

## Art and Mathematics in Matila Ghyka's Philosophical Aesthetics. A Pythagorean Approach on Contemporary Aesthetics

**Abstract:** Although Matila Ghyka is one of the Romanian philosophers who changed the way some of the most important artists and art theorists of the twentieth century practice art and think about aesthetics, his works remain almost unknown to the Romanian public and to the Western academic-philosophy tradition. I will argue that this state of affairs is caused by some of the cultural biases and preconceptions concerning the Pythagorean sources of Matila Ghyka's thinking, that define a large part of the contemporary philosophical community as a whole. In this essay, I will tackle two main preconceptions and cultural biases that have contributed to this reluctance that contemporary thinkers show towards a mathematical approach to art from a Pythagorean point of view and will try to sketch a way of surpassing them. The means by which this aim can be achieved is a new (meontological) approach to the concept of "number", which lays at the heart of Ghyka's aesthetics and philosophy of art.

**Keywords:** aesthetics, philosophy of art, Matila Ghyka, ontology, meontology, ancient philosophy, affective hermeneutics.

Writing his main works on aesthetics and philosophy of art in the first half of the twentieth century, Matila Ghyka had a great influence on the artists and thinkers of his age, but failed to grant himself a place in the canonical history of philosophy because his works did not meet the modern criteria of the philosophical canon. Although these works changed the way artists like Salvador Dali (Lomas 2006, 11) and André Lhote (Lhote 1969, 68) made and theorized art, the sources of Ghyka's thinking, namely the Pythagorean tradition, are often viewed as pseudo-philosophical because of the so-called "mystical" elements which are present in it and the "secrecy" in which Pythagoras' teachings are covered. This is one of the reasons why many philosophers and scientists are reluctant in approaching Ghyka's work, his field of influence being restricted at large to artists and art theorists.

The problem with this attitude towards Ghyka is, as I will try to argue, that the interpretation to the Pythagorean philosophy as "mystical" and its

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teachings as “secret” is based on a preconception and is somewhat misleading. The preconception is that the early pre-Socratic philosophy as a whole and the Pythagorean tradition in particular do not constitute models of “pure philosophy”, but some kind of proto-philosophical endeavours belonging to the “pre-history” of rigorous philosophy. The philosophical tradition starts, from this point of view, with Plato and Aristotle, which are viewed as thinkers who purified the conceptions of their predecessors of mythological and mystical elements. This is misleading because it neglects the ancient meaning of the words “mystical” and “secrecy” and, at the same time, contradicts the attitude of admiration and respect with which “canonical philosophers” – such as Plato, Aristotle or Plotinus – view the Pythagorean tradition of thinking as a valuable and respectable one. This is why, in order to reveal the preconceptions and cultural biases of the common view on this problem, we must turn back to the pre-Socratic and classical Greek thinking and show the original meaning in which Pythagorean doctrines were “secret” and “mystical”. For this, we must sketch a new way of interpreting the early Ancient Greek philosophy that is able to relieve these concepts of the negative meanings which were imposed by Christianity in the Late Antiquity and in the Middle Ages. By means of this “hermeneutical detour” we will gain a better understanding of both Pythagorean philosophical tradition and of the relevance that Ghyka’s philosophy has for the contemporary research in domains such as aesthetics and philosophy of art.

Along with the above-mentioned preconception which affects the general attitude towards Matila Ghyka’s thinking, we can observe another preconception that is also widespread in the contemporary philosophical community: the idea that philosophy of art and aesthetics are not suited for a rigorous mathematical or scientific approach. The origin of this preconception lays in a modern view of the world, according to which judgements about scientific facts are constituted in a different way than judgements about artistic facts. This led to the opinion that science and art triggers two different modes of knowledge – “conceptual” and “sensitive” –, which have different logical structures (Baumgarten 1750, §14) and cannot be intertwined at the level of philosophical discourse or in practice.

In time, these differences between the two domains of human knowledge established the idea that science in general and mathematics in particular have a reductionist character, while all phenomena concerning art are essentially non-reductionist. This preconception can manifest itself more clearly nowadays, if we look at the fact that, although there are many philosophers which activate in the fields of human cognition, philosophy of mind and neuro-phenomenology which pay close attention to the new scientific approaches to cognition and human thinking, most art theorists and aestheticians ignore any kind of scientific implications of the aesthetical experience. There are, indeed, some notable exceptions, but these approaches

come very often from scientists with a good philosophical background (e.g. Thomas Metzinger, Antonio Damasio, Semir Zeki) and not from philosophers and art theorists as such. At the same time, although there are lots of philosophers pertaining to both continental and analytical traditions of philosophy that reflect upon the nature of numbers, there are quite few thinkers that try a mathematical approach to problems of artwork's ontology and aesthetical experience. In this case, many philosophers view the mathematical approach to art in a reductionist manner, although mathematicians themselves left this reductionist view on mathematics a few decades ago (Ian Stewart 2015, 484-487), along with most of the contemporary scientists that work in the field of neurosciences (Damasio 2016, 127-130). As I will argue, this reluctance towards a mathematical approach to art should apply neither to Matila Ghyka's thinking nor to the Pythagorean tradition, because in both cases we can observe a non-reductionist view on mathematics.

For this to become clear, we should start by reflecting on the hermeneutic nature of the process through which the corpus of the philosophical tradition is formed and the eventual alternative modes of interpreting this process. By rethinking the criteria of philosophical historiography, we have a chance of rediscovering a "vein of thought", which was ignored by the modern tradition but could prove itself valuable to postmodern thinking.

## **1. Towards a meontological history of philosophy**

The reflection upon Matila Ghyka's works puts the researcher in a situation in which he must redefine the criteria and the essential traits by which a certain thinker's studies can be accepted in the canonical "history of Western philosophy". There is a manifest discrepancy between Matila Ghyka's reception into the non-academic world of artists, art theorists and philosophers and its academic reception. But this is not the only case in which this state of affairs becomes manifest. In many other cases, it is not the influence which a certain work had upon its age or its proven utility in a certain field of study, but rather a kind of "intrinsic value" attributed to the text that grants it a place in the history of philosophy. Unfortunately, this "intrinsic" is often founded on a bunch of preconceptions which the researcher himself is not aware of, among which, in our case, the above mentioned two ones are central.

This is why we need to define a perspective from which Matila Ghyka's Pythagorean approach to art gets encompassed into *meontological* a tradition of thought. To achieve this goal, we should focus not on the ontological interpretation of the history of philosophy, which started with Parmenides, but was developed mostly in Plato's *γιναντομαχία περὶ τῆς οὐσίας* (Plato 1900b, 246a-248d) and in Aristotle's sketch of a "history of Being" in the *Metaphysics* (Aristotle 1970, 983b-988a). In return, we will focus on non-

being and nothingness, as the main phenomenon that guides the historical philosophical efforts. This will grant the so-called “pre-ontologic” philosophers (i.e. the pre-parmenidian tradition, among which we can also count the Pythagoreans) a central place in the history of philosophy.

Meontology is usually defined as the philosophical discourse on non-being or, yet better, nothingness, and is quite well represented in both Romanian (Cernica 2002; Cernica 2005; Cornea 2010) and European contemporary philosophy (Heidegger 1988; Sartre 1943; Merleau-Ponty 1964). However, there are yet no attempts of a systematic meontological approach on the history of philosophy, as far as my knowledge goes. This is quite strange because the beginning of the Western philosophy in the pre-Parmenidian period had a very strong meontological approach and there are several arguments that can legitimate this view. First of all, in the very first of the philosophical fragments conserved, Anaximandros stated that the ἄπειρον, or *the limitless*, is the principle (ἀρχή) of all things. But ἄπειρον is essentially a “meontological entity”, which can be defined only by negation and is closer to non-being than it is to being.

In addition to this argument, I could add another one which I developed at large elsewhere (Moraru 2017, 107-112), namely that the word which signifies “Being” (τὸ ἔόν) appears for the first time, as far as our textual accounts show, in Parmenides’ poem. Although this institution of Being is viewed by Plato as one of Parmenides’ most important contributions to philosophy (Plato 1900b, 241c), he also felt the need to surpass the idea of Being in order to coherently think the interdependence of the five “supreme ideas” – being, non-being, rest, change, sameness and alterity (Plato 1900b, 241c). Given this context, it would take a lot of presuppositions to assume that the thinkers which preceded Parmenides were practicing ontology, because there was no such concept as “Being” that they could study. Instead, it would be much less risky to assume that they studied nature (φύσις), as the whole Ancient doxographical tradition states, and that nature is, in itself, different from Being just like Nothingness is different from Being. This latter claim, although not present in the doxographical tradition, can be argued for in a quite simple manner.

First of all, nature is a process, not a substance, as is the case of Being. It implies change and becoming and this is why the early Greek philosophers sought its “beginning” (ἀρχή), which is, at the same time, the principle of change in the case of nature. The beginning of a process is that τόπος which governs its whole horizon of progress along with its possibility of realization. This is why, the beginning cannot be thought in a “substantial manner”, but in a temporal one. It is not something, but a certain “rift” in the structure of temporality which marks the “starting point” of a process. Only by means of its retrospective re-thinking and re-interpretation can the beginning gain some substance and be instituted as something which exists

or existed in a substantial manner. It is because of Plato's efforts to reconcile the  $\varphi\upsilon\sigma\iota\varsigma$  with the  $\tau\omicron\ \acute{\epsilon}\omicron\nu$  that one might think otherwise, although Plato himself was aware that the principle of all thing, the supreme idea, should be non-substantial and, in a certain sense, approach non-being (Plato 1902, 509b).

This paradoxical status of the  $\acute{\alpha}\rho\chi\eta$  of all things as a non-substantial entity that offers the possibility of any substance or being can also be observed as a constant problem of ancient philosophy or even of philosophy as a whole. From Aristotle's *apories of the first principles* from the *Metaphysics* (Aristotle 1970, 993a-995a), to the problem of Oneness in Neoplatonism, from the apophatic theology to Nietzsche's nihilism, there are many texts in the history of philosophy that could be considered as "meontological". The main problem is that the "onto-centric" interpretation of philosophy is so well established that it governs most of the hermeneutical assumptions of philosophical historiography. To shake these foundations, one must systematically follow the meontological history of philosophy – roughly sketched here – and see the way Being is intertwined with non-Being throughout the history. Just like two veins that start from the same place, but provide blood to different parts of the body, ontology and meontology are two veins of thought which animate two different domains of philosophy.

### **3. Nothingness as the primary non-substantial entity and its hypostases**

The first difficulty we encounter when talking about nothingness is a logical one. Whatever we say about this phenomenon violates the rules of traditional logic. As soon as we utter "Nothingness is the limitless", for example, we fall upon a contradiction, just because nothingness, by definition, does not exist or have being, so, it cannot *be* something. This shows that, in the field of meontology, classical logic reaches its limits and can no longer provide us with an instrument of rigorous analysis. However, this is not a sign that meontology is, in itself, an inaccessible path of thinking, as Parmenides thought, but should be linked to the fact that our language as a whole, along with its logic, is designed from an ontological standpoint and is generally used in order to express substantial entities, not meontological ones. Through logic we create a synthesis between the linguistic and ontic realms (Cernica 2013, 78-88) and the "categories" of Being are also concepts which structure our language and understanding of the world (Aristotle 1949, 1a-1b; Aristotle 1970, 1028b). In other words, language itself is designed to designate beings or states of affairs and has no means to properly express "nothingness".

This is why Aristotle stays that "one speaks of nothingness, according to its cases, in the same number of ways as there are categories and, in addition, one speaks of nothingness as false and as potentiality" (Aristotle

1970, 1089a)<sup>1</sup>. So, our language “ontologizes” things and imprints the categories of being onto nothingness, donating its substance even before we can properly grasp it. This is, in fact, the fundamental paradox of meontology: *Although we consent to the thought that “nothingness is non-substantial”, we give it somewhat of a substance in the very first moment our mind tries to aim it intentionally.*

The fact that Aristotle uses in the cited place the same word as the grammarians from Alexandria will use to describe the “cases” of a noun – πῶσαις – is relevant for the strong relation between logic, linguistics and ontology. We cannot properly address the nothingness because our language and our logic transform it into “something” and give it some degree of Being. Caught in language, the nothingness gets mixed or intertwined with Being and, thus, becomes something. This transformation of nothingness into being through our discursive thinking by means of language is what we call *hypostasis*. It is a “stabilization” of the sense of nothingness itself in a certain conceptual and linguistic context and following a certain principle.

This is why nothingness has many hypostases and shows itself to the human consciousness in different ways. In an ontological context, nothingness is the non-being; in a linguistic or rhetorical context, nothingness is the ineffable; in an epistemological context, nothingness is the unknowable; in the context of psychology, nothingness is the unconscious etc. All these ways of talking about the nothingness show us that every meontological discourse has a *conceptual genealogy* which *gives meaning* to a certain hypostasis, usually through negation. The so-called “negative prefixes” (*a-*, *non-* or *un-*) each give a certain “meontological flavour” to a certain “kinds” of nothingness and paradoxically set up its foundation *in absentia*.

But, in each of the mentioned cases, there is another thing we should pay attention to, namely that every conceptual genealogy has its own structural principle. In other words, every conceptual context has a “central idea” in accordance to which all other concepts are organized. For example, the nothingness is, for a linguist, the ineffable in accordance with the rules of language, for the epistemologist, the nothingness is the unknowable according to the rules of human knowledge etc. This is what we can call an meontologic *archaeology* and is the *active* principle which structures the conceptual genealogy as *individual conceptual context*. In this way, we obtain a roughly sketched view on the process that enables us to speak about nothingness in many different ways. Each of these ways, however, corresponds to a particular use of human λόγος or “reason” in a very broad sense.

This broad sense of λόγος refers to the wide sphere of human discursivity, as it is designed in the history of philosophy by the Heraclitean κοσμικὸς λόγος or the Christian θεῖος λόγος from the Gospel of John. Some aspects this meaning of λόγος were also observed by contemporary

phenomenologists such as Martin Heidegger (1999, §48) or Maurice Merleau-Ponty (1960, 105-110) However, the philosophy of language, be it phenomenological or analytical, failed many times to notice the essential role of the λόγος in the hypostatization of the nothingness. From this point of view, language is a set of hypostatic functions because it works by means of *sedimentation* of certain meanings in our mind (Merleau-Ponty 1960, 111-115) and, thus, it transforms something that is fluid and ungraspable into a stand-alone entity, which we can aim intentionally. In other words, through language, we “give substance” to the world, that otherwise would be a series of transient intuitions, hunches and forebodings.

But our language has its limits and so does its possibilities of expression. This is why, we might expect some phenomena to be harder or even impossible to express by means of the everyday language. This is what the last of the Neoplatonic philosophers, Damascius, referred to as a “the retorsion” or περιτροπή (Damascius 1889, I, 7) of the λόγος, a phenomenon which occurs when we try to talk or think about the first principle of all things that lays beyond being and even beyond the One itself (Damascius 1889, I, 6), namely the nothingness (τὸ οὐδέν). About this “ultimate phenomenon” we cannot have a logically coherent cataphatic speech, but only an apophatic one, although, rigorously speaking, even this latter kind of speech is not fully adequate (Damascius 1889, I, 6) to express the vague consciousness or consenting of the ineffable – εἰς τὴν ἄρρητον συναίσθησις (Damascius 1889, I, 5) – that we feel at the most profound affective and dispositional level of our being. The first principle cannot be spoken of *per se*, but it can be hypostatized into language according to a meontologic *genealogy* and *archaeology*. We cannot refer to the nothingness *as* nothingness, but we can refer to nothingness as ineffable, as unknowable, as non-being etc.

So, if we would like to make a meontological interpretation of the history of philosophy, we should trace the ways and means by which the nothingness was hypostatized into philosophical discourse in each and every historical period. In this way, we can better understand that which stands beyond a philosophical text, considered as a *positum*, namely the ineffable motifs and intuitions that give reason, force and aim to every philosophical endeavour. The consenting of the nothingness is that which drives our curiosity and will to understand that which cannot be understood. Thus, we are able to reach down to the hidden root of the original philosophical discourse, namely the wonder towards the ineffable principle of all things, which is a kind of pure and ungraspable nothingness for the human discourse.

The two biases, which simultaneously prevent the Pythagorean thinking and Matila Ghyka's philosophy of art to enter the official curriculum of Western philosophy, are manifest due to the ignorance of the original

meontologic and hypostatic character of the philosophical discourse and of thinking in general. This is why a reinterpretation of Pythagorism in the light of the above-mentioned observations could shed a light on the authentic philosophical character of Matila Ghyka's aesthetics and on the possibility of a non-reductionist "mathematical" approach to art.

#### 4. Pythagorean Mathematics and Hypostatic Character of Numbers

In order to show that the Pythagorean concept of "number" is, in fact, a hypostasis of the nothingness viewed as ἀρχή of all things, we must determine its meontologic archaeology and genealogy. The archaeology is that of the human μάθησις (Aristotle 1970, 985b), namely the process of human learned knowledge (διδασκαλία) which is deposited into information in a conceptual and propositional sense (μαθήματα). The information we refer to here can be constructed in various modes, depending on the domain of knowledge we refer to. For example, the "scientific knowledge" differs from the "historical one" and the "practical" one. So, there can be various types of μαθήματα, each of them having the main trait that is constructed through a process of learning, which implies some effort of memory (μνήμη) and re-collection (ἀνάμνησις).

This "mathematic" kind of knowledge is somehow opposed by the early Greek philosophers to σοφία, which means rather "clarity of sight" (Aristotle 1962, 1141a) or, yet better, a clear insight into the nature of things provided by the human direct intellectual intuition (νοῦς), which is, as Aristotle himself points out, a non-discursive or ineffable grasping of the first principles of things (Aristotle 1962, 1141a). This is why, "the multitude of information doesn't teach one how to have insight" (Heraclitus 1951, B 40)<sup>2</sup>. In other words, knowledge won't necessarily provide wisdom.

This doesn't mean, however, that learned knowledge is completely useless. In fact, in the Pythagorean tradition, the μάθησις is some kind of "bringing to stability and grasping" - ἐπιστήμην καὶ κατάληψιν - of the truth by means of philosophy (Nicomachos 1866, I, 1), conceived as "appetence for wisdom" (σοφίας ὄρεξις). So, the essential character of μάθησις is that it grasps that which can be grasped from an ineffable intellectual intuition provided by the νοῦς and deposits it in a well-defined concept with a stand-alone meaning. In fact, this bringing to stability and concept of our ineffable intuitions by means of "syllogism" or "deduction" is the main character of science (ἐπιστήμη) in the Ancient Greek sense of the word (Nicomachus, 1866, I, 1; Aristotle, 1964, 71b; Beekes and Van Beek 2010, 445).

The relation between σοφία and μάθησις becomes clearer when we try to think about the nature of Pythagorean concept of "number", which is the first way in which the ἀρχή affects the human soul. For example, the idea that the infinite number existent of things can be reduced to one principle is

an ineffable intuition (νόησις) or a non-judicative experience, which cannot be founded on rational arguments alone because it is that which gives possibility to any reasoning. This is the reason why, in the Pythagorean tradition, the different numbers are perceived by the human consciousness, primarily and before any rational determination, as some kind of affection (Aristotle 1970, 985b), not as concepts *per se*. “Reason” and language in general would be impossible without the firm belief that we can refer to different objects of a class by the same word and that this word corresponds in some way with the ontic entities we perceive. Behind the Pythagorean doctrine (μάθησις) of numbers lays a “hidden meaning” which cannot be fully grasped by reason and which pertains to σοφία.

This means that the intention of the Pythagorean thinkers is to gain wisdom by studying the way in which our non-judicative experiences of the world could be grasped by means of the study of the doctrine of numbers. The reason is that “it [the doctrine of numbers *n.n.*] is, by nature, the vision (θεωρία) through which the most simple and original things can be elaborated [by reason]” (Iamblichus 1984, I, 1) and that “the discourse about it precedes any other doctrine” (Iamblichus 1984, I, 1). In other words, understanding the hypostatic character of numbers that makes the transformation of non-judicative experiences into “scientific” concepts and theories possible is the main aim of the Pythagorean philosophy and must be achieved *before* any other “scientific theory”.

This shows that the μαθήματα specific to the Pythagorean philosophical endeavour have an *epistemological* genealogy. In other words, the conceptual context in which the nothingness is hypostasized is formed by concepts pertaining to science in the Greek sense of the word and are different from other hypostases of μάθησις. However, that which lays *beyond* these numbers, conceived as first affections of the consciousness that spring from the first principle, is “secret doctrine” of the Pythagoreans in a peculiar broad sense of ἀπόρρητος μάθησις.

## 5. The “Secret Doctrines” and The Ineffability of The Nothingness

For a modern person, a secret is something that should be “kept” and that, in principle, could also be “revealed” by propositional means. Basically, a secret is some piece of knowledge which is “covered in silence” but could be uncovered by anyone who knows it. So, the secret is something someone *may not* speak and “keeping the secrecy” is an act of individual will. None of these meanings hold for the ancient ἀπόρρητον, whose main signification is “that which *cannot* be spoken”, the *ineffable*. For Greek philosophers, the secrecy is not something one *may not reveal*, but something one *cannot reveal*.

However, this is the sense in which Plato refers to the “secret doctrines” (Plato 1900, 62b) and the sense that results from his disclaimer from the

*Seventh Letter* concerning the accusations that he revealed the secret doctrines of philosophy to Dionysius (Plato 1907, VII, 341). He did not reveal any “secret doctrine” because the secret doctrines cannot be expressed propositionally. The “hidden sense” of every philosophy and especially of the Pythagorean doctrine of numbers is not a *μάθησις* that can be taught and learned, because all *μάθηματα* need a set of non-judicative experiences that are grasped in a non-discursive way by the *νοῦς*. In fact, this is the main argument by which Plato denies writing’s role as an aid for knowledge and a medicine (*φάρμακον*) for forgetfulness (Plate 1901, 275a-277b) – writing only helps the ones that have the proper non-judicative experiences or the proper insights to “remember”, but it doesn’t “teach” anything *stricto sensu*. The question we have to raise is: how could one “gain” insight, if not through reading and learning in general? Plato answers this when he states that the “shared substantiality” (*συνουσία*) and the “shared living” (*συζῆν*) with philosophy kindles the intuition of the ineffable just like rubbing two sticks together kindles the fire (Plato 1907, VII, 341). In consequence, the non-judicative experience is gained by means of an existential, not a cognitive effort. This is why this kind of experience is not “propositional” knowledge, but rather a “mystical” one.

As is the case of the “secrecy”, the mystical character of the authentic philosophical knowledge should not be understood in the terms of modern-day conceptions. For the Greeks, “mystical” meant “silent knowledge” or “intellectual intuition of the ineffable”. This is confirmed by an inscription, dated around the second century A.D., which speaks about mystical knowledge as “the ineffable knowledge of the initiation in mysteries” (Dittenberger 1883, 873.9)<sup>3</sup>. This “silent” and inexpressible knowledge is what is “imprinted” into our consciousness by *συνουσία* and *συζῆν* and is somehow expressed through *μάθησις*, but just for those who already have a certain intuition of the ineffable.

The reflection on the two forms of community with the subject matter that cause the insight about the ineffable brings us about some kind of “existential learning”, made by an effort to interiorize and live according to one’s philosophical occupations. Just like an actor which enters into a community of substance and of lived time with his character, the philosopher enters into a community of substance and time with the nothingness itself. As Plato puts it, philosophy is a form of exercise for death (Plato 1900, 81a) because death is the *ἀπόρρητον* of life. In some sense, death leads to the “secret” side of life, that which cannot be spoken of and cannot be conceived rationally, but of which we all have some insight through our deepest anxieties and fears. So, the authentic philosopher “imitates” death by his way of living – he neglects the body and the material things and tries to “unfasten” his soul from its knotting with the body. Just like an actor, the philosopher tries *to act* as if he lives among the incorporeal entities. From a

Greek point of view, *the philosopher is an actor that imitates the Gods*, hoping that someday he himself will transcend his human condition and *become* Divine.

As we perceive the Pythagorean tradition from this point of view, it becomes clear that the first preconception we have analysed is no longer sustainable. The Pythagorean philosophy is not a form of “proto-philosophy” because of the “mystical” elements and the ritualistic and religious character of the “secret doctrines”. On the contrary, judging by the aim of this endeavour, it is rather close to contemporary philosophical projects. However, this common aim, namely the indication towards some kind of insight of the ineffable or non-judicative experience, is pursued in each case by different methods, among which the Pythagorean one is the most undetermined and elusive. For it to become manifest, it is needed a rigorous reconstruction of the Pythagorean thinking in its “systematic” form in the late pythagoreic philosophers.

Nevertheless, what becomes manifest from the concept of “existential learning” carried out through *συνουσία* and *συζήτιν* is the connection between the Pythagorean doctrine of numbers and art. The two domains are essentially linked from the point of view of the process of imitation understood in the above-described sense, which we may call a “scenic sense”. From the perspective of the one who lives a philosophical life, art and arithmetic are essentially linked as two ways of hypostatization of nothingness into the vast domain of the human *λόγος*. As hypostatic *μαθήματα*, art (as a skill) and the philosophy of numbers have the same *meontological archaeology*, which means that they both are modes in which the insights of the ineffable are imperfectly expressed through learned skills and information. However, their *meontological genealogies* are different, which makes them different modes of expressing the same ungraspable phenomenon that is the nothingness.

## **6. Art and arithmetic as two forms of mathematical knowledge**

In Nicomachos' *Introduction to Arithmetic* there is a distinction between two ways or “methods” (*μέθοδοι*) to deal with numbers as hypostatic concepts. First of all, the essential trait of numbers is that they can express the *quantity* and *size* of the “magnitude” and “multitude” of things (Nicomachus 1866, I, 3). But both “magnitude and multitude are, by their own nature and with necessity, indeterminate (*ἄπειρον*)” (Nicomachus 1866, I, 3.5). Magnitude can virtually stretch out to infinity and multitude can be divided into an infinite number of parts (Nicomachus 1866, I, 3.5). We can think about an infinity of numbers and about a number with an infinite number of decimals. So, the concept of number is used to approximate (i.e. create a hypostasis) of the primordial *ἄπειρον* of the *κόσμος*, the same *ἄπειρον* Anaximandros designated as *ἄρχή*.

In this context “wisdom” simply means the “scientific” account on these two “forms” of indeterminateness by means of numbers (Nicomachus 1866, I, 3.5)<sup>4</sup>. From this point of view, philosophy naturally aims to grasp the two main meontological features of the world – the absence of borders and absence of limits, i. e. ἄπειρον and ἀόριστον – into apparently determinate concepts or products of the human mind in general. This aim can be reached in two ways – through music in a broad sense and through the doctrine of numbers or arithmetic (Nicomachus 1866, I, 3.1).

The first method was analysed in the previous pages. It deals with “quantity in itself” (τὸ περὶ τοῦ καθ' ἑαυτό), which means that it deals with the nature of every number, considered as a stand-alone entity and with the affections (πάθη) through which that number manifests in the domain of human “mathematical” λόγος. But numbers are, on the other hand, inter-related in what we call proportions. In fact, this “relative” aspect of numbers is manifested in nature in general and in human’s artistic products. From this discipline springs one of the oldest theories of art, namely the *Harmonic Theory* of Beauty, which states that the κόσμος as a whole is a harmonic and proportional system of beings that manifests these harmonic qualities through what we call “Beauty”. The work of art is some kind of “microcosm”, harmonic and proportional in itself, which also takes part in the cosmic harmonic whole.

In consequence, there must also exist a domain that studies the concept of number in a “relative” sense (περὶ τοῦ πρὸς ἄλλο), and this domain is exactly what we could call “mathematical” or “arithmetical aesthetics”. As we can see, it is not an “reductive” discipline in the modern sense of mathematical sciences, but a discipline that aims to adequately integrate the indeterminateness and infinity of nature itself in the domain of human “reason” (λόγος) and consciousness in general. This is no mystical or esoteric endeavour in the modern sense of the world, just a natural impulse of the human mind. The Pythagorean arithmetic and philosophy of art are “mystical” only in the sense that they operate with an ineffable insight into the principle of all things, with a “ineffable” knowledge that cannot be expressed propositionally. But, at a closer view, thus are all kind of human effort to understand the profound nature of our world and our own being.

Having these in mind, the two preconceptions about Pythagorean philosophy (in general) and Matila Ghyka’s “mathematical aesthetics” (in particular) collapse. They are not pseudo-philosophical and mystical conceptions about art and the world that aim to reduce the complexity of the artistic and creative process to some obscure mathematical proportions and formulas, but an effort to grasp that which cannot be grasped, namely the first principles of things thought from a meontological point of view. Starting from this understanding of the Pythagorean philosophy, Matila Ghyka

builds a philosophy of art which has the concepts of “number”, “proportion” and “harmony” at its centre.

## **7. Matila Ghyka's Pythagorean Philosophy of Art and Contemporary Aesthetics**

Ghyka's main concern is to establish a correspondence between the microcosmos of the human consciousness and art, a correspondence that could reveal *why* and *how* art manages to impress us and help us express our deepest insights of the world (Ghyka 1938, 13-25). The means by which such a task could be accomplished is of the Pythagorean philosophy of numbers and proportions, especially, by the understanding of the so-called “golden” or “divine ratio” ( $\Phi = 1,6180339887\dots$ ).

Although the number  $\Phi$  has a long history in the Western philosophical and scientific tradition, one fact about it usually escapes the modern-day thinkers, namely that it was called by the ancients a “secret” or “ineffable” number. Those numbers we call “irrational numbers” were called ἄρρητος (Plato 1902, 546c) or ἄλογος, which means they were “ineffable” or “secret” in the Pythagorean sense. They could not be grasped by the human reason and they fully express the paradoxical relation between nothingness and its hypostases. “Irrational numbers” encompass the indefinite and ineffable nature of the world into a “arithmetic” determination suppressing its meontologic character.

Another strange thing about  $\Phi$  and the irrational numbers in general is that they can be expressed by means of proportions (Ghyka 2016, 58) between two “rational” numbers. So, the “irrationality” of the cosmos and of art lays in the ratio or analogy between two rational entities, by putting together two “rational numbers” or even “rational arguments” we can obtain an “irrational result”. This shows that the human λόγος has, in itself, encompassed some degree of irrationality which becomes manifest through analogy (or, in our terms, hypostatization). So, the irrationality is announced by the study of numbers in an “analogical” or “relative sense” (περὶ τοῦ πρὸς ἄλλο), which is essentially the study of “music” as “arts governed by the Muses”. This is why art was viewed throughout the history of philosophy as ineffable and impossible to reduce to a scientific formula. This view was especially promoted in modern philosophy and still predetermines our attitude towards art and science. At the same time, this is the place where the ineffability becomes apparent as the foundation of every “mathematical” experience we might have, and also of the aesthetic one.

In meontological terms, we gain insight into the “irrationality” of our conceptions when we confront with art and notice that there is something more to it than what we actually perceive and/or imagine. Art acts on our

consciousness as a *charm* or *incantation* (Ghyka 2016, 102-110) because it makes us perceive something that *is not there* and, generally, *doesn't exist at all*. When we look at a piece of painted cloth and we say *this represents Napoleon*, we basically create an image based on the ineffable sense of proportionality, harmony and rhythm that springs from between the various elements of the painting. In some sense, looking at a work of art is an “error of perception” because we see there what our minds construct aesthetically, not what “really is” there for the everyday consciousness – namely stains of colour on a cloth. The proportions and analogies between the elements of the work of art make us create a hypostasis of the “subject” so art basically manifests the same hypostatic character as the “arithmetic” theory of numbers.

But what we call “ratio” and the Greeks called *ἀνάλογον* is the principle from which we can construct, by multiplication, addition or other mathematical operation, an infinite number of equivalent proportions (Ghyka 1998, 49-53) or, as we might say, hypostases. These strings of proportions or strings of “analogic numbers” can be viewed as another aesthetical mode to express the ineffable principle of all things, encompassed in an arithmetical progression. At an intuitive level, we perceive these progressions as rhythm (Ghyka 2016, 198-208), which is another fundamental element of any work of art, not just of music. Architectural works, for example, have their own rhythm, which is constituted by the repetition of certain element (Ghyka 2016, 74-75) that could be expressed through a string of numbers or proportions, just like any other (musical) rhythm. So, if an art moves us, it's because these subtle proportions and rhythms which govern the form and constitution of any work of art.

This does not mean that the artist must necessarily be aware of these proportions and harmonic rhythms. What we call “beauty” is, in Matila Ghyka's view, characterised by the so-called Golden Ratio, a “secret” and “ungraspable number”, so the explicit proportions need not be manifest for a certain person's view. These proportions are hidden in the work and silently guide our perception, so that we need not make an effort to view a certain work of art as a work of art. The ineffability of the message of art reaches us because, as part of the *κόσμος*, we are by nature capable of observing its harmony and rhythms. The numbers and rhythms do not simply present themselves to us, but they evocate images and associations of ideas and comparisons in our souls (Ghyka 2016, 134). In other words, they are hypostatic.

Because our mind has a “metaphoric” or “hypostatic” nature, we transform perceived proportions and rhythms into affections, insights and ideas in natural manner. This is possible because the artistic experience has a different meontological *genealogy* and *archeology* as that of arithmetic theory and “musical” theory, which we analysed earlier. When we perceive a work of art, we don't have a “theoretical attitude”, by which employ in a willingly

manner the different *μαθήματα* we gained throughout our lives, but rather a “aesthetic attitude”, which automatically creates a hypostasis of the ineffable in the domain of our “affective rationality”. When the average person looks at a painting, he does not usually search for compositional elements or other theoretical items, but for some “understanding” of its own feelings. We “learn” what’s love by reading *Romeo and Juliet* and what’s nostalgia by reading *The Odyssey*. This means that some kind of “interpretation” of our own non-judicative experiences (in a scenic sense rather than a cognitive one) takes place in the authentic aesthetic experience. We could call this “affective hermeneutics”.

This kind of hermeneutics is the reason why Pythagoreans, along with Matila Ghyka, thought that numbers produce affections of the soul and that, to understand these affections, we must understand the true hypostatic nature of numbers. This means translating “affective rationality” into *μαθήματα* or transforming what the moderns called “intuitive thinking” into “conceptual thinking”, without suppressing its ineffability. Although we should take these conclusions *cum grano salis*, until the nature of “intuitive” and “conceptual” thinking is fully understood into a meontological manner, they open up a new domain of philosophy by which we can build some connections between science and art – a very fruitful research horizon for contemporary philosophy.

Having these in mind, we think that the arguments presented in this study are sufficient for the inclusion of Matila Ghyka’s Pythagorean aesthetics and philosophy of art into account as a domain worthy to be studied and developed by contemporary philosophers. This effort may lead to another paradigm in the philosophy of art, which combines the mathematical approach to art with the more “intuitional” one. In this way, the history and theory of art may reshape their current structure and open up the path to a *meontological theory of art*, which pays attention not to what *is* expressed by art, but to that which *in not* expressed, but just consented at the deep and affective level of our consciousness. This endeavour, as we may already conceive it, would be a hermeneutical one, whose main aim is to develop the instruments and mechanisms of what we called *affective hermeneutics* in order to grasp in a more accurate way the ineffable consent of the nothingness, which is hypostasiated into art.

## Notes

<sup>1</sup> ἀλλ' ἐπειδὴ τὸ μὲν κατὰ τὰς πτώσεις μὴ ὄν ἰσαχῶς ταῖς κατηγορίαις λέγεται, παρὰ τοῦτο δὲ τὸ ὡς ψεῦδος λέγεται [τὸ] μὴ ὄν καὶ τὸ κατὰ δύναμιν.

<sup>2</sup> πολυμαθὴ νόον ἔχειν οὐ διδάσκει· Ἡσίοδον γὰρ ἂν ἐδίδαξε καὶ Πυθαγόρην αὐτὶς τε Ξενοφάνεά τε καὶ Ἐκαταῖον

<sup>3</sup> τὰ ἀπόρρητα τῆς κατὰ τὰ μυστήρια τελετῆς

<sup>4</sup> τῶν ἄρα δύο εἰδῶν τούτων ἐπιστήμην νομιστέον τὴν σοφίαν

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