical development* (New York: Dover Publications, Inc., 1992), p. 20

<sup>15</sup> Op. Cit., p. 21.

<sup>16</sup> Op. Cit., p. 28.

<sup>17</sup> Loc. Cit.

Jewish religious music is improvised, based on fixed modes upon which the performers make their variations: “Oriental musicians and laymen are fond of improvisation. Even set tunes are largely varied and modified. The improvisation occurs in a certain mode, and the improviser has to operate with the traditional motives therein.”<sup>18</sup>

There are theological as well as cultural reasons for this. One of the most interesting theological justifications of the practice of improvisation can be found in the Talmud, which records rabbinic discussions on all matters of Jewish life, such as prayer. Idelsohn reports that “fixed forms of worship were considered by the Jewish sages of old a constraint upon the free stream of our sentiments. Thus they say: ‘Do not make your prayers fixed form, for he whose prayer is routine, can never attain the pulsating emotion of genuine supplication’ ”<sup>19</sup>

Following this practice, I found it more appropriate for the piece to be improvised rather than written-out precisely note-by-note. But since this portfolio contains pieces in the written Western musical tradition, intended for Western readers and performers, it would be inappropriate – and highly impractical – to give culturally-specific indications for the improvisation, such as “perform this text in the *Ahavoh-rabbah* mode” or the like. Firstly, this would have implied a much longer preface to the piece, whose main intention would not have been not so much a description of the pre-compositional considerations – as is the intention of these prefaces to the pieces of the portfolio – but rather a full course in improvisation in the style of Jewish religious music. And even with such a preface, the performance of the music by musicians

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<sup>18</sup> Op. Cit., p. 26.

<sup>19</sup> Idelsohn citing chapter 13 of the *Tosefta Sabbath* of the Talmud, Warsaw edition of 1879. Cited in Idelsohn, op. cit., p. 111.



inexperienced in the theory and practice of such a style would have been hesitant, when not outright apprehensive.

So I have found it more appropriate to compromise between a written-out score and an improvisation: whereas there is actually a ‘proper’ score which looks more or less traditional in terms of Western music notation, right at the start it states that the vocal line “can be freely improvised along these lines, in the style and spirit of a synagogue *cantor*”. The same indication appears at the start of section A, where the instruments enter, one by one (in solo form) or in short imitative counterpoints (responsorial forms), basically repeating variations on the original melody of the baritone. For those that are not familiar with the style of the synagogue *cantor* (in Hebrew *hazzan*), the written melodic line can act as a guide, whereas those that know the style are possibly able to improvise more freely, using the written melodies and motives as guides for the mode required rather than as instructions for precise performance.

The typical oriental ornamentation so often heard in Jewish song is also notated in the score in Western abbreviated form (several types of mordents), again as a suggestion of character, style and general cultural ambiance of the piece, and as all other written material, it functions as a guide post rather than as an instruction which must be followed.

Please note that section “A” of the score has been left out of the attached recording, since it was not performed in the live concert, due to time constraints in rehearsals and performance times.

# The Prayer of Osiris

For solo baritone, melodic instruments, glass goblets and assorted voices

Johann Hasler

**Adagio religioso**

Clarinet or violin

Viola or violoncello

Several other singers  
(of any voice type) around  
the hall, with glass goblets,  
which they will ring

**Adagio religioso**

(can be freely improvised along these lines, in the style and spirit of a synagogue *Kantor*):

*f molto espressivo*

Solo Baritone

Oh Lord! Oh Lord of the U - ni verse

Pedal note  
(any instrument which  
can sustain all the way  
through the piece)

*p*

6

*f* *p* *f*

Bar.

Oh Lord! Oh Lord! The Vast and the Migh-ty

Ped.

11

*p*

Bar.

One! Ru-ler of Light and of Dark ness

Ped.



53

Bar.

Ped.



61

Bar.

Ped.



**A**

At this point any one of the available instruments will enter. If there are several of the suggested instruments available, only one instrument shall play at a time, accompanied by the pedal. The other instruments can enter subsequently, as soon as the one playing finishes its passage in full. Some imitative counterpoint may also be tried, later in the development of the piece (at least after one full solo exposition of the material).

The baritone will not intervene in this section, nor the other voices or the goblets.

(like the rest of the melodies in this piece, this one can be freely improvised along these lines, in the style of a synagogue *Kantor*):

69

Cl. or vln.

Vla. or Clllo.

Ped.

**A**

74

Cl. or vln.

Vla. or Cblo.

Ped.

*p* *mf*



78

Cl. or vln.

Vla. or Cblo.

Ped.

*p* *p*



87

Cl. or vln.

Vla. or Cblo.

Ped.

(either ornament) *mf* 3

(either ornament) *mf* 3

93

Cl. or vln.

Vla. or Cclo.

Ped.

99

Cl. or vln.

Vla. or Cclo.

Ped.

(either ornament)

103

Cl. or vln.

Vla. or Cclo.

Ped.

*ff*

*fff*

*mp*

108

Cl. or vln.

Vla. or Cclo.

Ped.

111

Cl. or vln.

Vla. or Clllo.

Ped.

This section (section A) will be repeated until all available instruments have done their improvisations on the material suggested. Once they have all finished, section B can start:

117

Cl. or vln.

Vla. or Clllo.

Ped.

*p*

*p*

**B** At section B all the participants (including the baritone and, if they wish, the instrument players) shall take their glass goblets and start making them vibrate by rubbing the rims with their fingers.

They should not enter all simultaneously, but one after the other, in any order.

125

Several voices,  
with glass goblets

Bar.

Ped.

*p*

*p*

*p*

At section C all of the goblets should be ringing.

The participants will now take whatever pitch their goblet gives them, and on this single pitch recite the whole text of the Prayer of Osiris, very softly, as on a religious litaney for themselves, at whichever speed they desire, not worrying about how the others are reciting the prayer.

**C** They should not stop rubbing their goblets:

Entering individually, at whatever *tempo*, always on the pitch of the glass goblet, in the manner of individual prayer:

132 *p sempre sotto voce*

Several voices, with glass goblets

Bar.

Ped.

Oh Lord of the U - ni - verse, The Vast and the Mi - ghty One,  
Oh Lord of the U - ni - verse, The Vast and the Mi - ghty One, Ru - ler of Light and of Dark ness!



135

Several voices, with glass goblets

Bar.

Ped.

Ru - ler of Light and of Dark - ness! I a - dore Thee and I in voke Thee,  
I a - dore Thee and I in voke Thee, look Thou with fa - vour u - pon me,



137

Several voices, with glass goblets

Bar.

Ped.

look Thou with fa - vour u - pon me, and grant me the hi -  
and grant me the hi - ghest as - pi - ra - tion of my Soul:



138

Several voices,  
with glass goblets

ghest as - pi - ra - tion of my Soul: that I might be

Bar.

that I might be a - llowed to a - ccom - plish the Great Work,

Ped.

139

Several voices,  
with glass goblets

a - llowed to a - ccom - plish the Great Work, to the Glo - ry of Thy

Bar.

to the Glo - ry of Thy in - ne - ffa - ble Name.

Ped.

140

Several voices,  
with glass goblets

in - ne - ffa - ble Name. Not on - to me, but on - to Thee be the Po -

Bar.

Not on - to me, but on - to Thee be the Po - wer,

Ped.

143

Several voices,  
with glass goblets

wer, and the Glo - ry, for e - ver, A - men.

Bar.

and the Glo - ry, for e - ver, A - men.

Ped.



## Section 2 - Pieces Composed at the Symbolic Level of Speculative Music

- 2.1. *Ascension: spiritual portrait of a striving soul*, for solo piano.
- 2.2. *Ararita*, for male choir, vocal soloist, low idiophone and sustaining instrument.
- 2.3. *HaShem (The Name)*, for several vocal layers and idiophone(s).
- 2.4. *The Emerald Tablet of Hermes Trismegistos*, for male vocal ensemble, organ, harp and three glass goblets.

## 2.1 *Ascension: spiritual portrait of a striving soul*, for solo piano

*Ascension*, originally conceived and planned in the first half of the 1990s, was my first ever approach to what I was later to theorize and describe as the symbolic approach to speculative music (developed in full in chapter 1 of this thesis, section 1.2.3).

The esoteric aspects of this piece surfaced after attending a series of lectures of the Colombian branch of the Theosophical Society back in 1993 and 1994.<sup>1</sup> The notion of the eternal soul incarnated in the body, which was sometimes referred to in those talks as a trap or prison for the eternal and incorruptible soul, struck me at first as very Platonic.<sup>2</sup> As my knowledge of the history of esoteric ideas progressed, I found Neo-Platonic and Gnostic resonances as well,<sup>3</sup> and the important distinction that Gnosticism and esotericism are complimentary, yet distinct ‘roads to salvation’, as Van Den Broek argues in his essay on the theme.<sup>4</sup>

In the end I decided to compose a piece for piano that would symbolically describe most of the doctrine of the incarnation of the soul that I heard in those lectures, and thus I subtitled it ‘*A Gnostic Tone-Poem for Piano*’. This plan influenced the work from the

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<sup>1</sup> 'Sociedad Teosófica - sección colombiana' in <http://www.teosofiaencolombia.com/home.html> (Accessed 15 Mar. 2010). Programmes for current activities of the same sort can be browsed at <http://www.teosofiaencolombia.com/actividades.html>

<sup>2</sup> See Plato, *Timaeus and Critias* (Harmondsworth, Middlesex: Penguin, 1971).

<sup>3</sup> Armstrong, A.H., 'Dualism: Platonic, Gnostic, and Christian' in R. T. Wallis, (ed.) *Neoplatonism and Gnosticism* (Albany, NY: State University of New York, 1992), pp. 33-54;

<sup>4</sup> Van Den Broek, Roelof, 'Gnosticism and Esotericism in Antiquity: Two Roads to Salvation' in R. Van Den Broek and W. J. Hanegraaff, (eds.) *Gnosis and Hermeticism from Antiquity to Modern Times* (Albany, NY: State University of New York Press, 1998), pp. 1-20

start, and for example I decided to write it in three staves rather than the two that are usually used in writing for the piano: a central staff would represent the Soul, while the upper and lower staves would represent the lofty highs and dark depths of the vicissitudes of the Soul in the World of *Maya*, or appearance. The F# which recurs as a pedal – albeit at different octaves – represents precisely this external material world whereupon the Soul is cast.

But the Soul itself, being eternal, is not always ‘in line’, or ‘in tune’ with the changing realities of the mundane world. This is why in bar 3, when the musical material representing the soul enters, we hear that it is in a different key. At this point we hear that the piece is *bitonal*.<sup>5</sup>

The musical material in the central staff, representing the Soul, modulates frequently, trying to adapt to the pressures of the mundane world (bars 5-9). It finally seems to find a resting place, to get in line with the demands of the external world (bars 9-14), but this is only an illusion, as the external world changes, and the Soul wanders in its own contemplation and the self-satisfaction of *thinking* it has arrived to a harmonious existence with the World (bars 15-18). But it is all merely an illusion, and reality re-asserts itself, in its apparent immutability (bars 19-20). The soul is therefore pitched against the same dissonances with external reality once again (possibly in another incarnation): the re-exposition of the main theme represents symbolically this eternal return to the tensions between external and internal realities.

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<sup>5</sup> Persichetti, Vincent, *Twentieth-Century Harmony: Creative Aspects and Practice* (New York: W. W. Norton, 1961).

Nevertheless, on this second appearance of the theme of dissonance between the Soul and the world, a certain degree of accord is finally achieved, in what the commented score qualifies as “a point of maturity, of reconciliation with the world even” (bars 31-33).<sup>6</sup> But reality once again shifts (a change of key of the pedal in bars 35-38), only that this time “the Will of the enlightened Spirit” makes the body submit, and give way to the ascension of the Soul (the final bar of the piece, 43) after the final acquiescence of the body in death, represented here by a low – and soft – cluster (bar 42).

As can be gathered from the above descriptions, the piece paints through direct musical symbols each instance of the esoteric and Gnostic message heard at the Theosophical Society meetings, of the soul trapped in an earthly body. On the score, in blue and red boxed text, one can read an almost bar-by-bar breakdown of the musical symbolism and how it relates to the esoteric aspects of the Gnostic-Theosophical “spiritual portrait of a striving soul”, thus guiding the reader through the exact musical symbolism employed, its rationale and exact moment of appearance in the score.

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<sup>6</sup> See page 5 of the score of *Ascension*, bars 29-31.

# Ascension

## Spiritual Portrait of a Striving Soul

A Gnostic tone poem for piano

Score with symbolic annotations

Johann Hasler

Lento Ultraterreno (♩ ca 50 M.M.)

Piano

sinistra (sopra)

destra *pp* *sottilissimo, sempre il più legato possibile*

sinistra

Ped.

The world of Maya, of phenomenal reality, of daily experience, with its ups and downs, which sometimes bring us closer to Heaven, while at other times pull us down into Hell.

3

The independent soul seeking to transcend, "out of tune" with reality, not conforming to it

*p*

*crescendo ----*

Ped. \*Ped. \*Ped. \*Ped. \*Ped.





And the normal ups and downs of the world seem to go in another direction entirely...

15

*p molto, sottile*

*p molto, sottile*

*pp*

*\*Red. pp*

Time seems to flow differently now, and independently of matter...

Spirit has liberated itself from matter, and forgets the world, if only temporarily

17

*molto p, sottilissimo*

*pp sottilissimo*

Tempo quasi libero *ritardando assai*

8va

\*

But it can not be forever: the body lives within time, in the world of sensation: all liberation is temporary. The soul returns to its experience of the world.

19

**A Tempo**

*pp sottile, legato possibile*

*Red.*

*ppp*

(The heavy pull of Earth)

*Red.*

The striving soul, patiently persevering even if trapped between the highs and lows of material existence...

21

*p melancholico*

*crescendo - - - -*

Ped. \*Ped. \*Ped. \*Ped. \*Ped.

24

*mp* *cresc.* *mf* *cresc.*

\*Ped. \*Ped. \*Ped.

27

*f non troppo*

\*Ped. \*Ped. \*Ped.

Even though life in the world has been hard, the striving soul reaches a point of maturity...

29 *poco ritardando*

*f* *diminuendo* *mf* *dim.*

\*Ped. \*P \*Ped. \*Ped. \*Ped.

Submission to the material world again fades away...

of reconciliation with the world even...

*ritardando*

31 *poco ritardando*

*mp* *f non troppo* *mf* *mp* *p sottile* *pp sottilissimo*

\*Ped. \*Ped. \*Ped.

And again reality seems to stand on its head...

35 *A Tempo* *più p (quasi pp)*

*p molto* *più p (quasi pp)*

\* Ped.

But the spirit strives for loftier abodes...

37 ritardando poco a poco al fine, quasi come morendo il tempo

*molto p, sottile* *quasi pp, sottilissimo*

*molto p, tranquillo*

\* Ped. \* Ped. \* Ped.

And the body, slowly and calmly, submits to the Will of the enlightened Spirit

41

and the subsequent liberation of the soul. ASCENSION.

slowly giving way to DEATH

*ppp sottilissimo*

8<sup>va</sup>

8<sup>vb</sup>

*PPP*

## 2.2 *Ararita*

for solo bass-baritone, male choir, low idiophone and  
sustaining instrument

*Ararita* is a created word formed through the cabalistic process of *notariqon*.

MacGregor-Mathers tells us that

Notariqon is derived from the Latin word *notaries*, a shorthand writer. Of Notariqon there are two forms: [...] the second form of Notariqon is the exact reverse of the first: by this the initials or finals, or both, or the medials, of a sentence, are taken to form a word or words.<sup>1</sup>

In other words, it is a form of acronym or acrostic: it usually takes the first letters of a phrase or sentence, and from them forms a new word. In contrast to Western poetic acrostics, which usually form an existing word or the name of the dedicatee of the poem, in cabala a totally new and invented word can be created, which summarizes the meaning of the phrase thus abbreviated.

*Ararita* is the notariqon of the Hebrew phrase *Achad Rash, Achadoto Rash, Yehudo Temurazo Achad*, which means ‘One is God's beginning, one principle is God's individuality, God's permutation is one’<sup>2</sup>, or more succinctly, ‘One is His beginning, one is His individuality, His permutation is one.’<sup>3</sup> Donald Michael Kraig is of the opinion that

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<sup>1</sup> MacGregor Mathers, Samuel Liddell, *The Kabbalah Unveiled* (London: Arkana, 1991) [1888], pp. 7-9.

<sup>2</sup> Kraig, Donald Michael, *Modern Magick: Eleven Lessons in the High Magickal Arts* (St. Paul, MN.: Llewellyn Publications, 1988), p. 146.

<sup>3</sup> Whitcomb, Bill, *The Magician's Companion: A practical encyclopedic guide to magical & religious symbolism* (St. Paul, MN: Llewellyn Publications, 2001), p. 440.

This clearly states the Kabbalistic attitude that no matter the name by which you call Divinity, there is only one ultimate Divinity, one divine source which can be summoned. Everything is of Divinity.<sup>4</sup>

The word *Ararita* is used as a Divine Name to charge the hexagrams formulated in the *Lesser Banishing Ritual of the Hexagram*, one of the basic rituals in the Golden Dawn Tradition.<sup>5</sup> The importance of the *Banishing Ritual of the Hexagram* (or BRH for short) is, according to Kraig, that

We must clear our immediate area, the area wherein we will work our magick, not only of negative influences, but also of positive influences. In short, we want to have an area for magickal work that has been cleared of all influences. The LBRP [Lesser Banishing Ritual of the Pentagram] clears the area of negative influences. The Banishing Ritual of the Hexagram (BRH) clears the area of positive influences.<sup>6</sup>

This concept of Unity within permutation that is transmitted in the word *Ararita* has been the underlying structural idea behind the piece: the unity or Origin (the Divine) is represented here by the first stroke of the idiophone (ideally a large tam-tam or a gong, but any other big and resonant idiophone would do, such as a large bell, a singing-bowl, a large sheet of metal, etc.). This initial strike represents that which is at this side of being, of creation (before it there was silence, or cabalistically speaking, *nothingness*).

Once the large idiophone is struck, it generates singularity from which the rest of the material of the piece will derive (“his permutation is One”): the sustaining instrument

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<sup>4</sup> Loc. Cit.

<sup>5</sup> A few musical versions of the most known of the Golden Dawn basic rituals, the Lesser Banishing Ritual of the Pentagram, can be found in scores 3.3 to 3.6, and the full text and performance instructions of the ritual can be read in full in Appendix II.

<sup>6</sup> Kraig, *Modern Magick*, p. 167.

(any instrument which for technical reasons does not need to stop the production of sound to strike it again, such as an organ, any bellows instrument, a hurdy-gurdy or even a bowed instrument) will then take the base pitch that the idiophone produces and sustain it until the end of the piece. The singers must then sing the text in the interval of an open fifth, the root note of which is the original pitch produced by the idiophone, subsequently duplicated by the sustaining instrument. The unison, octave and fifth being the first appearances in the series of natural harmonics, they are used here as symbols for the *permutation* based on The One (the original pitch produced by the large idiophone), and thus *unity* is expressed *harmonically* by the appearance of these first three harmonics.

At the rhythmic level, the choir keeps the *unity* through singing their open fifth in a heterophonic texture. They repeat the word *Ararita* three times, as in a religious litany. Three is the number of phrases of the theological doctrine which gives rise to the word *Ararita* through notariqon:

One is God's beginning,

One principle is God's individuality

God's permutation is one

The soloist, on the other hand, acting as the *hazzan* or lead singer of the congregation (see the notes to *The Prayer of Osiris*, before score 1.2, above), does not sing the notariqon, the word *Ararita* three times, but spells out the whole underlying phrase ‘*Achad Rash, Achadoto Rash, Yehudo Temurazo Achad*’ a single time, thus stressing its unity. The note on which the *hazzan* sings the phrase is the same one produced by

the idiophone, the first utterance of Being in the sound world of the piece, the first spark of Creation. The soloist therefore aspires to that original unity, and imitates it if not in timbre, at least in pitch.

In order to have the full text emerge more clearly above the chanting chorus which repeats “*Ararita, Ararita, Ararita*”, the soloist sings his text in a different rhythm from the choir, syncopated, avoiding heterophony throughout the piece. Thus the choir establishes an underlying drone, while the soloist recites the full text on a single note which represents *unity*, as it is derived (in unison or octave) from the base note of the whole piece, from the starting point.

Regarding the use of only male voices, it came about from Idelsohn’s comment that in the ancient Jewish traditions “women were excluded from participation in religious music”.<sup>7</sup> In order to evoke such ancient sonority, only male voices were used.

Once the soloist states the text in full, and the choir repeats *Ararita* a number of times equivalent to the number of phrases in the theological statement, the piece ends, as there is nothing more to say since the Oneness and Unity has been stated.

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<sup>7</sup> Idelsohn, Abraham Z., *Jewish Music: its historical development* (New York: Dover Publications, Inc., 1992) [1929] p. 27.



# Ararita

For male choir, soloist, low idiophone and sustaining instrument

*mf* almost declaiming:

Solo voice (Unison or octave from the low sound): E-had rash

Male voices 1 (A fifth above the second voices): *p* religioso A - ra - ri -

Male voices 2 (Unison or lower octave from the low sound): *p* religioso A - ra ri

Sustaining instrument (Organ, low bowed string, hurdy-gurdy, armonium, etc.) unis. *pp*

Low metallic idiophone (Bell, tam-tam, large gong, etc.) *f* 1.v.



6

solo E - ha - do - to rash

voices 1 ta A - -

voices 2 ta A - -

sustained inst.

idiophone 6 1.v. *p*

9

solo  
Ye - hu - do te - mu - ra - zo E - had.

voices 1  
- ra ri - ta

voices 2  
- ra ri - ta

sustained inst.

idiophone  
l.v.

13 *morendo al niente* -----

solo

voices 1  
*morendo al niente* -----

voices 2  
*morendo al niente* -----

sustained inst.

idiophone  
13 *morendo al niente, e ritardando il tremolo* -----  
**pp**

## 2.3 Notes to my piece *HaShem (The Name)*, a cabalistic meditation on a technique proposed by Abraham Abulafia (1240-1291)

Piece scored for several vocal layers and idiophone(s)

*HaShem* in Hebrew means ‘The Name’, and as a title it is used to refer indirectly to God, whose name in the Hebrew Bible יהוה (YHVH) is ineffable both in the sense that it is forbidden to pronounce it (as a strict interpretation of the law in Exodus 20:7 “Thou shalt not take the name of the LORD thy God in vain”), and also in the linguistic sense, since the original or ‘correct’ pronunciation of the word was lost to oral tradition, precisely because of the religious prohibition of speaking the name aloud. This is why the Tetragrammaton (Greek for “four-lettered-name”) YHVH is also referred to in some Masonic traditions as “The Lost Name” or “The lost name of God”.

The story of how this name “got lost” is an interesting one, worthy of being mentioned here: between the seventh and the tenth centuries C.E. groups of Jewish scholars and copyists known as the Masoretes (hence the term ‘Masoretic text’ for their final contribution), seeking to standardize the text of the *Tanakh* (Hebrew Bible)<sup>1</sup> inserted numeration, punctuation, pronunciation aids, cantillation reminders

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<sup>1</sup> Even the name of the Hebrew Bible uses the procedure of *Notarikon* so dear to literal cabala: *Tanakh* is a *notarikon* or acronym of the letters ת, *tav* (T), for *Torah* (the five books of Moses), נ *nun*

and other editorial and theological commentaries to previous existing manuscripts of the Jewish canonical scriptural writings. During this process, they introduced a series of marks below the letters (mostly points, but not exclusively) which indicate the vowels that should join each of the original letters of the text, all of them consonants or semi-consonants (like Y, W, the glottal stop and several forms of aspiration). In doing so they referred to the aural experience (oral tradition in reading aloud the scriptures) of their own dialect, which was not historical Biblical Hebrew but partly Hebrew and partly Aramaic.<sup>2</sup>

The Tetragrammaton was traditionally never pronounced, but rather substituted in pronunciation, when encountered, with the word *Adonai* (literally ‘Lords’, from which comes the Christian rendering of ‘The Lord’ for the Tetragrammaton in medieval and renaissance translations, both into Latin and vernacular languages). So the Masoretes either had never heard the actual pronunciation of the Tetragrammaton and therefore could not write the vowel aids to its pronunciation, or more probably, resorted to the transcriptional convention of *Q’re Perpetuum*, a

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(N), for *Nevi'im* (the books of the prophets) and ׀ *kaph* (K) for *Ketuvim* (the other writings, or *hagiographia*).

<sup>2</sup> Whereas Hebrew and Aramaic are closely related (both being northwest Semitic languages), they are distinct languages. Aramaic came to be the imperial language under the Achaemenid Persian Empire (under Darius I) in 500 BCE and was used as *lingua franca* in all of the Levantine region of the near east until 300 BCE, when it was replaced by Koine Greek as imperial language. Hebrew, on the other hand, although of prime importance for the Jewish peoples (given it was the language of their Sacred Scriptures) was not as prevalent geographically and historically, for geo-political reasons. The Masoretes knew Hebrew, but their day-to-day language was Aramaic. Thus, they could not be sure of certain ancient or historical Hebrew pronunciations, having never used the language in the spoken form.

device by which editorial interventions or annotations on inconsistencies were pointed out in the Masoretic text.<sup>3</sup>

Medieval and renaissance Christian scholars who read Hebrew but were not aware of the subtleties of substitution and encoded editorial commentary through the procedures of the *Q're* (Aramaic for “to be read...”) simply transcribed the Tetragrammaton with its seven different combination of vowel points as the name(s) of God, which can still be read in some Christian Bibles as either Jahveh, Yehovah or Jehova. Nineteenth-century scholarship which was not in the grave risk of being considered dangerously heretical and eventually processed by the inquisition for being interested in consulting Jewish sources and practices directly and without the intermediation of the Catholic Church, was able to debunk this time-honoured procedure and thus discover this transcription *faux-pas*. Yet the erroneous spelling-out of the Tetragrammaton has not only been kept in most Christian Bibles, it has moreover become *raison d'être* and principal article of faith of some Protestant churches, most notably the Watchtower Society, better known as *Jehovah's Witnesses*. The reason for this is an interpretation of Romans 10:13, in which Paul

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<sup>3</sup> The *Q're Perpetuum* is a procedure by which pronunciation aids are added by commentators or editors to the original Hebrew text of the *Tanakh* (since Hebrew letters represent mainly consonants or semi-consonants, and thus difficult or impossible to pronounce without adding the intervening vowels). These are placed there not so much to aid the pronunciation of every individual word, but rather to differentiate words that have the same consonant make-up, but which when in certain contexts are clearly different words, and therefore should be pronounced differently. It is a procedure of semantic, if not phonetic, clarification.

writes “Everyone who calls on the name of The Lord will be saved”. Yet a name comprised only of consonants is indeed difficult to call out.<sup>4</sup>

But calling out the original name of YHVH has not only been a preoccupation of twentieth-century protestants, based on their interpretations of the New Testament: it is also one of the keys to enlightenment and union with God in some forms of cabala, especially the ones known in Jewish lore as *kabbalah ma’asiut*, or theurgic cabala. Through these permutations the practitioner tries to find out the ‘original’ name of God exploring the permutations of the Tetragrammaton, and this endeavour is one of the favourite operations of *temurah*, the technique of literal cabala which deals with permutation of Hebrew names.<sup>5</sup>

An important figure in the history of medieval cabala which proposed the combination of techniques of *temurah* with ritual chanting was Abraham Abulafia of Zaragosa (1240-1291). Standing his ground against the usual Jewish prohibition of speaking the Tetragrammaton out loud, Abulafia taught prayer and speaking-meditation techniques comparable to our current understanding of the intonation of mantras.<sup>6</sup> He actually wrote a book, *The Divorce of Names (Get HaShemot)*,<sup>7</sup> in

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<sup>4</sup> The Greek version of this passage does not use the Tetragrammaton, but το ονομα κυριου, ‘in the name of Lord’. Due to the time-honoured Jewish and proto-Christian practice of translating YHVH as Adonai or κυριου it is possible that the word originally used in this passage was the Tetragrammaton; but it is not the Tetragrammaton which has been transmitted in this passage.

<sup>5</sup> S.L. MacGregor Mathers, *The Kabbalah Unveiled* (York Beach, ME.: Samuel Weiser, 1888) , p. 9.

<sup>6</sup> Brian Crowley and Esther Crowley, *Words of Power: Sacred Sounds of East & West* (St Paul. MN: Llewellyn Publications, 1991)

<sup>7</sup> Bodleian Library, Oxford. Ms. 1658

which he explicitly divorces himself from the use of all of God's names *other* than the Tetragrammaton.<sup>8</sup>

The scholar of cabala Aryeh Kaplan tells us that “the use of Divine Names plays a very important role in Abulafia's system. This is one tradition that he clearly saw as being derived from the patriarchs and prophets.”<sup>9</sup> Abulafia for example rejected the usual interpretation of Genesis 12:8, “and he [Abraham] called upon the name of the YHVH”, which was usually taken as an indication that Abraham either prayed or called upon God's greatness. “Together with a number of other Kabbalists, Abulafia takes this passage literally, stating that Abraham actually pronounced God's Name, and through this practice was able to attain the highest mystical levels.”<sup>10</sup>

Abulafia also noticed that in Genesis all of creation takes place through utterances of God, and that “at each stage in the creation of the universe, the Bible introduces the account by stating ‘And God said’. Creation therefore took place through words.”<sup>11</sup> Since words are made up of letters, and the sayings of God in Genesis were uttered in Hebrew, “therefore the letters of the Hebrew alphabet are the most basic building blocks of creation.”<sup>12</sup> A magical deduction easily follows: “if an individual knows how to correctly manipulate the letters of the alphabet, he is able to make use of the same spiritual forces that originally brought the universe into being.”<sup>13</sup> Since the

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<sup>8</sup> Aryeh Kaplan, *Meditation and Kabbalah* (York Beach, ME: Samuel Weiser, 1982) , p. 73

<sup>9</sup> Kaplan, *Meditation & Kabbalah* , p. 76

<sup>10</sup> Kaplan, *Meditation & Kabbalah* , p. 76

<sup>11</sup> Kaplan, *Meditation & Kabbalah* , p. 77

<sup>12</sup> Kaplan, *Meditation & Kabbalah* , p. 77

<sup>13</sup> Kaplan, *Meditation & Kabbalah* , p. 77

letters are the very essence of creation, by exploring the combinations of these letters, and vibrating them aloud, one can “channel these forces into his spiritual being”.<sup>14</sup> This was the aim, a magical aim, of Abulafia’s exercises in Hebrew word-chanting. As Kaplan observes, “Here we see an entirely new method of meditation,”<sup>15</sup> the core of which is a ‘mobile’ or ‘changing’ mantra, rather than the repetition of a single word: “Instead of chanting a word over and over, as in mantra meditation, one writes a word, permuting and cycling the letters in every possible manner. As the initiate progresses to higher and higher states, he no longer needs to actually write the letters, but can permute them verbally or mentally. All this is an initiation into the higher levels, which actually involve the Divine Names.” Both Abulafia and his disciples wrote several books detailing the procedures for this innovative form of meditative chanting.<sup>16</sup>

Rabbi Moshe Cordovero, (1522-1570), dean of the reputed Safed school of cabala,<sup>17</sup> considered Abulafia to be an authority in the pronunciation of Divine Names.<sup>18</sup> Around a generation later, Rabbi Chaim Vital (1543-1620) further cites Abulafia’s methods as being techniques for meditation.<sup>19</sup>

We do know that Abulafia practised meditation: In the dedication of his *Sheva Netivot HaTorah* to his Sicilian disciple Abraham ben Shalom Comti, he clearly

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<sup>14</sup> Kaplan, *Meditation & Kabbalah* , p. 83.

<sup>15</sup> Kaplan, *Meditation & Kabbalah* , p. 77

<sup>16</sup> For example the *Sefer HaTzeruf*, the *Shaarey Tzedek* (1280) and the *Sulam HaAliyah*.

<sup>17</sup> For further information on this see Kaplan, *Meditation & Kabbalah* , chapter five, pp. 169-198.

<sup>18</sup> Kaplan, *Meditation & Kabbalah*, p. 59

<sup>19</sup> Kaplan, *Meditation & Kabbalah*, p. 59



states that he wrote the book after he had meditated.<sup>20</sup> He also used meditation for purposes other than ‘inspiration’ in writing his books: in his *Sefer HeEdot* (Book of Testimonies), written in Rome in 1281,<sup>21</sup> Abulafia tells us, writing under the pseudonym *Raziel* (in cabalistic lore, an angel which personifies Divine Wisdom),<sup>22</sup> that while waiting in Rome for Pope Nicholas III (1220-1280) to return from Saronno to convert him to Judaism (!), his informants had told him that the Pope was aware of his intentions, and had ordered him to be burned at the stake for his insolence. Abulafia sat down and calmly “meditated [in the original Hebrew *hitboded*] and saw wonders...” The Pope died that very night at Saronno, and so his verbal commands were not carried out, and thus was Abulafia’s life spared.<sup>23</sup>

Also, it seems that Abulafia was the first cabalist to tackle cabalistic meditation openly in his writings, which was not always well received among his fellow cabalists.<sup>24</sup> According to Kaplan, “while this tradition was known to other masters of that period, none wrote down more than the barest hints regarding the explicit practices of the Kabbalah”.<sup>25</sup> In his *VZot LeYehudah* – a reply to his polemicist Judah ben Shimon Duran of Barcelona, 1400-1467 – Abulafia states that “no other Kabbalist before me wrote explicit books on this subject.”<sup>26</sup> It is true that earlier authors did write about meditation and cabala, but only in the most obscure and

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<sup>20</sup> Cited in Kaplan, *Meditation & Kabbalah*, p. 73.

<sup>21</sup> Kaplan, *Meditation & Kabbalah*, p. 74

<sup>22</sup> Gustav Davidson, *A Dictionary of Angels* (New York: The Free Press, 1971) [1967], pp. 242-243

<sup>23</sup> The incident is reported in Kaplan, *Meditation & Kabbalah*, p. 69

<sup>24</sup> Kaplan, *Meditation & Kabbalah*, p. 72

<sup>25</sup> Kaplan, *Meditation & Kabbalah*, p. 72

<sup>26</sup> Cited in Kaplan, *Meditation & Kabbalah*, p. 72

concealed ways.<sup>27</sup> “But I have made it the main point and root of all what I have ever written”, he insists once again in his *Imrey Shefer* (Words of Beauty) of 1291.<sup>28</sup>

In his *Sefer HaCheshek* (Book of Passion)<sup>29</sup> Abulafia recollects a vision in which he was commanded by Elijah and Enoch to reveal the secrets of cabalistic meditation.<sup>30</sup> His own cabalistic calculations indicated to him that prophecy was destined to return to the world around the year 1285, and “his books were intended to teach the methods of attaining this level for those who were worthy of it” when the time came.<sup>31</sup> In other words, Abulafia thought that it was through the methods of cabalistic meditation that a state of prophecy could be reached, and saw his work as fundamental in paving the way for the return of prophecy to the world. Since his writings also show that he believed that the mysteries involving the letters were revealed to the prophets before the prophets revealed them to Israel, this was a logical conclusion to him.<sup>32</sup> In the etymology of the actual word *Kabbalah* he also read a hint: whereas the traditional interpretation is that the word derives from the verb *Kabal*, to receive, referring to the oral transmission of the most important teachings, Abulafia was of the opinion that it came from *Kibel*, *received*, because the tradition had been *received* from the prophets or from those who had received it

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<sup>27</sup> Kaplan, *Meditation & Kabbalah* , p. 72

<sup>28</sup> Kaplan, loc. cit.

<sup>29</sup> Jewish Theological Seminary of America, New York, Ms. 1801

<sup>30</sup> Kaplan, *Meditation & Kabbalah* , p. 72

<sup>31</sup> Kaplan, *Meditation & Kabbalah* , p. 72. Here Kaplan cites three of Abulafia’s books as proof of this conclusion.

<sup>32</sup> Kaplan, *Meditation & Kabbalah* , p. 72

from them. He further assumed that he had been able to rediscover the methods that the prophets used to attain high mystical experience.<sup>33</sup>

In Abulafia's meditation system, writing plays as important a role as chanting does in other systems, especially due to the complexities of *temurah* (letter permutation), of which it is difficult to keep track entirely in the mind, without any written aids. "Abulafia's main method involved the permutation of letters, and, at a higher level, pronouncing the letters of the Divine Names. Such pronunciation was to be accompanied by specific head motions, as well as particular breathing exercises."<sup>34</sup>

These permutations took several forms and styles, but "an especially effective technique [of meditation] was to take a word and permute its letters in every possible way. From this, the initiate would proceed to manipulate the word in other ways, making use of various ciphers and numerical values of the letters."<sup>35</sup>

One of the most important historical books on cabala, the *Sepher Yetzirah*,<sup>36</sup> deals extensively with permutation methods, one of which, known as *galgal* (cycling), consists of systematically going through all of the mathematically possible permutations of a word (a 3-lettered word has 6 possible ways of writing it, a 4-lettered word has 24, and so on). Kaplan believes that "writing in this manner is a type of meditation" in the sense that "one makes use of both the path of the body and

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<sup>33</sup> Kaplan, *Meditation & Kabbalah* , p. 76

<sup>34</sup> Kaplan, *Meditation & Kabbalah* , p. 79

<sup>35</sup> Kaplan, *Meditation & Kabbalah* , p. 83.

<sup>36</sup> For a modern edition of this book see Ben Joseph Akiba, *The Book of Formation or Sepher Yetzirah* Hays, Lake Worth 2004)

that of the intellect”,<sup>37</sup> thus uniting the contraries of rational or mental and intuitive or bodily understanding, attaining a different level of consciousness which is not available to either one of these faculties alone.<sup>38</sup>

My piece is based on a meditative exercise mentioned in Abulafia’s *Or HaSekhel* (The Light of the Intellect),<sup>39</sup> written in Sicily in 1285 for his two disciples in Messina, Abraham Comti and Nathan Charar.<sup>40</sup> It is in this book where Abulafia discusses his meditation techniques most comprehensively, in comparison to the contents of the rest of all 32 books attributed to him, even though several of the other books do have some mention his meditative techniques as well.

The transmission and reception of this exercise by later cabalists is also quite exceptional: Rabbi Moshe Cordevero (1522-1570) of the influential cabalistic school of Safed (in Galilee, Palestine) reprinted the entire section of Abulafia’s *Or HaSekhel* dealing with this exercise in his *Pardes Rimonim* (Orchard of Pomegranates), “one of the most important of all Kabbalah classics”,<sup>41</sup> which

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<sup>37</sup> Kaplan, *Meditation & Kabbalah* , p. 83.

<sup>38</sup> On magical consciousness, see Susan Greenwood, *The Nature of Magic: an Anthropology of Consciousness* (Oxford: Berg, 2005)

<sup>39</sup> Manuscripts of this book can be found in the special collections of the Biblioteca Apostolica Vaticana (ms. 233), Bayerische Staatsbibliothek (ms. 92) and Hebrew University Library, Jerusalem (ms. 8° 3009). The sections used for my piece are reproduced by Kaplan in his *Meditation and Kabbalah*, pp. 87-92.

<sup>40</sup> Kaplan, *Meditation & Kabbalah* , p. 74

<sup>41</sup> Kaplan, *Meditation & Kabbalah* , p. 87

constitutes “a systematic summary of the *kabbalah* up to his own time”,<sup>42</sup> and thus ensured the perpetuation of this particular form of meditative chanting in the most esoteric branches of the theurgic tradition of *kabbalah ma’asiut*. It is unfortunate, however, that Cordevero did not attribute this method to Abulafia in his compilation, but rather to an obscure *Sefer HaNikud* (Book of Dots), which actually exists, but does not mention any of the methods Abulafia speaks of in his *Or HaSekhel*.<sup>43</sup> Cordevero does recognize, however, that “this is either a direct tradition, given over from mouth to mouth, or else it was revealed by a Maggid” [Angelic Spokesman].<sup>44</sup>

Abulafia’s exercise consists in combining the four letters of the Tetragramaton יהוה (YHVH) with the first letter of the Hebrew alphabet, the letter Aleph, א. Since the letter Aleph corresponds to what in linguistics is called a ‘glottal stop’, it can take the qualities of any vowel, and so Abulafia suggests cycling through the five basic vowels. Thus the method produces 50 new words for each of the letters of the Tetragrammaton, for a total of 200 new words derived from the original 4-letter name. The full text of this exercise is reproduced at the end of this commentary, and it includes the tables of permuted words in both Hebrew and their transcription into the Latin alphabet, to aid pronunciation and their writing in a traditional Western art music score, which, unlike Hebrew, reads from left to right.

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<sup>42</sup> Dan Cohn-Sherbok, *Kabbalah & Jewish Mysticism: An introductory anthology* (Oxford: Oneworld, 2006) [1995], p. 95

<sup>43</sup> Kaplan, *Meditation & Kabbalah* , p. 87

<sup>44</sup> Moses Cordevero, *Pardes Rimonim* 21:1. Quoted in Kaplan, *Meditation & Kabbalah* , p. 324

Apart from chanting the words, one must move one's head in a motion resembling the actual shape of the vowel, so as to include the body as well as the intellect in the exercise of delineating the permutations. There are also certain rules regarding how many breaths are allowed between each of the lines and the syllables of the exercise, as well as how long the pauses between the breaths can be. All of these I have coded in the score.

There is, however, another dimension besides the textual and somatic one which is susceptible to permutation, and which Abulafia does not mention in his original exercise: This is the sonic dimension. Indeed, in any part of his instructions does he specify *how* the Names should be vibrated, apart from clearly suggesting that they should be intoned aloud. I have sought in my musical rendition of his exercise to approach the sonic dimension which he leaves undetermined in his instructions.

Just as Abulafia permutes different vowel sounds and combines them with the fixed consonants םןן and ם to explore the different textual possible results, so I have approached the possibilities of 'sonic permutation' by taking the fundamental or basic sound of an accompanying idiophone (which can be a bell, a gong, or any other metallic resonating object) as the starting point for all of the pitches in the piece. Depending on the number of people available to participate in the performance/meditation, they will sing in simple or composite unisons, fifths or thirds with this basic pitch. Furthermore, to add to the possibilities of 'sonic permutation', each singer must also explore their own possibilities in projecting and possibly isolating certain harmonics in *each and every one of the notes* while performing the piece/exercise. The precise harmonics will of course vary depending

on the types of voices, vowels sung, and even the physical configuration of each singer's vocal apparatus. They have thus been left unassigned, in order to not add an extra difficulty to performance, in addition to the precise head movements and the constantly changing pronunciation which Abulafia requires, and which have been scored in the piece.

It has been my intention in this piece to transcribe my musical interpretation of Abulafia's exercise into modern musical notation, as I understand it as a sounding event and therefore susceptible to musical transcription and performance. The intention in scoring his exercise is twofold: on one hand respect and follow Abulafia's suggestions, but also to make it easier for those trained in chanting in our culture (namely singers), to follow his instructions while deciphering them from a familiar form of symbolic language, namely a musical score.

Of course certain variations had to be introduced in the standard notation to express certain nuances unusual in vocal music, and these have been explained in the performance notes which presented as footnotes in the first page of the score. They basically consist of 1) the indication of constantly sweeping harmonics over a fundamental by changing the *embochure* and adapting the diverse positions of the mouth, tongue and throat in order to produce them; and 2) the indications of how and in what direction is the head to be moved at the utterance of every syllable, which is of fundamental importance for the theological reasons Abulafia explains in great details in his text, which I have included in full in Appendix I to the portfolio.

# Ha-Shem

(The Name)

Cabalistic permutations and head-movement instructions by Abraham Abulafia (1240-1290)

Sound rendering suggested by Johann Hasler (b. 25-07-72, 14:53 EST, 06°N15' / 75°W35')

Individual, unequal tempo in each part (depending on lung capacity)  
A phrasing slur indicates a complete lung-full of breath.

*legatissimo sempre* 5x

**First vocal layer**  
(Unison or octave with the fundamental, given by the idiophone)

↑Ao - y↑to ↑Ao ←ya ↑Ao→ye ↑Ao-↓yi ↑Ao - yu //  
 ←Aa - y↑to ←Aa ←ya ←Aa→ye ←Aa-↓yi ←Aa - yu //  
 →Ae - y↑to →Ae ←ya →Ae→ye →Ae-↓yi →Ae - yu //  
 ↓Ai - y↑to ↓Ai ←ya ↓Ai→ye ↓Ai-↓yi ↓Ai - yu //  
 Au - y↑to Au ←ya Au→ye Au-↓yi Au - yu //

*legatissimo sempre*

**Second vocal layer**  
(Unison or octave with the fundamental, given by the idiophone)

A ↑o - y↑to A ↑o ←ya A ↑o - y→e  
 ←A a - y↑to ←A a ←ya ←A a - y→e  
 A →e y↑to A →e ←ya A →e - y→e  
 A ↓i - y↑to A ↓i ←ya A ↓i - y→e  
 A u - y↑to A u ←ya A u - y→e

*legatissimo sempre*

**Third vocal layer**  
(Fifth or 12th from the fundamental, given by the idiophone)

A ↑o - y↑to A ↑o ←ya A ↑o - y→e  
 ←A a - y↑to ←A a ←ya ←A a - y→e  
 A →e y↑to A →e ←ya A →e - y→e  
 A ↓i - y↑to A ↓i ←ya A ↓i - y→e  
 A u - y↑to A u ←ya A u - y→e

*legatissimo sempre*

**Fourth vocal layer**  
(Mayor third or 10th from the fundamental, as given by the idiophone. Keep the mayor triad throughout the piece)

A ↑o - y↑to A ↑o ←ya A ↑o - y→e  
 ←A a - y↑to ←A a ←ya ←A a - y→e  
 A →e y↑to A →e ←ya A →e - y→e  
 A ↓i - y↑to A ↓i ←ya A ↓i - y→e  
 A u - y↑to A u ←ya A u - y→e

(Choose the mode of articulation most appropriate for the instrument type and the resonance of the hall: a bell behaves differently than a gong, tam-tam or singing bowl):

**Metal resonant idiophone**  
(Gives the fundamental for the rest of the intervals of the piece)

*mp* *pp* *l.v.* 5x  
 let ring

The exercise can be performed by any number of singers, from a single one to a full chorus. The fewer the singers, the fewer "vocal layers" involved. It can be performed by the idiophone and any number of the written "vocal layers"

All singers should constantly produce harmonics at every attack, through the application of extended vocal techniques as those used in Mongolia or Tibet. Ideally a "harmonic sweep" covering several harmonics should be tried at each attack.

Vowels should be pronounced as in Italian. Differentiate between *Y* (semi-consonant, more fricative) and *I* (vowel).

It is not necessary that singers performing the same layer are synchronized. Neither should synchronization be expected between different layers, including the idiophone. In this sense, all parts are individual.

The arrows indicate head movements, as suggested by Abulafia in his meditation instructions (study his text beforehand).



Always in individual, unequal tempo (depending on lung capacity)

8 *legatissimo sempre* 5x

1.

2.


3.

4.


(New attack only after layer 1 ends the fifth text of the first set)

Idioph. *mp* *pp*


15 *legatissimo sempre* 5x

1. 

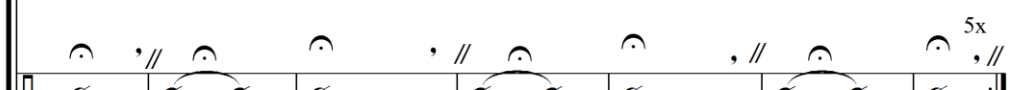
↑A o - h o ↑A o - h a A o - h e A o - h li A o - h u //  
 ←A a - h o ←A a - h a ←A a - h e ←A a - h li ←A a - h u //  
 A →e - h o A →e - h a A →e - h e A →e - h li A →e - h u //  
 A ↓i h o A ↓i h a A ↓i h e A ↓i h li A ↓i h u //  
 A u - h o A u - h a A u - h e A u - h li A u - h u //

2. 

←aa Y ↑o - ae Y ↑o - a li Y ↑o - au //  
 ←aa Y ←a - ae Y ←a - a li Y ←a - au //  
 ←aa Y →e - ae Y →e - a li Y →e - au //  
 ←aa Y ↓i - ae Y ↓i - a li Y ↓i - au //  
 ←aa Y u - ae Y u - a li Y u - au //

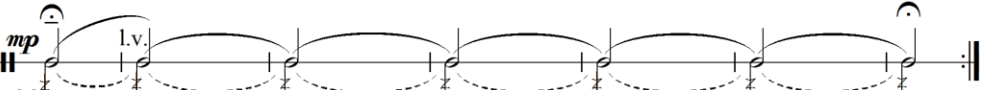
3. 

←aa Y ↑o - ae Y ↑o - a li Y ↑o - au //  
 ←aa Y ←a - ae Y ←a - a li Y ←a - au //  
 ←aa Y →e - ae Y →e - a li Y →e - au //  
 ←aa Y ↓i - ae Y ↓i - a li Y ↓i - au //  
 ←aa Y u - ae Y u - a li Y u - au //

4. 


←aa Y ↑o - ae Y ↑o - a li Y ↑o - au //  
 ←aa Y ←a - ae Y ←a - a li Y ←a - au //  
 ←aa Y →e - ae Y →e - a li Y →e - au //  
 ←aa Y ↓i - ae Y ↓i - a li Y ↓i - au //  
 ←aa Y u - ae Y u - a li Y u - au //

(New attack only after layer 1 ends the fifth text of the second set)

Idioph. *mp* *pp* *l.v.* 

let ring-- (-----) (-----)

22 *legatissimo sempre* 5x

1. 

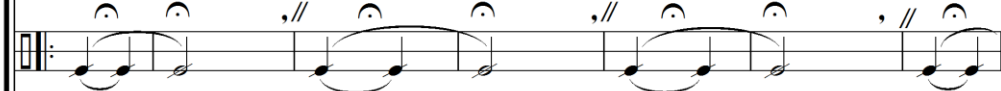
H ↑o - a o H ↑o - a ←a H ↑o - a →e H ↑o - a ↓i H o - a u \_\_\_\_\_ //

H ←a - a o H ←a - a ←a H ←a - a →e H ←a - a ↓i H ←a - a u \_\_\_\_\_ //

H →e - a o H →e - a ←a H →e - a →e H →e - a ↓i H →e - a u \_\_\_\_\_ //

H ↓i a o H ↓i a ←a H ↓i a →e H ↓i a ↓i H ↓i a u \_\_\_\_\_ //

H u - a o H u - a ←a H u - a →e H u - a ↓i H u - a u \_\_\_\_\_ //

2. 


A ↑o - ho \_\_\_\_\_ A ↑o - h ←a \_\_\_\_\_ A ↑o - h →e \_\_\_\_\_ A ↑o -

A ←a - ho \_\_\_\_\_ A ←a - h ←a \_\_\_\_\_ A ←a - h →e \_\_\_\_\_ A ←a -

A →e - ho \_\_\_\_\_ A →e - h ←a \_\_\_\_\_ A →e - h →e \_\_\_\_\_ A →e -

A ↓i - ho \_\_\_\_\_ A ↓i - h ←a \_\_\_\_\_ A ↓i - h →e \_\_\_\_\_ A ↓i -

A u - ho \_\_\_\_\_ A u - h ←a \_\_\_\_\_ A u - h →e \_\_\_\_\_ A u -

3. 


A ↑o - ho \_\_\_\_\_ A ↑o - h ←a \_\_\_\_\_ A ↑o - h →e \_\_\_\_\_ A ↑o -

A ←a - ho \_\_\_\_\_ A ←a - h ←a \_\_\_\_\_ A ←a - h →e \_\_\_\_\_ A ←a -

A →e - ho \_\_\_\_\_ A →e - h ←a \_\_\_\_\_ A →e - h →e \_\_\_\_\_ A →e -

A ↓i - ho \_\_\_\_\_ A ↓i - h ←a \_\_\_\_\_ A ↓i - h →e \_\_\_\_\_ A ↓i -

A u - ho \_\_\_\_\_ A u - h ←a \_\_\_\_\_ A u - h →e \_\_\_\_\_ A u -

4. 

A ↑o - ho \_\_\_\_\_ A ↑o - h ←a \_\_\_\_\_ A ↑o - h →e \_\_\_\_\_ A ↑o -

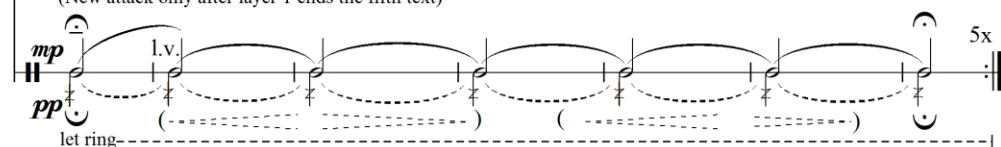
A ←a - ho \_\_\_\_\_ A ←a - h ←a \_\_\_\_\_ A ←a - h →e \_\_\_\_\_ A ←a -

A →e - ho \_\_\_\_\_ A →e - h ←a \_\_\_\_\_ A →e - h →e \_\_\_\_\_ A →e -

A ↓i - ho \_\_\_\_\_ A ↓i - h ←a \_\_\_\_\_ A ↓i - h →e \_\_\_\_\_ A ↓i -


A u - ho \_\_\_\_\_ A u - h ←a \_\_\_\_\_ A u - h →e \_\_\_\_\_ A u -

(New attack only after layer 1 ends the fifth text)

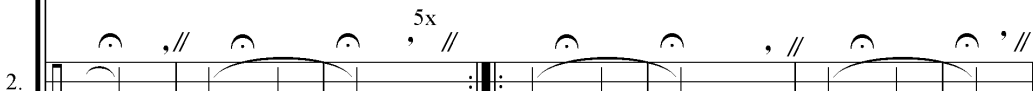
Idioph. 

*mp* *pp* l.v. let ring-- 5x


*legatissimo sempre*

1.  *5x*


A to - v o A to - v a A to - v e A to - v li A o - v u //  
 A a - v o A a - v a A a - v e A a - v li A a - v u //  
 A e - v o A e - v a A e - v e A e - v li A e - v u //  
 A li v o A li v a A li v e A li v li A li v u //  
 A u - v o A u - v a A u - v e A u - v li A u - v u //

2.  *5x*

↓hi A to - hu H to - ao H to - a a  
 ↓hi A a - hu H a - ao H a - a a  
 ↓hi A e - hu H e - ao H e - a a  
 ↓hi A li - hu H li - ao H li - a a  
 ↓hi A u - hu H u - ao H u - a a

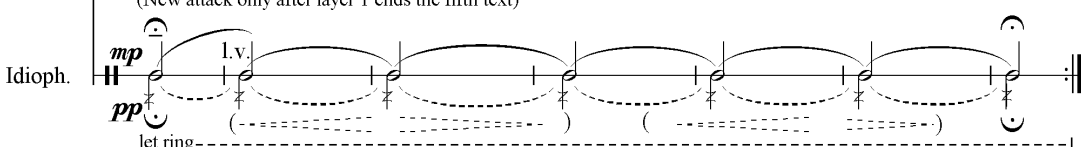
3.  *5x*

↓hi A to - hu H to - ao H to - a a  
 ↓hi A a - hu H a - ao H a - a a  
 ↓hi A e - hu H e - ao H e - a a  
 ↓hi A li - hu H li - ao H li - a a  
 ↓hi A u - hu H u - ao H u - a a


4.  *5x*

↓hi A to - hu H to - ao H to - a a  
 ↓hi A a - hu H a - ao H a - a a  
 ↓hi A e - hu H e - ao H e - a a  
 ↓hi A li - hu H li - ao H li - a a  
 ↓hi A u - hu H u - ao H u - a a

(New attack only after layer 1 ends the fifth text)

Idioph.  *mp* *pp* *1.v.*  
 let ring--

36 *legatissimo sempre* 5x

1. 


V to - a o V to - a a V to - a e V to - a li V o - a u //

V a - a o V a - a a V a - a e V a - a li V a - a u //

V e - a o V e - a a V e - a e V e - a li V e - a u //

V li a o V li a a V li a e V li a li V li a u //

V u - a o V u - a a V u - a e V u - a li V u - a u //

2. 

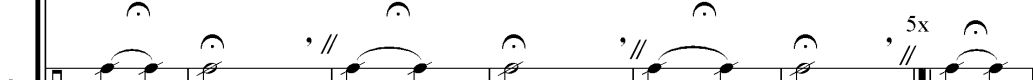
H to - a e H to - li H to - au A to -

H a - a e H a - li H a - au A a -

H e - a e H e - li H e - au A e -

H li - a e H li - li H li - au A li -

H u - a e H u - li H u - au A u -

3. 


H to - a e H to - li H to - au A to -

H a - a e H a - li H a - au A a -

H e - a e H e - li H e - au A e -

H li - a e H li - li H li - au A li -

H u - a e H u - li H u - au A u -

4. 

H to - a e H to - li H to - au A to -

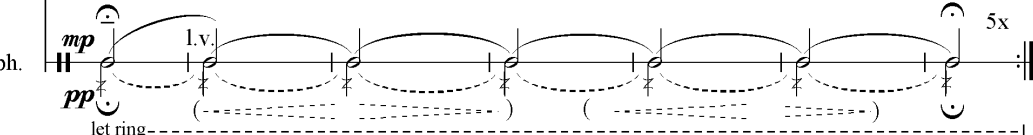
H a - a e H a - li H a - au A a -

H e - a e H e - li H e - au A e -

H li - a e H li - li H li - au A li -

H u - a e H u - li H u - au A u -

(New attack only after layer 1 ends the fifth text)

Idioph. 

*mp* 1.v. *pp* 5x

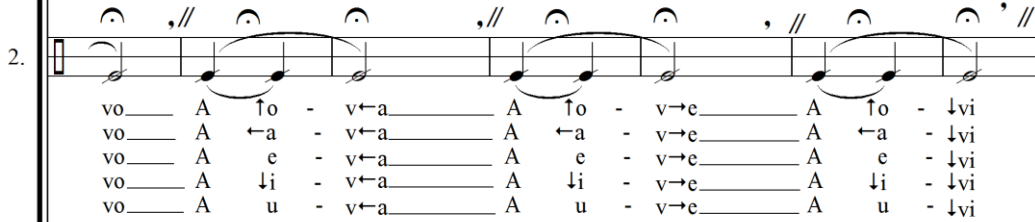
let ring

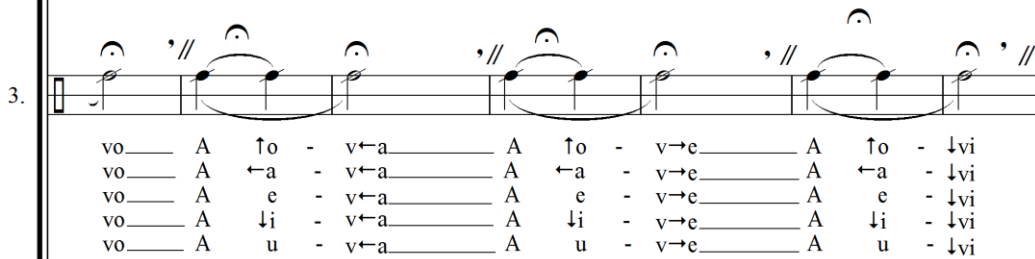
43

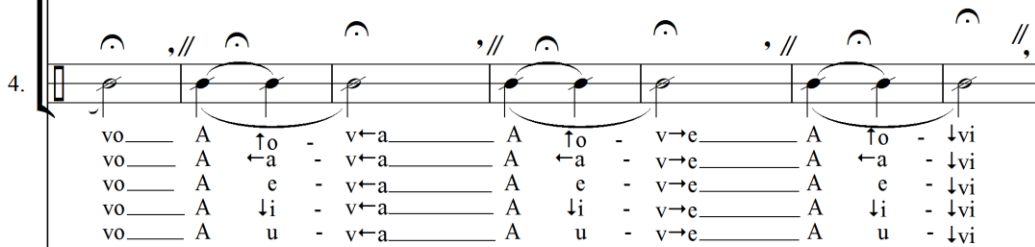
*legatissimo sempre*

5x

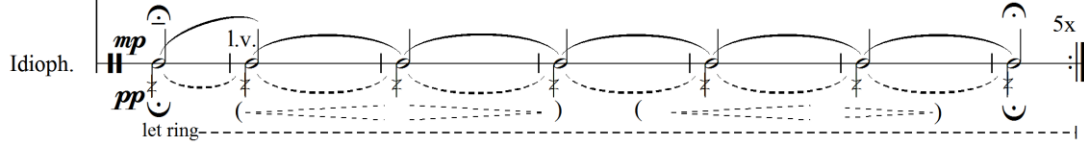
1. 
  
 ↑A o - h o ↑A o - h←a A o - h→e A o - h ↓i A o - h u \_\_\_\_\_ //
   
 ←A a - h o ←A a - h←a ←A a - h→e ←A a - h ↓i ←A a - h u \_\_\_\_\_ //
   
 A→e - h o A→e - h←a A→e - h→e A→e - h ↓i A→e - h u \_\_\_\_\_ //
   
 A ↓i h o A ↓i h←a A ↓i h→e A ↓i h ↓i A ↓i h u \_\_\_\_\_ //
   
 A u - h o A u - h←a A u - h→e A u - h ↓i A u - h u \_\_\_\_\_ //

2. 
  
 vo\_\_\_\_\_ A ↑o - v←a\_\_\_\_\_ A ↑o - v→e\_\_\_\_\_ A ↑o - ↓vi
   
 vo\_\_\_\_\_ A ←a - v←a\_\_\_\_\_ A ←a - v→e\_\_\_\_\_ A ←a - ↓vi
   
 vo\_\_\_\_\_ A e - v←a\_\_\_\_\_ A e - v→e\_\_\_\_\_ A e - ↓vi
   
 vo\_\_\_\_\_ A ↓i - v←a\_\_\_\_\_ A ↓i - v→e\_\_\_\_\_ A ↓i - ↓vi
   
 vo\_\_\_\_\_ A u - v←a\_\_\_\_\_ A u - v→e\_\_\_\_\_ A u - ↓vi


3. 
  
 vo\_\_\_\_\_ A ↑o - v←a\_\_\_\_\_ A ↑o - v→e\_\_\_\_\_ A ↑o - ↓vi
   
 vo\_\_\_\_\_ A ←a - v←a\_\_\_\_\_ A ←a - v→e\_\_\_\_\_ A ←a - ↓vi
   
 vo\_\_\_\_\_ A e - v←a\_\_\_\_\_ A e - v→e\_\_\_\_\_ A e - ↓vi
   
 vo\_\_\_\_\_ A ↓i - v←a\_\_\_\_\_ A ↓i - v→e\_\_\_\_\_ A ↓i - ↓vi
   
 vo\_\_\_\_\_ A u - v←a\_\_\_\_\_ A u - v→e\_\_\_\_\_ A u - ↓vi

4. 
  
 vo\_\_\_\_\_ A ↑o - v←a\_\_\_\_\_ A ↑o - v→e\_\_\_\_\_ A ↑o - ↓vi
   
 vo\_\_\_\_\_ A ←a - v←a\_\_\_\_\_ A ←a - v→e\_\_\_\_\_ A ←a - ↓vi
   
 vo\_\_\_\_\_ A e - v←a\_\_\_\_\_ A e - v→e\_\_\_\_\_ A e - ↓vi
   
 vo\_\_\_\_\_ A ↓i - v←a\_\_\_\_\_ A ↓i - v→e\_\_\_\_\_ A ↓i - ↓vi
   
 vo\_\_\_\_\_ A u - v←a\_\_\_\_\_ A u - v→e\_\_\_\_\_ A u - ↓vi


(New attack only after layer 1 ends the fifth text)

Idioph. 
  
 mp l.v. 5x
   
 pp let ring- (-----) (-----)


50 *legatissimo sempre* 5x

1. 


H ↑o - a o    H ↑o - a ←a    H ↑o - a →e    H ↑o - a ↓i    H o - a u \_\_\_\_\_ //  
H ←a - a o    H ←a - a ←a    H ←a - a →e    H ←a - a ↓i    H ←a - a u \_\_\_\_\_ //  
H →e - a o    H →e - a ←a    H →e - a →e    H →e - a ↓i    H →e - a u \_\_\_\_\_ //  
H ↓i a o    H ↓i a ←a    H ↓i a →e    H ↓i a ↓i    H ↓i a u \_\_\_\_\_ //  
H u - a o    H u - a ←a    H u - a →e    H u - a ↓i    H u - a u \_\_\_\_\_ //

2. 

A ↑o - vu                    V ↑o - ao \_\_\_\_\_                    V ↑o - a←a \_\_\_\_\_                    V ↑o -  
A ←a - vu                    V ←a - ao \_\_\_\_\_                    V ←a - a←a \_\_\_\_\_                    V ←a -  
A e - vu                    V e - ao \_\_\_\_\_                    V e - a←a \_\_\_\_\_                    V e -  
A ↓i vu                    V ↓i ao \_\_\_\_\_                    V ↓i - a←a \_\_\_\_\_                    V ↓i -  
A u - vu                    V u - ao \_\_\_\_\_                    V u - a←a \_\_\_\_\_                    V u -

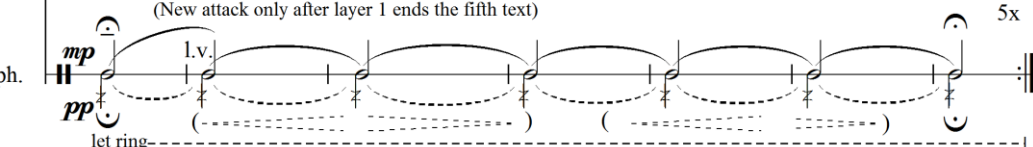
3. 

A ↑o - vu                    V ↑o - ao \_\_\_\_\_                    V ↑o - a←a \_\_\_\_\_                    V ↑o -  
A ←a - vu                    V ←a - ao \_\_\_\_\_                    V ←a - a←a \_\_\_\_\_                    V ←a -  
A e - vu                    V e - ao \_\_\_\_\_                    V e - a←a \_\_\_\_\_                    V e -  
A ↓i vu                    V ↓i ao \_\_\_\_\_                    V ↓i - a←a \_\_\_\_\_                    V ↓i -  
A u - vu                    V u - ao \_\_\_\_\_                    V u - a←a \_\_\_\_\_                    V u -

4. 

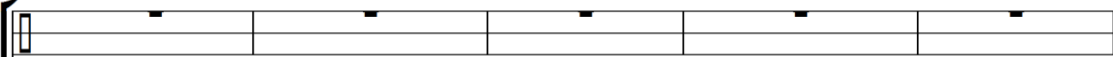
A ↑o - vu                    V ↑o - ao \_\_\_\_\_                    V ↑o - a←a \_\_\_\_\_                    V ↑o -  
A ←a - vu                    V ←a - ao \_\_\_\_\_                    V ←a - a←a \_\_\_\_\_                    V ←a -  
A e - vu                    V e - ao \_\_\_\_\_                    V e - a←a \_\_\_\_\_                    V e -  
A ↓i vu                    V ↓i ao \_\_\_\_\_                    V ↓i - a←a \_\_\_\_\_                    V ↓i -  
A u - vu                    V u - ao \_\_\_\_\_                    V u - a←a \_\_\_\_\_                    V u -


(New attack only after layer 1 ends the fifth text)

Idioph. 

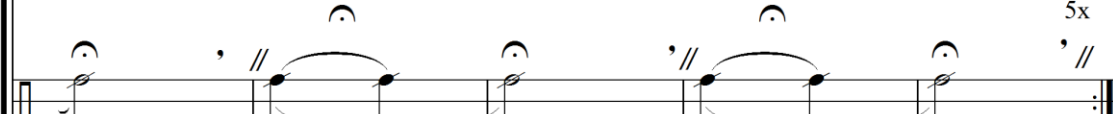
*mp* *pp* 1.v. let ring- \_\_\_\_\_ 5x

57 (As soon as layer 1 ends with its text it will remain in silence until all the other layers finish their parts)

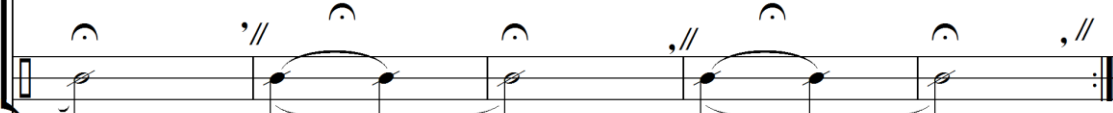
1. 

2. 

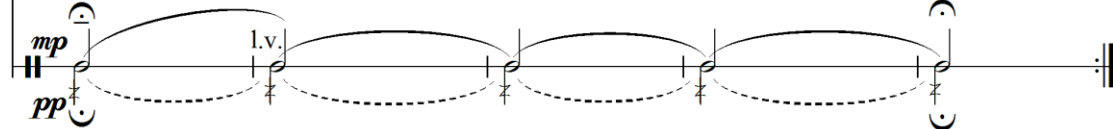
a→e	V	↑o	-	↓ai	V	↑o	-	au
a→e	V	←a	-	↓ai	V	←a	-	au
a→e	V	e	-	↓ai	V	e	-	au
a→e	V	↓i	-	↓ai	V	↓i	-	au
a→e	V	u	-	↓ai	V	u	-	au

3. 

a→e	V	↑o	-	↓ai	V	↑o	-	au
a→e	V	←a	-	↓ai	V	←a	-	au
a→e	V	e	-	↓ai	V	e	-	au
a→e	V	↓i	-	↓ai	V	↓i	-	au
a→e	V	u	-	↓ai	V	u	-	au

4. 

a→e	V	↑o	-	↓ai	V	↑o	-	au
a→e	V	←a	-	↓ai	V	←a	-	au
a→e	V	e	-	↓ai	V	e	-	au
a→e	V	↓i	-	↓ai	V	↓i	-	au
a→e	V	u	-	↓ai	V	u	-	au

Idioph. 

*mp* *pp* 1.v.



62

1.

2. 

A to - ho A to - h←a A to - h→e A to - ↓hi A to - hu  
A ←a - ho A ←a - h←a A ←a - h→e A ←a - ↓hi A ←a - hu  
A e - ho A e - h←a A e - h→e A e - ↓hi A e - hu  
A ↓i ho A ↓i - h←a A ↓i - h→e A ↓i - ↓hi A ↓i hu  
A u - ho A u - h←a A u - h→e A u - ↓hi A u - hu

3. 

A to - ho A to - h←a A to - h→e A to - ↓hi A to - hu  
A ←a - ho A ←a - h←a A ←a - h→e A ←a - ↓hi A ←a - hu  
A e - ho A e - h←a A e - h→e A e - ↓hi A e - hu  
A ↓i ho A ↓i - h←a A ↓i - h→e A ↓i - ↓hi A ↓i hu  
A u - ho A u - h←a A u - h→e A u - ↓hi A u - hu

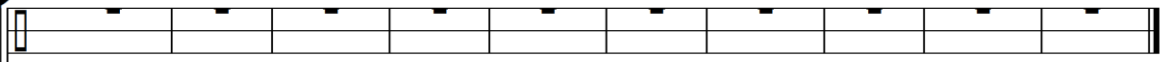
4. 


A to - ho A to - h←a A to - h→e A to - ↓hi A to - hu  
A ←a - ho A ←a - h←a A ←a - h→e A ←a - ↓hi A ←a - hu  
A e - ho A e - h←a A e - h→e A e - ↓hi A e - hu  
A ↓i ho A ↓i - h←a A ↓i - h→e A ↓i - ↓hi A ↓i hu  
A u - ho A u - h←a A u - h→e A u - ↓hi A u - hu

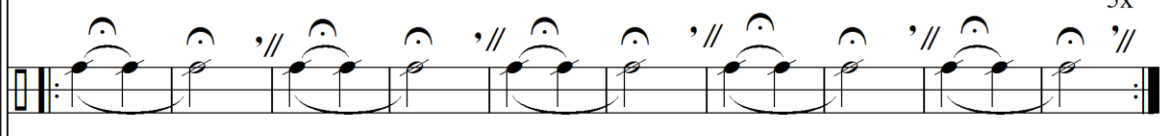
Idioph. 

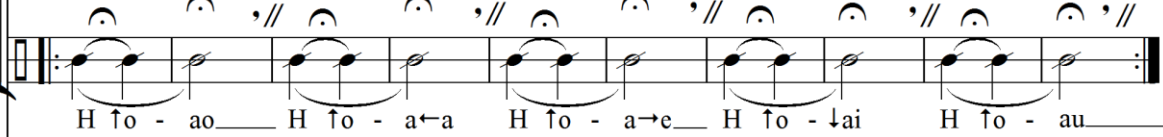
mp  
pp  
l.v.  
5x  
let ring-----|

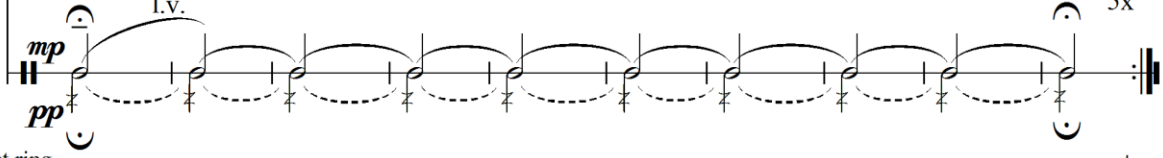
72

1. 

2.  5x  
 H ↑o - ao\_\_\_ H ↑o - a←a H ↑o - a→e\_\_\_ H ↑o - ↓ai H ↑o - au\_\_\_  
 H ←a - ao\_\_\_ H ←a - a←a H ←a - a→e\_\_\_ H ←a - ↓ai H ←a - au\_\_\_  
 H e - ao\_\_\_ H e - a←a H e - a→e\_\_\_ H e - ↓ai H e - au\_\_\_  
 H ↓i ao\_\_\_ H ↓i - a←a H ↓i - a→e\_\_\_ H ↓i - ↓ai H ↓i au\_\_\_  
 H u - ao\_\_\_ H u - a←a H u - a→e\_\_\_ H u - ↓ai H u - au\_\_\_

3.  5x  
 H ↑o - ao\_\_\_ H ↑o - a←a H ↑o - a→e\_\_\_ H ↑o - ↓ai H ↑o - au\_\_\_  
 H ←a - ao\_\_\_ H ←a - a←a H ←a - a→e\_\_\_ H ←a - ↓ai H ←a - au\_\_\_  
 H e - ao\_\_\_ H e - a←a H e - a→e\_\_\_ H e - ↓ai H e - au\_\_\_  
 H ↓i ao\_\_\_ H ↓i - a←a H ↓i - a→e\_\_\_ H ↓i - ↓ai H ↓i au\_\_\_  
 H u - ao\_\_\_ H u - a←a H u - a→e\_\_\_ H u - ↓ai H u - au\_\_\_

4.  5x  
 H ↑o - ao\_\_\_ H ↑o - a←a H ↑o - a→e\_\_\_ H ↑o - ↓ai H ↑o - au\_\_\_  
 H ←a - ao\_\_\_ H ←a - a←a H ←a - a→e\_\_\_ H ←a - ↓ai H ←a - au\_\_\_  
 H e - ao\_\_\_ H e - a←a H e - a→e\_\_\_ H e - ↓ai H e - au\_\_\_  
 H ↓i ao\_\_\_ H ↓i - a←a H ↓i - a→e\_\_\_ H ↓i - ↓ai H ↓i au\_\_\_  
 H u - ao\_\_\_ H u - a←a H u - a→e\_\_\_ H u - ↓ai H u - au\_\_\_

Idioph.  5x  
 mp  
 pp  
 l.v.  
 let ring-

(Each singer will naturally finish their text at different times. This is perfectly acceptable.

What is not acceptable is that any part of the text is repeated or missed out).

## 2.4 Symbolic and speculative underpinnings of my piece “The Emerald Tablet of Hermes Trismegistos”

This work conveys the philosophical message of the classic Hermetic text of alchemy known as “The Emerald Tablet of Hermes Trismegistos”<sup>1</sup> through two main approaches: the symbolic and the speculative.<sup>2</sup>

By *symbolic* I mean that certain ideas and specific moments in the pre-text (the text or texts outside and *previous* to the music) are set to music in such a way that the latter has a *meaning* in musical terms such that a semiotic relationship between the musical text and the non musical pre-text is reinforced: the meaning of certain relationships in one and the other are correspondent and have been consciously stressed by the composer. Details of these procedures in this specific work are given extensively below.

By *speculative* I mean that the very choice of intonation systems, intervals, keys, modulation methods, scales and so forth, in other words the choice of the *musical theory and system* (sometimes called ‘musical grammar’) determining the type of material that has been chosen, adapted or created in accordance with the message to be conveyed.

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<sup>1</sup> For a discussion on the text, and how it has affected several compositional decisions, see the section of this commentary dedicated specifically to the text on which this piece is based.

<sup>2</sup> For an in-depth explanation of these distinctions, see chapter 1 ‘Speculative Music and its Repertoires’.

Both approaches are in a way comparable. The symbolic approach nevertheless limits itself to expressing meaning *within* a particular musical language, system and usage in which certain musical configurations can be said to culturally have carried certain meanings in history. The speculative approach on the other hand tries to transcend the given theoretical systems, seeking either to combine several different ones, or to modify or create new ones that can be more appropriate for the conveyance of the desired ideas.

In a way it can be said that the speculative approach is a predictable outgrowth of a symbolic approach that is so strongly committed and so highly structured that it recognizes that in order to operate consequently with its ideals it needs to transcend the ‘givens’ of culture, history and established practice. In the case of music, the strongest ‘givens’ are the basic areas which music theory regulates: intonation systems, scale systems, harmonic systems, rhythmic subdivision, and so on.

In the following pages I will focus on some of the musical gestures of my piece and explain how their existence is related to creative decisions to which I have arrived through applying symbolic and speculative approaches to my textual material and conceptual subject matter.

### **The text on which this piece is based**

The Emerald Tablet of Hermes Trismegistus, sometimes called simply ‘The Emerald Tablet’, is a short document (about a page long), which cryptically summarizes in

about 14 sentences (in some versions only 12)<sup>3</sup> the philosophical precepts which are at the base of Western symbolic alchemy. As Dennis William Hauck rightly and somewhat comically points out, “the Emerald Tablet has been described as everything from a succinct summary of Neoplatonic philosophy to an extraterrestrial artefact or gift from Atlantis.”<sup>4</sup>

According to widely accepted modern scholarship,

“The Tablet probably first appeared in the West in editions of the pseudo-Aristotelean *Secretum Secretorum* which was actually a translation of the *Kitab Sirr al-Asar*, a book of advice to kings which was translated into Latin by Johannes Hispalensis c. 1140 and by Philip of Tripoli c.1243. [...] The date of the *Kitab Sirr al-Asar* is uncertain, though c.800 has been suggested and it is not clear when the tablet became part of this work.”<sup>5</sup>

Other researchers date the Tablet earlier: Hauck, based on Latz’s somewhat dated research,<sup>6</sup> tells us that “Translated copies of the Emerald Tablet made their way into Arabia sometime after 600 C.E., and from there eventually reached Spain and Europe.”<sup>7</sup> He continues to say that “The earliest known written translation of the Emerald Tablet is an appendix to an Arabic book known as the *Book of Balinas the Wise on Causes*, written around 650 C.E. and probably based on Balinas’s

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<sup>3</sup> To see the different versions and translations, I recommend 'Emerald Tablet of Hermes' in <http://www.sacred-texts.com/alc/emerald.htm> (Accessed Nov. 15 2009)

<sup>4</sup> Dennis William Hauck, *The Emerald Tablet: Alchemy for Personal Transformation* (London: Penguin Compass, 1999), p. vii.

<sup>5</sup> Joseph Needham, *Science and Civilization in China* (Cambridge: Cambridge University Press, 1980) Vol 5, part 4: Spagyric discovery and invention: Apparatus, Theories and gifts; and E.J. Holmyard, *Alchemy* (Harmondsworth Pelican, 1957); pp. 95-98. Both quoted in 'Emerald Tablet of Hermes' in (Accessed .

<sup>6</sup> From the mid-19<sup>th</sup> century no less: Gottlieb Latz, *Die Alchemie: Die Lehre von den Grossen Geheim-Mitteln der Alchemisten* (Bonn: Private edition ["Selbstverlag"], 1869) .

<sup>7</sup> Hauck, *The Emerald Tablet* , p. 21

Alexandrian Writings.”<sup>8</sup> Whatever its true origin and date of composition, during the Middle Ages the Emerald Tablet became the philosophical core of Western alchemy, and a quick glance at contemporary alchemical texts shows that it is still held in currency by practicing alchemists.

The version which I have used in my composition in the one printed in Hauck’s book, transcribed below:<sup>9</sup>

In truth, without deceit, certain, and most veritable.

That which is Below corresponds to that which is Above, and that which is Above corresponds to that which is Below, to accomplish the miracle of the One Thing. And just as all things have come from this One Thing, through the mediation of the One Mind, so do all created things originate from this One Thing, through Transformation.

Its father is the Sun; its mother the Moon. The Wind carries it in its belly: its nurse is the Earth. It is the origin of All, the consecration of the Universe; its inherent Strength is perfected, if it is turned into Earth.

Separate the Earth from Fire, the Subtle from the Gross, gently and with great Ingenuity. It rises from Earth to Heaven and descends again to Earth, thereby combining within Itself the powers of both the Above and the Below.

Thus will you obtain the Glory of the Whole Universe. All Obscurity will be clear to you. This is the greatest Force of all powers, because it overcomes every Subtle thing and penetrates every Solid thing.

In this way was the Universe created. From this comes many wondrous Applications, because it is the Pattern.

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<sup>8</sup> ‘Balinas’ is the name by which Apollonius of Tyana is known in the medieval Islamic world. Quoted from Hauck, *The Emerald Tablet*, p. 30.

<sup>9</sup> Taken from Hauck, *The Emerald Tablet*, p. 45.

Therefore am I called Thrice Greatest Hermes, having all three parts of the wisdom of the Whole Universe. Herein have I completely explained the Operation of the Sun.

In my piece I have set this version of the Emerald Table in its entirety, with no cuts or selections of text.

### **Certain references to the text in the music**

All major changes in the score are triggered by textual cues, the text being absolutely central to the structure of the piece. Some key moments are outlined below:

The design of the melodic lines is determined closely by the text: When the voices sing “that which is above corresponds to that which is below” (bars 10-13), the melodic design of the bass – which is the only moving voice at this point – performs an ascending and then a descending scale. In bar 40 the bass repeats the words “the Earth” on its own, which is atypical of the heterophonic chordal and triadic setting of the voices so far, and these words are sung in the lowest B that a bass can sing: B being the tonic of the section, it corresponds to the heaviest and most ‘grounded’ (lowest) pitch that the voices can produce in this tonal context, also sung by the voice type representing this element: therefore threefold the Earth, as in the text.

More philosophical points of the text are also stressed by the setting: In bars 48-49 for example, the voices sing in unison for the first and only time in the piece: They are stressing an important condition in the alchemical procedure: “its inherent strength is perfected / *if it is turned into Earth.*”

Key changes are also determined by the text: the first modulation (section B, from f minor to B major), occurs in the moment where the text states the word “*transformation*”, one of the key concepts in alchemy (bars 24-26).<sup>10</sup> Even though the new key is at a distance of an ascending fourth, the way in which the modulation is scored is quite abrupt, by parallel upward motion including parallel fourths between the tenor and the baritone (*loc. cit.*). This stresses the concept of transformation even more, as in abrupt change opposed to subtle and gentle evolution. The change of mode from minor to major also contributes to this symbolic representation of change.

Another important modulation happens in section C, this time an ascending major third away, nine ascending fifths in the circle of fifths, and quite abruptly in harmonic terms (direct, parallel modulation of an ascending second). This is also the point where the most important and noticeable *tempo* change in the piece takes place, as discussed above. The text here is clear as to why these important changes happen at this point: “Separate the Earth from Fire, the Subtle from the Gross, gently and with great Ingenuity”: it refers to change, the ingenuity and industriousness of the alchemical operator (as represented by the rhythm in the organ), and the alchemical stage of separation. Later on in the same section (bars 59-62) when the text says “It rises from the Earth, to Heaven [...]” the melodic lines of the tenor and baritone stress the ascension to Heaven through ascending intervals, especially noticeable in the tenor, where there is a jump of an ascending sixth. Conversely, in the next phrase “and descends again in to the Earth”, the vocal lines – and also the organ at this point – descends into the darker and ‘heavier’ colours of the middle and lower registers.

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<sup>10</sup> Hauck, *The Emerald Tablet* pp 151-169 and 201-212.



## **Timbres and their spatial disposition**

The piece starts with three male voices and an organ. The reason I chose to use only male voices is both acoustical and historical, and to some extent also aesthetic: The understanding of the words is of primary importance for this piece, as the text carries a message both profound and recondite, and the whole atmosphere of the music is conducive to meditation on this message. This is why, contrary to my general practice and preference, the text has been translated from its original language (Latin) into modern vernacular, in this case English. Since in my perception text is easier to understand when sung by lower-pitched voices, the exclusion of female voices is an attempt to keep the general frequency levels of the whole piece down. This remains an important point even when higher pitches are used, when the counter tenor, the drinking goblets and the harp intervene in the last section of the piece (section F, bars 106 to 122), as the counter-tenor sings in his lowest register.

The voices used throughout the piece are Tenor, Baritone and Bass, and they stand for the three main philosophical principles used in classical Western alchemy, which as well as being the actual chemicals known even to our day by the same names, are also attributed a long series of symbolic associations,<sup>11</sup> some of which will be discussed in the following lines. These elements are:

1. Mercury, the volatile and etheric. In this piece represented by the highest, and therefore symbolically most ‘volatile’ and lighter, voice: the tenor.

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<sup>11</sup> Manfred M. Junius, *The Practical Handbook of Plant Alchemy: An Herbalist's Guide to Preparing Medicinal Essences, Tinctures, and Elixirs* (Rochester, VT: Healing Arts Press, 1993) [1979] p. 30-53.

2. Sulphur, ‘the fiery one’, corresponding to the element of fire, due to the association of the element with combustion, heat and fumes. “Sulfur [sic] is the fiery, radiant, burning, and masculine or active principle”.<sup>12</sup> In this piece this alchemical principle is represented by the baritone, who, unlike the tenor, has some solos, in accordance with the proactive, individualistic and bold nature of the element. Baritone is also the most common of male voices, and this is why it is chosen as a representative of the masculine principle.
  
3. Salt, ‘the earthy one’, corresponding to the heaviest of the four elements, Earth, and “matter in the sense proper”.<sup>13</sup> In this piece this alchemical principle is resented by the bass, the ‘heaviest’ of the voices. Whenever the text mentions earthy or solid qualities, – such as the existence of the physical universe – the bass has prominence (see for example bars 78-80 “[...] of the whole Universe”, or the subsequent “all *obscurity* will be clear to you” (bars 83-85), and also bars 92-94, “[...] and penetrates every *solid* thing”).

The organ has both symbolic and purely musical functions: symbolically it represents “The Work”, as in the alchemical work, especially in section C where, where at the text “Separate the Earth from Fire, the Subtle from the Gross [...]” the rhythm livens, representing the bubbling of the *prima materia* in the alchemist’s retort at the start of the physical process of separation.<sup>14</sup>

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<sup>12</sup> Junius, *Practical Handbook of Plant Alchemy*, p. 31.

<sup>13</sup> Junius, loc. Cit.

<sup>14</sup> Junius, op. Cit.

In purely musical terms, the organ gives harmonic grounding and sets in the ear of both the singers and the audience 'in tune' with the equally-tempered intonation system, in order to mark the contrast of the change from it towards the just-intonation system later in the piece (from section F until the end) even more noticeable.

In the last section of the piece (section F, bars 106 to 122), a counter-tenor makes its appearance, singing over a harmonic series played by a harp (or a synthesizer with the timbre of a harp or other plucked string instrument, if a harp is too cumbersome and inconvenient for logistical reasons).<sup>15</sup> The harp – or electronic replacement of it – should be tuned in just intonation, with three drinking goblets reinforcing the main notes. The counter tenor sings only when the text clearly implies that the words are being uttered by Hermes *Trismegistos* (Hermes the thrice-greatest), the mythic father of Hermeticism and all its associated currents, schools and practices, such as alchemy.<sup>16</sup>

In retrospect the whole text could be interpreted as being taught by Hermes, but very appropriately in the pedagogic and symbolic nature of Hermeticism, the Master remains concealed, like Nature itself, until the very end of the operation, which in this particular case is the expounding of the text.<sup>17</sup> Yet it is only in the last section of the

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<sup>15</sup> I have learnt some difficult lessons about these seemingly minor details from a decade of experience as a composer, conductor and producer of contemporary music.

<sup>16</sup> Antoine Faivre, *Eternal Hermes: From Greek God to Alchemical Magus* (Grand Rapids, MI: Phanes Press, 1995) ; Hauck, *The Emerald Tablet*

<sup>17</sup> Linda Phyllis Austern, "'Tis Nature's Voice": music, natural philosophy and the hidden world in seventeenth-century England' in Clark and Rehding, (Eds.) *Music Theory and Natural Order from the Renaissance to the Early Twentieth Century* (Cambridge: Cambridge University Press, 2000), pp. 30-

text (starting with the words “Therefore I am called Thrice Greatest Hermes” that it becomes explicit that Hermes is speaking directly to the reader – or in this case the listener of the work.

Section F also includes three drinking goblets, which in my experience are very apt in generating very pure, resounding tones: I believe they work very well in the resonating open chords (with an interval of a fifth and a sixth) that I have written for them (bars 106 onwards). Furthermore, as their tones are so pure, they create an otherworldly effect when contrasted with natural instruments or voices, which tend to have more complex frequency spectra. This particular sound heightens the otherworldly atmosphere of this section, and it reinforces on the subtler level of perception it symbolises (the invisible, past, mythical and heavenly levels which I will explain shortly).

Spatially, the work happens at a minimum of two levels, and more if a medium or large performing ensemble is available.<sup>18</sup> These two levels, which should be present in all three of the possible versions, represent the visible as opposed to the invisible; the present as opposed to the past; the real or daily as opposed to the mythical; and the terrestrial as opposed to the heavenly.

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67; Frances A. Yates, *The Occult Philosophy in the Elizabethan Age* (London: Routledge & Kegan Paul, 1979) .

<sup>18</sup> For details on the performance changes depending on the size of the participating ensembles, see the performance notes for the piece, which can be found directly after this commentary, prefacing the score.

In order to stress the differences between these two levels of experience, the musicians should be placed at least in two distinct groups: the only musicians visible to the audience throughout the piece shall be the tenor, the baritone, the bass and perhaps the organ. The harp (or synthesizer), glass goblets and countertenor should remain concealed from the audience, and their sound should come from a place where the audience is not expecting it (for example high up in the *choir* if the piece is performed in a church, or from behind or above the audience or the stage if it is performed anywhere else), this group represents symbolically a quintessential distillation of the matter that has been operated upon in the first five sections of the piece, which metaphorically can not really be grasped in the bottom glass works of the operation, but only in the subtle vapours high up in the condenser.<sup>19</sup> This will reinforce in the audience the feeling of surprise and discovery so close to the alchemical experience – for alchemy, unlike chemistry, does not operate strictly within the scientific method, and as a result is prone to a greater degree of unpredictability and chance happenings around a less strictly pre-defined working hypothesis.<sup>20</sup>

In the medium and large settings (for vocal ensembles with more than four singers), in addition to the two symbolic and spatial levels discussed above, antiphonal seating arrangements are also prescribed for the singers, thus adding a different level of signification of the relationship between the musicians, a level which hopefully will be also perceived by the audience as part of the message of the piece. This antiphonal

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<sup>19</sup> Junius, *Op. Cit.*, pp. 60-95.

<sup>20</sup> On the contrast and relationship between alchemy and chemistry see the *Journal Ambix*, from the Society for the History of Alchemy and Chemistry <http://www.ambix.org>

arrangement wishes to stress on the communicative nature of knowledge and teaching (whether alchemical, philosophical, moral or of any other kind), as one vocal group responds to the text of the other, in an ongoing relationship of communication and mutual acknowledgement.

## **The importance of the two intonation systems chosen, their theoretical, symbolic and aesthetic implications**

One of the key issues this piece wishes to explore is that of the different sound world that different intonation systems produce when used alternatively in the same piece: beyond the myriad of modulation possibilities the chromatic systems allows, this piece explores the subtle modulatory capacity of music even further, beyond key or mode change within the same intonation system, into changes between different intonation systems: In the last section of the piece (section F, bars 106 to 122) a different intonation system is used, that of just intonation, in contrast to the equally-tempered intonation used until that point, as provided by the organ.<sup>21</sup>

This in part accounts for the choice of instruments in the last section (section F) of the piece: a harp is suggested, but any plucked, unfretted string instrument which is easily retuned could be used also, or even, a synthesizer simulating its sound (since quality synthesizers can easily be re-tuned at will).

The organ, being tuned (hopefully) in equally-tempered intonation, keeps a pedal note in all of this section, and this pedal note constitutes precisely the base or fundamental for the just intonation of the other instruments and the voices in this section, and thus clashes due to inconsistencies between the same chords in two intonation systems are

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<sup>21</sup> Mark Lindley, 'Pythagorean intonation' in Macy (Ed.) *Grove Music Online*, 2004. <http://www.grovemusic.com> (Accessed 10 Nov. 2004); Flora Levin, *The Manual of Harmonics of Nicomachus the Pythagorean* (Grand Rapids, MI: Phanes Press, 1994) ; Hans Erhard Lauer, 'The Evolution of Music Through Changes in Tone-Systems' in Godwin, (Ed.) *Cosmic Music: Musical Keys to the Interpretation of Reality* (Rochester, VM: Inner Traditions, 1989), pp. 150-167

avoided: As there are no concomitances in both tunings apart from their base note,<sup>22</sup> any use of notes different than this one in the conspicuously equally-tempered instrument have been systematically avoided.

Special care has been taken not to write any superimposed thirds in this section, as this is the greatest difference between the just intonation as compared to others.<sup>23</sup> I hope this will mark even a starker contrast with the previous sections in equally-tempered intonation, in which constant simultaneous sounding of thirds acts almost as a harmonic drone, and to a certain degree also as a manifesto of the flexibility of the equally-tempered intonation for modulation, given that this chordal texture is kept even when the keys change, at first to closer tonalities but then also to more distant ones.

The suggested method to arrive at this alternative intonation is explained in detail in the performance notes included at the beginning of the score.

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<sup>22</sup> Mark Lindley, 'Just [pure] intonation' in Macy (Ed.) *Grove Music Online*, 2004. <http://www.grovemusic.com> (Accessed 10 Nov. 2004) ; Bruce Haynes, *A History of Performing Pitch: The Story of "A"* (Maryland: The Scarecrow Press, 2002) .

<sup>23</sup> Erich Neurith, 'The Mathematics of Tuning Musical Instruments - a Simple Toolkit for Experimenters' in Assayag, Feichtinger and Rodrigues, (Eds.) *Mathematics and Music: A Diderot Mathematical Forum* (Berlin: Springer, 2002), pp. 233-242.



## Choice of keys and tonal centres

The choice of keys for each section of the piece points to a certain anachronistic spirit which I find very close to my aesthetic position as an inhabitant at “the end of history”<sup>24</sup> (or rather, and taking it out of Fukuyama’s original political context,<sup>25</sup> pushing it further into “the end of *historicism*”, as understood by Vattimo).<sup>26</sup>

Thus, following the line of thought proposed by Morgan in his *History of Musical Style in Modern Europe and America*,<sup>27</sup> I have tried to use in different sections of the piece keys which are related to their neighbouring keys by modulatory intervals typical of different eras of compositional practice in the history of Western music. Thus, a simultaneous and ahistorical blend of these practices in the same piece seeks to blur out the historical distinctions they are often used – or rather ideologically manipulated – to signify,<sup>28</sup> actualizing and justifying them through use as legitimate techniques available in the harmonic palette of the contemporary (or, dare I whisper it, *postmodern*) composer.

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<sup>24</sup> Francis Fukuyama, *The End of History and the Last Man* (London: Penguin, 1992)

<sup>25</sup> Jean-Francois Lyotard, *The Postmodern Condition: A Report on Knowledge* (Minneapolis, MN: University of Minnesota Press, 1984) [1979], Lawrence Kramer, *Classical Music and Postmodern Knowledge* (Berkeley: University of California Press, 1995)

<sup>26</sup> Gianni Vattimo, *End of Modernity: Nihilism and Hermeneutics in Postmodern Culture* (Baltimore, MD.: John Hopkins University Press, 1991)

<sup>27</sup> Robert P. Morgan, *Twentieth-century Music: A History of Musical Style in Modern Europe and America* (New York: W. W. Norton, 1991)

<sup>28</sup> Philip V. Bohlman, 'Musicology as a Political Act', *Journal of Musicology*, 11/4 (1993), pp. 411-436

The choice of keys for each section is as follows: f minor for section A; B major (separated from the previous key by an interval of an ascending tritone, as used commonly in the classical period) for section B; then G major (separated from the previous key by a distance of a descending third, as in the use of Liszt and other late-romantic composers) for section C. Section D returns to f minor (separated from the previous key by a distance of a second, in the use of post-tonal musical practices); and in section E the modulation is to C major, (separated from the previous key by a distance of an ascending fifth from root note to root note – regardless of the mode – as in the modulatory usages of tonal and pre-tonal music).

Section	Key	To next key		Historical period in which this modulatory practice was chiefly used <sup>29</sup>
		In intervals	In ascending fifths (circle of fifths)	
A	f minor	Ascending fourth, but changes mode from minor to major.	9	Classicism, early romanticism
B	B major	Descending Third	9	Late romanticism, Post-romanticism
C	G major	Descending second with change in mode from major to minor.	7	Post-tonality
D	f minor	Ascending fifth, with change in mode from minor to major.	4	Pre-tonal styles
E	C major	—	—	—

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<sup>29</sup> According to Morgan, *Twentieth-century Music* .

## Metre and beat

The metre of the music is given by the text, as was common in medieval vocal music,<sup>30</sup> whose sound world this piece seeks to evoke – particularly its focus on the spiritual and a general feeling of “sacredness”.<sup>31</sup> As a consideration for the modern reader, and for ease at rehearsals, bar lines have been included in the score. In order to accommodate to the recited quality of the text with the bar lines, profuse use of changes in metre, beat and pauses have been necessary. This accounts for the metric and rhythmic peculiarities that can be seen in the work, but they should not be taken as strict and constraining: on the contrary, the general atmosphere is that of allowing the music to flow with the text, and while the notation seeks to facilitate this to the singers in their first readings of the piece, once the score has been deciphered the general free-flow of the music along with the text should always be taken as a performance guide.

## Rhythm

Rhythm, as metre and beat, also follows text closely, and rhythms have been chosen mainly as instrumental to the text (in the sense of being an *instrument* for its fuller expression). They have also been chosen for ideological reasons close to standard

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<sup>30</sup> Timothy J. McGee, *The Sound of Medieval Song: Ornamentation and Vocal Style According to the Treatises* (Oxford: Oxford University Press, 1998) ; William P. Mahrt, 'Sacred Music - Chant' in Ruffin, (Ed.) *A Performer's Guide to Medieval Music* (Bloomington, IN.: Indiana University Press, 2000), pp. 1-22.

<sup>31</sup> John Taverner, 'The Sacred in Art', *Contemporary Music Review*, 12/2 (1995), pp. 49-54; Joscelyn Godwin, 'Spiritual Currents in Music', *Studies in Comparative Religion*, Spring (1971), pp. 110-125.

Hermetic doctrines, as shared in its historical tradition. I have resorted to the use of three main types of rhythms:

1. The long, sustained notes which give the harmony ‘grounding’ and hopefully will eventually make the actual venue generate harmonic resonances even if the chords themselves are not written down in the score. The work could be interpreted as participative also in the sense that it establishes a dialogue with the building where it is played, thus reinforcing the Hermetic concept that everything is alive, though some things – such as buildings – are so slow and discrete in their expressions that we barely notice their life. In this piece the building is allowed to ‘sing along’ with the piece, and the piece is written to allow the building to ‘join in’ at the speed of its slowly reacting responses. (For examples of this see bars 1 to 8, 22 to 25 or 75 to 85, but especially 106 to 122, in which two octaves are held for 8 pages of the score). These long sustained notes also aurally stress on the importance of the harmonic (chordal) aspects in this piece, and in their structural importance as base for harmonic phrasing and structuring of broader sections.
2. The alternation of binary and ternary subdivisions and accents (for example a pair of quavers and quaver triplets for each crotchet), and the peculiarities of metric modulation (changes from beats measured in crotchets to measured in quavers and vice-versa) try to follow closely the accent patterns and rhythmic grouping of the text (See for example bars 13-15, 22-23, 75-92.) In this I also have tried to follow the medieval tradition of subservience of the music to the comprehension and spoken naturality of the text, which perhaps was

communicable in a more straightforward and natural way before the establishment of the bar lines and set metric conventions in the written score.<sup>32</sup>

3. I have also used Rhythm in some sections to draw attention to changes of mode of activity, or more generally to 'paint' themes implied in the text: In section B for example (bars 26 to 49), the organ starts a quaver rhythm which, in descending arpeggiated chords, emphasizes the subtle harmonic changes that occur at the beginning of the section. These harmonic changes, as has already been mentioned, have symbolic associations, and the rhythm here stresses their importance and draws attention to them in a more direct way than if expressed merely as chords. In section C which follows (bar 50), ascending and descending arpeggios in the organ symbolize the alchemical process of separation, usually characterized in physical alchemy by repeated boiling and condensation of liquid mixtures at different temperatures or pressures.<sup>33</sup> The arpeggios here symbolize the physical activity of the boiling liquid, circulating, rising and descending inside the retort, which is expressed in the piece by the harmonic world and the resonances of the passage.

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<sup>32</sup> See Mahrt, *Sacred Music – Chant*, Op. Cit.

<sup>33</sup> Junius, *Op. Cit.*

## Tempo

The only clearly abrupt change of tempo occurs in section C (bar 50), where the speed of the beat accelerates considerably from ♩ ca. 72 in the previous sections to ♩ ca. 127 in this one. This is triggered by the text, which in this section refers to the alchemical operation of separation: in order to symbolically represent this in the music, the ascending and descending arpeggios in the organ try to depict the busyness and *buzziness* of an alchemical laboratory, and consequently the tempo has been raised in this section. Notice however that the tempo of the vocal lines does not change so much if considered *relatively* to the previous section: The tempo has been basically doubled, but the rhythmic figures here are halved, with successions of crochets being the dominant rhythm in the vocal parts, while in the previous section the dominant rhythmic figure in the vocal lines was the quaver.

As the texts moves ‘out of the laboratory’, so to speak, and back again into the realm of philosophical alchemy in section D (“Thus will you obtain the Glory of the whole universe” in the text), the tempo returns again almost to its original value, expressed in this case in quavers (♩ ca. 146).

# Notes to conductors/performers of Hasler's "The Emerald Tablet of Hermes Trismegistos"

The piece may be played in three suggested settings: the minimum, which requires at least four singers and two instrumentalists; a medium setting, which requires the same number of instrumentalists but seven singers; and a large setting, for a larger male vocal ensemble.

In all of the three proposed settings, the harp, the goblets and the counter-tenor must remain concealed from the main vision of the audience throughout the piece: their appearance in the performance must be completely unexpected and unprepared by visual or other extra-musical input, so as to make a stronger impression in the audience, through their surprise appearance. This surprise effect should be carefully considered when designing programme notes or booklets for performances of the piece.

## *Minimum Setting*

This piece may be performed with a minimum of 6 musicians, as follows:

- 1 Countertenor
- 1 Tenor
- 1 Baritone
- 1 Bass
- Organ

- Harp, tuned in just intonation<sup>34</sup> (This may be replaced by a synthesizer if considered necessary or convenient for logistical reasons).

### *Medium Setting*

If there are at least seven singers of the adequate voice type, an alternative setting is suggested, which brings to the forefront the antiphonal possibilities of the score:

Three singers will sing from the start of section A to bar 26 of section B. Three different singers, located antiphonally in relation to the first three, will sing from bar 31 of section B up to bar 49, and then both groups will sing together all of section C. The first group of three singers will sing section D alone, and then all of the available singers will sing from bar 108 to the end.

A second organ or a separate pipe set of the same organ (if the venue or instrument has one) can be used to accompany the second vocal group from sections B to D, further adding to the antiphonal effect.

Three glass goblets may also be included in the medium setting, to be played by rubbing the fingers along their rims in section F. They should not be evident in their location to the audience. In this respect they might better go with the harp and the counter-tenor, in a place concealed from immediate attention, such as the choir of a church.

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<sup>34</sup> A method for helping in the calculation of this is included at the end of these performance notes.



### ***Large Setting***

Both the minimum and medium settings may be tried out with vocal ensembles of more than one singer per written part, in the case a larger male choral formation is available. But from bar 108 to the end, the vocal music must be sung by a counter-tenor soloist, representing Hermes Trismegistos. The organist should remember to balance the stopping accordingly.

### **The use of a non-tempered intonation in section F of the piece**

It must be noted that only sections A to E are played following the equally-tempered intonation of the organ. Equal temperament has been chosen for these sections first because it is the intonation best suited for changing keys and keeping the interval relations (approximately) well-tuned in all of the different keys,<sup>35</sup> and the piece modulates several times to both close and distant tonalities. Equal temperament has also been chosen because most of the organs available today are tuned in this system, and since an organ is not a portable instrument I would rather not be too picky on this point.

But in section F (bars 106-122) there is an important modulation, not of mode or key, but of intonation system: in this section the intonation reverts to the historically previous one of just intonation.<sup>36</sup> This change in intonation systems has been chosen to stress the philosophical and cosmological implications synthesized in the neo-

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<sup>35</sup> Neurith, 'Mathematics and Music' in pp. 233-242.

<sup>36</sup> Lindley, 'Just [pure] intonation' in Grove Music Online, 2004. <http://www.grovemusic.com> (Accessed 10 Nov. 2004); Mark Lindley, 'Temperaments' in Macy (Ed.) Grove Music Online, 2004. <http://www.grovemusic.com> (Accessed 10 Nov. 2004).

Pythagorean understanding of the concept of *The Pattern*, as expressed in the text in the precise moment when such a change happens (bar 106)<sup>37</sup>. The original idea was to use the Pythagorean intonation for this whole section,<sup>38</sup> since the idea of numeric patterns for the universe, as conceptual and analytical ‘keys’ that unlock its secrets to the harmonicist (or musician, in the Greek theoretical sense closer to the Latin speculative *musicus* than to the practitioner or *cantor*),<sup>39</sup> this image is very dear to all Pythagorean philosophers – and, of course, to the *neo*-Pythagorean ones as well.<sup>40</sup> But since Pythagorean intonation system presents poor thirds and sixths,<sup>41</sup> which sound clearly out of tune when played simultaneously and in chords,<sup>42</sup> and since the third and the sixth are precisely the main intervallic constituents of the chords in the glass goblets and the tenor, baritone and bass in this last section of the piece, I have chosen the just intonation system, as probably the *second best* system (in the sense of closer to the natural observation, yet also less *tampered* with in order to fit historical

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<sup>37</sup> Even though the Pythagorean and just systems of intonation are different, they do share the common goal of arriving to a more “natural”, “harmonic” manifestation of music (in the sense of related to the nature of sound, and other proportional manifestations in nature, as studied by harmonic science), as opposed to equal temperament, in which only a single interval (the octave) remains “correctly” tuned to follow its ‘natural’ interval. See Duffin, Ross W., *How Equal Temperament Ruined Harmony (and Why You Should Care)* (New York: W. W. Norton, 2008)

<sup>38</sup> Lindley, 'Pythagorean intonation' in L Macy (Ed.) *Grove Music Online*, 2004. <http://www.grovemusic.com> (Accessed 10 Nov. 2004).

<sup>39</sup> Edward A. Lippman, 'Hellenic Conceptions of Harmony', *Journal of the American Musicological Society*, 16/1 (1963), pp. 3-35

<sup>40</sup> Joscelyn Godwin, 'Pythagoreans, Today?' *Lindisfarne Letter*, (1981), pp. 135-143; J.A. Philip, *Pythagoras and Early Pythagoreanism* (Toronto: University of Toronto Press, 1966)

<sup>41</sup> Rudolf Rasch, 'Tuning and Temperament' in Christensen, (Ed.) *The Cambridge History of Western Music Theory* (Cambridge: Cambridge University Press, 2002), pp. 193-222, (p. 198).

<sup>42</sup> Neurith, op. cit.

Western musical usage, and more accommodating to harmony than the Pythagorean system, which is more apt for monodic textures<sup>43</sup>).

Therefore, the harp (or synthesizer) and the glass goblets should be tuned in accordance with this intonation before the piece starts, and the voices should find it easy and natural to follow suit.

As an aid for the calculation of this different intonation system for the benefit of the harp (or synthesizer) and the glass goblets, I include the following explanation:

#### **Method for calculating the intonation for section F of the piece.**

The C' played by the pedals of the organ in bar 106 is the starting point for the calculations, since this note is the lowest note on section F.<sup>44</sup> The only 'just' interval in equal temperament is the octave, and this is why in this section the organ only plays octaves, in order not to discord with the rest of the instruments and voices, which from bar 106 perform in just intonation. By the calculation of intervallic proportions of the just intonation system as shown in the table below, the rest of the notes can be calculated.

#### ***Practical Method:***

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<sup>43</sup> Rasch, op. cit., pp. 201 and following.

<sup>44</sup> Even though it is a written C, since the stopping indicates a 16' pipe, the actual note produced is C'.

STEP 1 – Find out the frequency of the C' in the organ pedals in bar 106 with the aid of an electronic frequency (pitch) detector or analyzer.

STEP 2 – Using the table below, calculate the frequencies for the rest of the notes in section F, by calculating (or programming, in the case an electronic instrument is available) the cents that separate each note in the scale from the preceding one. This tends to be quite straightforward in programmable electronic keyboards and the simplest way to do this is would be to first programme a synthesizer with the correct values (even if a conventional plucked string instrument will be used in the performance) and then tune the goblets to it by ear – by adding or subtracting water to adjust their pitches – along with the harp or whichever conventional plucked string instrument is going to be used in section F.

**Table for the calculation of just intonation for section F of this piece<sup>45</sup>**

Pitch, as written on the score <sup>46</sup> (expressed in Helmholtz nomenclature) <sup>47</sup>	Proportion (ratio) to next pitch	Cents to the next note
C'	2:1	1,200
C	2:1	1,200
c	3:2	702
g	4:3	498
c'	5:4	386
e'	6:5	316
g'	6:5	316
bb'	9:8	204
c''	9:8	204
d''	10:9	182
e''	16:15	112
f''	16:15	112
f#''	16:15	112
g''	16:15	112
ab''	256:243*	114*
bb''	—	—

**Table II.2.1:** Table for the calculation of just intonation for *The Emerald Tablet*

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<sup>45</sup> Table compiled from Jan Herlinger, 'Medieval Canonics' in Christensen, (Ed.) *The Cambridge History of Western Music Theory* (Cambridge: Cambridge University Press, 2002), pp. 168-192 (p. 177); Rasch, op. cit. pp. 198-204 and Neurith, op. cit. p. 288.

<sup>46</sup> In order not to confuse the performer with information that he/she can not do anything about while performing (because it refers to tuning, which is set through the instructions provided in these pages before starting to play the piece, and not modified while playing it), only conventional sharp and flat symbols have been used in the score, since there is no alteration on the tuning within the intonation system used in each section. If the piece was written pre-supposing a tempered intonation as default – which it is not – then microtonal alterations would be more suitable. For further on the relativism of musical writing systems and their relationship to the underlying intonation systems, see Haynes, *History of Performing Pitch*

<sup>47</sup> LL. S. Lloyd and R. Rastall, 'Pitch nomenclature' in Macy (Ed.) *Grove Music Online*, 2004. <http://www.grovemusic.com> (Accessed 13 Oct. 2004).

Notice that the interval between  $ab''$  and  $bb''$  (marked in the table with asterisks) is a little wider than the previous comparable intervals. This is because in Pythagorean intonation this interval is a little sharp (the so-called *apotome* interval).<sup>48</sup> Since this piece tries to emulate the melodic qualities of the Pythagorean intonation system while compromising with a system more apt for harmony (just intonation), this combination of the two systems has been inserted here: in order to keep this peculiarity of the Pythagorean scale, this last semitone of the piece is calculated based on the mathematics of Pythagorean intonation, not of just intonation.<sup>49</sup> This accounts for this apparent inconsistency in the table. It must be noted then, that my proposal for this section of the piece combines a short Pythagorean interval at the end of the five-octave harmonic spectrum with what on the main is a just-intonation system.

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<sup>48</sup> Herlinger, loc. Cit., and Levin, *The Manual of Harmonics of Nicomachus the Pythagorean*.

<sup>49</sup> Herlinger, loc. Cit.

## Score with symbolic annotations

### A Moderato (♩ ca. 72)

(In just intonation)

3 glass goblets, rubbed with the fingers  
(In Pythagorean intonation)

Harp\*  
(It represents a Greek Lyre)  
(In Pythagorean intonation)

Counter-tenor\*

CHOIR 1: H

Tenor *mp* In truth, wi-thout de- ceit,

Baritone *p* In truth, wi-thout de- ceit,

Bass *p* In truth, wi-thout de- ceit,

Organ

8'

8' + 16'

16'

The highlighted voices represent the three alchemical principles: the tenor represents the Mercury or volatile principle, the baritone the Sulphur or fiery principle, and the Bass represents the Salt or physical principle.

The organ represents the Alchemical Work, sometimes unobtrusive and almost imperceptible, at other times very obvious, but ever present and constant.

\* The harp and countertenor somehow not visible, either backstage or at a balcony or otherwise above the other musicians

This is because they represent the elusive Quintessence arrived at after the arduous alchemical operation

4

3 Gobl.

Hp.

Ct-Tr.

T.  
cer- tain, andmostve-ri-ta- ble. That...which is Be

Bar.  
cer- tain, andmostve-ri-ta- ble. That...which is Be

B.  
cer- tain, andmostve-ri-ta- ble. That...which is Be

Org.

The long sustained notes in the organ will eventually generate harmonic resonances in the space, in a way establishing a "communication" with the building, thus reinforcing the Hermetic principle '*omnia vivunt, omnia inter se conexas*', (everything is alive, everything is interconnected).



Metric modulation and alternation of binary and ternary subdivision and groupings following the medieval tradition of the text determining the rhythmic behaviour of the music.

8

T. low co - rres - ponds to that which is A - bove, and

Bar. low co - rres - ponds to that which is A - bove, and

B. low co - rres - ponds to that which is A - bove, and

Org. *p*



10

T. that which is A - bove co - rres - ponds to that which is Be-

Bar. that which is A - bove co - rres - ponds to that which is Be-

B. that which is A - bove co - rres - ponds to that which is Be-

Org. *p* 8' + 16'

13

T. *p* low, to a - ccom - plish the mi - ra - cles of The One Thing.

Bar. *H mp* low, to a - ccom - plish the mi - ra - cles of The One Thing.

B. *p* low, to a - ccom - plish the mi - ra - cles of The One Thing.

Org. *p* 8' 8' + 16'

16

T. *mp* And just as all things have come from this

Bar. *p* And just as all things have come from this

B. *p* And just as all things have come from this

Org.

18 *mp*

T. *mp*  
OneThing, through the me di a tion of The One Mind,

Bar. *mp*  
OneThing, through the me di a tion of The One Mind,

B. *mp*  
OneThing, through the me di a tion of The One Mind,

Org. *mp*  
16'



22 *mp*

T. *mp*  
so do all cre - a - ted things o - ri - gi - nate from this One

Bar. *mp*  
so do all cre - a - ted things o - ri - gi - nate from this One

B. *mp*  
so do all cre - a - ted things o - ri - gi - nate from this One

Org. *mp*

*mp*

24

T. *8* Thing, through Trans - for - ma -

Bar. Thing, through Trans - for - ma -

B. Thing, through Trans - for - ma -

Org.



**B** At the end of the word "transformation" there is an unprepared, abrupt modulation, from f minor to B major: A transformation also in tonal terms.

26

T. tion.

Bar. tion.

B. tion.

Org.

8' + 16'

8'

16'

30 *p*

T. *p* Its fa - ther is the Sun;—

Bar. *p* Its fa - ther is the Sun;—

B. *p* Its fa - ther is the Sun;—

Org. Its fa - ther is the Sun;—



33

T. its mo - ther the Moon. The

Bar. its mo - ther the Moon. The

B. its mo - ther the Moon. The

Org. its mo - ther the Moon. The

36

T. Wind ca-rries it in its be - lly; its

Bar. Wind ca-rries it in its be - lly; its

B. Wind ca-rries it in its be - lly; its

Org.

39

T. nurse is the Earth. It is the o - ri - gin of

Bar. nurse is the Earth. It is the o - ri - gin of

B. nurse is the Earth the Earth. It is the o - ri - gin of

Org.

*mp cresc.*

43 *f*

T. *f*  
All, the con - se - cra - tion of the U - ni - verse

Bar. *f*  
All, the con - se - cra - tion of the U - ni - verse

B. *f*  
All, the con - se - cra - tion of the U - ni - verse

Org.

---

46 *mp*

T. *mp*  
its in - he - rent Strength is per - fec - ted,

Bar. *mf* **H**  
its in - he - rent Strength is per - fec - ted,

B. *mp*  
its in - he - rent Strength is per - fec - ted,

Org.

48 *mp*  
 T. if it is turned in - to Earth.  
*mp*  
 Bar. if it is turned in - to Earth.  
*mp*  
 B. if it is turned in - to Earth.

Org.

**C** Più Mosso  $\downarrow$  ca. 127 The tempo increases when the text suggests the bubbly, active process of alchemical separation

CHOIR 2: Another choral group sings here, because the Operation takes place at another level.

50 *mf*  
 T. Se pa - rate the Earth from Fire, the Sub tle  
*mf*  
 Bar. Se pa - rate the Earth from Fire, the Sub tle  
*mf*  
 B. Se pa - rate the Earth from Fire, the Sub tle

Org. *mp*  
 8'  
 16'



The organ plays clashing rhythms and repetitive arpeggios to illustrate the whorls, bubbles and general activity of the process of separation in the physical lab.

53

T. from the Gross, gen - tly and with

Bar. from the Gross, gen - tly and with

B. from the Gross, gen - tly and with

Org.

56

T. great In - ge - nu - i - ty

Bar. great In - ge - nu - i - ty

B. great In - ge - nu - i - ty

Org.

59

T. *mf*  
It ri - ses from the Earth, to

Bar. *mf*  
It ri - ses from the Earth, to

B. *mf*  
It ri - ses from the Earth, to

Org.

8' + 16'



At the word "Heaven" the harmony gets brighter (major mode), and the voices sing higher

62

T. Hea - ven

Bar. Hea - ven

B. Hea - ven

Org.

At the mention of descending into the Earth the tempo slows down and the accompaniment plunges to lower registers

65 **allargando il tempo** -----

T. and de - scends a - gain in - to the Earth

Bar. and de - scends a - gain in - to the Earth

B. and de - scends a - gain in - to the Earth

Org.



68 **ca. 100 M.M.**

T. there - by com - bi - ning with - in it - self the

Bar. there - by com - bi - ning with - in it - self the

B. there - by com - bi - ning with - in it - self the

Org.

71

T. powers of both the A - bove and the Be - low

Bar. powers of both the A - bove and the Be - low

B. powers of both the A - bove and the Be - low

Org.

- 8 (only 16')

Unison at the phrase  
"combining [...] the  
Above and the Below"

After the alchemical process is finished, the piece returns to its opening key and original ambiance, but revitalized, at a faster tempo (a higher level of vibration)

**D** ca. 146 BOTH CHOIRS: Since The Above and The Below have been united at this stage.

75 *p*  
 T. Thus will you ob - tain the Glo - ry of the whole  
 Bar. *p* Thus will you ob - tain the Glo - ry of the whole  
 B. *p* Thus will you ob - tain the Glo - ry of the whole  
 Org. *pp*

78 *U - ni - verse*  
 T. *U - ni - verse*  
 Bar. *U - ni - verse*  
 B. *U - ni - verse of the whole U - ni - verse*  
 Org.

The material universe is highlighted by the bass, representing the Salt principle, or the heavy, dark physical matter

82 *p*

T. All obs - cu - ri - ty will be clear to

Bar. *p* All obs - cu - ri - ty will be clear to

B. *p* All obs - cu - ri - ty will be clear to

Org.



84

T. you

Bar. you

B. you all obs - cu - ri - ty will be clear to you.

Org.

87 rit. A tempo

T. This is the grea - test force of all powers be - cause it o - ver

Bar. This is the grea - test force of all powers be - cause it o - ver

B. This is the grea - test force of all powers be - cause it o - ver

Org.



90 ♩ = ♪

T. comes e - very sub - tle thing

Bar. comes e - very sub - tle thing SOLO:

B. comes e - very sub - tle ting *mp* and

Org.

**E**

As before, the bass refers, in the text and in the sound, to solidity, matter, weight and density

93

T. *8*

Bar. *8*

B. *8*

Org.

pe - ne - trates e - very so - lid thing



**F**

The fiery and active principle, Sulfur, represented by the baritone, refers to the creation of the Universe

96

T. *8*

Bar. *8*

B. *8*

Org.

SOLO: *mp*

In this way was The U - ni verse cre - a - ted



100

Bar. 

From this comes ma-ny won-drous A-ppli-ca - tions

Org. 

104

Bar. 

be - cause it is The Pa -

Org. 

At the mention of "The Pattern" upon which the universe is based we hear the harmonic series, and the intonation of the whole piece changes to the Pythagorean system

**G** Poco lento (♩ ca. 60)

The glass goblets lend this section their eerie and otherworldly resonance

107

3 Gobbl. *p molto*

Hp. *p delicato*

Ct-Tr.

T.

Bar. closing the mouth gradually *pp* B.C.

B.

Org. 8' -8' (only 16')

Bb, F#, Ab The harp reminds us of the lyre, the instrument upon which the Greeks based much of their musical theory

The organ plays only octaves, as this is the only interval in which tempered and Pythagorean tunings coincide

109

3 Gobl.

Hp.

Ct-Tr.

*mf* There - fore \_\_\_\_\_ am I called Thrice Grea - test Her - mes. \_

T.

*pp*  
B.C. stagger breathing

Bar.

*pp*  
B.C. stagger breathing

B.

*pp*  
B.C. stagger breathing

Org.

The counter-tenor represents the Quintessence, the element of Spirit. He speaks through the mouth of Hermes himself.

The three alchemical principles underly the Quintessence, but are transmuted to a higher vibration through it. In musical terms, they adapt to the Pythagorean scale which represents the Universal Pattern.

111

3 Gobl.

Hp.

Ct-Tr.

T.

Bar.

B.

Org.

ha - ving all three parts of the

113

3 Gobl.

Hp.

Ct-Tr.

T.

Bar.

B.

Org.

wis - dom of the Whole U ni - verse

115

3 Gobl.

Hp.

Ct-Tr.

T.

Bar.

B.

Org.

Here - in\_\_\_ have I com - ple - tely ex-

Detailed description of the musical score: The score is for measures 115 and 116. The 3 Goblets part consists of two whole notes, one in each measure. The Harp part features a melodic line in the right hand and a bass line in the left hand, with a large slur spanning both measures. The Cello/Trumpet part has a rest in measure 115 and a melodic line in measure 116, including a triplet. The Trombone, Baritone, and Bass parts each play a single whole note in each measure. The Organ part is a two-staff system, with the upper staff playing a whole note and the lower staff playing a whole note in each measure.

117

3 Gobl.

Hp.

Ct-Tr.

T.

Bar.

B.

Org.

plained the O - pe - ra - tion of the Sun.<sup>3</sup>

allargando il tempo poco a poco - - - - -

119

3 Gobl.

Hp.

Ct-Tr.

T.

Bar.

B.

Org.

Here - in\_\_\_ have I com - ple - tely ex



121 ra - llen - tan - do al fi - ne -----

3 Gobl.

Hp. The harp does the full harmonic spectrum at the very end, up to where this is possible before microtones appear

Ct-Tr. plained the O - pe - ra - tion of the Sun.

T.

Bar.

B.

Org.

Cb pp

## Section 3 - Pieces Composed at the Speculative Level of Speculative Music

3.1. *The first astrological house*, for solo piano.

3.2. I : ♀ 17°♃, for piano four hands.

3.3. *The Cabalistic Cross*, for voice and melodic instrument.

3.4. *The Cabalistic Cross*, for two voices and melodic instrument.

3.5. *The Cabalistic Cross*, for SATB *a capella* choir.

3.6 *The Lesser Banishing Ritual of the Pentagram*, for SATB choir and organ.

### 3.1 Notes and thoughts regarding the frustrations and worries on writing a piece on the first astrological house

I want to write a piece on the first astrological house of the zodiac. But I don't want to write a "fluffy" New Age piece. These kinds of things don't go with my personality and style (as a person and as an artist), and I am impatient with them: they irritate me. I have a methodical, rationalistic mind, even with the spiritual and para-rational, which some call irrational. I prefer to think of it as *trans*-rational, as something that lies beyond rationality but which can be partially understood and can start to be described and grasped through a rational, methodical way of thinking. The understanding of it can be *approached*, even if not *attained*, through rationality.

I do my research on how others have tried to find musical equivalences to the zodiac in this kind of rational way, and I find speculative music, harmonic science and astrological harmonics. I am relieved to see these disciplines exist and that they approach the problem as I prefer to approach it, in a systematic, rational way.

#### **Problem of inconsistencies**

But I soon become frustrated with the awful amount of inconsistencies in this theory. It must not surprise me, as even if harmonicists, astrologists and speculative music theorists work in a manner akin to that of science, these *occult* sciences are after all not normative, mainstream science, and in them dissension and inconsistency are not

persecuted, but are considered to be an inevitable result of a personalized and *individualistic* approach to knowledge, in which the findings of one individual can not necessarily be applied or even used by all others.<sup>1</sup> This I understand.

Yet after decades of being epistemologically immersed in the scientific-theological outlook of ontological dualisms (there is only one truth, if it is not true it must be false, etc.), it is difficult to think outside of this. And a bit annoying.

Godwin tells us what the major authors and theorists in the relationship between music and astrology throughout history have deduced are the corresponding keys for the first astrological house: For Ptolemy, it is A major. For Henschel, it is C major – and Schneider agrees – for McMullin it is B major; the Rosicrucianist<sup>2</sup> Heindel mentions C# and B<sub>b</sub> as possible correspondences, while the Antroposophical tradition gives the equivalencies of C major – like Ptolemy or Schneider – but add its relative *A minor* in addition to the Ptolemaic correspondence.<sup>3</sup>

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<sup>1</sup> “[...] the present state of speculative music is not a body of knowledge, nor anything that can be learned and enclosed in a book. It is, rather, a frame of mind.” Joscelyn Godwin, 'The Revival of Speculative Music', *Musical Quarterly*, 67/3 (1982), 373-389. Quote from page 387.

<sup>2</sup> “Rosicrucianists” are members or followers of modern renditions of Rosicrucian traditions – such as the *A.M.O.R.C.* or Heindel’s own *Rosicrucian Fellowship* – while “Rosicrucians” are followers of the original XVII century ideals, which unlike its modern counterparts actually never materialized into any form of organized fellowship or society. See Antoine Faivre, 'Renaissance Hermeticism and the Concept of Western Esotericism' in Van Den Broek and Hanegraaff (Eds.) *Gnosis and Hermeticism from Antiquity to Modern Times* (Albany, NY: State University of New York Press, 1998), and Tobias Churton, *The Golden Builders: Alchemists, Rosicrucians and the first Free Masons* (Lichfield: Signal Publishing, 2002)

<sup>3</sup> Joscelyn Godwin, *Harmonies of Heaven and Earth: the Spiritual Dimensions of Music from Antiquity to the Avant-garde* (Rochester, VT: Inner Traditions, 1987) pp. 140-148.

Five keys. Which one should I use? Since the house system of astrology is a division of the sky into twelve sections, I believe must use something which tells both the listener and myself there is such a limit, such a division. Tonality seems like a good way of doing this. I therefore decide to write the piece around a tonic centre or in a certain key, rather than make it freely floating through an atonal treatment. In order to be consistent with the historical knowledge around this, I should use one of the keys the major authors and researchers propose, after their long and well thought-out researches. But which key, out of five? I feel lost, frustrated.

### **Making a decision**

After many days agonizing over this, I can't make up my mind. There is no system which is preferable over another; all of them are well thought-out and internally coherent. They have come to be how they are for very good reasons. There is not one of all which is clearly *superior* to the others. None of them is 'right', and so therefore none of them is 'wrong' either, and can not be discarded on the grounds of its incorrectness. A decision of one over the other can not be made on the grounds of validity or truth, but only through *preference*. But I discover all of them are attractive also. So I don't prefer any of them over the others. I am stuck, and can't make up my mind...

### **A piece in three keys**

After a few more days pondering this I decide finally to work my piece for the first house of the zodiac on *all* of the proposed tonalities simultaneously: a polytonal piece in A major, B $\flat$  major, B major, C major and C  $\sharp$ major. I decide to write a piece for the

piano which will be a simple one-line melody accompanied by static chords. In order to stress the polytonality of the piece, I decide to use *only* the first degree of each key (the tonic chord) in the accompaniment. I will give myself “license” to use it in different inversions, but I will only use the tonic chords of the five keys. By superimposing two tonic chords from these different keys, often seventh chords are generated. These are not “dissonant chords” in this context (and thus do not require to be resolved), but rather simultaneous apparitions of two tonic chords (in a polychordal and polytonal setting).<sup>4</sup>

For the melody, I will use pitches that are typical or basic in any of these keys (mainly the tonic and dominant, though also the mediant, which determines the modality of the key), and, whenever possible, pitches that are shared by all of the keys, or at least by two of them.

### **The piece itself**

And so the piece opens, with the successive statement of each of the tonic chords of each key in the accompaniment, and also in the melodic line. After this opening, my working method for the piece is the one I best perform with, which has given me best results in the past: a dialogue with the instrument, in which by trial and error, by ear, I accommodate my seminal idea (in this case using three different keys either simultaneously or in quick succession). I “propose” my idea to the instrument, and the instrument seems to communicate with me, and to answer back, communicating “its”

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<sup>4</sup> Persichetti, Vincent, *Twentieth-Century Harmony: Creative Aspects and Practice* (New York: W. W. Norton, 1961) [1961]. Chapters 7 and 12.

opinions about my ideas to me through my hands or my ears. I will ask the piano then, which of the several options theoretically viable it prefers...<sup>5</sup>

Thus the piece is born, in about an hour, after much thinking and agonizing over the “correct” correspondence, and the conclusion that all of them should be applied simultaneously.

**Afterthought, written after finishing the piece:**

Interestingly enough, the first house corresponds in astrology to the Self, innermost identity, the personality.<sup>6</sup> As mentioned above, during its composition process and dialogue with the instrument the piece constantly looked for this identity of itself, its centre (very literally a tonal centre in this case), and on hearing the final product it is clear that it gravitates between several identities (keys). This searching for identity is something not only this particular piece does, but many people, and certainly myself, undergo similar “modulations” while in the process of exploring their own inner life.

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<sup>5</sup> Reassuringly, it seems this way of working is not so peculiar and unheard of in the world of composition, and Joseph Dubiel describes a similar mode of working in one of his writings. See Joseph Dubiel, 'Composer, Theorist, Composer/Theorist' in Cook and Everist (Eds.) *Rethinking Music* (Oxford: Oxford University Press, 1999), 262-286.

<sup>6</sup> A.T. Mann, *The Round Art of Astrology: an illustrated guide to theory and practice* (London: Vega, 2003), pp. 99-116.





For Heindel's Rosicrucians, C# major is the key for the first house. That scale is suggested here, but the pitches also ambiguously relate to B major.

17

*mp*

*crescendo* -----

Ped. \* Ped. \* Ped. \* Ped. \*

All of the corresponding keys are enunciated here: A major, B major, and C major.

21

*mf*

*crescendo* -----

Ped. \* P \* P \* P \* Ped. simile

In this piece simultaneous chords always belong to more than 1 key.

**Tempo libero, più presto**

25

*ff*

*f*

Ped. \* P \* Ped. \*

27

*ff*

Ped. \* Ped. \* Ped.

8<sup>vb</sup> -----

Hasler, first astrological house

The arpeggios change rapidly from one key to the other, while appearing in different keys in each hand :

29 *ff* *f* *f*  
 (8)-----  
 \* P \* P \* Ped. \* Ped. \*

A polytonal passage in the two voices of the right hand reminds of the shifting keys in this piece:

32 **Tempo primo**  
*p*  
 Ped. \* Ped. \* Ped. \* Ped. \*

Alternation of Keys:  
 C major

B major and C major

A major, B major and C major

36  
 Ped. \* Ped. \* P \* P \* P \*  
 Ped.

39 *8<sup>va</sup>*  
 Ped. \* P \* P \* P \*  
 Ped.

Hasler, first astrological house

A long modulatory *arpeggio* suggests the 3 main keys worked here: A major, B major and C major

41

*pp*

*ppp*

*8va*

*Ped. al fine*

\*

The three fundamentals of the three keys are used as material for the final chord.

## 3.2 I: ♀ 17°♏ for piano four hands

The astrological glyphs “I: ♀ 17°♏” which constitute the title of this piece, could be read out loud as: “In the first house: Venus at 17 degrees of Scorpio”. The title emphasizes the eminently technical nature of the piece (technical in an astrological sense): The piece wishes to express in a very literal, unsentimental manner (eschewing the ‘inspired and intuitional approach’ tested out in pieces of the first section of this portfolio) the sound equivalence of a single feature – in this case the data that fall in the first house – of a natal chart of an actual person, who allowed the implementation of this particular sound experiment, but wished to remain anonymous.

The piece tries to use the various systems of musical attribution of astrological parameters collected and systematized in chapter 2 (“astrological and alchemical grammars of music”) and apply them to the solution of an apparently simple question:

**“If there were a direct musical correspondence to astrological data, how would an astrological natal chart *sound*?”**

But when trying to answer this apparently simple question through musical composition, several problems quickly arise:

Firstly, as was concluded in chapter 2, there are several different systems of attribution, most of them internally coherent and with a sound astrological or

geometrical rationale, but not necessarily congruent with other proposals. This means that a single planet, zodiac sign, house and angular aspect has *several* different possible musical equivalents. Therefore the question arises: which ones should be selected, and on what base can some be rejected and others accepted? As has been already commented and demonstrated in chapter 2, the simple device of disregarding the less elaborate or internally coherent systems is not an option, as most are quite consistent in their own terms and their own astrological or mathematical rationale.

Therefore, in order to honour the soundly deduced and correctly designed systems I encountered, I have decided to use *all* of the attributions (a similar procedure used in piece 3.1 of this portfolio, *the first astrological house*, which was the first attempt on application of astrological principles at the speculative level, that is, at the level of determining and designing musical grammars). But this decision implies that for each astrological parameter several musical equivalencies must be shown, which consequently makes the musical narrative longer than if it were a one-to-one equivalence, due to the need of expressing the same thing (for example a planet or an astrological house) with several musical equivalences.

This has determined that instead of composing a single piece that represents the whole of an astrological chart, a multi-movement approach was considered necessary: one movement for each of the astrological houses in which there is astrological information for that chart.<sup>1</sup> In this portfolio I have included the first movement of such a project,

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<sup>1</sup> There are twelve astrological houses, but in actual natal charts there is seldom a planet or other astrologically significant celestial body (eg. large asteroids, planetoids, satellites of other planets, the sun and the moon) in each house. Therefore, even though *theoretically* one could think of twelve movements to represent the musicalization of a natal chart, in practice this is reduced to between five and nine.

the astrological data for house I of the volunteer who allowed me to use their chart for this speculative music experiment.

A second difficulty that also influenced the pre-compositional decisions that beared on the final format of the piece is that the information found in a single house is related to that of other houses through the angular relationships of the celestial bodies found in each (in astrological terms, their ‘aspects’). These too have several different equivalences according the various systems developed through history.

As was already shown in chapter 2, in most historical systems the planets were usually assigned to individual pitches (more exceptionally to modes or scales), the houses and signs of the zodiac to keys, and the aspects to intervals.<sup>2</sup> In order to express all of this data simultaneously (as they occur in astrology) – especially the appearance of many keys at the same time – the possibility of multi-chord harmony (or *polyharmony*)<sup>3</sup> became paramount, and this ruled out the use of monophonic instruments in solo or small ensembles. The original idea had been to write a cycle for solo piano, but due to this constraint, it soon became apparent that using two pianists on the same instrument (four-hand piano) would be an appropriate solution. This determined the instrumentation of the piece, whereas the amount of data that needed to be musicalized – due to the various inconsistent systems historically proposed – determined the format, in one movement for each astrological house where there was actionable information.

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<sup>2</sup> See chapter 2, section 2.2.

<sup>3</sup> Chapter 7 of Persichetti, Vincent, *Twentieth-Century Harmony: Creative Aspects and Practice* (New York: W. W. Norton, 1961) [1961]. In the Spanish edition, Persichetti, Vincent, *Armonia del siglo XX* (Madrid: Real Musical, 1985), pp. 137-158.

## **The natal chart on which this piece is based**

Below, in figure II.3.2, we can see the natal chart that was the basis for all astrological data that will be converted into music in this piece. As only the data pertaining to the first house was used, this analysis will focus on that house and its contents.

Since the reading of an astrological birth (or natal) chart requires a certain degree of technical training, I will take the reader through the ‘decipherment’ of the astrological chart for our purposes in this commentary.

The first house, marked in the chart with a small number 1 and circled in figure II.3.2 in strong black for faster identification, is one of 12 divisions of the celestial sphere (represented as a circle in modern astrological charts) used in classical Western astrology since Ancient Greece up to the present times. Since astrology is defined as “both the study of the ways in which significance for life on earth is located in celestial objects and the resulting practices”,<sup>4</sup> it is to be expected that the houses would be assigned to certain aspects of human life. This is what Nicholas Campion has to say about their development in the ancient Greek world:

The use of the ascendant was linked to the development of a whole additional interpretative structure based on the 12 houses, the division of the sky often based on the diurnal circle, which represented different areas of life, such as marriage, friends, enemies and public success. The houses enabled the astrologer to convert segments of sky into tangible information about an individual’s life, reading sections of space as an

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<sup>4</sup> Campion, Nicholas, *A History of Western Astrology: Volume 1, The Ancient World* (London: Continuum, 2008) p. xi.

encoded diagram of human potential. Whereas the zodiac sign indicated the planet's strength, the house pointed to the areas of activity over which it ruled.<sup>5</sup>

I the words of another author,

The houses relate particularly to the material interests and conditions, while the signs tell us more of the spiritual qualities which manifest as character, temperament and tendencies.<sup>6</sup>

The attribution of interpretative meaning to the first house has varied throughout history, as can be seen in figure II.3.1.

House	Sign	Indian BC	Ptolemaic 150 AC	Firmicus Maternus 400 AD	Lilly 1647	Ebertin 1940	Jeff Mayo 1964
I	Aries	Physical appearance	Horoscope	Life (vita)	Life of man, stature, colour	Personality Childhood	Self-centred interests

**Figure II.3.1:** Historical development of attributions of the first house<sup>7</sup>

The more contemporary interpretation of this house is that it

[...] represents our self-awareness, temperament, and inherent disposition. It is often interpreted as the “front door” to our world, for it holds the key to the way we view life and the way in which we come across to others. It is through the first house that

<sup>5</sup> Campion, Op. Cit., p. 204.

<sup>6</sup> Llewellyn, George, *A to Z Horoscope Maker and Delineator* (Saint Paul, MN: Llewellyn, 1975), p. 32.

<sup>7</sup> Table taken from Mann, A.T., *The Round Art of Astrology: an illustrated guide to theory and practice* (London: Vega, 2003), p. 106, which in turn takes his information from: Rele, Vasant Gangaram, *Directional astrology of the Hindus: as propounded in Vimshottari Dasa* (Bombay: Taraporevala Sons 1965) p. 57; Ptolemy, *Tetrabiblos, translated and edited by F.E. Robbins* (Cambridge MA.: Harvard University Press, 1971) [1940] p. 217; Eisler, Robert, *The Royal Art of Astrology* (London: Herbert Joseph, 1946) p. 39; Lilly, William, *An Introduction to Astrology* (Hollywood, CA: Newcastle Publishing, 1972) [1647] pp. 27-34; Ebertin, Reinhold, *The Combination of Stellar Influences* (Aalen: Ebertin Verlag, 1940) pp. 41-42 and Mayo, Jeff, *Astrology* (London: Hodder & Stoughton, 1964) p. 99.



we express and direct our inner motivations and psychological needs in our immediate environment.<sup>8</sup>

Since the musical equivalences presented by several authors through history specify pitches, keys, scales or intervals (in short several instances of the pitch aspect), but neglect the duration aspect and all of its components (metre, rhythm, tempo, accent, etc.) these traditional astrological attributions of the first house have been used as a guide for the general character of the piece, and for its tempo. Since Lyonett tells us that “it is through the first house that we express and direct our inner motivations and psychological needs”, I decided that the general character of the piece should be introspective, and therefore its tempo not very fast, but moderate. Other duration aspects (especially rhythm) were likewise worked through emotional or symbolic association, since there is no speculative music theory of their direct attribution.

Nonetheless, for the planets, signs of the zodiac, house and angular aspects very precise attributions were used, as will be explained below.

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<sup>8</sup> Lyonett, Annie, *The Astrology Directory* (Hoo, Kent: Grange Books, 2004), p. 126.



In house 1 of the natal chart reproduced in figure II.3.2 (and marked by a black circle) we can clearly see the glyphs for the planets Neptune ( $\Psi$ ) and Venus ( $\text{♀}$ ). In the outer rim of the chart we see the glyph for the astrological sign of Scorpio ( $\text{♏}$ ). This simply means that in the chart used for this musicalization experiment, Neptune and Venus are in the sign of Scorpio<sup>9</sup>, in the first astrological house. This is our primary data.

But in order to calculate some secondary data – in this case the aspects – we need a more precise description of the positions of the planets in the sign. The box below the chart, on the lower left corner, gives us these precisions: Venus at 17°, 0 minutes 55 seconds of arc of Scorpio, and Neptune at 1°, 45 minutes and 49 seconds of arc in Scorpio. In astrological shorthand:

I:  $\text{♀ } 17^{\circ} 0' 55'' \text{♏}$

I:  $\Psi 1^{\circ} 45' 49'' \text{♏}$

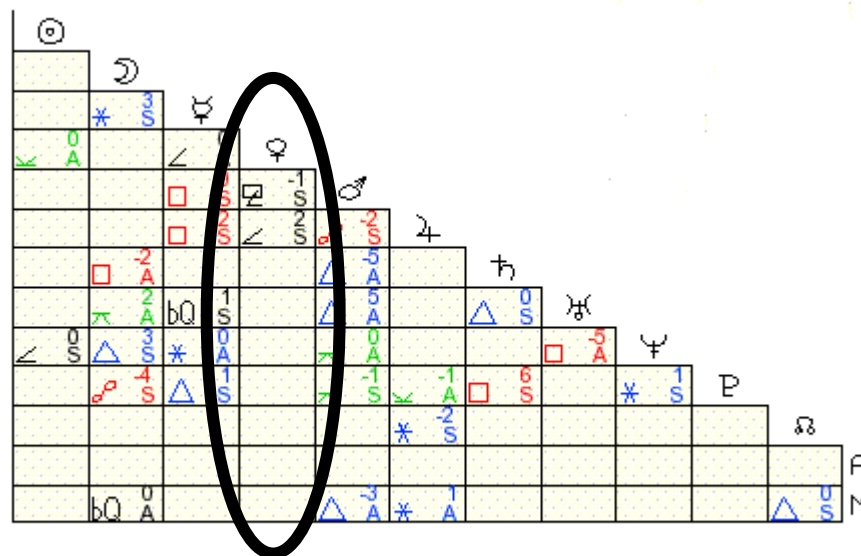
**Figure II.3.3:** Astrological shorthand of the exact positions of the planets in the first house of this chart

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<sup>9</sup> The abstract line where the effect of the zodiac sign starts would be 0°, 0 minutes 0 seconds of arc; the position of each celestial body in thus pin-pointed on the natal chart depending on its position in the visible celestial sphere. Each sign covers from 0°, 0', 0" to 30°, 0', 0".

These very exact locations of the planets in the sky are important to establish their angular relations with other planets in other houses, which in astrology “describes an ongoing ‘dialogue’ between the planets”,<sup>10</sup> and therefore has consequences for astrological interpretation. In musical terms it is also of consequence, as the aspects are interpreted as intervallic relationships, as an analogy to angular relationships (see chapter 2, section 2.2.4).

We can see the aspects expressed in astrological shorthand in the box to the right of the position information (below the “IC” of the chart), the so-called ‘aspect grid’. To facilitate its reading for our purposes, the column which corresponds to Venus has been encircled with a thick black line:



**Figure II.3.4:** The aspect grid of the natal chart used for this piece

<sup>10</sup> Lionett, Annie, Op. Cit., p. 152.

The aspect grid tells us that there is a sesqui-square (a 135° relationship, in astrological glyph ☐) between Venus (♀) and Mars (♂), and two semi-squares (a 45° angle, symbolized by the glyph ∟), one between Venus and Jupiter (♃) and another one between Venus and Mercury (☿). There is also a sextile (60° angle, symbolized as ✳) between Neptune (♆) and Pluto (♇). But since the outer planets are not used in classical astrology (since they were not known until the latter part of the XIX century), and therefore there are very few proposals for their inclusion in speculative music,<sup>11</sup> they will not be used in this piece, or in similar experiments which put into practice ancient attribution systems that connect astrological data with music parameters.

The data that we can transform to music (since we have historical precedents of tables of attributions for them) are

- **The house**, (in this case house 1),
- **The planets** (Venus, since we will be disregarding Neptune in this case, plus Mercury, Mars and Jupiter, with which Venus has angular aspects),
- **The astrological sign** (Scorpio), and
- **The aspects of Venus** in this chart: semi-squares to Mercury and Jupiter, and sesqui-square to Mars.

Considering that there are several different systems of attributions, this is a lot of information. This is why I have devised a worksheet which allows the astrological

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<sup>11</sup> It must be remembered that speculative music was a priority of pre-tonal music theory, and that after the XVIII century it fell into disrepute, giving way to normative or descriptive models of theory. Christensen, Thomas, 'Introduction' in T. Christensen, (ed.) *The Cambridge History of Western Music Theory* (Cambridge: Cambridge University Press, 2002), pp. 1-26. See also in this respect Christensen, Thomas, 'Speculative Traditions', in 'Musicology, §II, 2: Disciplines of musicology: Theoretical and analytical method.' in Grove Music Online, 2004. <http://www.grovemusic.com> (accessed 21 Jan. 2006).

music composer to have all of this information at a glance, for all of the planets and houses of an astrological chart (but only considering the five innermost planets plus the Sun and Moon, since they are the ones used in the attribution systems developed since the ancient world). The template for the worksheet is shown below as Table II.3.1.

But when filling in this worksheet with the data of the several musical attributions to astrology reviewed in chapter 2, it becomes apparent that more than one worksheet needs to be completed, since there are several possibilities for some of the columns. While the astrological information (in the columns labelled ‘in house number’, ‘in aspect of’ and ‘with which planet’) remain unchanged regardless of the system of correspondences used (see the worksheet filled out with this stable information, below in Table II.3.2), the attribution of planets, signs and aspects to musical parameters changes according to which equivalence system is used. This the reason why the worksheet enquires, before the actual table (on the top) for the specific planetary, aspect, house and zodiac sign correspondence systems that are used when filling in the boxes, as these will determine the musical results in columns 1, 2 and 5.

Once the composer has filled out several of these worksheets for all of the attributions at their disposal (in my case I have used the data gathered for chapter 2), they can be spread out side by side at the work table or piano music-stand, so as to be able to see them all at a glance, and start making the musical decisions that will ultimately determine the pitch, interval, mode and key material that will be used in the piece (note that the tradition of speculative music does not seem to be interested in durations, so these are left to the discretion of the composer).

For the sake of thoroughness, I have included below all of the filled out worksheets that I used when composing this piece, as tables II.3.3 to II.3.7).

As can be seen, there is a lot of data, with the potential of giving rise to a long cycle (one movement for each astrological house, for example) for a harmonically strong ensemble (in this case I have used what I consider to be the minimum setting, piano four hands, but it could certainly work well with larger instrumental or vocal ensembles).

On the score included after the filled-in worksheets, I have also commented on the astrological equivalences of the pitches or chords, as they appear, giving their attribution system origin, which can be cross-referenced to the tables of worksheets (tables II.3.3 to II.3.7)

### **Afterthought on historical resonances of the piece**

After playing the recording of the première of the piece in several academic and artistic venues, I have had the comments that it reminds certain listeners of Debussy, Messiaen, Walton, Stravinsky, Satie, Scriabin and even Poulenc. This surprises me, because I was very consciously trying to “build” a piece from diverse materials (the material deduced from the tables of correspondences which follow), and at no moment did I stop to think about this or that school, aesthetic, style or composer which I wanted to emulate. More than that: during the last two years of writing this thesis (and

composing the music for it) I entered a quite strict “musical fast” in which I actively avoided listening to *any* music, in order to counter the natural cultural tendency of sharing (rather, mimicking) styles or mannerisms (sounding as such-and-such) in order to feel as a member of a community, as a continuator of a style, as a representative of this or that type of sound. As I explained in the introduction, this had been my default position for many years, and I wanted the PhD to represent a real chance of trying something totally different from that. I finally came to the conclusion that in order to be really free of such influences, one had to isolate oneself, not listening to any music, in order to avoid this cultural “dialogue”, in which some aspects of other people’s music inevitably stick to one’s own expressions. And so I did, and for about 2 years I did not listen to any music actively.<sup>12</sup>

I was very proud that this piece came out to be so “calculated”, so abstract, so unattached to any models or paragons, as I felt I had at last managed to separate myself from the practice of following styles, aesthetics or particular types of sounds: I had managed to calculate the pitches and keys for my piece through an extra-musical method (astrology), and then sat down to write a coherent piece from this material, that in itself had no stylistic musical attachments (since there is no repertoire of speculative music as such, as I argued in chapter 1). Then why does it sound to many listeners as comparable to these turn-of-the-XXth century composers?

It might be that the interest in the occult and mystical of some of them (Scriabin, Messiaen) led them to similar methods. It might be that, since they were all experimenting with different types of tonal systems (beyond the common practice),

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<sup>12</sup> Another matter is what is bombarded on to you as a passive listener, in the street or during social interaction, but I am pretty sure that during two years I did not actively seek or wish to play, or read, or listen to any other music apart from my own experiments for this thesis.



this is how freely-atonal music (as opposed to serialism) sounds, and my piece could be considered as a free atonal piece. Or it might be that the inevitable human tendency of relating things makes the listener, upon hearing a new work, immediately ask himself the question “to what music that I know does this sound?” And, to a question such as this one, the educated listener will always have an answer: “to this other music which I know”. The connections depend only on the extent of the listener’s musical experiences and memory of them.

But I certainly was not thinking, remembering or emulating any of them, any of their music, any styles or tendencies: I was just building something from the long list of pre-compositional material which I had before me (see the following pages). If it sounds like something else, it is an operation of the listener (even perhaps the listener which inhabits me?) not of my method, intention or plan as a composer: I had “forgotten” they existed, they had composed their works, they sounded in this or that way; I did not consider any of them, at any moment, during the creation of this piece or the methods that led to it.

I tried to forget all composers, all styles, all schools, all tendencies, all techniques, so that my music might sound truly mine, and not “like so-and-so”. But if the listeners do not try this same active forgetting, everything will always sound like something else, even if not quite...

## Worksheet for the calculation of pitch, mode and key musical material from astrological information








Astrological data for (event or person) \_\_\_\_\_

Time and place of birth or occurrence of the event \_\_\_\_\_

### Correspondence systems used

Planetary system \_\_\_\_\_ Aspect system \_\_\_\_\_

House system \_\_\_\_\_ Zodiac signs system \_\_\_\_\_

Planet	In sign of	In house number	In aspect of	Which is an interval of	With which planet
Sun ☉ _____ _____ _____					
Moon ☾ _____ _____ _____					
Mercury ☿ _____ _____ _____					
Venus ♀ _____ _____ _____					
Mars ♂ _____ _____ _____					
Jupiter ♃ _____ _____ _____					
Saturn ♄ _____ _____ _____					

**Table II.3.1:** Worksheet for the calculation of musical material for pitch, mode and key from astrological information.

Worksheet for the calculation of pitch, mode and key musical material from astrological information

Astrological data for (event or person) Volunteer for the astrological piece

Time and place of birth or occurrence of the event 39°N 39' 77°W 43' Sideral time  
 (local time 3am) 8:01:17

Correspondence systems used

Planetary system \_\_\_\_\_ Aspect system \_\_\_\_\_

House system \_\_\_\_\_ Zodiac signs system \_\_\_\_\_



Planet	In sign of	In house number	In aspect of	Which is an interval of	With which planet
Sun ☉ 	 	2			
Moon ☾ 	 	5	 		 
Mercury ☿ 	 	3	  		    
Venus ♀ 	 	1	 		 
Mars ♂ 	 	6	  		  
Jupiter ♃ 	 	11	  		  
Saturn ♄ 	 	2	  		 

Table II.3.2: The worksheet filled out with the invariable astrological data for the chart used for this piece (notice that no musical attributions have been assigned at this stage).

Worksheet for the calculation of pitch, mode and key musical material from astrological information

Astrological data for (event or person) Volunteer for the astrological piece

Time and place of birth or occurrence of the event 39°N 39' 77°W 43' Sideral time 8:01:17  
 (local time 3am)

Correspondence systems used

Planetary system Most Greek musical theorists (Pliny, Martianus, Achilles Meon, etc.) Aspect system Kayser

House system Heindel (only uses Majors) Zodiac signs system Schneider (p. 149) 150

Planet	In sign of	In house number	In aspect of	Which is an interval of	With which planet
Sun ☉ 	 	2 D#/Eb Maj.	 	N.A.	♀
Moon ☾ 	 	5 A#/Bb Maj.	*  	Semitone Major 3rd	♀ 
Mercury ☿ 	 	3 F#/Gb Maj.	*  	Semitone tone Maj. third Maj. third	☾ ♂ ♀ ♂
Venus ♀ 	 	1 C#/Db Maj.	<  	tone N.A.	♂ ♀ ☉
Mars ♂ 	 	6 C Major	 	Maj. third fifth fourth	♀ ♂ ♂ ♂
Jupiter ♃ 	 	11 A Major	 	Maj. third fifth	♂ ♀ ♂
Saturn ♄ 	 	2 D#/Eb Maj.	 	fifth Maj. third	☾ ♂

Table II.3.3: Worksheet with attributions by Greek musical theorists, Kayser, Heindel and Schneider.

Worksheet for the calculation of pitch, mode and key musical material from astrological information

Astrological data for (event or person) Volunteer for the astrological piece

Time and place of birth or occurrence of the event 39°N 39' 77°W 43' Sideral time  
 (local time 3am) 8:01:17

Correspondence systems used

Planetary system Ptolemy

Aspect system Haase

House system Herschel

Zodiac signs system Anthroposophists

Planet	In sign of	In house number	In aspect of	Which is an interval of	With which planet
Sun ☉  sub	<u>♌</u> Ab Major f minor	<u>2</u> C# minor	<u>∨</u>	N.A.	♀
Moon ☾  sub	<u>♌</u> F Major D Minor	<u>5</u> E Major	<u>*</u> <u>□</u>	tone min. 3rd maj. 6th	♀ <u>♌</u>
Mercury ☿  N.A.	<u>♌</u> Eb Major c minor	<u>3</u> D Major	<u>*</u> <u>∠</u> <u>□</u> <u>□</u>	tone min. 3rd N.A. min 3rd maj 6 min 3rd maj 6	♂ ♀ ♂ <u>♌</u>
Venus ♀  sub	<u>♌</u> Db Major bb minor	<u>1</u> C Major	<u>∠</u> <u>∨</u>	N.A. N.A.	♀ ♀ ♁
Mars ♂  sub	<u>♌</u> C Major a minor	<u>6</u> f minor	<u>□</u> <u>○</u> <u>△</u>	min 3rd maj 6th tritone maj. 3rd min. 6th	♀ <u>♌</u> <u>♌</u>
Jupiter ♃  sub	<u>♌</u> B Major g# minor	<u>11</u> Bb Major	<u>□</u> <u>○</u>	min. 3rd maj 6th tritone	♀ ♂
Saturn ♄  sub	<u>♌</u> Ab Major f minor	<u>2</u> C# minor	<u>□</u> <u>△</u>	min. 3rd maj. 6th maj. 3rd min. 6th	♁ ♂

Table II.3.4: Worksheet with attributions by Ptolemy, Haase, Herschel and the

Anthroposophists.

Worksheet for the calculation of pitch, mode and key musical material from astrological information

Astrological data for (event or person) Volunteer for the astrological piece

Time and place of birth or occurrence of the event 39°N 39', 77°W 43' Sideral time 8:01:17  
(local time 3am)

Correspondence systems used

Planetary system Fludd (2 systems) Aspect system Kepler

House system Schneider Zodiac signs system Schneider, Solar system  
(only uses majors)

Planet	In sign of	In house number	In aspect of	Which is an interval of	With which planet
Sun ☉ 	 	2 E Major		N.A.	♀
Moon ☾ 	 	5 F Major	 	min. 3rd fourth	♀ ♂
Mercury ☿ 	 	3 Ab Major	  	min 3rd. N.A. fourth fourth	♂ ♀ ♂ ♀
Venus ♀ 	 	1 C Major	 	N.A. N.A.	♀ ♂
Mars ♂ 	 	6 A Major	  	fourth octave fifth	♀ ♂ ♂
Jupiter ♃ 	 	11 Eb Major	 	fourth octave	♀ ♂
Saturn ♄ 	 	2 E Major	 	fourth fifth	♂ ♂

Table II.3.5: Worksheet with attributions by Fludd, Kepler and Schneider (using only his solar system)

Worksheet for the calculation of pitch, mode and key musical material from astrological information

Astrological data for (event or person) Volunteer for the astrological piece

Time and place of birth or occurrence of the event 39°N 39' 77°W 43' Sideral time 8:01:17  
(local time 3am)

Correspondence systems used

Planetary system Boethius

Aspect system Haase

House system Antroposophy

Zodiac signs system Schneider, Lunar system

Planet	In sign of	In house number	In aspect of	Which is an interval of	With which planet
Sun ☉ 		2 G Major e Minor		N.A.	♀
Moon ☾ 		5 E Major C# Minor	* 	tone min. 7th min. 3rd maj. 6th	♀ 
Mercury ☿ 		3 D Major b Minor	*   	tone, min 7th N.A. min 3rd maj. 6th	☿ ♀ ♂
Venus ♀ 		1 C Major a Minor	< 	N.A. N.A.	♀ ♀
Mars ♂ 		6 B Major g# Minor	  	min 3rd maj 6th tritone Maj-3rd min. 6th	♂ ♂ ♂
Jupiter ♃ 		11 Bb Major g Minor	 	min. 3rd maj. 6th tritone	♃ ♃
Saturn ♄ 		2 G Major e Minor	 	min 3rd maj 6th Maj 3rd min 6th	♄ ♄

Table II.3.6: Worksheet with attributions by Boethius, Haase, Anthroposophy and

Schneider (using only his lunar system)

Worksheet for the calculation of pitch, mode and key musical material from astrological information

Astrological data for (event or person) Volunteer for the astrological piece

Time and place of birth or occurrence of the event 39°N 39' 77°W 43' Sideral time  
(local time 3am) → 8:01:17

Correspondence systems used

Planetary system Titus-Bode (modern → Heliocentric) Aspect system Kepler

House system McMullin Zodiac signs system Schneider, earthly system

	Planet	In sign of	In house number	In aspect of	Which is an interval of	With which planet
B <sup>♯</sup> mode: B-A Dorian	Sun ☉ Not given	♂	2 B♭ Maj. 9 min.	∨	11:12, no correspondence in 7 or 12-note systems	♀
E-F Aeolian	Moon ☾ Not given	♂	5 G Major e min.	* □	minor third fourth	♀ ♂
D-C Ionian	Mercury ☿ 15:14	♂	3 A Maj. f♯ min.	* □ □	minor third N.A. fourth fourth	♂ ♀ ♂
C-B Hypolydian	Venus ♀ 8:14	♂	1 B Maj. g♯/ab min.	< ∨	N.A. (C: 8:10, no corresp.) 11:12, no corresp.	♀ ♂
A-G Phrygian	Mars ♂ 10:18	♂	6 F♯/G♭ Maj. eb min.	□ ○ △	fourth octave fifth	♀ ♂ ♂
G-F Lydian	Jupiter ♃ 10:18	♂	11 C♯/D♭ Maj. bb minor.	□ ○	fourth octave	♀ ♂
F-E Mixolydian	Saturn ♄ 15:14	♂	2 B♭ Maj. g min.	□ △	fourth fifth	♂ ♂

Table II.3.7: Worksheet with attributions by Titus-Bode, Kepler, McMullin and Schneider (using only his *earthly* system)





**D natural: Venus according to Fludd**

rubato espressivo

10. *mp* *p* *mf* *dolcissimo ed espressivo* *p*

2do. *Tempo giusto*

rubato espressivo *delicato e sottile, ma ben articolato* liberamente il passaggio

10. *mf* *p* *mf* *p sotilissimo*

2do. *Tempo giusto, non rubato*

**Meno mosso** **Pitches for Scorpio according to Schneider**

12. *mp* *p*

**Different keys for House 1 according McMullin and Max Heindel (Rosicrucian Order)**

**D♭ major and b♭ minor are Scorpio according to the also the keys for Anthroposophists**

2do. *p* *mf*

15 *rall.* *pp lontano* 3

1o. *mp diminuendo, molto sottile sempre*

*p delicato* *pp sottile*

2do.

21 **Tempo primo** ♩ = 56

1o. *ppp*

2do. *poco più p che prima*

*ppp* *Ped. p*

24 *8va* *f* *mf cantabile*

1o. *mf cantabile*

2do. *(attenzione al canto qui in destra!)* *crescendo poco a poco*

*Ped.* *\* Ped.* *(segue il pedale con buon giudizio)*



Musical score for two parts: 1o (first oboe) and 2do (second oboe). The 1o part has a treble clef and a key signature of one flat. It begins with a measure containing a half note G4 with a fermata and the number 35 above it. The second measure contains a triplet of eighth notes: Bb4, Bb4, and G4, with a fermata over the triplet and the dynamic marking *ppp*. The third measure contains a half note G4 with a fermata and the dynamic marking *pppp*. The 2do part has a treble clef and a bass clef, with a key signature of one flat. It contains rests in all three measures.

\*  
3'13.9"

## Scores 3.3 to 3.6: Three versions of *The Cabalistic Cross* and one of *The Lesser Banishing Ritual of the Pentagram*

I have scored three different versions of this well-known contemporary magical ritual, but since all of the versions derive from the same pre-compositional rationale, I have decided to preface the three scores with only one commentary.

The Cabalistic Cross is the first section of the *Lesser Banishing Ritual of the Pentagram*, arguably the most prevalent and well-known ritual in most styles of contemporary ceremonial magic (or *Magick* with a final *K*, as Aleister Crowley preferred to spell it in order to distinguish the ceremonial pursuits from show-business stage magic and illusionism).

This ritual was first popularized to a wide audience in Regardie's classic book on the Golden Dawn, which propelled the once-secret teachings and rituals of this turn-of-the-century magical group into the public domain, and from there into the wider contemporary ceremonial magic sub-culture, where it has taken firm root as a basic opening and cleansing ritual ('basic' understood here as something which forms the foundation or base of something).<sup>1</sup> This work was published in four volumes for the

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<sup>1</sup> I quote from a well-known occult author not affiliated with the Golden Dawn tradition: "According to my dictionary, the word "basic" means "something which forms a base, like a basic ingredient; something that is fundamental." I cannot overstress the fundamental nature of this ritual and how its practice will change your life and improve your psychic and magickal abilities." Kraig, Donald Michael, *Modern Magick: Eleven Lessons in the High Magickal Arts* (St. Paul, MN.: Llewellyn Publications, 1988), p. 25.

first time between 1936 and 1940, and has been so popular since as to warrant new and expanded re-editions every few years (in a more manageable, albeit very thick, single volume in excess of 800 pages in one edition, and 1000 pages in another one). Two separate publishers have been running these re-editions in parallel; one is now in its sixth re-edition and the other one in its fifth.<sup>2</sup>

The original *Stella Matutina* material which Regardie had access to in the 1930s and later published, is most assuredly derived from the material used by the original turn-of-the-century Hermetic Order of the Golden Dawn, from which the *Stella Matutina* splintered after the notorious *Horos affair*, a scandalous legal case brought against the original Golden Dawn in 1902.<sup>3</sup> The text advises the magical practitioner, in the typical grandiloquent style of MacGregor-Mathers and the writings of the first Adpets of the Golden Dawn, to always start any magical operation with a Lesser Banishing Ritual of the Pentagram:

“Whenever thou shalt prepare to commence any magical work or operation, it will be advisable for thee to clear and consecrate the place by performing the Lesser Banishing Ritual of the Pentagram”.<sup>4</sup>

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<sup>2</sup> Information gathered from <http://www.worldcat.org/title/golden-dawn-a-complete-course-in-practical-ceremonial-magic-the-original-account-of-the-teachings-rites-and-ceremonies-of-the-hermetic-order-of-the-golden-dawn-stella-matutina/oclc/21907195/editions?editionsView=true&referer=di> accessed 06 March 2010. I have used the following versions for my research, one from each of the two publishers: Regardie, Israel, ed. *The Original Account of the Teachings, Rites and Ceremonies of the Order of the Golden Dawn* (Saint Paul, MN: Llewellyn Publications, 2002) [originally published 1971] and Regardie, Israel, ed. *The Complete Golden Dawn System of Magic* (Tempe, AZ: New Falcon Publications, 1994) [1984].

<sup>3</sup> Gilbert, R.A., *The Golden Dawn Scrapbook* (York Beach, ME.: Samuel Weiser, 1997), pp. 7-20; Colquhoun, Ithell, *Sword of Wisdom: MacGregor Mathers and "The Golden Dawn"* (New York: G.P. Putnam, 1975), pp. 179-189.

<sup>4</sup> Regardie, Israel, ed. *The Original Account of the Teachings, Rites and Ceremonies of the Order of the Golden Dawn* (Saint Paul, MN: Llewellyn Publications, 2002), p. 284. Originally page 15 of the fourth book, in volume III.

Much later in the XXth century, Donald Michael Kraig explains in his influential book *Modern Magick: Eleven Lessons in the High Magickal Arts* why this ritual is so important in the tradition of ceremonial magic:

“There are three reasons for doing this ritual. The most important, yet most ethereal, is to Know Yourself. You will learn if you have the strength of will to stick to doing a ritual of this sort on a daily basis. You will develop a different feeling about yourself and your relationship to others and the world around you. It will affect you in many positive but subtle ways.

Secondly, it will expand your aura. This will cause others to like you and respect you more and come to you for comfort. [...] As your aura expands and brightens, you will also find yourself becoming stronger spiritually and psychologically than you have ever been before.

Thirdly, this ritual (LBRP for short) will remove from your immediate area (banish) any unwanted influences. This includes physical influences and non-physical ones including astral and elemental forces. This is one of the greatest defenses against psychic attack ever. The more you practice the LBRP, the more safe, the more at peace you will become.”<sup>5</sup>

Even though Kraig identifies three distinct sections of this ritual (merging what in my own analysis I see as parts 3 and 4, and numbering the repetition of part 1 as a fourth part),<sup>6</sup> my own view is that the Lesser Banishing Ritual of the Pentagram is divided into four main parts, with the repetition of part 1 at the very end:

1. The Cabalistic Cross,
2. The drawing of the pentagrams in the four quarters, and the charging of them through vibration of Divine Names,

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<sup>5</sup> Kraig, Donald Michael, *Modern Magick: Eleven Lessons in the High Magickal Arts* (St. Paul, MN.: Llewellyn Publications, 1988), p. 25.

<sup>6</sup> For his full description of the entire ritual, see Appendix I to the portfolio, which transcribes his instructions to perform it.



3. The invocation of the Archangels of the four quarters; and
4. The visualization of the pentagram and hexagram.

As said, the Cabalistic Cross is repeated at the end, after part 4.

For the first three musical settings presented in this section (scores 3.3 to 3.5) I have used only the first part of the ritual (the Cabalistic Cross) as the basic textual material to try out several of the theories of cabalistic pitch and harmony I reviewed, commented and expanded in chapter 3. I have chosen only the cabalistic cross since this part of the ritual is traditionally performed in Hebrew in all cases, and not translated to the vernacular of the practitioner, as is usually done with parts 3 and 4. Since part 2 of the ritual is also performed traditionally in Hebrew, in a fourth setting, (score 3.6) I have also set the charging of the pentagrams with the Divine Names of the quarters to music.

The Hebrew text of the Cabalistic Cross is the following:

אתה מלכות וגבורה וגדולה לעולם אמן

Which can be transliterated to the Latin alphabet as *Atah Malkhut, ve Guebura, ve Guedulah, Le'Olam, Amen*. The translation of this short prayer is “Thine is the Kingdom, and the Power and the Glory for ever, amen.” This is an obvious reference to certain spheres or *sephiroth* of the cabalistic Tree of Life, as Kraig points out.<sup>7</sup>

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<sup>7</sup> Kraig, loc. cit.

When transforming the Hebrew text into pitches, one must take into consideration that according to the several systems reviewed in chapter 3, each Hebrew letter gets a pitch, but when transliterating into Latin characters we sometimes get more letters, as our transliteration method is phonetic, and by approximation. Thus the first word of the cabalistic cross, אֶתְהָ, has three letters in Hebrew, and therefore in most cases will have musical equivalences of three pitches,<sup>8</sup> but when transliterated as *Atah* we have four letters. When assigning the pitches to the transliterations in this way, it is often necessary to ‘phrase’ different melodic designs with a single vowel or semi vowel sound. Since so little is assigned to rhythm in the tradition of cabalistic equivalencies to music, the natural phrasing of the text has been followed as a general guideline, as is done in many traditions of religious or ritual music, such as Christian Gregorian chant.<sup>9</sup>

The resulting melodic lines of following several of the methods of pitch attribution outlined in section 3.3.3.2 of chapter 3 (which I have called ‘alphabetical approach’, to distinguish it from the numerological one), are presented below, as figures II.3.5 to II.3.12, with their corresponding captions:

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<sup>8</sup> Since there are 22 letters of the Hebrew alphabet and some attribution systems reviewed in chapter 3 use 7 or 12 different pitch classes, it is very common that different letters are assigned the same pitch or pitch-class.

<sup>9</sup> Mahrt, William P., 'Sacred Music - Chant' in R. W. Ruffin, (ed.) *A Performer's Guide to Medieval Music* (Bloomington, IN.: Indiana University Press, 2000), pp. 1-22.



**Figure II.3.5:** Melody resulting from using Glazerson’s correspondence system with the text of The Cabalistic Cross



**Figure II.3.6:** Melody resulting from using Saint-Yves’ *archeometric* correspondence system with the text of The Cabalistic Cross



**Figure II.3.7:** Melody resulting from using Parrott’s *Musical Qabalah* correspondence system with the text of The Cabalistic Cross



**Figure II.3.8:** My correction on Parrott’s proposal, using traditional astrological attributions



**Figure II.3.9:** Melody resulting from applying Hulse’s interpretation of sound as lower-sounding colour to the text of the Cabalistic Cross



**Figure II.3.10:** Transposition of certain pitches of the above to the octave, to generate a more *cantabile* melody



**Figure II.3.11:** Acoustical correction of Hulse’s proposal: octaves not in powers of ten, but halved



**Figure II.3.12:** As above, but choosing the lowest pitch when the transformation generates two different pitches

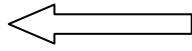
As can be seen, a wealth of different melodies result, depending very much on the type of attribution system used, in its number of components (7 pitches of the diatonic scale, 12 of the chromatic, or any other number), and on the rationale used for assigning the correspondences.

Similar variety occurs when using the numerological system (treated in section 3.3.2.1 of chapter 3). It this latter method which has been used in the composition of these three small pieces. The reason I chose the numerical method is that I find it more mathematical, and therefore in a way more ‘objective’, less liable to cultural adaptations of the sort used when assigning astrology.

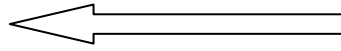
**Table II.3.8:** Numerical correspondences of the text of the Cabalistic Cross

(divided here in sub-tables for ease of reading)

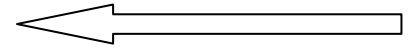
Remember to read each box from right to left, as is done in Hebrew:



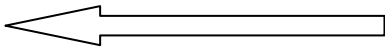
Hebrew letters of the cabalistic cross	ה	ת	א
Traditional phonetic equivalences	H	T	A
Transliterated version (for pronunciation)	aH	T	A
Exact numerical equivalency	5	400	1
Reduced numerical equivalency (using the <i>Aiq Bekar</i> system)	5	4	1



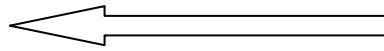
ת	ו	כ	ל	מ
T	U	Kh	L	M
T	U	Kh	L	Ma
400	6	20	30	40
4	6	2	3	4



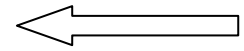
ה	ר	ו	ב	ג	ו
H	R	U	B	G	V
aH	R	U	Bu	Ge	Ve
5	200	6	2	3	6
5	2	6	2	3	6



ה	ל	ו	ד	ג	ו
H	L	U	D	G	V
aH	L	U	D	Ge	Ve
5	30	6	4	3	6
5	3	6	4	3	6



ם	ל	ו	ע	ל
M	L	U	O	L
M	La	O	‘	Le
600	30	6	70	30
6	3	6	7	3



ן	מ	א
N	M	A
N	Me	A
700	40	1
7	4	1

Thus we have two numerical series for the phrase, one in strict *gematria* (through the usual numbering of the letters of the Hebrew alphabet), and another one expressed only in single digits, through the process of reduction to the numbers from 1 to 9 known as the *Aik Bekar*, explained in section 3.5.1.3.2 of chapter 3:

<b>Text of the Cabalistic Cross →</b>	<b>Atah</b>	<b>Malchut</b>	<b>Ve’Geburah</b>	<b>Ve’Geburah</b>	<b>Le’olam</b>	<b>Amen</b>
Numerical series in straightforward <i>gematria</i> →	1, 400, 5	40, 30, 20, 6, 400	6, 3, 2, 6, 200, 5	6, 3, 4, 6, 30, 5	30, 70, 6, 30, 600	1, 40, 700
Transformed Numerical series, using the <i>Aiq Bekar</i> →	1,4,5	4,3,2,6,4	6, 3, 2, 6, 2, 5	6, 3, 4, 6, 3, 5	3, 7, 6, 3, 6	1, 4, 7

**Table II.3.9:** Word-by-word numerical series of the Cabalistic Cross, in straightforward *Gematria* and *Aiq Bekar* reduction.

These two numerical series form the mathematical material which will enable us to calculate the equivalencies of the letters through numerology, as explained in section 3.3.2.1 of chapter 3.

I found the pitches for my rendering of the Cabalistic Cross and the Charging of the Pentagrams by using the tables of conversion shown below (tables II.3.10 and II.3.11). I designed two tables of conversion, one for chromatic intervals, another one for diatonic intervals. I used pitch-class *C* as the starting point of my calculations (number 1 in both tables). After comparing both results (chromatic and diatonic) I systematized them in II.3.13, and then compared the sounding results derived from them.

I chose the diatonic result for the Cabalistic Cross, since the musical effect tended towards a certain tonal centre in *C*, while the chromatic results seemed too tonally ‘free-floating’ (that is to say, atonal), for my purposes. For the Charging of the Pentagrams section, where cabalistic Divine Names are used, I conversely found that the chromatic equivalencies made the Names sound more otherworldly, more supra-human (because they did not suggest a strong tonal centre), and so for this second part of the LBRP I chose a chromatic transformation of the numbers.



**Table for quick conversion of numbers from 1 to 56  
into diatonic intervals**

(Diatonic scale of 7 notes per octave used — a heptatonic system)

<b>Intervals</b>	Unison	Second	Third	Fourth	Fifth	Sixth	Seventh	Octaves up:
<b>Numbers to be transformed into intervals</b>	1	2	3	4	5	6	7	0
	8	9	10	11	12	13	14	1
	15	16	17	18	19	20	21	2
	22	23	24	25	26	27	28	3
	29	30	31	32	33	34	35	4
	36	37	38	39	40	41	42	5
	43	44	45	46	47	48	49	6
	50	51	52	53	54	55	56	7

**Table II.3.10:** Table for quick conversion of numbers from 1 to 56  
into diatonic intervals

**Table for quick conversion of numbers from 1 to 96 into chromatic intervals**  
 (Chromatic scale of 12 semitones per octave used)

<b>Intervals</b>	Unison	Minor Second	Major Second	Minor Third	Major Third	Perfect Fourth	Augmented Fourth	Perfect Fifth	Minor Sixth	Major Sixth	Minor Seventh	Major Seventh	Octaves up:
<b>Numbers to be transformed into intervals</b>	1	2	3	4	5	6	4	8	9	10	11	12	0
	13	14	15	16	17	18	19	20	21	22	23	24	1
	25	26	27	28	29	30	31	32	33	34	35	36	2
	37	38	39	40	41	42	43	44	45	46	47	48	3
	49	50	51	52	53	54	55	56	57	58	59	60	4
	61	62	63	64	65	66	67	68	69	70	71	72	5
	73	74	75	76	77	78	79	80	81	82	83	84	6
	85	86	87	88	89	90	91	92	93	94	95	96	7

**Table II.3.11:** Table for quick conversion of numbers from 1 to 96 into chromatic intervals

By assigning the letters of the text of the cabalistic cross (see Table II.3.8 above) to the tables of conversion to intervals (be they diatonic-heptatonic, or chromatic-dodecaponic), one gets the results shown in table II.3.12, below. One can then calculate chords from the base pitches (or first letters) of each word, or deduce melodic intervals between the different letters or words.

Hebrew spelling, as extracted from Denning & Phillips, <i>Mysteria Magica</i> , p. 5. (read from right to left)	אתה	מלכות	וגבורה	וגדולה	לעולם	אמן
Numeric equivalencies, letter by letter. (Aiq Bekar reduction in brackets)	1 400 [40] 5	40 30 20 6 400 [40]	6 3 2 6 200 [20] 5	6 3 4 6 30 5	30 70 6 30 600 [60]	1 40 700 [70]
In diatonic intervals. Number of octaves above fundamental in brackets	Unison 5th [+5] 7th [+9]	5th [+5] 2nd [+4] 6th [+2] 6th [+0] 5th [+5]	6th [+0] 3rd [+0] 2nd [+0] 6th [+0] 6th [+2] 5th [+0]	6th [+0] 3rd [+0] 4th [+0] 6th [+0] 2nd [+4] 5th [+0]	2nd [+4] 7th [+9] 6th [+0] 2nd [+4] 4th [+8]	Unison 5th [+5] 7th [+9]
In chromatic intervals. Number of octaves above fundamental in brackets	Unison 3m [+3] 6M [+5]	3m [+3] 4th. [+2] 5th [+1] 4th. [+0] 3m [+3]	4th. [+0] 2M [+0] 2m [+0] 4th. [+0] 5th [+1] 3M [+0]	4th. [+0] 2M [+0] 3m [+0] 4th. [+0] 4th. [+2] 3M [+0]	4th. [+2] 6M [+5] 4th. [+0] 4th. [+2] 7M [+4]	Unison 3m [+3] 6M [+5]
Sum of all letters in the word (progressively reduced by theosophical addition)	406 10 1	496 19 10 1	222 6	54 9	736 16 7	741 12 3

**Table II.3.12:** Interval diagram for the Cabalistic Cross, word by word

The adaptation of all of this previous calculations to pitch is shown in the sketch for pre-compositional material I have scanned below as Figure II.3.13, as a demonstration of the development and progress of the procedure. Notice that in the sketch I have chosen the lowest pitch of each word as a “base note of the word”, to be used either as

a pedal note when there is instrumental accompaniment, or as a chord root in the choral version (this is indicated on each system of the manuscript).

All of the Divine Names of the section 'Charging of the Pentagrams' in score 3.5 were derived through similar studies, and chosen on their artistic value for my specific purposes as a composer.

# Cabalistic Cross

Pre-compositional material

IN C, DIATONIC SYSTEM  
major

Base note of word =

Start

octave equivalencies

A - T - Ah

M(a) - L - CH - U - Th

V - G - B - U - R - Ah

V - G - D - U - L - Ah

L - O - L(a) - M

A - Me - N

Detailed description of the sketches: The sketches are organized into several systems, each with a treble and bass clef staff. The notes are represented by circles with stems. Above the notes are various symbols including sharp signs (#) and double bar lines. The words and their corresponding notes are: 'A - T - Ah', 'M(a) - L - CH - U - Th', 'V - G - B - U - R - Ah', 'V - G - D - U - L - Ah', 'L - O - L(a) - M', and 'A - Me - N'. A vertical dashed line in each system indicates a 'Base note of word'.

**Figure II.3.13:** Original study sketches of pitch equivalencies of the Cabalistic Cross

(numerical method)

It is precisely this musical study derived from the numerological calculations presented above which has been the base for scores 3.3 to 3.6. The alphabetic or direct attribution method also discussed in chapter 3 (section 3.3.3.2) has not been used at this stage to generate musical material for this particular text, only the numerological approach (section 3.3.3.1).

From here on the reader will find the four scores which have used this sketch material (presented in figure II.3.13) as base material. The idea of working different versions was to explore the monophonic and polyphonic possibilities of generating dyads and chords, since the method produces only pitch rows or melodic lines.

The versions are the following:

- Score 3.3:        *The Cabalistic Cross*, for a single voice and a melodic instrument
- Score 3.4:        *The Cabalistic Cross*, for two voices and a melodic instrument
- Score 3.5:        *The Cabalistic Cross*, for SATB choir *a capella*
- Score 3.6:        *The Lesser Banishing Ritual of the Pentagram* for SATB choir and organ.

# Score 3.3:

## The Cabalistic Cross

For one vocal part with monophonic instrument accompaniment

Voice (any type)

A - tah Mal - chut V'

Instrument (any)

6

Voice

Ge - bu - rah V' Ge - du lah

Inst.

11

Voice

Le O - lam A - men

Inst.

# Score 3.4:

## The Cabalistic Cross

For two vocal parts with monophonic instrument accompaniment

Musical score for the first system, measures 1-5. It features three staves: Voice 1, Voice 2, and Instrument (any). The lyrics are: A - tah Mal - chut V'.

Musical score for the second system, measures 6-10. It features three staves: V. 1, V. 2, and Inst. The lyrics are: Ge - bu - rah V' Ge - du - lah.

Musical score for the third system, measures 11-14. It features three staves: V. 1, V. 2, and Inst. The lyrics are: Le O - lam A - men.



# Score 3.5:

## The Cabalistic Cross

For four mixed vocal parts *a capella*

Musical score for Soprano, Alto, Tenor, and Bass, measures 1-4. The lyrics are: A - tah Mal - chut V' Ge - bu -

Musical score for Soprano, Alto, Tenor, and Bass, measures 5-8. The lyrics are: rah V' Ge - du - lah

Musical score for Soprano, Alto, Tenor, and Bass, measures 9-12. The lyrics are: Le O - lam A - men

# Score 3.6:

1

## The Lesser Banishing Ritual of the Pentagram

### 1. The Cabalistic Cross:

$\text{♩} = 100$

S. *mf* A - tah Mal - chut V' Ge - bu - rah

A. *mf* A - tah Mal - chut V' Ge - bu - rah

T. *mf* A - tah Mal - chut V' Ge - bu - rah

B. *mf* A - tah Mal - chut V' Ge - bu - rah

Org. *mf*

$\text{♩} = 100$

S. V' Ge - du - lah Le O - lam A - men

A. V' Ge - du - lah Le O - lam A - men

T. V' Ge - du - lah Le O - lam A - men

B. V' Ge - du - lah Le O - lam A - men

Org.

## 2. The Charging of the Pentagrams:

16

*f*

S. Yod - He - Vav - He

A. *f* Yod - He - Vav - He

T. *f* Yod - He - Vav - He

B. *f* Yod - He - Vav - He

Org. *mf*

*mf*

---

20

S. A - do - na - i

A. A - do - na - i

T. A - do - na - i

B. A - do - na - i

Org.

The image shows a musical score for a choral and organ piece. It is divided into two systems. The first system starts at measure 16 and ends at measure 19. It features four vocal parts (Soprano, Alto, Tenor, Bass) and an Organ. The vocal parts sing the words 'Yod - He - Vav - He' in a strong, fortissimo (f) dynamic. The organ provides accompaniment in a mezzo-forte (mf) dynamic. The second system starts at measure 20 and ends at measure 23. The vocal parts sing 'A - do - na - i'. The organ continues with accompaniment. The score includes various musical notations such as clefs, time signatures, dynamics, and lyrics.

Da capo a coda

24

S. E hee - ye A gla.

A. E hee - ye A gla.

T. E hee - ye A gla.

B. E hee - ye A gla.

Org.

1'37.1"

Da capo a coda

# Appendix I to the portfolio:

## The Complete Text of The Exercise of Permuting the Letters of The Tetragrammaton, as Described in Abraham Abulafia's *Or'HaShekhal* (The Light of the Intellect)<sup>1</sup>

It is known that the [consonant] letters do not have any sound by themselves. God therefore gave the mouth the power to express the letters, pronouncing them as they are found in a book. For this purpose, he provided vowel points for the letters, indicating the sound with which they must be expressed when they are translated from a book to the mouth. These vowels are what allow the letters to be sounded, and they can also be written as letters in a book.

The vibrations of these sounds must also be associated with space. No vibration can occur except in a definite time and place.

The elements of space are the dimensions and distances. The elements of time are the cycles, through which it is measured. This includes such divisions as years, months and days.

One must therefore know how to draw out the sound of each letter as it is related to these dimensions.

This is the mystery of how to pronounce the Glorious Name:

Make yourself right. Meditate (*hitboded*) in a special place, where your voice cannot be heard by others. Cleanse your heart and soul of all other thoughts in the world. Imagine that at this time, your soul is separating itself from your body, and that you are

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<sup>1</sup> Transcribed *verbatim* from Kaplan, *Meditation & Kabbalah*, pp. 88-92.

leaving the physical world behind, so that you enter the Future World, which is the source of all life distributed to the living.

[The Future World] is the intellect, which is the source of all Wisdom, Understanding and Knowledge, emanating from the King of Kings, the Blessed Holy One. All creatures fear Him with a great awe. This is the fear of one who actually perceives, and it is double the fear of one who merely has experienced love or awe.

Your mind must then come to join His Mind, which gives you the power to think. Your mind must divest itself of all other thoughts other than His Thought. This becomes like a partner, joining you to Him through His glorious, awesome Name.

You must therefore know precisely how to pronounce the Name. Its form [is given in the tables].

This is the technique. When you begin to pronounce the Alef (א) with any vowel, it is expressing the mystery of Unity (*Yichud*). You must therefore draw it out in one breath and no more. Do not interrupt this breath in any manner whatsoever until you have completed the pronunciation of the Alef.

Draw out this breath as long as you extend a single breath. At the same time, chant the Alef, or whatever other letter you are renouncing, while depicting the form of the vowel point. The first vowel is the *Cholem* (o, ם) above the letter. When you begin to pronounce it, direct your face toward the east, looking up or down. You should be sitting, wearing clean, pure white robes over all your clothing, or else, wearing your prayer shawl (*Tallit*) over your head and crowned with your Tefillin. You must face the east, since it is from that direction that light emanates to the world. With each of the twenty-five letter pairs, you must move your head properly.

When you pronounce the *Cholem* (o), begin facing directly east, purify your thoughts, and as you exhale, raise your head, little by little, until when you finish, your head is facing upward. After you finish, prostrate yourself on the ground.

Do not interrupt between the breath associated with the Alef and the breath associated with the other letter in the pair. You may, however, take a single breath, and it may be long or short.

Between each pair of letters, you may take two breaths without taking a sound, but not more than two. If you wish to take less than two breaths, you may do so.

After you finish each row, you may take five breaths, but no more, you wish to take less, you may do so.

If you change anything or make any mistake in the order in any row, go back to the beginning of the row. Continue until you pronounce it correctly.

Just like you face upward when pronouncing the *Cholem*, face downward when you pronounce the *Chirek* (י, ח). In this manner, you draw down the supernal power and bind it to yourself.

When you pronounce the *Shurek* (ש, שׂ, or שׁ), do not move your head upward or downward. Instead, move it straight forward (neither lowering or raising it).

When you pronounce the *Tzere* (ז, זׂ), move your head from left to right.

When you pronounce the *Kametz* (א, אׇ), move it from right to left.

In any case, if you see any image before you, prostrate yourself before it immediately.

If you hear a voice, loud or soft, and wish to understand what it is saying, immediately respond and say, "Speak my Lord, for Your servant is listening" (1 Samuel 3:9). Do not speak at all, but incline your ear to hear what is being said to you.

If you feel great terror and cannot bear it, prostrate yourself immediately, even in the middle of pronouncing a letter.

If you do not see or hear anything, do not use this technique again all that week.

It is good to pronounce this once each week, in a form that "runs and returns." For regarding this, a covenant has been made.

What can I add? What I have written is clear, and if you are wise, you will understand the entire technique.

If you feel that your mind is unstable, that your knowledge of Kabbalah is insufficient, or that your thoughts are bound to the vanities of the time, do not dare to pronounce the Name, lest you sin all the more.

Between the tablet of the Yod and that of the Heh, you can take twenty-five breaths, but not more. But you must not make any interruption at this time, not with speech and not with thought.

The same is true between the Heh and the Vav, and between the Vav and the final Heh. But if you wish to take less than twenty-five breaths, you may do so.

### Pronunciation with the Heh (ה)

AoHo	AoHa	AoHe	AoHi	AoHu	אה	אה	אה	אה	אה
AaHo	AaHa	AaHe	AaHi	AaHu	אָה	אָה	אָה	אָה	אָה
AeHo	AeHa	AeHe	AeHi	AeHu	אֶה	אֶה	אֶה	אֶה	אֶה
AiHo	AiHa	AiHe	AiHi	AiHu	אִה	אִה	אִה	אִה	אִה
AuHo	AuHa	AuHe	AuHi	AuHu	אֹה	אֹה	אֹה	אֹה	אֹה
HoAo	HoAa	HoAe	HoAi	HoAu	הֶא	הֶא	הֶא	הֶא	הֶא
HaAo	HaAa	HaAe	HaAi	HaAu	הָא	הָא	הָא	הָא	הָא
HeAo	HeAa	HeAe	HeAi	HeAu	הֵא	הֵא	הֵא	הֵא	הֵא
HiAo	HiAa	HiAe	HiAi	HiAu	הִא	הִא	הִא	הִא	הִא
HuAo	HuAa	HuAe	HuAi	HuAu	הֹא	הֹא	הֹא	הֹא	הֹא



### Pronunciation with the Vav (ו)

AoVo	AoVa	AoVe	AoVi	AoVu	אֹו	אֹו	אֹו	אֹו	אֹו
AaVo	AaVa	AaVe	AaVi	AaVu	אֶו	אֶו	אֶו	אֶו	אֶו
AeVo	AeVa	AeVe	AeVi	AeVu	אֵו	אֵו	אֵו	אֵו	אֵו
AiVo	AiVa	AiVe	AiVi	AiVu	אִו	אִו	אִו	אִו	אִו
AuVo	AuVa	AuVe	AuVi	AuVu	אֹו	אֹו	אֹו	אֹו	אֹו
VoAo	VoAa	VoAe	VoAi	VoAu	וֹא	וֹא	וֹא	וֹא	וֹא
VaAo	VaAa	VaAe	VaAi	VaAu	וֶא	וֶא	וֶא	וֶא	וֶא
VeAo	VeAa	VeAe	VeAi	VeAu	וֵא	וֵא	וֵא	וֵא	וֵא
ViAo	ViAa	ViAe	ViAi	ViAu	וִא	וִא	וִא	וִא	וִא
VuAo	VuAa	VuAe	VuAi	VuAu	וֹא	וֹא	וֹא	וֹא	וֹא

### Pronunciation with the Final Heh (ה)

AoHo	AoHa	AoHe	AoHi	AoHu	אֹה	אֹה	אֹה	אֹה	אֹה
AaHo	AaHa	AaHe	AaHi	AaHu	אֶה	אֶה	אֶה	אֶה	אֶה
AeHo	AeHa	AeHe	AeHi	AeHu	אֵה	אֵה	אֵה	אֵה	אֵה
AiHo	AiHa	AiHe	AiHi	AiHu	אִה	אִה	אִה	אִה	אִה
AuHo	AuHa	AuHe	AuHi	AuHu	אֹה	אֹה	אֹה	אֹה	אֹה
HoAo	HoAa	HoAe	HoAi	HoAu	הֹא	הֹא	הֹא	הֹא	הֹא
HaAo	HaAa	HaAe	HaAi	HaAu	הֶא	הֶא	הֶא	הֶא	הֶא
HeAo	HeAa	HeAe	HeAi	HeAu	הֵא	הֵא	הֵא	הֵא	הֵא
HiAo	HiAa	HiAe	HiAi	HiAu	הִא	הִא	הִא	הִא	הִא
HuAo	HuAa	HuAe	HuAi	HuAu	הֹא	הֹא	הֹא	הֹא	הֹא

# Appendix II to the portfolio: The Lesser Banishing Ritual of the Pentagram in Full<sup>1</sup>

## *Preliminaries*

Start by going to the area where you will do the ritual. If you have an altar as described in the last lesson, put it in the exact center of your area. To be totally complete, you may wish to take a ritual cleansing bath before the ritual. This type of bath is not intended to merely take the dirt off of your skin. Rather, it cleans negativity and the cares of the day from your spirit. First, take a shower to get the dirt off. Then run a warm bath. Be sure to put in some bath salts or epsom salts with some nicely scented oil or perfume added. Then get in and just soak for a few minutes. Feel all of your cares, worries and negativity going into the water. Now, pull the plug and let the water drain *while you stay in the water*. As the water slowly drains you will feel all of the negative things which were troubling you go down with the water. After all of the water has drained out of the tub, get out and dry yourself with a clean, fresh towel. Finally, put on your robe or special magickal clothes.

If you have them, put the four tools which represent the magickal elements on top of the altar (or table or chair or floor). Remember, have *all* of them present or use none of them. Put the Major Arcana cards in a pile on top of the altar, too. Bring a chair into your area so that you can sit. As you can see in the diagram below, you should be facing the east. If you have candles, light them and turn out any electric lights you have burning. Of course, if it is daylight, you will want to pull the drapes or close the curtains, etc. Your goal should be to have the room lit only by candles. Also, light any incense you wish to burn at this time.

Sit in the chair, facing east, and do the Relaxation Ritual. Now stand, still facing east. Take the dagger (*not* the Air dagger) in your right hand, or point with your finger as

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<sup>1</sup> Quoted in full from Kraig, Donald Michael, *Modern Magick: Eleven Lessons in the High Magickal Arts* (St. Paul, MN.: Llewellyn Publications, 1988), part 1 of lesson 2, pp. 33-43.

described in the last lesson. Know that you are in the presence of God! The ritual has begun!

***Part One: The Kabbalistic Cross.***

*STEP ONE.* Visualize yourself getting larger and larger, taller and taller, until you tower above the room you are in. Continue this growing visualization until the city you live in is small beneath your feet. See the continent as tiny compared to your majestic body. Now even the Earth is small beneath your feet. However, no matter how small the Earth is, it is still firm and solid beneath your feet, anchoring you to the ground. You will not float away.

Next visualize yourself growing so large that the planets of our solar system are like tiny toy rubber balls spinning near your feet. Soon they are too small to see as even the Milky Way galaxy becomes a small dot of light at your feet. Now visualize a dot of light coming from somewhere far above your head. Know that this is only a tiny bit of the light from this source, and if you saw the full brightness of this light you would immediately be blinded and quite possibly go insane. This tiny bit of the endless, limitless light forms a brilliant white sphere of pulsating light just above your head. It is nine inches in diameter, about the size of a dinner plate. It is brighter than ten thousand suns, but still only a tiny portion of the source of this divine, spiritual white light. Point to that sphere above your head with your dagger or finger and "bring it down" (by pointing) to your forehead, just above and between the eyes. Next, visualize this brilliance filling your head with divine light. While pointing to your forehead vibrate: *Ah-TAH* (boldfaced syllable denotes emphasis).

*STEP TWO.* Bring the point of the dagger (or your finger) firmly down your body until you are pointing toward the ground. Your hand with the blade should be covering your groin. As you do this, visualize the light in your head coming down along with the blade (or finger), down through your body and beyond your feet down to eternity. Vibrate: *Mahl-KOOT*.

*STEP THREE.* Now bring the blade up to your right shoulder. As you do this, visualize the beam of white light running down the center of your body from a beam from the

heart area out to your right, past the blade at your right shoulder. See this beam of light extend to the end of the universe, and beyond. Focus on this beam and vibrate: *VihG'Boo-RAH*.

*STEP FOUR.* Move the point of the blade horizontally to your left shoulder. As you do, visualize the beam of white light now extending through infinite space to your left. As you focus on this beam of light vibrate: *Vih-G'Doo-LAH*

*STEP FIVE.* Clasp your hands at your chest as if praying. If you like using a dagger, the point should be up, not pointing away from you, nor to the sides or down. Visualize within your chest, at the point covered by your folded hands, a brilliant golden glow. Vibrate: *Lih-Oh-LAHM, Ah-MEN*.

The meaning of this first part of the LBRP is as follows: *Ah-TAH* means "Thine" in Hebrew. The visualization given above along with the proper pointing of the dagger (or finger) is for the purpose of indicating that you are linking your higher self with the Divine. *Mahl-KOOT* means "kingdom," and according to the Kabbalah refers to the Earth. That is why you should be pointing down. *Vih-G'BooRAH* means "and the power" while *Vih-G'Doo-LAH* means "and the glory." *Lih-Oh-LAHM* means "forever," and *Ah-MEN* means, of course, amen (but you will learn the secret meaning of the word "amen" in a later lesson).

Thus, the first part of this ritual translates as "For Thine is the kingdom and the power and glory forever, amen." Does this sound familiar? It should. It is part of the Lord's Prayer. And although this was added to the original text of the prayer as it appears in the Gospels, it does seem to prove that at least some of the early Christians knew the secrets of the Kabbalah. Several of the words used here refer directly to the symbol of primary import in the Kabbalah, the Tree of Life.

There are many variations on this part of the ritual. The Golden Dawn in Step Two above pointed to the chest. Thelemites, those who follow the teachings of Aleister Crowley, point to the chest between Steps One and Two above, and vibrate the name "Aiwass" at that point. Aiwass, Crowley believed, was the name of his (Crowley's) Holy Guardian Angel and was an extra-terrestrial intelligence. Alex Sanders, founder

of the Alexandrian system of Wicca, at Step One above, vibrates "Kether" and in Step Two points to the stomach. Instead of AH-MEN, some people prefer AUM or AUMGN or even a combination such as AUM-EN.

As a final note to this section, if you have not figured it out as yet, what you have done is to visualize yourself as the center of the universe with only the divine light coming through you. You may wish to remain in this position for a few minutes to feel its power.

### ***Part Two: The Formulation of the Pentagrams***

*STEP ONE.* Going to your left, move around to the front of your altar, to the edge of the space of your circle so that you are at the east edge of the circle and facing away from the middle of the circle where your altar stands. In other words, you are at the east and facing east. Here, draw a pentagram as was described in the last lesson. Be sure to visualize the figure as a flaming gas-jet blue pentagram as you draw.

*STEP TWO.* Inhale through the nose. As you do, feel energy flow from the ends of the universe through your nose and body, and down and out of the bottom of your feet to the center of the Earth. (You are no longer at the center of your magickal circle and, thus, at the center of the universe as in the first part of this ritual.) As you inhale, both hands should be raised to the sides of your head by your ears. The dagger (or right-hand index finger) should be pointing forward. Your left hand (which should have remained at your side until now) is drawn into a similar position by your left ear, the index finger pointing forward, the rest of the fingers closed into a fist.

*STEP THREE.* Step forward with the *left* foot. At the same time *thrust* your hands forward so that they point at the exact middle of the glowing blue pentagram in front of you (this position is known as a "God Form" and is the God Form known as "The Enterer"). As you do this you should exhale and feel the energy come back up your body, out your arms and hands, through the pentagram and to the ends of the universe. You should use the entire exhalation to vibrate the God Name: *Yud-Heh-Vahv-Heh*.

*STEP FOUR* Bring your hands back to your ears while bringing your left foot back to its original position. Put your left hand down by your side and point to the center of the

pentagram with your right forefinger (or dagger). Now trace a line in the air at the height of the center of the pentagram as you move in a clockwise direction around the edge of your circle's space. You should go 90 degrees so that you end up in the south, facing south. As you trace the line in the air you should visualize a brilliant white light emanating from the tip of your finger or blade. At the South, repeat parts 1 and 2 of Step (a), but vibrate *Ah-Doh-NYE*.

*STEP FIVE.* Repeat as above, but move to the west and vibrate: *Eh-Heh-YEH*

*STEP SIX.* Repeat as above, but move to the North and vibrate: *AHGláh*.

*STEP SEVEN.* Complete the circle by connecting a white line from the North to the East where you began. Then, moving in the same clockwise direction, come back behind the altar and in front of the chair as when you started the ritual. You should once again be facing to the east. Note: If you do not have room for a circle, simply pivot where you stand behind the altar.

*STEP EIGHT.* Now visualize the brilliant white circle expanding up and down to form a sphere above, below and all around you. What you have done is create a sphere in brilliant white all around you with electric blue pentagrams at the quarters which have been charged and sealed with names of God.

[...]

### ***Part Three: The Evocation of the Archangels***

*STEP ONE.* Spread your arms straight out to the sides, so that your body forms a cross. If you have a dagger, the point should be up. Take a second or two to once again feel the energies flowing through you and making you a brilliant cross of light at the center of the universe. The cross also represents the four archetypal elements: Air, Earth, Fire and Water (more on these later).

*STEP TWO.* Visualize a figure on a hill in front of you. The figure is dressed in yellow robes which have some purplish highlights. The figure carries a caduceus wand (the

symbol used by doctors, a wand entwined by serpents, which represents the life force) and the figure's robes wave in the wind. You should "feel" a breeze coming from behind the figure. Say, **Before me, Rah-fay-EL** (vibrate the name of the Archangel).

*STEP THREE.* Visualize a figure behind you, dressed in blue with some orange highlights. The figure holds a cup and is surrounded by waterfalls. Try to feel the moisture in the air. Say, **Behind me, Gahbray-EL** (vibrate the name).

*STEP FOUR.* To your right visualize a figure dressed in scarlet with green highlights. The figure holds a flaming sword and you should feel heat coming from this direction. Say, **On my right hand, Mee-chai-EL** (vibrate the name. The "Ch" is a guttural sound as in the German "ach" or the Scottish "loch").

*STEP FIVE.* To your left visualize a figure dressed in greens and browns on a fertile landscape. The figure holds some sheaves of wheat. Say, **And on my left hand Ohr-ree-EL** (*vibrate the name*).

*STEP SIX.* Move your left foot out to your left and visualize another beautiful blue pentagram all around you, outlining your body. Say, **For about me flames the pentagram...**

*STEP SEVEN.* Visualize a golden hexagram, a six-pointed star sometimes called a Jewish star, within you, right where your heart is. Say, ... **And within me shines the six-rayed star.**

***Part Four: Repeat Part One, the Kabalistic Cross.***

Again, other people have slightly different versions for the Evocation of the Archangels section. In one you would say, "Around me flames the pentagram, above me shines the six-rayed star." Another says, "Before me is the pentagram and behind me is the six-rayed star." They are minor differences, but you might like to try them and see how they affect you. After doing the LBRP, sit in the chair and do the Tarot Contemplation Ritual. Thus, the order for your practical daily work should be as follows:

The Relaxation Ritual.

The Lesser Banishing Ritual of the Pentagram.

The Tarot Contemplation Ritual.

On the next page you will find a summary which gives a schematic of the LBRP without any of the explanations.

### **THE LESSER BANISHING RITUAL OF THE PENTAGRAM**

1. Touch your forehead, vibrate Ah-Tah.
2. Point down, covering the groin, vibrate Mahl-Koot.
3. Touch right shoulder, vibrate Vih-G'boo-Rah.
4. Touch left shoulder, vibrate Vih-G'doo-Lah.
5. Fold hands at chest, vibrate Lih-Oh-Lahm, Ah-Men.
6. Go to E, draw pentagram, point to center, vibrate Yud-Heh-Vahv-Heh
7. Carry line to S, draw pentagram, point to center, vibrate Ah-Doh-Nye
8. Repeat, but carry line to W, vibrate Eh-Heh-Yeh.
9. Repeat, but carry line to N, vibrate Ah-Glah.
10. Carry line to E, completing circle, return to center.
11. Hands out, say:
  - Before me, Rah-Fay-EI,
  - Behind me, Gahb-Ray-EI,
  - On my right hand Mih-Chai-EI,
  - And on my left hand Ohr-Ree-EI.
  - For about me flames the pentagram,
  - And within me shines the six-rayed star.
12. Repeat Steps 1-5.



## Appendix III to the portfolio:

Track list for the accompanying CD, which registers live performances of several of the works included in this portfolio <sup>1</sup>

Track number	Piece title	Individual movement name (when applicable)	Performers	Section of the portfolio	Track duration
1	<i>Dicta Hermetica</i> (Hermetic Sayings), a choral song cycle for SATB choir <i>a capella</i>	1 – <i>Sicut superius est inferius</i>	Chamber choir of Newcastle University School of Music, conducted by Miles Cragg	1.1	03'56"
2	( <i>ibid.</i> )	2 – V.I.T.R.I.O.L. ( <i>Visita interiora terrae...</i> )	( <i>ibid.</i> )	1.1	01'14"
3	( <i>ibid.</i> )	3 – <i>There is no part of me which is not part of the gods</i>	( <i>ibid.</i> )	1.1	01'46"
4	( <i>ibid.</i> )	4 – <i>Draco dormiens nunquam titillandus</i>	( <i>ibid.</i> )	1.1	00'40"
5	<b>The Prayer of Osiris</b> , for solo baritone, sustaining instrument and additional melodic instruments and voices	(section A not played in this performance)	Johann Hasler, baritone Julieta de la Torre Vega, organ Ludovic Bunel, Lisa Lewellyn, Teresa Magnowska, Luis Ortega and Julia Premauer, additional voices	1.2	04'22"

<sup>1</sup> All of the tracks for this CD were recorded at a live concert with audience performed at the King's Hall of the Armstrong Building, University of Newcastle upon Tyne (England) on Wednesday November 21, 2007.

6	<b>Ascension</b> , for solo piano		Julieta de la Torre Vega	2.1	05'53"
7	<b>Ararita</b> , for male choir, vocal soloist, low idiophone and sustaining instrument		Chamber choir of Newcastle University School of Music, conducted by Miles Cragg	2.2	01'12"
8	<b>HaShem</b> , for several vocal layers and idiophone(s)	(only an initial fragment played here)	Johann Hasler, Julieta de la Torre Vega, Teresa Magnowska, Ludovic Bunel and Luis Ortega	2.3	12'05"
9	<b>The First Astrological House</b> , for solo piano		Julieta de la Torre Vega	3.1	03'19"
10	<b>I: ♀ 17°♃</b> , for piano four hands		Julieta de la Torre Vega and María Martínez Gabaldón	3.2	03'19"
11	<b>The Lesser Banishing Ritual of the Pentagram</b> , for SATB choir and organ		Chamber choir of Newcastle University School of Music, conducted by Miles Cragg	3.5	03'07"

Total duration of the music in this CD: **41'19"**

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