

SEARCHING FOR THE REALITY

Contacts, Dialogues and Cognitive, Cultural and Sociocultural Mobility Case Study: Pythagoras

Abstract

The field on which religious and the entire spiritual and philosophical considerations meet and diverge from scientific explorations—is the very field of the search for reality. Contacts and dialogues, interpenetrations of various elements of culture, of artistic articulation and creative outputs, of technologies, accomplished knowledge and cognitive domains – these are some of the most significant characteristics of the modern age and, moreover, the phenomena which have had the most essential impact on the development of the *Homo sapiens*. Creativity—the quality which, besides other aspects, also captures the attention from the standpoint of the nature of the mind—and especially those modes of cognition that can be discerned in the masterpieces of the most gifted artists and in the breakthroughs of the brilliant thoughts that revolutionized science—apart from the “divine spark”, also rely on the acquired knowledge and open-mindedness to dialogue between different factors and to cognitive mobility. With regards to the above, this paper considers certain elements of Pythagoras’ insights and the genesis of his thought. It has been noted that his understanding of harmony, his mathematical and theoretical considerations, together with his religious thought justify a discussion of his search for the total, all-encompassing reality. An analysis is provided of the religious aspect of Pythagoras’ personality and his intellectual mysticism within his rationalist ideal of an impartial observer, a philosopher in search of the truth, as well as the importance he attached to ethics, self-training of the soul and ascetic way of life.

Keywords: reality, *unus mundus*, dialogue, cognitive and cultural mobility, Pythagoras, harmony, Orphism

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1. Introduction

As Bruce Wexler wrote in his book *Brain and Culture* which deals with neurobiology, ideology, and social change—apart from the development of speech/language as one of the most significant attributes of the human species, no other feature of development has proven more conspicuous and more important than the contact between scattered isolated communities that for dozens of thousands of years had lived unaware of the existence of the others.² The very idea of tools is not characteristic of the antecedents of the contemporary humankind, although it had a decisive impact on the evolution of the mankind for—as Wexler points out—there is the example of some isolated chimpanzee groups having some rudimentary forms of culture today, which is reflected in their use of various tools and techniques in order to pick ants out of their habitats. Encounters and integration of cultures are consequences of the development of transportation means, new patterns of storing and disseminating information and of the population growth.³

The peak of this development can be currently seen in the communication and information technologies of the contemporary age where technologies, science and mathematization increasingly permeate man's way of thinking and his entire life, imposing changes on the economy and societal patterns, values and creative work, i.e., the culture and civilization in their broadest sense.

The rise of engineering and technologies and especially the developmental interdependence of science and technology, have been generated through the contact and dialogue between knowledge as a science (*artes liberales*) and knowledge as a practical knowledge/craft (*artes mechanicae*), through the cognitive interpenetration of fields that had existed without mutual contact for a long time, until Renaissance.⁴ After the initial contact, Western philosophy and science began to move toward modern science, unfettering themselves—more daringly and faster—from the terms and techniques of the Aristotelian logic in explaining religious

² Bruce E. Wexler, *Brain and Culture. Neurobiology, Ideology, and Social Change*. (Cambridge, Massachusetts: Massachusetts Institute of Technology. A Bradford book, The MIT Press, 2006).

³ Ibid.

⁴ Paolo Rossi, *I filosofi e le macchine (1400–1700)* (Milano: Feltrinelli, 1976); Drenka Dobrosavljević, "Artes mechanicae", in *Zbornik radova, Naučni skup Obrazovanje za preduzetništvo, inženjerstvo i menadžment 2010* (Zrenjanin: Visoka škola strukovnih studija u Zrenjaninu, 2011), 25–32.

dogmas, as well as from the ancient geocentric view of the world.⁵ It was from then onwards that the gradual development of the principle of rigor and the methods respected by the contemporary science began. Today, this principle implies application of instruments in observation and measuring and experimental and mathematical verifiability of theories (which, naturally, depart from the scientists' intuitions and consideration of the detected phenomena), mathematical modelling, scientific description and explanation derived from a principle, as well as condensation of particular knowledge and direct experience into general laws, plus their structuring according to the principles, which lead to perception of regularities.

“For Galileo, mathematical accuracy is the sole ideal ‘truth’ only infinitely approachable to empirical verification. Later, an exceptionally powerful mathematical instrumentation of modern physics was created. Leibniz and Newton discovered differential and integral calculus. Descartes, too, looked upon mathematics as an example and a model of scientific rigour. Mathematical methodology turned into the general methodology. The attitude had a decisive influence on the course of scientific history, whereby its effects have survived until the present day, although—some would say—this exaggerated mathematicism has produced some negative effects in empirical sciences.”⁶

The field on which religious and the entire spiritual and philosophical considerations meet and—in this day and age—diverge from scientific explorations, is the very field of the search for reality. It is the very meeting place and the point of divergence between *hard science* with its scientific rigour on one hand, and the *soft sciences* and arts with their related experience and interpretation of reality, on the other.

However, even some authors who explicitly underline that it is an issue of reality, wherein the paths of science and of what is a non-rational idea of the world diverge, indicate that thinking is a rather limited ability of the human mind, as is the case with Werner Heisenberg, for example. Similarly, Einstein thought that our entire science is naive compared to reality, which leads to the conclusion that even the “omnipotent” science fails to reach the essence of reality.⁷

The theories themselves “replace one another within the body of the inherited mental layer by dictate of fresh facts and in response to

⁵ Ibid.

⁶ Zoran L. Kovačević, *Susret i sukob s naukom* (Novi Sad: Akademska knjiga, 2014), 66.

⁷ Ibid.

the requirements of the overall spiritual climate in an epoch". Thereby, their role consists of "refinement in the articulation of what we know and extension of the anticipatory power". Thus, the conclusion is that incessant endurance of scientifically enlightened humanity also implies continual accumulation of experiential facts which exist beyond theoretical uncertainty.⁸

Speaking about "the unexpected parallelisms of ideas in psychology and physics", Jung pointed out that they "suggest [...] a possible ultimate one-ness of both fields of reality that physics and psychology study—i.e., a psychophysical oneness of all life phenomena".⁹ Jung was convinced that what is referred to as the unconscious is in some way related to the structure of the inorganic matter, which is indicated by the problem of the so-called "psychosomatic" illness. The concept of a unitarian idea of reality, followed up by the physicist Wolfgang Ernst Pauli and psychologist Erich Neumann, was called by Jung *unus mundus*, the "one world" within which "matter and psyche are not yet discriminated nor separately actualized".¹⁰

This paper raises, and tries to answer, the question whether Pythagoras' meandering through science and religion progressed toward the notion of reality as a whole; moreover, it aims to contribute to a deeper insight into the migration of ideas and dialogue in the genesis of Pythagoras' thought in the form of a case study, while considering cognitive, cultural and sociocultural mobility as a major element of the man's penetration into some new areas of learning. Just as the mobility itself, the dialogues emerging thereby are an inexhaustible, vast, unlimited, ever-lively and ever-changeable flux and interaction of diverse elements; dialogues are immanent to the nascence and development of civilizations.¹¹

There are only a few people whose extent of religious, philosophical and mathematical inquiries match that of Pythagoras.¹²

⁸ Zvonko Marić, "Dijemova filozofija fizike", in Pjer Dijem, *Cilj i struktura fizičke teorije* (Sremski Karlovci; Novi Sad: Izdavačka knjižarnica Zorana Stojanovića, 2003), 16.

⁹ Mari Luiz fon Franc, "Nauka i nesvesno", in Čovek i njegovi simboli, edited by Carl Jung (Belgrade: Narodna knjiga - Alfa, 1996), 415.

¹⁰ Ibid.

¹¹ Drenka Dobrosavljević, "Dijalog kultura – Tragovima kulturne mobilnosti", in *Zbornik radova VIII naučnog skupa Tehnologija, kultura i razvoj* (Beograd: Udruženje Tehnologija i društvo, Institut Mihajlo Pupin – Centar za istraživanje razvoja nauke i tehnologije, 2002), 34–45.

¹² Drenka Dobrosavljević, "Pitagora – Meandri religije i nauke", in *Dijalog kultura. Emisija o saznajnoj, kulturnoj i sociokulturnoj pokretljivosti kroz vekove i civilizacije*

It is to this man that we relate the beginnings of mathematics in the sense of deduction of evidence, discovery of proof in the first general theorem and the outgrowth of theoretical thinking, which is taken to be a distinctive trait of Western philosophy. At the same time, especially in the periods of flourishing alchemy, astrology and mysticism, the Pythagorean teaching was also an inspiration or one of the references to numerous mystics and secret/occult knowledge, which was contributed by their interpretations of Pythagoras' teaching on harmony and of his religious doctrine whose adherents used to live in closed-in communities. This was also supported by the legends surrounding Pythagoras' miraculous and mystical powers and by his cognitive accomplishments which remained enveloped in a haze of symbolical conveyance of insight. Broadly speaking, it is recommendable to consider the impact of Pythagorean thought on astrology and mystic/occult teachings, but that goes beyond the scope of this paper.

With regards to the migration of ideas (Gilbert Highet¹³ is credited for the term), it has to be said that it is a part of the dialogues maintained within the framework of cognitive, cultural and sociocultural mobility. Its flow is not linear, although it prevailingly takes place through direct contacts.

Thus, to study mobility does not mean to merely distinguish the elements of culture in motion, but also to deal with the issues of genesis, multiplication, mobility and diffusion of social and cultural phenomena in space and time. Not all of the cultural values intermingle. Some lack "attractiveness" and their transmission fails, or the conveyance does not happen for a long time within a certain configuration of other circumstances. The avenues through which cultural values flow within the social space are sometimes horizontal—from one group to another, from one person to another, from one populated area to another; at other times, these avenues are vertical—from one social group to another, hierarchically different in social stratification, or in the timeline of their respective histories.¹⁴

As for the accomplished knowledge, it may stagnate or even take retrograde course, or fall into oblivion only to be rediscovered thousands or

(Novi Sad: RTV Radio Novi Sad), accessed on 06. 07. 2014, http://media.rtv.rs/sr_lat/dijalog-kultura/6544.

¹³ Gilbert Highet, *La Migration des Idees* (Paris: Traduit de l'americain par Saint-Elme, La Colombe, 1957).

¹⁴ Pitirim A. Sorokin, *Social and Cultural Mobility* (London: The Free Press of Glencoe, 1964).

more years later, whereby its value is looked upon with a fresh eye/mind; in the latter case, man relies on that knowledge and starts building new views of science and culture, as it happened during the Renaissance.¹⁵

More detailed and individual studies into the phenomenon of migrating ideas contribute to a better insight into the complexity of the dialogue which takes place within the framework of cognitive, cultural and sociocultural mobility; it is the dialogue which characterizes the development of man's thought and creativity. Additionally, they contribute to deeper understanding of the significance of the dialogue in the evolution and the fruitfulness of the human thought.

2. Pythagoras, Harmony, Mathematics, Astronomy, the Soul and Ethics

It is a common view—as David E. Cooper points out—that the sense of “harmony with the universe” does not leave philosophy empty-handed, yet the sense, clouded and amorphous as it is, calls for a many-sided and controversial elaboration. The author underlines that the Chinese sense of man's “harmony with the nature” pre-excludes an important motive for the development of theoretical thinking.¹⁶ Provided that the Chinese philosophers were right and that truly valuable knowledge is embodied in that kind of knowledge (referring to crafts)—Cooper continues—it belongs solely to the individual who is integrated with the world in which he is active. The feeling of “harmony with the universe” and rejection of theoretical knowledge are not in that case two separate factors from the Chinese standpoint, for the reverse of that rejection is actually a glorification of a different kind of knowledge, one which represents a style of one's harmonic participation in the world.¹⁷ Harmony is, of course, an extremely diversified concept, and Chinese philosophers give due attention to its many aspects: harmony within or between the self, the family and the “greater community”; harmony between the heavens and the Earth

¹⁵ Drenka Dobrosavljević, “Artes mechanicae”, in *Zbornik radova, Naučni skup Obrazovanje za preduzetništvo, inženjerstvo i menadžment 2010* (Zrenjanin: Višoka škola strukovnih studija u Zrenjaninu, 2011), 25–32; Drenka Dobrosavljević, “Dijalog kultura – Tragovima kulturne mobilnosti”, in *Zbornik radova VIII naučnog skupa Tehnologija, kultura i razvoj* (Belgrade: Udruženje Tehnologija i društvo, Institut Mihajlo Pupin – Centar za istraživanje razvoja nauke i tehnologije, 2002), 34–45; Pitirim A. Sorokin, *Social and Cultural Mobility* (London: The Free Press of Glencoe, 1964).

¹⁶ Dejvid E. Kuper, *Svetska filozofija. Istorijski uvod* (Novi Sad: Svetovi, 2004), 82.

¹⁷ Ibid., 85.

and man; harmony as a cosmological principle, balance between “negative” and “positive” forces of yin and yang; harmony as a cluster of “correspondences” between the five “elements” of nature and their human analogues; harmony as an adaptation to the orientation of the Way.¹⁸

It is highly unlikely that Pythagoras and his adherents ever got in contact with Chinese philosophy. A comparative analysis of the differing notion of harmony would be welcome, indeed, yet it surpasses the framework of this paper; the same could be said of the kindred preoccupations of the Indian and the Iranian/Persian provenance.

Likewise, speaking of the contacts and dialogues whose roots can be traced back to ancient, mythical times and the dawn of history, this paper does not go into the most remote past of the Greek thought and the first appearance of the “opposition between the rational and the mystical, which runs all through the history” which took place among the Greeks, “as an opposition between the Olympic gods and [...] less civilized gods”.¹⁹

The Pythagorean harmony is related to Pythagoras becoming aware of the significance of numbers in music and the connections he established between musical harmony and mathematics and astronomy.

The divine spark in man, or what is nowadays seen—among other things—as related to the direct cognitive mode of understanding,²⁰ such as Nikola Tesla’s visualization of his inventions and his inventorial tuning in with the nature, as well as the occurrences of deep cognizance with numerous thinkers, or the creative insights reached by many creators in sciences and arts²¹—this divine spark used to be recognized in antiquity only in the oeuvre and wisdom of the greatest protagonists of the *artes liberales*²²

¹⁸ Ibid.

¹⁹ Francis Macdonald Cornford, *From Religion to Philosophy, A Study of the Origins of Western Speculation* (London: Arnold, 1912), accessed on 30. 08. 2015., <http://books.google.com>; Bertrand Rasel, *Istorija zapadne filozofije i njena povezanost sa političkim i društvenim uslovima od najranijeg doba* (Belgrade: Narodna knjiga - Alfa, 1998).

²⁰ Dejan Raković, “Tesla i kvantno-koherentna stanja svesti: ‘case-study’ za razumevanje kvantno-holografske prirode kreativnosti”, in *Kreatori budućnosti: Nikola Tesla i Albert Ajnštajn*, edited by Branimir Pavla Inić, Dragan Milačić and Lazar Cvijić (Belgrade: Fakultet za trgovinu i bankarstvo Janičije i Danica Karić, 2006).

²¹ Ibid.

²² Drenka Dobrosavljević, “*Artes mechanicae*”, in *Zbornik radova, Naučni skup Obrazovanje za preduzetništvo, inženjerstvo i menadžment 2010* (Zrenjanin: Visoka škola strukovnih studija u Zrenjaninu, 2011), 25–32.

such as Archimedes who was ascribed not human but divine wisdom²³; another such man was Pythagoras, who was taken as a divine figure with the full structure of his calm, dignified posture imbued with wisdom and learning, and also because of his conduct in life, as well as ethical and spiritual principles.²⁴ However, the notion of art ranged from the inspiration by the Muses to the craft, which was seen as mimesis.

In the perspective of ancient Greeks, the relation between music and astronomy reached far back to the mythical times when the Muses represented knowledge as a whole. The Muses inspired tragedy (under the patronage of Melpomene), epic poetry and elegies (Calliope), history (Clio), religious poetry and sublime hymn (Polyhymnia), astronomy (Urania), erotic poetry (Erato), comedy (Thalia), musical art (Euterpe), choral dance and song (Terpsichore).

“Human and divine beings used to—originally at least—communicate in a sublime and primarily musical form”.²⁵

As for the painting and sculpture, as well as architecture, the ancient Greeks did not think that they needed creational sparks and inspirations.

“Like Plato, Aristotle too thought that art was imitation. However, while Plato thought that art imitated nature and humans in a subservient manner, condemning it for that reason, Aristotle considered art could and was obliged to imitate the natural and human reality, but in a way that would produce types, paradigms.”²⁶ “Aristotle taught that art surpassed copying of reality and depicted natural and human reality as it should exist, i.e., as it corresponded to its true idea.”²⁷ In answer to Plato’s disapproval of dramatic poetry, Aristotle launched his definition of tragedy which said that—by provoking pity and fear—tragedy led to purification of feelings, which he called catharsis. “However, tragedy does not fulfil its ethical purpose just by purifying the affects of pity and fear, which brings serenity to the soul, but also by rousing cerebration and cognizance in the spectators: when a spectator who has experienced the

²³ Plutarh, *Usporedni životopisi* (Zagreb: Avgust Cesarec, 1988).

²⁴ Drenka Dobrosavljević, “Pitagora – Meandri religije i nauke”, in *Dijalog kultura. Emisija o saznanjnoj, kulturnoj i sociokulturnoj pokretljivosti kroz vekove i civilizacije* (Novi Sad: RTV Radio Novi Sad), accessed on 06. 07. 2014, http://media.rtv.rs/sr_lat/dijalog-kultura/6544; Diogen Laertije, *Život i mišljenja istaknutih filozofa* (Belgrade: BIGZ, 1985); Jamblih, *Pitagorin život* (Belgrade: Dereta, 2012).

²⁵ Masimo Dona, *Filozofija muzike* (Beograd: Geopoetika, 2008), 32.

²⁶ Miloš Đurić, Predgovor “Aristotel”, in *O pesničkoj umetnosti* (Belgrade: Dereta, 2008), 50.

²⁷ Ibid., 51.

bitterness of life compares himself to others who have suffered more, he becomes reconciled with his destiny and can bear it more easily". For a very long time, to Greeks, the artistic creation "used to be an inseparable unity of word, music and dance, for no form of poetry existed without dance, music could not be separated from tragedy or comedy, and dance without music was inconceivable".²⁸

What was referred to as music was a blend of poetic word, sound and rhythm. Contemplating poetry as creation, Plato considered verse to be the basis, while song and dance were parts of the overall structure. "As has been said, music was on the whole thought to be a union of verse, song and rhythm, as the latter two must be adapted to the verse, and the verse endows song with character, Plato took the verse as an underlying foundation to the other two."²⁹

The situation changed with Pythagoras: music/harmony became inevitable in the interpretation of the notion of the world.

Pythagoras' philosophic and religious thoughts are associated with Orphism. His belief in the transmigration/reincarnation of the immortal soul/psyche, wherefrom the word "metempsychosis" was derived, affected his philosophical thought.

Massimo Dona points out that "in the later tradition related to Orpheus, e.g., in *Orphic Hymns*, an inevitable need for salvation stands out. They invoke Pan, the divinity which by his serene song safeguards harmony in the universe".³⁰

Classical literature abounds in indications of the influences Orphism has had on philosophic thought. Plato testifies to the earliest ones.³¹

The Orphists were a Greek community of mystics whose teachings influenced Greek philosophers and that particularly pertains to those on the immortality and stellar origin of the soul doomed to live imprisoned in a body, on the soul's purification, punishment at Judgment Day,

²⁸ Milan Uzelac, *Filozofija muzike* (Novi Sad: Stylos, 2007), 19.

²⁹ Frane Petrić, "Pjesnik tvorac čudesnog", in *Izabrani tekstovi*, selected and edited by Ljerka Schiffler, translated by Sanja Roić (Zagreb: Hrvatsko filozofsko društvo: Filozofski fakultet, 2012), 160, accessed on 01. 09. 2014, <http://www.hrfd.hr/documents/petric-pdf>.

³⁰ Massimo Dona, *Filozofija muzike* (Belgrade: Geopoetika, 2008), 35.

³¹ Giuseppe Faggini, *Inni Orfici. Edizione integrale con testo greco a fronte*, accessed on 14. 10. 2014, <http://www.gianfrancobertagni.it/materiali/filosofiaantica/inniorfici.pdf>.

rebirth and redemption.³² The *Orphic Hymns* contain the germs of the idea that the Sun possibly governs other celestial bodies and that those bodies may be circling around it.

Mysteries used to be secret cults accessible only to the initiated participants—the *mystai*. By way of religious rites, formulas and teaching, a direct body-soul exposure was offered to the divinities which get “unmasked” at the peak of the celebration—*epopteia*, to join the participants in *unio mystica*. Of the Greek mysteries, those relevant to philosophy include Orphic, Eleusinian, Dionysiac, and—in the Hellenistic period—Isiac (of Isis) and *Magna Mater*. Many philosophers, e.g., Heraclitus, Pythagoras, Empedocles, Plato, the Stoics, and especially Neo-Platonists, used to join in the mysteries, presenting their own teachings as commitment to the mysteries.³³

Before Pythagoras, the Greek Orphism was analogous to Asiatic mystery religions. Referring to that fact, Russel emphasizes Pythagoras’ influence on philosophy, underlining that “the combination of mathematics, which began with Pythagoras, characterized religious philosophy in Greece, in the Middle Ages and in the modern times right down to Kant. But in Plato, Saint Augustine, Thomas Aquinas, Descartes, Spinoza and Leibniz there is an intimate blending of religion and reasoning, of moral aspiration with logical admiration of what is timeless, which comes from Pythagoras, and distinguishes the intellectualized theology of Europe from the more straightforward mysticism of Asia”.³⁴

“I do not know of any other man who has been as influential as he [Pythagoras] was in the sphere of thought”, wrote one of the most respectable historians of philosophy, Bertrand Russel, providing further elaboration: “Platonism is, when analysed, found to be in the essence of Pythagoreanism. The whole conception of an eternal world, revealed to the intellect but not to the senses, is derived from him [Pythagoras]. But for him, Christians would not have thought of Christ as the Word; but for him, theologians would not have sought logical proofs of God and immortality”.³⁵

³² Milan Dimitrijević, “Izlaganje: Istorija astronomije od orfejskih učenja do danas”, in *Dijalog kultura. Emisija o saznojnoj, kulturnoj i sociokulturnoj pokretljivosti kroz vekove i civilizacije*, accessed on 29. 09. 2013, http://media.rtv.rs/sr_lat/dijalog-kultura/4540.

³³ Anrim Regenbogen and Uve Majer, *Rečnik filozofskih pojmova* (Belgrade: Rečnik filozofskih pojmova, 2004).

³⁴ Rasel, *Istorija zapadne filozofije i njena povezanost sa političkim i društvenim uslovima od najranijeg doba*, 55.

³⁵ Ibid.

With regard to Pythagoras' influence on Plato, Milan Tasić wrote: "His [Pythagoras'] circulation of the thought about transmigration of the soul is entirely Plato's 'theory of ideas' in its ontological, gnoseological, logical and other facets, for an eternal and uncreated soul claims possession of equally unconstructed and permanent idea about the matters of the real world".³⁶

Pythagoras was the first idealist philosopher and the one who transferred mathematical concepts into the order of the material reality, introducing a new element into the contemplation of the world—harmony, which stems from the relation of numbers, with a number representing perfection. He launched the teaching of the harmony of spheres, which tells that certain numerical relations of the seven planets circling around the Earth or around the Central Fire produce music analogous to the seven chords of the heavenly heptachord inaudible to the human ear.³⁷

Aristotle tells us in the *Metaphysics* that "the Pythagoreans, as they are called, were the first to devote themselves to mathematics and that they advanced this study, and having been brought up in it they thought its principles were the principles of all things". The Pythagoreans had the enthusiasm of the early scholars indulged in a science on the rise and were impressed by the significance that the numbers have had for the world. All things are numerable, and we can express many things numerically: the relation between two things can be expressed according to numerical ratio, the order of a number of arranged objects can also be expressed numerically, and so on. It appears that the Pythagoreans were particularly amazed by the discovery that the musical intervals between the tones on the lyre can be expressed numerically. One may say that the pitch in a musical instrument depends on a number, that is, the length of the string on the instrument; therefore, it is possible to express intervals on the scale by fractions of a number. Just as musical harmony depends on numbers, the harmony of the universe may also be conceived as dependent of numbers. While the Milesian cosmologists spoke about the contraries in the cosmos, the Pythagorean studies in music could have easily led the Pythagoreans to seek a solution for the "conflict" in the concept of the number.³⁸ In the *Metaphysics*, Aristotle also wrote: "Since they saw further that the modifications and the ratios of the musical scales were expressible in numbers; since then it seemed all other things seemed their whole nature to be modelled on numbers, and numbers

³⁶ Milan Tasić, *Pogovor, u Jamblih, Pitagorin život* (Belgrade: Dereta, 2012), 154.

³⁷ Aristotel, *O nebu* (Belgrade: Paideia, 2009).

³⁸ Frederik Koplston, *Istorija filozofije. Grčka i Rim* (Belgrade: BIGZ, 1999), 76.

seemed to be the first things in the whole of nature, they supposed the elements of all things, and the whole heaven to be a musical scale and a number”.³⁹

“One of the central concepts with the Pythagoreans was certainly ratio, and that applies on all domains of creation – ranging from science to as far as sculpture.”⁴⁰

“He [Pythagoras] discovered the importance of numbers in music and the connection which he established between music and arithmetic survives in the mathematical terms ‘harmonic mean’ and ‘harmonic progression’. He thought of numbers as shapes, as they appear on dice or playing cards. We still speak of squares and cubes of number, which are terms that we owe to him. He also spoke of oblong numbers, triangular numbers, pyramidal numbers, and so on. These were the numbers of pebbles (or, as we should more naturally say, shot) required to make the shapes in question. He presumably thought of the world as atomic, and of bodies as built up of molecules composed of atoms arranged in various shapes. In this way he hoped to make arithmetic the fundamental study in physics as in aesthetics.”⁴¹

“The greatest discovery of Pythagoras, or of his immediate disciples, was the proposition about right-angled triangles, that the sum of the squares on the sides adjoining the right angle is equal to the square on the remaining side, the hypotenuse. The Egyptians had known that a triangle whose sides are 3, 4, 5 has a right angle, but apparently the Greeks were the first to observe that $3^2 + 4^2 = 5^2$ and, acting on this suggestion, to discover a proof of the general proposition.”⁴²

While Anaximander used to derive everything from the infinite or the unlimited, Pythagoras related that concept to the one of the limits which lend shape to the unlimited. At that point, Copleston introduces the example of music—with a mention of “health” limited by “tuning in” that resulted in the harmony of health—in which the ratio and harmony can be expressed arithmetically. Applying the doctrine on the whole world, the Pythagoreans spoke of the so-called *cosmic harmony*. However, they

³⁹ Aristotel, *Metafizika* (Zagreb: Liber, 1985), 17.

⁴⁰ Radoslav Đokić, *Istorija estetike*, First volume (Belgrade: Službeni glasnik, 2008), 82.

⁴¹ Rasel, *Istorija zapadne filozofije i njena povezanost sa političkim i društvenim uslovima od najranijeg doba*, 53.

⁴² Ibid.

did not settle for merely indicating the significant role of numbers in the universe: they went further to proclaim that things are numbers.⁴³

“Relating harmony to the soul, the Pythagoreans built up an ethos of the music which for a long time constituted the essence of the educational role of music. Since the reception of tone was strong in the soul, accord/harmony takes place between them.”⁴⁴ “As they reduced it [music] to the harmony of number, actually, to the synthesis of the infinite and the finite, they [the Pythagoreans] deduced as follows: 1. The cosmos with the spheres is arranged symmetrically and fixed within a determined musical numerical progression; 2. Souls and all things immanently possess a quantitative-harmonic structure. Thereby, the souls—by way of catharsis—reach a harmonic balance inside themselves, through tranquilizing and healing of man’s psyche, while elementary acoustic facts are extracted from things which (the facts) are based on the principle of harmony. [...] The aesthetics of music elaborated in this way paved the way to the Pythagorean philosophy in which the soul, number and cosmos (harmonic sphere) took the central place. This further paved the way to the cathartic role of music, in fact, to its psychological power.”⁴⁵

The Pythagorean harmony made a strong impact on science and even became an important discipline which was studied as a compulsory subject at a higher level of education, within the scholastic quadrivium. *Musica mundana*, also referred to as *musica universalis*, was related to the music of the spheres and suggested the harmony of the spheres. According to Regenbogen and Mayer, in the Pythagorean tradition, *music of the spheres* was mimesis of the celestial accords manifested as emission of a unique hum based on their orbital revolution (harmony) which remains inaudible to the human ear yet, to Plato’s mind, by all means accessible to the ‘spiritual ear’.⁴⁶ *Harmony of the spheres*, which is—as it has been said—usually defined as a doctrine guiding one to Pythagoras’ teachings and harmonization of mathematics, music and astronomy, according to which “the heavenly bodies, being large objects in motion, must produce music”,⁴⁷ was a topic of philosophers’ and astronomers’ studies until the modern age. In the work of Johannes Kepler, we shall find harmony and science entirely fused again, whether it be in astronomy or geometry or polyhedra as Platonic regular solids or physical harmony of planets in mo-

⁴³ Koplston, *Istorija filozofije. Grčka i Rim*, 77.

⁴⁴ Đokić, *Istorija estetike*, First volume, 92.

⁴⁵ Ibid.

⁴⁶ Regenbogen i Majer, *Rečnik filozofskih pojmova*, 684.

⁴⁷ Sajmon Blekburn, *Oksfordski filozofski rečnik* (Novi Sad: Svetovi, 1999), 150.

tion; there is also the inevitable origin of harmonic proportions in music and harmonic configurations in astrology—astrology being the major discipline of antiquity—zealously revived in the Renaissance, which for a long time co-existed with astronomy on equal terms.

Mathematics, the world of ideas and all thought about what is not sensible, possess, for Pythagoras, Plato and Plotinus, something divine.⁴⁸

Pythagoras was the first to use the compound word *philo-sophos*, 'lover of wisdom', and to compare life to a festival where "some people came to contend for the prizes, and others for the purposes of traffic, and the best as spectators". The same happens in life: "The men of slavish dispositions [...] are born hunters for glory and covetousness, but philosophers are seekers after truth". That is what Pythagoras reportedly explained to Leon, the tyrant of Phlius. When Leon asked who he was, Pythagoras replied: "A philosopher".⁴⁹

In his considerations about Plato's theory of the ideas, Russel raises the question: "What is a philosopher? The first answer is in accordance with the etymology: a philosopher is a lover of wisdom. But this is not the same thing as a lover of knowledge, in the sense in which an inquisitive man may be said to love knowledge; vulgar curiosity does not make a philosopher. The definition is therefore amended: the philosopher is a man who loves the vision of truth".⁵⁰

Trying to grasp Pythagoras' understanding of cognition, we find out that Cornford relates it to the word 'theory', interpreting this originally Orphic word as 'passionate sympathetic contemplation'.⁵¹ In that state, he says, "the spectator is identified with the suffering God, dies in his death, and rises again in his new birth".⁵² "For Pythagoras,"—Russel explains—"the 'passionate sympathetic contemplation' was intellectual, and issued in mathematical knowledge. In that way, through Pythagoreanism, 'theory' gradually acquired its modern meaning: but for

⁴⁸ Rasel, *Istorija zapadne filozofije i njena povezanost sa političkim i društvenim uslovima od najranijeg doba*, 272.

⁴⁹ Laertije, *Život i mišljenja istaknutih filozofa*, 269.

⁵⁰ Rasel, *Istorija zapadne filozofije i njena povezanost sa političkim i društvenim uslovima od najranijeg doba*, 128–129.

⁵¹ Cornford, *From Religion to Philosophy, A Study of the Origins of Western Speculation*, 201.

⁵² Cornford, *From Religion to Philosophy, A Study of the Origins of Western Speculation*, 201; Rasel, *Istorija zapadne filozofije i njena povezanost sa političkim i društvenim uslovima od najranijeg doba*, 50.

all who were inspired by Pythagoras, it retained an element of ecstatic revelation".⁵³

One question comes up at this point: What did Pythagoras' cognitive route look like?

At the age of eighteen, Pythagoras went "to Pherecydes, to Anaximander the natural philosopher and to Thales at Miletus. He successively associated with each of those philosophers in a manner such that they all loved him, admired his natural endowments, and admitted him to the best of their doctrines"—wrote Neo-Platonist Iamblichus, Pythagoras' biographer, and added the following account: "Thales especially, gladly admitting him to the intimacies of his confidence, admired the great difference between him and other young men, who were in every accomplishment surpassed by Pythagoras. [...] By communicating to him the utmost he was able to impart to him, Thales, laying stress on his advanced age and the infirmities of his body, advised him to go to Egypt, to get in touch with the priests of Memphis and Jupiter. Thales confessed that the instruction of these priests was the source of his own reputation for wisdom".⁵⁴ "Pythagoras had benefited by the instruction of Thales in many respects, but his greatest lesson had been to learn the value of saving time, which led him to abstain entirely of wine and animal food, avoiding greediness [...]. He sailed to Sidon [...] in Phoenicia he conversed with the prophets who were descendants of Mochus the physiologist, and with many others, as well as with the local hierophants. He was also initiated into all the mysteries of Byblos and Tyre, and in the sacred function performed in other parts of Syria. He was led to all this not from any hankering after superstition as might easily be supposed, but rather from a desire of and love for contemplation, and from an anxiety to miss nothing of the mysteries of the divinities which deserved to be learned. [...] He found that they had originated from the sacred rites of Egypt."⁵⁵ There is a belief, which relies on Porphyry, that it was from the Egyptian priests that Pythagoras has mastered geometry which he had been familiar with after the instructions from Thales and Anaximander. Presumably, Pythagoras spent some ten years in Egypt. He also lived in Babylon—in all probability, for five years, although some references to a longer time can be found. "Here he was overjoyed to associate with the Magi, who instructed him in their venerable knowledge, and in the most perfect

⁵³ Rasel, *Istorija zapadne filozofije i njena povezanost sa političkim i društvenim uslovima od najranijeg doba*, 51.

⁵⁴ Iamblich, *Pitagorin život*, 10.

⁵⁵ Ibid., 11.

worship of the Gods. Through their assistance, likewise, he studied and completed arithmetic, music and all the other sciences.”⁵⁶ “He had even been initiated in their sacred rituals and their mystical adoration of God. This experience was also embedded in the formation of his later work as a religious and moral reformer. Taught by the Babylonians, he perfected his knowledge in arithmetic, music and other fields of mathematics. He showed interest in the harmony between numbers and in the nature, getting familiar with the concept of harmonic proportion later known in Western culture as the golden section”.⁵⁷

Explaining that Pythagoras laid the mathematical foundations not only to music but to the whole universe, and that these corresponded in ‘the music of the spheres’ whose false shapes persisted obsessively in the human mind for a long time, until Thomas Brown and Schopenhauer,⁵⁸ Gerald Abraham adds that Pythagoras, moreover, laid foundations to the ethical influence of music upon man, pointing out that Pythagoras may have learned about the relation between mathematical ratios and musical intervals from Babylonians.⁵⁹

As to the deepest roots of mathematical thought, they can be detected in the Egyptian and Babylonian symbolism, as well as in Pythagoras’ ideas about numbers as symbols and his search for their more profound meaning which is in the manifesting sphere formed as musical harmony.⁶⁰

Pythagoras’ school was a closed-in community which functioned like a religious fraternity, and it was related to an inherited opinion that knowledge belongs to the chosen ones, the initiated. Revelations were kept secret by a vow of silence. That is why Pythagoras did not leave any writings behind, and that is also why nothing could be communicated orally outside of the fraternity—for an entire century, until Philolaus, the first Pythagorean thinker who left his works in writing and with whom the Pythagorean school reached its peak—by way of his mathematics, astronomy and cosmological ideas of the Sun, the Moon, the Earth and planets orbiting around the central fire. Pythagoras’ most important method of instruction was through the use of symbols and lessons in the form of parables, which he had taken over from the Egyptians. Iamblichus explains that the Hellenes had adopted it “as the most ancient”, but the

⁵⁶ *ibid.*, 14–15.

⁵⁷ Radoslav Jovanović, *Pitagora sa Samosa*, 2, accessed on 03. 06. 2014, <http://milan.milanovic.org/math/srpski/pitagora.pdf>.

⁵⁸ Džerald Abraham, *Oksfordska istorija muzike*, 1 (Belgrade: Clio, 2001), 43.

⁵⁹ *Ibid.*

⁶⁰ Đulio Preti, *Istorija naučne misli* (Beograd: Klub NT, 2002).

Egyptians “had developed it in the most varied manner”. Pythagoras thought that clear understanding of the meaning and the secret import of those symbols were of great importance, for that should lead a philosopher to the deepest intellectual revelations.⁶¹

There is a multitude of anecdotes and reminiscences of Pythagoras’ rituals, nutritional precepts and conduct of life, as well as the lessons taught by this philosopher who was for a long time taken as a divine figure. Everyone agrees that his instructions and lessons were beneficial for character-training, and that they were connected to the harmony of the soul and the body and proper lifestyle. Pythagoras’ unintelligible lessons, instructions and prohibitions articulated through symbols are by some thinkers taken to be primitive taboo-concepts and bizarreness; others interpret these as spiritual and ethical issues clad in metaphors so that they could not be understood by the uninitiated, those outside of the Pythagorean brethren.

There is one Pythagoras’ precept that is most often emphasized as an example of his eccentricity, while attempts to account for the rule get lost in a maze of funny anecdotes and even funnier examples: that was the rule—to be followed by the members of the Pythagorean religious community and one which concerned the school practices and daily life—that beans must not be consumed. For instance, the mystery of the prohibition was given a rational/spiritual argument: beans cause flatulence which has impact on the soul; besides, it is better for one’s stomach not to eat it, and, moreover, refraining from beans shall bring more pleasant dreams. Diogenes Laertius provides the following explanations for some of Pythagoras’ precepts: not to poke the fire with a sword means: do not provoke the anger or swelling pride of powerful men; not to violate the beam of the balance—do not transgress fairness and justice; do not sit on a bushel—care equally for the present and the future, for the bushel symbolises one’s daily food; not to devour your heart—we ought not to waste away our soul with grief and sorrow; not to look back at your own borders when travelling abroad—those departing this life should not be desirous to live or be too much attracted by the pleasures here on earth. Pythagoreans appealed for effacing of all rivalry and contention from true friendship, “at least from parental friendship and generally from all gratitude towards seniors and benefactors”. Striving and disputes out of anger or some other passions are not the way to preserve friendship. “Scars and ulcers in friendship should be the least possible”. Confidence should never be separated from friendship, whether in earnest, or in

⁶¹ Jamblih, *Pitagorin život*.

jest. Falsehood must not “insinuate itself into the habits of professed friends”. One should never abandon a friend on account of misfortune.⁶²

In Pythagoras’s school, students lived monastic lives in their community, instructed to follow extremely high ethical principles and spiritual exaltation, sticking to rules of nutrition and healthy bodily habits which their teacher himself practised since early age. Pythagoras aspired to spread his teaching on proper conduct of life in the society, and for some time his influence was visible in Croton; but the citizens did not like his strict rules and he was even forced to leave the city towards the end of his life. Classical writings about the Pythagoreans hardly ever fail to note that Pythagoras’ adherents continued to promote the idea that they and their life rules should govern and that it was beneficial for the state; at times they were successful, but—as Russel remarks—“the unregenerate hankered after beans, and sooner or later rebelled”.⁶³ Those rebellions may not have been carried out so successfully had not the Pythagorean teaching been such a threat for tyrants and their authority, as it turned out during Plato’s study visits to Sicily when he came to be on friendly terms with the Pythagoreans.

Pythagoras was very dignified in appearance. “His dress was white, very clean, his bed-clothes also were white and woollen [...]. He was never known to have eaten too much, or to have drunk too much”, or to exhibit any other kind of inappropriate behaviour. “He abstained wholly from laughter, and from all such indulgences as jests and idle stories. He never chastised any one, whether slave or free man, when he was angry.” He would warn his disciples to ask themselves a few questions whenever they return home, and those were: “In what have I transgressed? What have I done? What is it that I should have done that I have omitted?” He taught, among other things, that people should associate with each other in such a way as not to make their friends enemies, but to render their enemies friends; that they “should not think anything exclusively their own”; that they should “assist the law, and to make war upon lawlessness”. Some of Pythagoras’ precepts for proper conduct of life advised “not to destroy or injure a cultivated tree, nor any animal which does not injure man”, while men “should avoid eating too much flesh, and in travelling should let rest and exertion alternate”; moreover, they should “exercise memory” and “display a reasonable gratitude to the Gods and

⁶² Laertije, *Život i mišljenja istaknutih filozofa*, 64–65.

⁶³ Rasel, *Istorija zapadne filozofije i njena povezanost sa političkim i društvenim uslovima od najranijeg doba*, 50.

eminent men by hymns”.⁶⁴ Owing to the stability of the soul and mastery of the body, his every word and action were accomplished with tranquillity and inimitable calmness. He was never overcome by anger, laughter, envy, contentiousness, or any other mental disturbance or rashness.⁶⁵

In the Pythagorean view of the world, the significance of the soul's self-training and self-purification stems from the relatedness of Pythagoreanism to Orphism. Addressing this issue, Copleston puts emphasis on the following: “Orphism was connected with the worship of Dionysus, a worship that came to Greece from Thrace or Scythia, and was alien to the spirit of Olympian cult, even if its ‘enthusiastic’ and ‘ecstatic’ character found an echo in the soul of the Greeks. But it is not the ‘enthusiastic’ character of the Dionysian religion that connects Orphism with Pythagoreanism; rather it is the fact that the Orphic initiates, who, be it noted, were organised in communities, were taught the doctrine of the transmigration of souls, so that for them it is the soul, and not the imprisoning body, that is the important part of man; in fact, the soul is the ‘real’ man, and it is not the mere shadow-image of the body, as it appears in Homer. Hence the importance of soul-training and soul-purification, which included the observance of such precepts as avoidance of flesh-meat. Orphism was indeed a religion rather than a philosophy—though it tended towards Pantheism [...]; but, in so far as it can be called a philosophy, it was a *way of life* and not mere cosmological speculation”.⁶⁶

“The Pythagoreans were certainly impressed by the importance of the soul and its right tending, and this was one of the most cherished convictions of Plato, to which he clung all his life”—concludes Copleston, adding that “Plato was also strongly influenced by the mathematical speculations of the Pythagoreans—even if it is difficult to determine the precise extent of his debt to them in this respect”.⁶⁷

3. Final Considerations and Conclusions

Religion and *physis* which were for a long time intermingled in terms of issues and methodology, as was the case with religion and philosophy, religion and ethics and religion and society—stand in direct connection with the idea of reality and interpretation of the notion of the world. The

⁶⁴ Laertije, *Život i mišljenje istaknutih filozofa*, 272–273.

⁶⁵ Jamblih, *Pitagorin život*, 9.

⁶⁶ Koplston, *Istorija filozofije. Grčka i Rim*, 75.

⁶⁷ *Ibid.*, 81.

principle of scientific strictness demonstrated by the modern natural sciences has not diverted man's interest in contemplating the reality on the whole.

Contacts and "dialogue" between insights gained in different domains, and between articulated forms of man's creativity are significant elements in the man's breakthrough into new cognitive areas; such interactions and interpenetration resulting from those contacts are nowadays manifested as interdisciplinarity, and they are immanent to the development of human thought. All of these together are a part of the overall migration of ideas, of cognitive, cultural and sociocultural mobility.

Taking Pythagoras's meandering in science and religion, and the genesis of the Pythagorean doctrine as a case study, this paper offers the conclusion that this thinker had since his earliest youth searched for the overall reality—first, through his dedicated and lifelong education and instruction-taking with whoever could in his time direct him to the knowledge he found essential on this cognitive 'way', whereby he was unbiased as to the source being among the 'Barbarians', the learned people outside the Greek realm, or the Greek scholars. His prime interests lay in the disciplines he considered to be the most essential – mathematics and astronomy. Additionally, it is pointed out that Pythagoras was at the same time getting familiar with religious thought, first and foremost with Orphic view of the world and the conduct of life practised by that secretive community, and also with the secrets of mystical insights found with the Egyptian, Babylonian, Syrian and Phoenician Magi and hierophants.

Theory, that is, the 'passionate contemplation' with which Pythagoras sprang from mathematical knowledge, leads to the conclusion that—in relation to this man, one of the greatest minds ever—we probably cannot speak about direct modes of cognition. With Pythagoras, the 'divine spark', or the 'ecstatic revelation', were certainly part of the synthesis of abstract thinking and erudition. However, as he—out of passion and desire for reasoning—systematically came to know all the mysteries of the Near-Eastern world of his day yet did not leave any writings thereon, which equally refers to his own mysticism in intellectual insights during his search for the *vision of truth*, we come across a void which prevents us from getting a more profound insight into the mysticism of this 'impartial observer'.

The Pythagorean teaching on harmony was for a long time, till the nascence of modern sciences, inevitable in the interpretations of the notion of the world. The fact that it was rooted in the dialogues of diverse

cognitive spheres and factors on the temporal scale of history seems to imply the earliest realization of multidisciplinary studies.

To Pythagoras, who—of all the intellectuals of classical antiquity—exerted, possibly, the most decisive influence on the line along which the development of the Western thought was moving, via Plato's and Neo-Platonist inspiration by Pythagoreanism, religiosity, with the issue of the soul in the centre of his preoccupation, was in all likelihood part of his search for the overall reality and deep probing into the moral law, and not just one facet of his personality, a spiritual need and way of life as harmony within himself and the destiny of the soul in afterlife.

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Дренка Добросављевић

Београд

**У ПОТРАЗИ ЗА СТВАРНОШЋУ
Сусрети, дијалози и сазнајна,
културна и социокултурна покретљивост.
Студија случаја: Питагора**

Сусрети и дијалози, прожимања различитих елемената културе, уметничких израза и стваралаштва, технологија, достигнутих знања и сазнајних поља су међу најзначајнијим карактеристикама новог доба и савремених мултидисциплинарности и интердисциплинарности, али и међу феноменима који су најбитније утицали на развој *homo sapiens*-а. Иманентно присутни у развоју људске мисли и у укупној миграцији идеја, те сазнајној, културној и социокултурној покретљивости, они су један од најзначајнијих чинилаца човекових продора у нове сазнајне просторе и достигнућа.

Поље на коме се данас додирују и раздвајају религиозна, свеколика духовна и филозофска промишљања и научна трагања јесте сагледавање и тумачење стварности. Ту се, уједно, разграничавају тврде науке са својом научном строгошћу, с једне стране, и меке науке и уметности и њихов доживљај, интерпретација и осликавање стварности, с друге. При томе, тврде науке савременог доба ипак нису у потпуности одвратиле пажњу од рефлексија о укупној стварности.

Религија и *physis* дуго су биле испреплетене по упитаностима и методолошки, као што су то биле и религија и филозофија, религија и етика и религија и друштво.

За Питагору се везује почетак математике у смислу дедуктивног извођења доказа, откриће доказа прве опште теореме, настанак теоријске мисли, дистинктивне одлике западне филозофије и науке, а и почетак комбинације и прожимања разумског закључивања, теологије и моралних начела, што карактерише филозофију све до новијег доба. Истовремено, у ренесансном страсном и занесеном окретању антици и њеном наслеђу (али и баштини Плодног полумесеца, његовој алхемији, астрологији, мистицизму и његовој епској слици овог и подземног света), учврстило се у корпусу знања *artes liberales* већ вековима неизоставно присуство хармоније као научне дисциплине са генезом у Питагорином учењу о хармонији и музици, која је мимеза небеских складава у астрономији.

У овом раду се сједињеност Питагорине математике, астрономије, религиозности и етике (са посебним старањем о души и здравом физичком животу и умереностима у исхрани и уопште) сагледавају као меандри науке и религије у његовом стремљењу да перципира укупну

стварност. То се назире већ и на његовом сазнајном путу којим је кренуо још у младости. Дугогодишње учење пре свега математике и астрономије, тражио је код свих који су могли да га у та знања уведу, немајући при томе предрасуде да ли ће их наћи код грчких учитеља или код „варвара”. Такође, у раној младости упућивао се и у орфејску религиозну мисао, њен поглед на свет и у начин живота те мистеријске заједнице, а касније и у тајне мистичних спознаја египатских и вавилонских магова и врачева.

Та Питагорина потреба да досегне сва знања њему доступног света, води до закључка да је она, код овог непристрасног посматрача који тражи истину, љубитеља мудрости, како је дефинисао филозофа (*filo-sof*), чије је име сковао, била пресудан корак до божанске искре која га је после дотицала и доводила до заноса откровења и страсне контемплације, до теорије и апстрактне мисли која се, у чежњи за разумским промишљањем, открива у уму, а не чулима.

Питагорини сазнајни домети остали су обавијени копреном у симболичком преносу одабраним и иницираним ученицима и њиховим заветом ћутања. Недостатак његових списа и списа његових непосредних следбеника о томе које је све домете достигао и како, ствара празнину при покушају дубљег анализирања доприноса овог непристрасног посматрача и при покушају њиховог разграничења у односу на потоње доприносе питагорејаца.

За Питагору, који је од свих античких мислилаца можда најпресудније утицао на правац којим је од тог времена кренуо развој западне мисли, преко Платонових и новоплатоничарских инспирација питагорејством, религиозност с питањем душе у средишту Питагориних разматрања, била је, по свему судећи, део трагања за укупном стварношћу и дубоких понирања у морални закон, а не само једна страна његове личности, духовна потреба и начин живота као хармоније у себи и судбине душе у будућем животу. Према ономе што се Питагориним трагањима приписује, његово поимање космоса и хармоније, његово математичко теоријско разматрање и властито религиозно учење и значај који је придавао етици, самоваспитању душе и аскези и правилима у начину живота, његов интелектуални мистицизам и рационализам његовог идеала филозофа, непристрасног посматрача у сагледавању истине, наслућује се његово схватање једног света (*unus mundus*), којег су готово два и по миленијума касније пратили физичар Волфганг Ернст Паули (Wolfgang Ernst Pauli) и психолог Ерих Нојман (Erich Neumann), у оквиру којег се материја и психа не раздвајају нити посебно остварују.

Кључне речи: стварност, *unus mundus*, дијалог, сазнајна и културна покретљивост, Питагора, хармонија, орфизам

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