

## Alchemy and Music

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### Abstract

The paper deals with the connection of alchemy and music in the spiritualistic musical composition of Michael Maier: *Atalanta Fugiens*. The piece is based on the myth of the metamorphosis of Atalanta and Hippomenes. The author found in this myth the most suitable symbols to alchemy, composing a series of fugues for three voices. A principal characteristic of this music is its auxiliary feature, since it is composed as background for concentration or meditation. *Atalanta Fugiens* can be regarded the result of *musical alchemy* and bears the roots of the Baroque as a literary-graphical-musical composition. Michel Maier's work grounds new musical philosophical concepts in pursuit of the metaphysics of universal harmony.

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### I. Around the Athanor

*"In 1459, a distinguished spiritual individuality, incarnated in the personality who bears the historical name of Christian Rosenkreutz appeared as the Master of a very limited circle of initiated disciples. On this date Christian Rosenkreutz was raised to the dignity of Eques Lapidis Auraei, that is, the dignity of Knight of the Golden Stone, in the bosom of a very closed spiritual confraternity, the Rosicrucians."*<sup>1</sup>

What does alchemy represent? Is it a science, occultism, or philosophy? Or is it simply a line of stories and allegories, hilarious even, if not stupid or senseless, about the delirium of making gold, or the elixir

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<sup>1</sup> Rudolf Steiner, *Teosofia Rosicrucienilor* (The theosophy of the Rosicrucians), First Conference, Bucharest: Arhetip-Renașterea spirituală, 2000, p. 12.

of eternal youth, stories which are incapable of bewildering even the children of our time? Is there some kind of relationship between alchemy and science? Or, beyond that, a question even more fundamental: is there a relationship between alchemy and music? How could we mentally represent our ancient being called an alchemist? How much history would that be and how much fantasy? Our millennium-three condescending smile in front of these questions is the result of the boom of scientific discoveries of recently passed centuries, and the bizarre antique or medieval creature whom we imagine stammering unintelligible words in front of the athanor personifies nothing more than complete ignorance. But is this really how things are? Françoise Bonardel, Professor of Philosophy of Religion at the Sorbonne University, Paris, rightfully wonders why philosophy has never asked these questions seriously, citing M. Sauvage<sup>1</sup>: “It is clear that our philosophy has no sense of any kind of relationship with the “cursed science”, long ago compromised by stories with stills and retorts.” It seems to have been forgotten, Sauvage adds, that *philosophy* is a word which also governs the adjective *philosophic*.<sup>2</sup> In his *Minima moralia*,<sup>3</sup> Adorno quite hastily called alchemy “the metaphysics of imbeciles”, although, as Mrs. Bonardel reminds us, Schelling himself admitted in his time that the mere fact of being unscientific does not disqualify or annul these systems, and found even rational precepts for their profound analysis.<sup>4</sup> Last but not least, Kierkegaard’s position should be mentioned, who wrote in his *Diary*: “The stone which closed the tomb of Christ could have been more appropriately named, I think, *the philosopher’s stone*, if it is true that its removal gave so much work not only to the Pharisees but to the philosophers as well for eighteen centuries.”<sup>5</sup> Mircea Eliade, cited in all notorious works on the history of alchemy claims that the interest for this ancient activity is wrongly due to the presumption of pre-chemistry if we may say so: “I have tried to prove that such a criterion of judgment is not always justified; that alchemy was not everywhere and always pre-

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<sup>1</sup> Author of the work *L’Aventure philosophique*, Paris: Buchet-Chastel, 1966, p. 22.

<sup>2</sup> Françoise Bonardel, *Philosophie de l’alchimie. Grand Œuvre et modernité*, Paris: Presses Universitaires de France, 2000. – Fr. B. *Filosofia alchemiei. Marea Operă și modernitatea*, translated by Irina Bădescu and Ana Vancu, Iași: Polirom, 2000, p. 7.

<sup>3</sup> Th. W. Adorno, *Minima moralia* (1951), Paris: Payot, 1980.

<sup>4</sup> Fr. W. J. von Schelling, *Philosophie de la Révélation* (1841), Paris: PUF, 1989.

<sup>5</sup> Søren Kierkegaard, *Journal*, Paris: Gallimard, 1963.

chemistry; or if a new scientific technique had formed at a given time from these alchemist techniques which led to the formation of modern chemistry – this did not mean that all alchemic techniques were pragmatic.”<sup>1</sup> Being preoccupied by the purely materialist – and sometimes so evidently real – dilemma of the alchemist work, Jaques Sadoul<sup>2</sup> describes in fairly attractive colors the way he could personally understand the truth hidden behind the mysterious veil of occult knowledge. He bought twenty books in the field, he read them, studied them thoroughly, and understood them. He admits from the very beginning that the alchemist practiced his *magister* in order to obtain the Philosopher’s Stone, a miraculous matter which could supposedly transform any metal into gold by fusion. The English monk Roger Bacon (1220-1292), also known as *Admirable Doctor*, defined alchemy as “a science which teaches you how to prepare a certain medicine or elixir, which, thrown over imperfect metals, transmits them its perfection in the very moment it touches them”. On the other hand, this monk also discovered through his research the imperfection of the Julian calendar, anticipated the experimental science of the centuries to come and signaled the vulnerable points of Ptolemy’s system. The true Masters of the Art – *Ars Magna* – also called *Adepts* or *Artists* were a category completely different from those men driven by their greed even to sacrifice (not once their end was due to the bizarre mixture in their still or crucible, for instance carbon, sulfur and nitrate, that is, a sort of gunpowder which evidently caused explosions), consumed by their hunger for gold, *auri sacra fames*, who were called *Blowers* or *Archimists*. It is these latter ones, practicing the combinations of substances and even discovering certain new chemical elements in their laboratories, to whom the birth of modern chemistry can be attributed rather than the Adepts, who were nothing else but hermetic philosophers.<sup>3</sup>

## II. Michael Maier and the *Atalanta Fugiens*

The complexity of Michael Maier’s personality makes him the head of Renaissance Rosicrucian thinking, and his work, published by the De Bry family and by Lucas Jennis shows, beside the encyclopedic spirit characteristic for the age, the germs of spiritual mutations which will

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<sup>1</sup> Mircea Eliade, *Alchimia chineză și indiană* (Chinese and Indian alchemy), Bucharest: Cultura Poporului, 1935.

<sup>2</sup> J. Sadoul, *Le trésor des alchimistes*, Paris: Éditions J’ai lu, 1990.

<sup>3</sup> *ibid.*, p. 14.

recompose and redefine during centuries the human being of the third millennium.

A contemporary of Robert Fludd,<sup>1</sup> Bacon, Shakespeare, Descartes, von Helmont, Comenius, or the Transylvanian Melchior Cibinensis, the Lutheran Michael Maier was born in Rensburg-Holstein (Germany) in 1568 and died in Magdeburg in 1622.<sup>2</sup> He is the author of works of reference in the field of alchemy and Rosicrucianism, illustrated with symbolic engravings of a rare beauty, among which *Arcana Arcanissima* (1614), *Lusus Serius* (1616), *De Circulo Physico Quadrato* (1616), *Examen Fucorum Pseudo-Chymicum* (1617), *Jocus Severus* (1617), *Silencium post Clamores* (1617), *Symbola Aurea Mensae Duodecim Nationum* (1617), *Atalanta Fugiens* (1618), *Themis Aurea* (1618), *Tripus Dore* (1618)<sup>3</sup>, *Viatorum* (1618), *Tractatus de Volucris Arborea* (1619), *Verum Inventum* (1619), *Septimana Philosophica* (1620), *Civitas Corporis Humani* (1621), *Cantilenae Intellectuales de Phoenice Redivivo* (1622), *Ulysses* (postum, 1624) and *Superbes Secretiones de Subtilis Allegoria* (postum, 1749).<sup>4</sup> Doctor Maier's father, Johann or Petrus – as the *Neue Deutsche Biographie* mentions – was in the service of Heinrich Rautzaus (governor of the duchy of Schleswing-Holstein) as a “Gold Embroiderer”. Severin Goebel, the famous physicist from Gdansk and Königsberg, a close friend of his mother, financed his studies at the schools of Rostock, Padua, Frankfurt an Oder (MA), Bologna, Basel (MD, PhD). It is unknown when he became a doctor of philosophy, but we know he was a doctor of medicine and alchemy. Although he received the title of Doctor in medicine at the University of Basel in 1596, Maier had already practiced surgery since 1590 without a license. In this period he was a scribe in the German chancery and courtier of Rudolf II. Beginning with 1601 he practiced medicine in his private office in Gdansk (at the White Lion Inn), and in 1608 he returned to Prague as a doctor, entering the service of the Emperor the following year. Rudolf II named him Hopffalzgraf, “Count Palatine”, with the task of supervising the universities, the right to practice medicine and offer the title of poet laureate. Five years later he became non-resident physicist

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<sup>1</sup> Author of *De musica mundana* (On the music of the universe).

<sup>2</sup> Alex Franz, *Count Michael Maier Biography, Doctor of Philosophy and Medicine, Alchemist, Rosicrucian, and Mystic*, M. Maier I. S. by A. F., 2000.

<sup>3</sup> *The Golden Tripod*, a collection of three texts on alchemy edited by M. Maier and published by Jennis in 1618, containing: *Twelve keys* by Basil Valentine, *Ordinal* by Norton, and the *Testament* of Cremer, Abbot of Westminster.

<sup>4</sup> T. Aspryon, *Michael Maier*, © Ordo Templi Orientis, 1995.

and chemist at the Kassel Court, in the service of landgraf Moritz of Hesse-Kassel, and after ten more years (1618-1622) he was the physicist of Duke Christian Wilhelm of Magdeburg. To all his distinguished and generous protectors Maier dedicated one of his works. Towards the end of his life he unsuccessfully tried to get close to the Danish prince Friedrich III, dedicating him still a few of his works. In England, Michael Maier maintained relations with Robert Fludd, Sir William Paddy, the physicist of the British Royal Court and personal physician of James I, and the first governor of the East Indian Company, chamberlain of the Virginia Company, Sir Thomas Smith.

Maier's work, the *Atalanta fugiens*, was published in 1618 funded by Johann de Bry at Oppenheim, in *octavo* format, that is, respecting the proportions of the *golden section*, 2:3.<sup>1</sup> Opening the book, the pages on the left and the right make up a unitary whole, in a 3:4 format, therefore the general formula is found in *octavo to quarto* (2:3/3:4), that is, *from masculine to feminine*.<sup>2</sup> Unique in form and content, the *Atalanta fugiens* (The Running Atalanta, or the New Chemical Emblems of the Secrets of Nature, as the subtitle goes) represents a triple composition: poetical, graphical, and musical, equally addressing seeing, hearing, and the intellect. The pages on the right side open twice, containing fifty epigrams and fifty allegorical engravings ("emblems"), and the pages on the left side contain the musical scores of the fifty fugues composed expressly for completing the originality of the work. This whole ensemble has as its starting point the myth of Atalanta, daughter of King Schoeneus of Scyros, who chased away her suitors or challenged them at a race, knowing she was undefeatable, and killing them without mercy after defeating them.<sup>3</sup> Aphrodite supported

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<sup>1</sup> Cf. Diana Fernando, *Alchemy – An illustrated A to Z*, © D.Fernando, 1998; *Alchimia – Enciclopedie ilustrată de la A la Z* (trad.Mihnea Columbeanu), Ed.Aldo Press, București 1999, p.18. However tempting, this mannerist idea does not exactly match the reality. Out of respect for the truth, one must observe that, had Diana Fernando made the necessary calculations, she would have noticed that the division of the book's sides (33 inches/24 inches) results 1.375, which is not quite the same as the *golden number* (1.618). But this difference of 0.243 can be absorbed in esoteric mannerism, since precision was not the strongest point of alchemy.

<sup>2</sup> D. Fernando, op. cit., p.19.

<sup>3</sup> In another version Atalanta is the daughter of the Arcadian king Iason, who leaves her after being born (because he wanted a son), abandoning her on a mountain top. Suckled by a bear, she becomes skillful in hunting, wounds the Calydonian boar, and as a sign of respect Meleager marries her.

Hippomenes in his attempt to defeat Atalanta with the help of the three irresistible golden apples thrown on the path of the cruel woman, which, tempting her to pick them up, slowed her down. However, this slowing down was deliberate, because Atalanta fell in love with Hippomenes and wanted him to win the race and become her husband. Being victorious in the difficult race, the young man lays with his lover in a cave, arousing Aphrodite's jealousy, who transforms them into a lion and lioness. Michael Maier found in the myth of Atalanta's and Hippomenes' metamorphosis the symbols most suitable to alchemy,<sup>1</sup> composing a series of fugues for three voices, which are in fact polyphonic compositions of a Gregorian descent, based on a *cantus firmus* with *two voices in strict canon*. Although a contemporary of musicians like Giulio Caccini (1545-1618), Claudio Monteverdi (1567-1643), Michael Praetorius (1571-1621), Girolamo Frescobaldi (1583-1643), or Heinrich Schütz (1585-1672), and although being aware, due to his complex education, of the great musical innovations of the preceding period in matters of harmony and counterpoint (di Lasso, Palestrina, etc.), Michael Maier had *deliberately* chosen the strict way of the old Gregorian *cantus firmus* for his alchemic demonstration, leaving aside the harmonic glamour and spectacle of the *Deus ex Machina*<sup>2</sup> so much enjoyed by the music loving audience of the time. Maier meant to say, in other words, that the Deity was to reveal himself to mankind, but in a *transcendental* (metaphysical) and not a *mechanical* (physical) way, and this implied a type of asceticism and humility from which mankind seemed to have definitively distanced itself.

One of the most important editions of Michael Maier's *Atalanta Fugiens* is Joscelyn Godwin's<sup>3</sup>: *Atalanta Fugiens: an edition of the*

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<sup>1</sup> Ovidius Publius Naso (43 BC – 18 AD) wrote in the first decade AD his vast work entitled *Metamorphoses*, including in it the myth of Atalanta (*Metamorphoses*, X, 560 and 686), (see *The change of Adonis into anemone, Atalanta's into a lioness, and Hippomenes' into a lion*, cf. Ovidius, *Metamorphose* (*Metamorphoses*), trans. by David Popescu, Bucharest: Editura Științifică, 1972, p. 294f. Atalanta is also present in the work of Homer (*The Iliad*, IX), in the *House of Meleager* (a fresco in Pompeii) or in the works of Guido Reni and Abraham Janssens (art of painting).

<sup>2</sup> The use of expensive and sophisticated machinery in order to achieve spectacular effects at the end of musical dramas, like, for example, Claudio Monteverdi's Orpheus. In literal translation, *Deus ex machina* means "God [descending] from a machinery".

<sup>3</sup> Joscelyn Godwin, American scholar born in 1945 at Kelmscott, Oxfordshire (England), PhD at Cornell University, US, doctoral thesis on *The Music of Henry*

*fugues, emblems and epigrams by Michael Maier; translated from the Latin by Joscelyn Godwin; with an introductory essay by Hildemarie Streich, Published by Phanes Press, 1989.*<sup>1</sup> The first scholar ever to study Maier's manuscript was Adam McLean, who described it as a parchment manuscript in 33/24 inches format (83.82/60.96 cm), the surface of one single leaf equaling the surface of twelve regular A5 pages, which makes the work very impressive indeed in terms of physical appearance. The front cover contains the Rosicrucian emblem in the center, with golden and red letters, flanked with four poems in Latin. The engravings are a point of reference in the field of alchemic emblems. Although not signed, these are unanimously attributed to Matthaeus Merian the Elder (1593-1650), quite a risky assumption in fact, as at the date of the publication of Maier's parchment Matthaeus Merian was barely eighteen, quite a young age for the maturity and creativity of the emblems attributed to him. Godwin leaves the matter for experts to settle, which is just as much my opinion as well. Maier's music took on the artless form of the Flemish composition of the preceding century, thus the engraved emblems created in the same spirit, the composition of perspective in the style of the Italian quattrocento, in the line of mannerist books of architecture of the age, is quite easily recognizable. Influences of painters like Vredemann de Vries, Giorgione, Carpaccio, de Bry, or even Dürer, of landscape painters of a Leonardian influence (Heidelberg or Berg, anticipating Merian) or other great Venetian painters can be perceived everywhere. Although not considered quite as masterpieces of Renaissance art, the emblems of the *Atalanta Fugiens* are the products of a rich imagination

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Cowell (1969), Professor at Colgate University, Hamilton, NY (Music Department), author of an impressive number of books and translations in the field of music and alchemy.

<sup>1</sup> The *Atalanta Fugiens* by M. Maier has formed the subject of other notable authors' research: Jacques Rebotier, *La Musique Cachée de L'Atalanta Fugiens*, Chrispeia, vol. I., Paris: J.C. Bailly, 1987, pp. 410 ff.; John Read, *Prelude to Chemistry*, London, 1936, a chapter on Maier as *A Musical Alchemist*; Helen Joy Sleeper, "The Alchemical Fugues in Count Michael Maier's *Atalanta Fugiens*" in *Journal of Chemical Education*, 9 (1938): 410-415, who identified for the first time in the *Cantus firmus* of the *Song of the Apple* the old *Christe eleison* from the 4<sup>th</sup> Gregorian Mass, the *Cunctipotens genitor*; Egon Wellesz, "Music in the Treatises of Greek Gnostics and Alchemists", *Ambix* 3-4 (February 1951): pp. 145 ff. Franz Liessem, *Musik und Alchemie*, Tutzing: Hans Schneider, 1969; Hereward Tilton's *Research on Michael Maier's Atalanta Fugiens* (subject of his Doctoral Thesis, Febr. 2000) or *Atalanta Fugiens fugues* at Adam McLean's alchemy research.

and an incontestable mastery. Just as it can be assumed that the structure of the musical composition of the fugues is of an alchemic nature (a problem which will be discussed later on), I am convinced that the emblems contain, beyond their esthetic value, certain encrypted esoteric messages and formulas (extended of course also to the epigrams). Adam McLean analyzes the emblems in their accordance with the laws of measure, number and weight, grouping them in a  $7 \times 7 + 1$  formula.<sup>1</sup> This parchment (1611) preceded the publication of all other works of Maier and also the appearance at Cassel and Strasbourg of the *Rosicrucian Manifestos*<sup>2</sup> in the period between 1614-1616.<sup>3</sup> The four poems addressed to King James I are uttered by the four Archangels (Gabriel, Raphael, Uriel, and Michael) and the two shepherds waiting for the birth of the Savior (Menaleas and Thirsis). Therefore, the manuscript also contains a fugue in four parts in which the *cantus firmus* personifies the two shepherds and the four voices the four Archangels.<sup>4</sup> In the *Preface* of his book, Joscelyn Godwin shows that Maier intended to apply the procedure of musical composition also in his *Cantilenae Intellectuales de Phoenixe Redivivo* (Intellectual songs on the resurrection of the Phoenix, 1622), a work composed of nine triads on verses in a Latin rhythm, adapted to a concert on three voices, symbolizing Venus, Cancer and Lion. All these musical compositions which could be called *metaphysical*, *spiritualistic* (for the intellect, as we have seen in the title), anticipate the philosophical conception on music of the Schopenhauer–Nietzsche–Wagner trio in the 19<sup>th</sup> century or the spiritualism of Mahler's symphonism at the beginning of the 20<sup>th</sup> century. It is in fact Schopenhauer who finds (similar to Plato) the qualities which make music a model for philosophy and affirm that there is a connection between the *metaphysical sense* of music and its *physical and arithmetical basis*. This assumption is grounded on the fact

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<sup>1</sup> Adam McLean, "Michael Maier's *Atalanta Fugiens*: Links with the Archetypal Symbolism of the Vault" in Adam McLean, ed. *A Compendium of the Rosicrucian Vault*, Edinburgh: Hermetic Research Series, 1985, pp. 122-130 and folding plates.

<sup>2</sup> Frances Yates qualifies this manuscript as a *crucial document* of the movement he calls *The Rosicrucian Enlightenment*, cf. J. Godwin, op. cit., p. 207.

<sup>3</sup> *Fama Fraternitatis*, *Confessio Fratrum Rosae-Crucis*, and the *Chemical Wedding* of Christian Rosenkreutz.

<sup>4</sup> Adam McLean, in *Scottish Record Office* (see "A Rosicrucian Manuscript of Michael Maier", in *Hermetic Journal* 5 (1979), 4-7. Further details about the manuscript contained in the work of A. McLean are extracted by J. Godwin, op. cit., *Appendix: Michael Maier's Christmas Greeting to King James I and VI* (1611), p. 207.)



that dissonance or the irrational – which are out of the scope of understanding – become “the natural image of the resistance which is opposed to our will; and, on the contrary, the consonance or the rational which match our perception without difficulty, and represent the satisfaction of will.”<sup>1</sup> Given the importance of the subject,<sup>2</sup> in the following I will present the first pages of the *Atalanta Fugiens* with my own translation, which, apart from certain clumsiness due to this very translation, for which I beg for the knowing reader’s forgiveness, will hopefully clarify our previous statements:

The title of the 1618 edition reads: *Atalanta Fugiens – hoc est Emblemata Nova de Secretis Naturae Chymica*, that is *The running Atalanta – that is, the New Chemical Emblems of the Secrets of Nature*, followed by the long subtitle: *destined in part for the eyes and intellect, with figures engraved in brass with legend, epigrams, and scores added partly for the ear, and partly for the silence of the soul, by approximately fifty Musical Fugues for three voices, among which two are composed as simple melodies following each other singing the couplets in canon, but also composed in order to be regarded, read, lived in meditation, understood, pondered, sung with voice, and at the same time listened to*<sup>3</sup> – author Michael Maier, Count of Imperial Consistory Committee, Doctor of Medicine, Knight Exempt etc., Oppenheim: Tipogr. Hyeronimus Gallenus, on the expense of Johann Theodor de Bry, MDCXVIII (1618). The same leaf also contains in careless handwriting, on the right and left side of the word *auctor* the notes *Jo:*, cut through with several lines and repeated just next to it, and in the right side *Hyphantos.*, for which we cannot find any other explanation than to be notes of the possessors of this copy.

The following pages contain the *Epigram of the Author*, the *Dedicatory Letter*, and the *Preface to the Reader*. Surprisingly, the myth

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<sup>1</sup> Reformulation of a sentence by Leibniz: “Music is an unconscious exercise of metaphysics in which the spirit is unaware of making philosophy”, *Le Monde comme Volonté*, p. 338, *De la métaphysique de la musique*, p. 1192; cf. F. Bonardel, op. cit., p. 287.

<sup>2</sup> It should be mentioned that the difficulties met in the writing of this work are due to the lack of authorized translations into Romanian, as well as to the fact that the subject of *Sciences, Alchemy and Music*, including of course also the work of Michael Maier, to the best of my knowledge has not been researched in Romania.

<sup>3</sup> Here, in this passage (“*in order to be regarded, read, lived in meditations, understood, pondered, sung with voice, and at the same time listened to*”) we find the first argument for the interpretation of this work as *musical alchemy*, over which we will return.

of Atalanta occupies quite an insignificant place in the scope of the whole work. Thus, it is only in the *Author's Epigram*, which precedes the work as such, that the classical myth is directly referred to, the other fifty Epigrams being diverse intricate narrations of other ancient myths. The ample discourses which end Maier's work (and which are absent from Godwin's book, obviously due to certain editorial reasons) are again not focused on this myth but they abound in references to names, persons, allegories, or personalities of alchemy that have no connection to Atalanta's myth.

*The Author's Epigram*

Three Golden Apples from the Hesperian grove.  
A present Worthy of the Queen of Love.  
Gave wise Hippomenes Eternal Fame.  
And Atalanta's cruel Speed O'ercame.  
In Vain he follows 'till with Radiant Light,  
One Rolling Apple captivates her Sight.  
And by its glittering charms retards her flight.  
She Soon Outruns him but fresh rays of Gold,  
Her Longing Eyes & Slackened Footsteps Hold,  
'Till with disdain She all his Art defies,  
And Swifter then an Eastern Tempest flies.  
Then his despair throws his last Hope away,  
For she must Yield whom Love & Gold betray.  
What is Hippomenes, true Wisdom knows.  
And whence the Speed of Atalanta Flows.  
She with Mercurial Swiftness is Endued,  
Which Yields by Sulphur's prudent Strength pursued.  
But when in Cybel's temple they would prove  
The utmost joys of their Excessive Love,  
The Matron Goddess thought herself disdained,  
Her rites Unhallowed & her shrine profaned.  
Then her Revenge makes Roughness o'er them rise,  
And Hideous feireennesse Sparkle from their Eyes.  
Still more Amazed to see themselves look red,  
Whilst both to Lions changed Each Other dread.  
He that can Cybell's Mystic change Explain,  
And those two Lions with true Redness stain,

Commands that treasure plenteous Nature gives  
And free from Pain in Wisdom's Splendor lives.<sup>1</sup>

The possibility cannot be excluded that Michael Maier extended his inventiveness to the level that the unraveling of the “Secret of Secrets” (“Arcana Arcanissima”) in the *Atalanta Fugiens* consists in the decryption of the mysterious alchemical formulas hidden in the notes of the fifty fugues, just as much under the aspect of their pitch or rhythm as that of their durations, combined – as we have said before – with the application of certain gratings of decoding of the esoteric significance contained in the matter of the epigrams and the allegory of the emblems. This purely logical-mathematical operation would probably be worth the attention of a future research (Maier himself stated from the very beginning that he had added musical compositions to his work not only to be sung or listened to, but to be “lived in meditations, understood and pondered”, while “reason will seek the deciphering of secret symbols./ I have offered them to your senses, so that your mind / be able to accede to the treasures which lie hidden in them.”) We may assist thus to a sensational revelation regarding the concrete achievement of a *Magnus Opus*, but our approach is of a different nature, because the only alchemy capable to give a new dimension to humanity, in which we truly believe, is connected to a *spiritual transmutation*, not a material one. Doctor Maier, similar to all great Adepts, had such a conviction, and, being one of the major Rosicrucians of his age, exposed his doctrine both in the *Discourses* at the end of the *Atalanta Fugiens* as in other works as well, such as the *Themis Aurea* (“The laws of the Rosicrucian Fraternity”)<sup>2</sup>, in which he pleaded for the hygiene and medicine of the mind, the soul, and the spirit, generating physical health (this being the meaning also of the ancient expression *mens sana in corpore sano*). Michael Maier was not alone with his literary-graphical-musical “invention”, as documents from the age mention for the years following its disappearance a history of the six Dutch provinces and their wars with the Spanish, called *Nederlantdsche Gedenck-Clank*, published in Harleem in 1626 by Adrian Valerius, a work ornated by engravings in a Rosicrucian style and with songs from each province, containing also their accompaniment. Another work is the *Tugendsterne* (The stars of virtue), by the Nuremberg scholar Georg Philipp Harsdörfer (1607-1658) and Sigmund Theophil Staden

<sup>1</sup> Translation from British Library MS. Sloane 3645, transcribed by Clay Holden, on <http://www.levity.com/alchemy/at11-5.html>. (translator's note)

<sup>2</sup> Michael Maier, *Themis Aurea* (1618), London (for N. Brooke-Cornhill), 1656.

(1607-1665), in which seven planets, presented in engravings and each having a melody corresponding to its own Virtue, are having a conversation with six humanists who display their moralizing teachings.<sup>1</sup> As it is shown by a vast and popular work of the age, in eight volumes, entitled *Frauenzimmer Gesprächspile* (Nuremberg, 1641-1649), the game of conversation, so popular in the learned environment of great Renaissance courts, was based on a very simple technique:<sup>2</sup> the participants were presented with an engraved emblem, a fragment of a poem and music which were to be commented upon, the rules of the game were explained, and a sort of “talk-show” was organized in the presence of distinguished personalities of the age. Doubtlessly, such intellectual games were played also at the *Hermetic Academy* of the court of Rudolph II, so that, as Godwin assumes, one might well imagine that the *Atalanta Fugiens* could have formed the subject of such discussions. Professor Godwin seemed perplexed<sup>3</sup> by the fact that Maier, with knowledge of the strict laws of harmony and counterpoint, frequently disregarded them, using parallel fifths and octaves or failed to anticipate or solve dissonances. He claims that this behavior of the famous Rosicrucian seems unclear to him, because, for example, there are “very capricious signs of alteration” in places where the canonical imitation does not ask for it. Feeling the need of correction, he adds an *Appendix* with a list of *Editorial and critical notes* regarding the compositional faults in the content of the fugues. Some of these notes are minutely elaborated and welcome,<sup>4</sup> but in our opinion expressed also in the previous pages, there is nothing enigmatic about Doctor Maier’s nonconformist manner of composition, as the only valid laws for him are those of the encryption of certain esoteric messages and the achievement of sonorities capable to stir not only the sense of hearing but also the intellect. Thus, it can be claimed that, by this unconventional manner of composing music, Michael Maier can be regarded as the precursor of certain extremely elaborated revolutionary concepts which grounded the appearance, at the beginning of the 20<sup>th</sup> century, of the new Viennese

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<sup>1</sup> J. Godwin takes these details from Anthony Rooley (cf. J. Godwin, op. cit., pp. 12-13).

<sup>2</sup> James Haar, *The Tugendsterne of Harsdörffer and Staden*, s.l. American Institute of Musicology, 1965, p. 15.)

<sup>3</sup> J. Godwin, op. cit., *Preface*, p. 14.

<sup>4</sup> Maier himself apologized for correcting only the first thirty fugues, the other twenty having some minor errors left for the “kind reader” to correct.

school of Arnold Schönberg (1874-1951), Alban Berg (1885-1935) and Anton Webern (1883-1945).

### III. Music – The Metaphysics of Universal Harmony

Joscelyn Godwin's polished musical education<sup>1</sup> allowed him to make a thorough and well documented analysis of the history of the fifty fugues, but the most essential approach to the musical, esthetic, and psychological analyses is due to Dr. Hildemarie Streich,<sup>2</sup> author of the seventy-pages essay, perhaps too modestly entitled *Introduction*. Godwin's precise analytical approaches often stop, perhaps deliberately, at a *sensitive (emotional-affective) level of interpretation*, looking from an esthetic perspective. He does not seek, therefore does not find the way to *musical hermeneutics*. Consequently he meets neither the subliminal content of Maier's music, nor the conscious, substantial one. Godwin treats the music of the *Atalanta Fugiens* as a kind of musical illustration, an adequate musical background composed in order to make the reader concentrate or meditate on the significance of the emblems and epigrams,<sup>3</sup> which places music on a secondary level from the very beginning. However, in Maier's triad (music-engraving-poetry) there is no hierarchy. The Renaissance author's urge to meditation implied an effort of the mind equally divided for understanding the profound meaning of the three gifts offered by him (sound-image-word). On the other hand, we must admit that Godwin's position meets an objective reality: that music possesses the amazing and seductive force of fertilizing the human spirit, whether or not it wants this. It is in this sense that I mentioned the subliminal character of Maier's work. Whether he

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<sup>1</sup> He graduated from prestigious musical schools, like: *Christ Church Cathedral School*, Oxford; *Radley College* and *Magdalene College*, Cambridge; *Cornell University* (graduation thesis in Musicology), and *Cleveland State University*.

<sup>2</sup> German scholar, musicologist, musical performer (flute), musical therapist and psychologist, who was active in West Berlin in the 1970s with her husband, prof. Rudolf Streich.

<sup>3</sup> "It can be listened to on its own, or else ear's work can be combined with those of the eye and of the intellect. One could, for example, contemplate each picture either on the page or in the mind's eye while one listens to its accompanying music; or one could meditate on meaning of each epigram as is sung line by line." (J. Godwin, op.cit., *Preface*, p.15.) Godwin leaves everybody the freedom of interpretation of Maier's work, but the idea of contemplation of each emblem looking at the page with physical or mental eyes, while the music is heard as an accompaniment, leaves space for free, unprofitable deliberation, because the syncretic message is thus always distanced instead of coming close.

wants it or not, the listener, having his mind in a different place than the score would indicate, *is energetically charged* by listening to his music. Therefore Plato paid much attention to education of the guards of his ideal state, who should have consciously received the energetic benefits of a music composed in those unique vigorous *musical modes* which should be retained, the Dorian and the Phrygian. These two musical modes would represent, says Plato, the most adequate ways for the achievement of “simple” harmony, generating a maximum and efficient concentration in exercising public functions.<sup>1</sup> It is for the same reason that I believe one must pay attention to the *quality of any kind of music* one listens to, because its energy load can unfortunately be not only beneficial (the ‘plus’ sign, lines passing over each other, symbolizing the cross, with four poles, defining the idea of a *spatial* limitlessness in which God dwells – a Father not only Universal, but also Omniversal) but also malefic (the ‘minus’ sign, the line with only two poles, which may define an anamorphic Luciferic universe, twisted, *bidimensional*, aberrant.) If Godwin is right to allow complete freedom to the reader of the *Atalanta Fugiens*, then it is only due to the fortunate coincidence that the harmonies of Maier’s music (resonances reminding of the motets of the *Ars Antiqua* of Machaut or of the music of Burgundy of the 15<sup>th</sup> century, as Godwin himself emphasizes in his *Preface*) are the results of that *musical alchemy* which I have previously been speaking about. The circumstantial listener, or the one who takes a glimpse, absent-mindedly, of the scores of the fifty fugues, *becomes metaphysical without being aware of it*, to use a paraphrase.<sup>2</sup> The celestial harmonies (the Music of the Spheres) are those which dictate the laws of the Universe, therefore terrestrial laws as well, as Pythagoras said. Hildemarie Streich begins her essay dedicated to the *Atalanta Fugiens* with the following quotation from *Discourse 6* of Maier’s work: “The true Angels sing, as the Holy Scriptures say, the Planets sing, as Pythagoras says – and all these praise the glory of the Lord, adds the Psalmist; the Muses and even Apollo sings, as the poets say; people and children sing; birds, sheep and geese

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<sup>1</sup> Plato, *Republica* (The Republic), trans. by Andrei Cornea (Second part, Books II, III, IV), Bucharest: Ed. Științifică și Pedagogică, 1986.

<sup>2</sup> Allusion to Jean-Baptiste Poquelin, called *Molière* (1622-1673), with his bourgeois gentleman, *M. Jourdan*, who wrote *prose without being aware of it*, and who, we should add, *was making music without being aware of it*.

sing in their own tongue; and thus we also sing, whether by voice or by strings, and we do it not without a reason”.<sup>1</sup>

By this conclusion (“we also sing, whether by voice or by strings, and we do it not without a reason”), beyond the invitation to sing, Michael Maier also “challenges us to contemplate music in its entirety and in all its aspects: celestial or divine, cosmic, psychic, or human and instrumental”.<sup>2</sup> The three parts of the essay (1. *The significances of music*; 2. *Maier’s Fugues and their alchemic implications*; 3. *Psychological analogies*) make up a well-built structure, revealing the authors’ impressive analytic abilities. The first part is a summary of the evolution of music from the earliest times until the Middle Ages, mentioning the 14<sup>th</sup> century theoretician Jacob de Liège, who found in music cosmic and transcendental characteristics<sup>3</sup> in four forms: 1. *Musica caelestis vel divina* (celestial or divine music); 2. *Musica mundana* (the music of the Universe or the music of the spheres)<sup>4</sup>; 3. *Musica humana* (human music); 4. *Musica instrumentalis* (instrumental music). The etymology of the word *harmonia* seems to lead to one of the conceptual roots in Greek, the syllable *ar* or *har* representing the unity between the counterparts of the whole<sup>5</sup> and giving birth to words with a triple meaning: material, ideal, and metaphysical. For instance, *ararisko* means ‘to put together, to connect in order to unify’ in a material sense, but it also means ‘to calm, to soften, to unite’ in an ideal sense, while the word *harmozo* means ‘to be together’, in a

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<sup>1</sup> The same quotation precedes the paper of the Brazilian Marly Assi Hatoum, entitled *O mito de Atalanta* (Curitiba, agosto 1996), held at the *Pontificia Universidade Católica do Paraná, Pró-Reitoria de Pós-Graduação, Curso de Psicologia Clínica*. Unfortunately one cannot help but notice that her work takes over completely, at a distance of twenty-three years, the essay of Hildemarie Streich entitled *Music, Alchemy, and Psychology in “Atalanta Fugiens” of Michael Maier*, presented at the *Eranos Conference* (Ascona, 1973) and the *Panarion Conference* (Los Angeles, 1978). Marly Assi Hatoum never mentions the name of Hildemarie Streich in her “research” presented at the symposium in Paraná in 1996, implying that it was her own work, which inevitably transforms it into a plagiarism.

<sup>2</sup> H. Streich, op. cit., p. 19.

<sup>3</sup> Jacob de Liège, *Speculum Musicae*, Book I, p. 11, Bragard.

<sup>4</sup> Robert Fludd, *Utriusque Cosmi Maioris scilicet et Minoris Metaphysica*, Oppenheim, Johann Theodore de Bry, 1617. But the list of works dedicated to the music of the spheres is impressive, raising to a number of approximately 150 titles by more than a hundred authors.

<sup>5</sup> H. Streich, op. cit., p. 29.

transcendental and cosmic sense. Making the necessary connections, the triad of the concept of *Harmony* can also be established: 1. *Harmonia tou kosmou* (corresponding to the Music of the Universe or the Spheres, *Musica mundana*); 2. *Harmonia tes psyches* (*Musica humana*, body and soul); 3. *Harmonia en organois* (corresponding to instrumental music, *Musica instrumentalis*, comprising the field of perceiving and producing music, *organon* meaning in Greek ‘instrument, tool, musical instrument’). But what Hildemarie Streich does not say is: what happens with the first of the four forms of music, the *Musica caelestis*? Does it not have a counterpart in human perception and understanding? Does it not represent exactly a *Harmonia alchymis*, which sounds together with the secret harmonies of the *Magister*? A possible answer to this question seems to be given by Robert Fludd’s (1574-1637) *De Musica Mundana* (“On the music of the universe”), where he describes a “monochord of the universe, of the spheres” (*Mundanae Monochord*), on which, with help of a diagram sector, are inscribed the major gradations of energy and substance of the elementary and unconditioned forces of the earth. Starting from the top down, there are fifteen spheres, each smaller than the previous, in the following order: Unlimited and Eternal Life; the Castle of Gods – the Superior, Middle, and Inferior *Empyreum*; the Seven Planets and the Four Elements. *Fludd’s Monochord* lies in fact in an imaginary chord, stretched and vibrating between the foundations of the Pyramid of Energy and the Pyramid of Substance, also contained in a diagram.<sup>1</sup> Concerned with psychology as her profession, Hildemarie Streich seems to find connections between the human psyche and the music of the *Atalanta Fugiens* in the last part of her essay, although the greatest part of her study – 45 pages out of 70 – are dedicated to the analysis of the fugues in the second part of the work. Michael Maier himself also speaks about the music of the *Atalanta Fugiens* and music in general in his *Preface to the Reader*, in a captivating literary style: “In order to cultivate the intellect, God has hidden infinite secrets in nature, which, similarly to the fire started by striking a stone against the flint, can be extracted and circulated by the uncountable arts and sciences. The secrets of Chemistry are no exception to this, but only after researching the things outside the divine. Of such intellectual sciences those can be mentioned which speak about the field of the visible, called *Optical* (Perspective and Painting), “considered by some as mute”. It is only later

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<sup>1</sup> *The Philosophical Research Society*, 1996 (*Line Art from Rare Manuscripts: The Consonances of the Mundanae Monochord, from Fludd’s “De Musica Mundana”*)



that they will speak about “a painting which speaks”, just as in matters of music, whether vocal or instrumental, the old philosophers would have considered themselves ignorant had they refused the lyre and the feasts, making the myrtle branch sing, as Themistocles said.”<sup>1</sup> Maier also reminds that Socrates and Plato had a thorough musical education, and Pythagoras used to instruct his disciples using *musical symphonies* in the mornings and evenings. Music had this miraculous force: to strengthen or calm down the senses in tune with different musical modes. In this respect the mode considered most vigorous and militant by the ancient Greeks, the Phrygian, was replaced with the Ionian, says Maier, for the same reasons. “I have reunited the Optics with Music and the significance of the Intellect” – says Maier – in order to comprise into one single image and embrace the three objects called in a more than spiritual sense: *speaking, listening, and the intellect itself.*” *Speaking and listening* are seldom found by *chemical emblems*, concludes the German Adept, although other arts can make emblems for morals or other things about the secrets of nature, but these will surely become estranged from their purpose as they wish to be, and indeed are, omniscient. Chemistry seems more modest, as Maier, in order to make its image more colorful, will reveal to the Reader (in a style not only esoteric, but also poetic, allegoric, fictive, pictorial, emblematic, engraved, and, finally, musical) the most hidden things about chemistry for the exploration of the *intellect*. Because, promises Maier, in these times, when the intellect is said to be a slate on which nothing has been written before, his style – intellectual rather than sensual – will give a new dimension to this opinion, transforming the intellect into a real portal.

#### IV. *Musica Mundana* – The Germs of Baroque

From a musical-formal point of view the fifty *fugues* of the *Atalanta Fugiens* have an identical structure, being made up of three parts, each *fugue* having the same *cantus firmus* with *two voices* superposed in a strict imitation canon. The *cantus firmus* embodies the *delaying Golden Apple* (*Pomum morans*), while one of the voices represents *the running Atalanta* (*Atalanta Fugiens*, Dux), the other *Hippomenes, the follower* (*Hippomenes sequens*, Comes). The three voices alchemically symbolize the following three substances: *mercury* (*Atalanta*), as the messenger of the gods (*Hermes Mercurius*), a feminine substance necessary for transmutation; *sulphur* (*Hippomenes*), a

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<sup>1</sup> Michael Maier, *Atalanta Fugiens* (1618), *Preface to the Reader*, op. cit., 101-102.

masculine substance which burns; *salt* (the Apple), a catalyzing substance which balances the forces (the Principle of Love) and helps the accomplishment of the *Work*.<sup>1</sup> Alchemical correspondences also lead to other pairs of meanings: mercury–spirit, sulphur–soul, and salt–body, so that, in a synthesis, one could finally arrive at the following *Table of Symbols*:

1. *Atalanta* (“*Atalanta fugiens*”): the first musical voice in the canon – the feminine principle (*yin*<sup>2</sup>, decay, putrefaction) – mercury (“living silver”) – instability – the god Hermes – spirit;

2. *Hippomenes* (“*Hippomenes sequens*”): the second musical voice in the canon – the masculine principle (*yang*, immortality, the food of spirits) – sulphur – the force which burns – stability – soul;

3. *The Golden Apple* (“*Pomum morans*”): the third musical voice in the canon (*cantus firmus*) – equilibrium – the catalyzing salt – love – body.

Researching the techniques of the medieval Adepts, one can observe that there is no constant universal recipe, and therefore several important inversions may be found in alchemical texts, sometimes substances even seem to have contradictory characteristics. For instance, in the *Atalanta Fugiens* the tree (by its *product*, its fruit) seems to generate a catalyzing function, characteristic to Salt, while Chinese alchemists attributed the masculine principle of *yang* (Sulphur) to the tree (or to its *product*, resin). The substances infused with *yang* (for “reconciling” it by *Harmony* with the whole *Universe*, and for its direct communication with the *Norms*, the *Tao*) can also be found in animals like the turtle, the crane, or the rooster. The *yang* can also be found in the plant called *cith* (*Sesamum indicum*, sesame seeds, the “herb of happiness”, “herb of immortality” for the Chinese), in the pine, the cypress, and the peach-tree (according to Pao Pu Tzu, with the resin of

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<sup>1</sup> H. Streich, op. cit., p. 35.

<sup>2</sup> Mircea Eliade, *Alchimia chineză și indiană* (Chinese and Indian alchemy), Bucharest: Ed. Cultura Poporului, 1935 (*Alchimia asiatică* (Asian alchemy), Bucharest: Humanitas, 1991, p. 13.). According to Eliade, the transmutation of metals from inferior and obscure to shiny gold is made by eliminating the *yin* from the substance and amplifying the *yang*. The alchemic gold is superior to rough gold exactly because it has been purified by the *yin*

the peach-tree the human body becomes *shiny*<sup>1</sup>). If it was the resin of trees which caused the immortality of man, universal harmony, and spiritual glare, it is also important to emphasize that old lutists could not be unfamiliar with these alchemic precepts when they searched (and sometimes also discovered) the secret of the lacquer for their violins. The *yin* element is what determines the continuous transformation, the eternal combustion, says Mircea Eliade in his *Chinese and Indian alchemy* (1935). While the *yang* insured (by the jade, for instance) *immortality*, being the food of the spirit, the *yin* helped the decomposition of the body following death. Citing Granet as an argument for the definition of the *yin* (the pearl is *yin* and it “protects the body from decay”<sup>2</sup>), Eliade contradicts himself nonetheless. The argument of the pearl makes his reasoning senseless as far as the *yin* is *at the same time a provoker* and a *remedy* of decay (but the meaning of the pearl will be treated in detail in another study<sup>3</sup>). Perhaps, as I have argued before, this procedure of contradictions is specific to esotericism. Michael Maier himself changes the C clefs in his scores, an artifice which allows him to pass the *cantus firmus* to the middle voice; however, it cannot be excluded that this technique is also part of alchemical encryptions. Hildemarie Streich thinks that the changes of musical clefs are similar to the transformations in the still (the solids remain in the lower part and the light substances come to the surface, then again solidification, liquation, evaporation, and the appearance of new, heavier substances). Although the hypothesis of the German researcher leads directly (in a material way) to the *Magnus Opus*, it is the metaphysical sense of the permanent changes which to me seems more expressive. Thus, I consider that the changing of the clefs represents the continuous oscillation of the three human components (matter-soul-spirit) down and up, in search of the Universal Essences and Harmonies (*Musica Mundana*) with the help of the *Magister*. The fact that in *Fugue no. 41* the *cantus firmus* is composed in recurrence signifies

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<sup>1</sup> Ibid.

<sup>2</sup> M. Granet, *Danses et légendes de la Chine ancienne*, Paris, 1926 (Commentary to the *T'ao Hung-Ching* text).

<sup>3</sup> The pearl also leads to the etymology of the word ‘baroque’, “barocco” in Portuguese meaning ‘irregular pearl’ (that mutant-pearl which, because of its bizarre shape, was so much sought in the world of Renaissance goldsmiths.) Consequently, the Baroque could represent, symbolically, the symbiosis between gold and pearl (an alchemic gold and an alchemic pearl) found at the end of the *Magister*. Thus, esoterically speaking, the Baroque could be interpreted as a *Work of Cosmic Harmony*, that is an *Alchemical Work*.

the rebirth from death, the appearance of new forms of existence which mean at the same time the end of the preceding process of the development. The technique of recurrence (like that of the mirror<sup>1</sup>) is often encountered in the art of the medieval canon. H. Streich quotes in this respect Guillaume de Machaut (14<sup>th</sup> century), author of a *canon-crab*: *Ma fin est mon commencement et mon commencement ma fin*.<sup>2</sup> The death of Jesus himself is a rebirth. Christian dogmas are entirely supported by this metamorphosis, which contains both the germs of redemption of the sins of mankind by Christ's exemplary supreme sacrifice, and of those of eternal-happiness-after-death, once the much desired verdict of *not guilty* is obtained at the ruthless *Last Judgment*. Recurrence is not the only alchemic key offered by Maier for deciphering the metaphysics of his music. Rhythm and metrics are especially important. For instance, it is surprising that forty-eight of the fugues are composed in *tempus imperfectum*, that is in measures of two or four times (binary). That is, the whole work seems to stand under the mark of imperfection. What does this "inadvertence" of the illustrious Adept mean? Naturally, the fact that everything connected to human creation is consigned to the incidence of imperfection. Only two of the fugues contain ternary rhythmic formulas in measures of either 6/4 or 3/2, forming a *tempus perfectum*, and these are fugues no. 46 and 47. As it is well known, the number *three* is considered *perfect* because it contains the Holy Trinity (Father, Son, Holy Spirit), it is connected to the three parts of human constitution (Body, Soul, Spirit), and to the alchemic trio (Mercury, Sulphur, Salt). Fugue 46 seems to be loaded with the meaning of universal perfection: the presence of recurrence, of contrary movements between the voices and the *ternary measure* as *tempus perfectum*. In music, the *tempus perfectum* is represented by writing the measure in the graphic form of a circle or a circle with a point in the center, being equated by the Pythagorean number One. This divine number One generates (by adding up itself) the infinity of the line of numbers following it, including number two which, added to one, forms the perfect number three. But the graphic sign in form of a circle leads to a paradox of symbols<sup>3</sup>: eternal recurrence, without a beginning and an end; the snake Uroboros; the zero symbol (the

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<sup>1</sup> Leonardo said that the objects placed in front of the mirror seemed to make up "a second nature" (cf. K.E. Gilbert & H. Kuhn, *Istoria esteticii* (The history of esthetics), Chapter VI: *Renașterea (1300-1600)* (The Renaissance) – "Oglinda" (The mirror), Bucharest: Meridiane, 1972, pp. 158-160.)

<sup>2</sup> "My end is my beginning and my beginning my end".

<sup>3</sup> D. Fernando, op. cit., p. 134.

nothing, but also multiplying by tens, thousands); omega (the end); full moon; the Sun; the halo of the saints; the World, the Universe; the globe; the metal aluminum; the platonic form (sphere); the mathematical circle (the most complex geometric form); the Round Table of the Knights; the humanist container of man; the architectural dome; the house of the furnace, the Round Tower, the orchestra, the arena, the egg, the circus, the alchemic theater, or the basilica; the alchemic Gold; Perfection. Fugue no. 44 seems to be a hybrid, Hippomenes' voice being written, somewhat paradoxically, in a ternary rhythm but a binary meter, which determined its transcription in a 6/4 measure. This option of the editor does not seem very inspired, because Maier, although sometimes miming ignorance, must be taken seriously in all details. Fugue no. 44 anticipates that *tempus perfectum* in which the two "perfect" fugues will be composed (nos. 46 and 47), exactly by this "inadvertence", very subtly placed, leaving the whole composition under the auspices of its imperfection, measured in a  $2/2$  *imperfectum tempus*. In fugue no. 45 there is also a remarkable "imperfect" element: the presence of the *mirror-canon*, a symbol having multiple meanings in the Renaissance. The title: "The Sun and its Shadow completes the Work" leads to the Sun-Moon polarity, and H. Streich argues that fugue no. 45 may be the only one in which we have a possible representation of the Moon, receiving its light from the shining Sun. The two *perfect fugues* are not only preceded by "strange things" but they are also followed by a dissonant composition. Fugue no. 48 corresponds to the alchemic stage of *solve et coagula* ('dissolve and coagulate'), in which Hippomenes is symbolized by values of long and slow notes, while Atalanta (who has the role to dissolve) is represented by divided, rapid values. The *emblem* also deserves the attention, as the agony of the king in the engraving is interwoven with abundant musical dissonances. This is one more reason to emphasize that the rhythmic-metric "accident" in fugue no. 44 and the presence of the *mirror-canon*<sup>1</sup> in fugue no. 45 are not accidental, because *Perfection* seems to be flanked by three obvious imperfections: *imperfectum tempus*, the mirror-canon, and the dissonances. Being perceptive to the metaphysical interpretation of Maier's alchemical music, H. Streich notices that in fugue no. 46 the canon is at the octave (proportion 2:1), symbolizing the connection between the Sky and the Earth, the Earth and the Sun. In fugue no. 47 the canon is at the double-octave (proportion 4:1), which symbolizes the constellation of a new plenitude, the spiritual child or the fruit, and the promise of the Stone of

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<sup>1</sup> Art as the imitation of nature (Leonardo da Vinci) means imperfection.

Wisdom. Naturally, there is an answer, also metaphysical, to our previous question regarding the explanation of the presence of Perfection in only two of the fifty fugues: if one admits that 48 imperfect fugues are the equivalent of one perfect fugue, the sum of the two perfect fugues plus this assumed one is three ( $1+2=3$ , that is, the perfect number). The number 48 is also the result of the multiplication of 6 and 8. Number 6, which is weak (7-1, imperfection, lie, deceit, devil, worldly evil, etc) must be multiplied by 8 which is strong (7+1, perfection, fullness, light, truth, etc) and thus it is purified by this beneficial multiplication, the result being 48. In its turn, 48, once purified ("perfected"), equals with 1 and becomes a *Complete triple* only if the two perfect fugues are added to it. The number of the first perfect fugue (46) is composed by  $4+6=10$ , considered by Pythagoras the *Perfect Number* (cf.  $1+2+3+4=10$ , in which both the number 4 and  $1+2+3=6$  take part in the composition of the number 46.) The number 47, the other perfect fugue, generates the result **11** ( $4+7$ , or  $1+(1+2+3)$ , which is also 6 from the composition of number 46)+ $4=11$ . Following the logic of this simple reasoning, one will find that the terms which form the sums of the digits which compose the two numbers, 46 and 47, seem to lead to the rules of the *musical canon*<sup>1</sup>:

$4+3+2+1$	Fugue 46 $\rightarrow 4+(3+2+1=6)$	$\rightarrow$	<b>10</b>
$4+3+2+1+1$	Fugue 47 $\rightarrow 4+(3+2+1=6)+1$	$\rightarrow$	<b>11</b>

The sum of the two numbers (10+11) results in **21**, a number which is again the result of the multiplication of the perfect numbers **3** and **7**, which gives us the right to qualify the two fugues as *perfect*. Michael Maier, situated at the borderline of two worlds (Renaissance and the Modern World) grounds thus a new musical philosophical concept, *metaphysical*, based on the rediscovery of *Universal Harmony* (*Musica Mundana*). The fugues of the *Atalanta*, although composed in the *Ars Antiqua* style as to their form, are in fact, by the new Maierian philosophy, a milestone (of course, a *Philosopher's Stone*) from which the music of the next period will – metaphysically speaking – spring out. This revolutionary musical-philosophical concept of a harmonic-

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<sup>1</sup> Musical canon can be represented by the theoretical scheme:

1.  $a+b+c+d\dots$

2.  $x+a+b+c+d\dots$

in which x is the starting musical rest, while a, b, c, d are n\musical sequences (model and imitation).

polyphonic nature, based on the *system of equal temperament*<sup>1</sup> (brilliantly illustrated by Johann Sebastian Bach in his *Das Wohltemperierte Klavier*, 1722-1744, or the *Art of the Fugue*), led to the name of Baroque music.

## V. The Return to the Athanor

But the fruits of musical alchemy were truly seen only in the centuries to follow, contained in minutely elaborated theories and techniques which would crash the tonality for which its founders had labored with so much zeal and hope. Music passed in time through the critical filters of illustrious philosophers like Kant or Hegel. Being quite reserved about the art of harmonious sounds, Kant compared it to the subtlety of the perfume, but this suggestive argument was in fact completely unfavorable: "Music finds itself in a situation almost identical with that of the pleasure induced by a smell which extends far away. He who takes the perfumed handkerchief out of his pocket imposes the smell on everybody around against their will, and binds them to take delight in it if they want to breathe."<sup>2</sup> However, Hegel develops the ideas of his predecessors and speaks about the *transmutation of time into a kind of space* not entirely objective. "The *subjective interiority and time* as such, which is the general element of music" creates a relationship which "suppresses the *indifferent spatial shoulder-to-shoulder*, condensing its continuity into a moment of *time*, into a *now*."<sup>3</sup> Of the vast domain of sounds, contained in the spectrum of the great scale of the radiations of electromagnetic waves between  $10^2$  and  $10^5$  Hz, only a certain quantity are perceivable by human ears, and of these, again only some are adequate for music: those which have esthetic features, usually called *musical sounds*.<sup>4</sup> Wronski, probably the most authoritative voice of the 19<sup>th</sup> century in the field of musical theory, argues that the whole sonorous universe is called *sonality*, which is the *materia prima* of which the musical tones (sounds) are extracted, leading to the musical *Magnum Opus*. By this the "law of creation" is fulfilled, a *sine qua non* condition

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<sup>1</sup> The division of the octave in twelve equal semitones, 12 being also a perfect number,  $3 \times 4 = 12$ .

<sup>2</sup> Immanuel Kant, *Kritik der Urteilskraft*, 1793 (*Critica facultății de judecare* (The Critique of Judgment), Bucharest: Ed. Științifică și Enciclopedică, 1981, p. 224.)

<sup>3</sup> Georg Wilhelm Friedrich Hegel, *Vorlesungen über die Aesthetik*, 1837, vol. 3. p. 340. (cf. F. Bonardel, op. cit., pp. 308-309.)

<sup>4</sup> The sounds contained between  $Do_2$  (16.35 Hz) and  $do^7$  (16.744 Hz)

of the regulation of *sonality-tonality* relationships.<sup>1</sup> Wronski also outlined an “absolute philosophy of music”, continues Ch. Henry in his study on the esthetics of this Polish theoretician, based on a “law of creation”, and systematic inspiration seemed to him similar to a Messianic delirium. *Joseph Marie Hoene Wronski* (1776-1853)<sup>2</sup> remains in history as the philosopher-mathematician-engineer (among other things, he also invented caterpillar tracks for tanks) who developed a kind of *metaphysics of energy* which starts from matter in order to elevate spiritually. In order to integrate the differences into the absolute, Wronski made use of differential calculus. He developed an impressive musical esthetics which placed him among the “dictators” of the system of the age. His research in the field of the esthetics of sound led toward the “*breaking of tonal music into a sonal medium* which is ruled, in an isolated state of sonorous atoms, by the different sound turned into tones for the single reason that in them the rhythmic modification, although existent, would only be stationary, or equal with zero.”<sup>3</sup> This theory is extremely important because, as we have said, Wronski was an authoritative figure of his time and the evolution of music in the following century (dodecaphony, serial music, etc.) seems to have kept in mind the laws he set down. Rhythm (*time*) is transformed into *space* in each sound, creating a new medium, foreign to the laws of tonality, because by this the isochronism<sup>4</sup> of each particular sound destroys the tonal relationship between grave and acute sounds. Thus tonality is again destroyed, proving, among others, the conventional character of the pitch-level. “Any of the sounds can be the one which, among the conjugated sounds we are talking about, will form the grave or the acute one.”<sup>5</sup> His frenetic theory however led to a kind of alchemy disturbing rather than balanced, although the manifesto promised harmony. By his isochronism he proved, unwillingly, the fragility of any “law of creation”. This contradiction was taken over by Schopenhauer and Wagner. The alchemic transmutation due to music placed the sounding space in the foreground to the detriment of the old concept of temporality, because Wagner reached by his chromatisms the subtlety of the alchemist who sent his culture to the “ground”, uniting the seal of the musical matter with the triple seal of spatialization, feminization, and naturalization.

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<sup>1</sup> Ch. Henry, *Wronski et l'esthétique musicale*, Paris: Hermann, 1887.

<sup>2</sup> Didier Julia, *Dictionnaire de la Philosophie*, © Larousse, Paris, 1992.

<sup>3</sup> F. Bonardel, op. cit., 309-311.

<sup>4</sup> The equality of the duration of sounds

<sup>5</sup> J. M. H. Wronski, *La Philosophie absolue de la musique*, 1850, p. VIII.



“Music is woman. The nature of the woman is love. I conceive the spirit of music only in love”.<sup>1</sup> However, what Wagner speaks about, is a universal woman, the feminine contained in the Chinese concept of the *yin*. The solemnity of Wagner’s artistic creation had thus a respect similar to the alchemist in front of the athanor. Wagner called the staged play “solemn”, *Bühnenfestspiel*, or “sacred”, *Bühnenweihfestspiel*, because the lyric theater was nothing else than the place of the spectator’s *initiation* by the syncretism of art (music-dance-text), as he brilliantly proved in his operas *Der Ring des Nibelungen* and *Parsifal*. The manifesto of his project, partly nationalist (not only getting rid of absurd ideals, but also the elimination of “demons” coming from Europe in the period of the *Aufklärung*), partly pathetic, partly doctrinal, promised the German people the reawakening of the nation by the birth of a new generation, capable of founding a new and brilliant age. But it seems that not only *el sueño de la razón produce monstruos*.<sup>2</sup> Beyond metaphysical concerns (reasonable or beyond reason), the birds of death are sometimes lurking in the shadows, as Goya’s engraving suggests as well. The transmutation by fission of the 235 Uranium (the *materia prima* at the end of the *Magister*) did not result in the much dreamed beam of universal harmony, but only in a terrifying *shadow light*, to make a sophism.<sup>3</sup> Alchemy however remains the universal poem the music of which has not yet been written. Or if it is written still, somewhere in the stars, and we cannot hear it, we owe it to humbly and solemnly return to the flame of the athanor.

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<sup>1</sup> R. Wagner, *Œuvres en prose*, vol. 4, p. 192.

<sup>2</sup> ‘The sleeping reason produces monsters’, allusion to the work with the same title of the Spanish painter Francisco José de Goya y Lucientes (1746-1828), from the *Caprices* series, table 43, aquaforte.

<sup>3</sup> The association  $235 \rightarrow 2+3=5$  results in the perfect number **5** which also gives the name of the *divine pentagon* (cf. Luca Pacioli, *De Divina Proportione*)