

The theory on the natural elements in the philosophical and theological system of the Byzantine thinker George Pachymeres

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Abstract. In this paper we discuss the general question on how a Byzantine philosopher-theologian of the late Palaeologan Renaissance forms some aspects of Natural Science. Specifically, focusing on George Pachymeres' Paraphrasis of Pseudo-Dionysius the Areopagite's *De divinis nominibus*, we investigate how this philosopher builds his theory on the natural elements (earth, air, water, fire). We raise a number of questions that have to do with the way in which the elements exist, what is their relation to matter, how causality works in this case and whether priority is given to Ontology or Epistemology. From a methodological point of view, we approach the text scientifically, philosophically and theologically. The most important conclusion that we draw is that in this commentary George Pachymeres' references on the elements can be placed into three categories (the elements 1. as the products of the divine energies; 2. as cosmological sources; 3. as allegorical names), depending on the context. Finally, we can contend that, although he does not present here a systematic theory on the elements, the Byzantine thinker, who has a thorough knowledge of both the Platonic and Aristotelian tradition, manages to conceive the concept of the "element".

Keywords: George Pachymeres; Paraphrasis; Pseudo-Dionysius the Areopagite; *De divinis nominibus*; natural elements

[en] La teoría de los elementos naturales en el sistema filosófico y teológico del pensador bizantino George Pachymeres

Resumen. En este artículo discutimos la cuestión general de cómo un filósofo-teólogo bizantino del Renacimiento Paleólogo tardío forma algunos aspectos de las Ciencias Naturales. Concretamente, centrándonos en la Paráfrasis de Pseudo-Dionisio el Areopagita hecha por George Pachymeres, investigamos cómo este filósofo construye su teoría sobre los elementos naturales (tierra, aire, agua, fuego). Nos planteamos una serie de cuestiones que tienen que ver con la forma en que existen los elementos, cuál es su relación con la materia, cómo funciona la causalidad en este caso y si se da prioridad a la Ontología o a la Epistemología. Desde un punto de vista metodológico, abordamos el texto de manera científica, filosófica y teológica. La conclusión más importante que sacamos es que en este comentario las referencias de George Pachymeres sobre los elementos se pueden clasificar en tres categorías (1. como productos de las energías divinas; 2. como fuentes cosmológicas; 3. como nombres alegóricos), dependiendo del contexto. Finalmente, podemos afirmar que, si bien no presenta aquí una teoría sistemática sobre los elementos, el pensador bizantino, que conoce a fondo tanto la tradición platónica como la aristotélica, logra concebir el concepto de "elemento".

Palabras clave: George Pachymeres; Paraphrasis; Pseudo-Dionisio el Areopagita; *De divinis nominibus*; elementos naturales

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Introduction

This article deals with the general question how a Byzantine philosopher-theologian of the late Palaeologan Renaissance attempts to form some aspects of Natural Science, which in the context in which it is included –that is, the Christian one– is related with Natural Theology. So, focusing on George Pachymeres' (1242–ca.1310)³ *Paraphrasis of De divinis nominibus* of Pseudo-Dionysius the Areopagite, we will investigate how he understands the function of the natural elements (earth, air, water, fire) and how he attempts to show some theoretical approaches of them. These elements are placed in a long historical tradition, which the Pre-Socratic philosophers-scientists started (mostly Empedocles and Anaxagoras),⁴ while at the same time they are interesting for modern Physics, in fact not only from a historical point of view.⁵ But, since Pachymeres follows the Christian tradition, he raises some questions which are mostly related with how theological principles and the constant development in scientific research can be placed in the same theoretical context. Specifically, in what sense does he present the distinction and union of the elements? Does he consider that they have been originally existed since the beginning of the creation (which is mostly a scientific approach) or that they been formed a posteriori after some combinations have taken place – obviously between the metaphysical archetypes (which is mostly a theological approach)? We need, however, in the first place to contend that the first aspect, since it appertains to the dualistic ontological model, cannot appear in monistic teachings like the Christian one.

In order to approach these questions as typical of a whole of similar ones –which, as we have already mentioned, lead to discussions that have begun since the Pre-Socratic period of Philosophy and Science, with Plato⁶ and Aristotle⁷ broadening through their theories the scientific performances and systematicity–, we will attempt to detect specific comments in the Byzantine thinker's work on the elements as the fundamental cores of the natural world, on their composition, structure and properties and generally the changes –as new formations– which matter can suffer which are caused by their functions and relations. We could actually contend that this is an investigation that has to do with what can

be characterized as dialectics of nature, that is to say, as a world of becoming that causes corporealizations. We need also to mention that we are especially interested in the causes of a possible change of matter: that is to say, are they transcendent or do they exclusively come from the processes which take place in the natural field, meaning both generally and regarding its particular separations? The second possibility, however, could put into risk the monistic theocentric model which Christianity has adopted since the first centuries. Nevertheless, it could be applied on one condition: that matter has received in the first place possibilities (or energy fields) to utilize them and to perform the analogous procedures. Furthermore, we will attempt to give an answer to whether Pachymeres defends incorruptibility of matter, regardless of the corruption in a microcosmic scale. This is a cosmological detail that is closely related with the divine teleological plan. This incorruptibility constitutes obviously a necessary term in order a plan like this to be actualized, which requires integrities.

The questions mentioned before will lead us to investigate the following, which are generally interesting from a philosophical point of view and obviously connected with systematic discussions, which have played a major role in the development of the History of Philosophy. Specifically, does Pachymeres accept natural determinism or does he stand for freedom in the created world? This question, however, is closely related with the question on metaphysical determinism, which, however, is explicitly refuted by Christian teaching. How does he elaborate causality, namely, the intertemporal question of Cosmology and Natural Science? How does he understand movement? From an epistemological point of view, we will examine mostly the question of scientific realism, attempting to approach whether the Byzantine thinker gives priority to Ontology (which according to Christian teaching is a multi-dynamic and multiform theophany) or Epistemology (the way in which human mind is organized in order to study in particular theophanies) when forming his positions on Natural Science. Is it possible that he makes a composition of these two theoretical perspectives, preserving with no doubt particularities? Methodologically, we will follow three levels: the scientific, philosophical and theological, so as to avoid any research dogmatism as

³ George Pachymeres is considered to be one of the greatest thinkers who lived during the Palaiologan Renaissance. He was an erudite personality and dealt with most fields of sciences and knowledge. The work which he delivered is multidimensional and quite impressive for its innovation and epistemological principles. An important contribution of his is the fact that he suggests a whole of philosophical and theological terms, which after being combined, can actually lead to a scientific logical and clearly compatible with the Christian faith approach of the sensible world, in the sense that it can be considered as a constantly rejuvenated theophany, at the same time as it is the result of the creative activity of a supreme Principle. Specifically, Pachymeres separated human secularized wisdom and science from theology, which for him is the mystical science of transcendence. He also stressed that the latter should mostly rely on the biblical and patristic texts and less on the scientific and philosophical principles and evidence. But, this does not mean that science and philosophy are absent from his work. On the contrary, they are found, at least implicitly, in his analyses, synthetic judgements and interpretations, even when he deals with theological questions. In this way, he also formed a system of Natural Theology, which was clearly inferior to Supernatural Theology. In short, Pachymeres remained consistent with the Christian teaching, preserved the priority of the transcendent over its immanence, and defended monism. As a thinker, he made great compositions and that is why we could characterize him as a fascinating eclectic encyclopedist. For more information on his life and work, cf. Henri Dominique Saffrey and Leendert Gerrit Westerink, *Proclus. Théologie Platonicienne V* (Paris: Les Belles Lettres, 1987), LVII–LXIX.; Ronald F. Hoch and Edward. N. O'Neil, *The Chreia and ancient Rhetoric: Classroom Exercises* (Atlanta, 2002), 334–343.

⁴ Cf. John Burnet, *Greek Philosophy: Part 1: Thales to Plato* (London: Macmillan and Co, 1928), 69–81.

⁵ Cf. for instance, Werner Heisenberg, *Physics and Philosophy: The Revolution in Modern Science* (New York: Harper & Brothers Publishers, 1958) 59–75.

⁶ Cf. Platon, *Timaeus*, 53c–64a.

⁷ Cf. for instance, Aristotle, *De Generatione et Corruptione*, 330a.30–331a.5; *Meteorologica*, 382a-b.

well as univocal simplistic interpretations. Besides, this approach is dominant in all the cosmological texts of Byzantium. The only thing that we have to do is to study Basil the Great's and Gregory of Nyssa's cosmological works as well as Maximus the Confessor's relevant systematic references. We need, however, to mention that in these texts there is a clear apophatism, which cannot be exceeded by scientific research and, therefore, can be expressed only through allegories. So, in this study we also attempt to show the historical character of the development of some aspects of Natural Science in Byzantium, which is broadly interesting for those who are dedicated to this science to this day. And one should not only focus on what has been said or what questions have been raised but mostly under what procedures, both as original questions and scientific goals. These investigations are particularly interesting in research, since at that time there was no technological support, which in modern era is decisive both in importance and combinations. In order to study nature it is particular important whether experimental test and proof is ensured or not.

1. The elements as God's products in the context of his general creative plan

Focusing on the information derived from the relevant sections about the ontological condition of the elements, we see that Pachymeres, who clearly follows the principles of metaphysical realism, is explicit in the entire *Paraphrasis* considering the following position: in general the creation and the particular hypostases of the natural world are due to one and only Cause, with which all things desire to communicate, by reverting somehow to its projections. All things appertain to the creative activity of this first Principle and, by extension, have intrinsic ontological value. The reason why lies in the fact that the function of the divine goodness covers and gives life to all the ensouled and soulless beings, to the irrational souls and the animals, a difference which is due to the multi-mode plan which it has set in the first

place. In other words, we could contend that its energy field in its expression includes the individual, that is, all those which fly and walk on Earth, the reptiles, those which live in water, the amphibians and those in the Earth.⁸ Or, else, the cosmological model is one-cause holistic. So, obviously every being, exactly because of the ontological nature of the one supreme Principle, possesses a priori meaning and, reversely, it is certain that it has been a part of the divine plan, although the role which this being holds in the actualization of this plan as teleology-eschatology, which cannot be defined in time, is not precisely defined. Since they are created, the elements are placed in this context, which, according to Pachymeres, do not pre-exist as the material and structural sources of beings, and obviously not as the final ones.⁹ The elements have gained their hypostasis a posteriori and constitute the cores of matter –or matter itself in its variants–, which are lead to creative compositions in different analogies depending on the case and, after developments, compose the general material substrate of the world of becoming. That is to say, the discussion is about the ontological field in which changes dominate in the form of generation and corruption, not in a macrocosmic but in a microcosmic scale. It is more than obvious that, if there was corruption in a macrocosmic scale, teleology would automatically be refuted and creation would have no meaning.

This perspective shows how we move from metaphysics of transcendence to the field of the perceptible expression of metaphysics of immanence as Cosmology or Ctisiology. But, the material universe as a synthesis of the individual elements, which, as we will see, are considered both in their unity and distinction, does not function passively. According mostly to the fifth chapter of Pachymeres' *Paraphrasis of De divinis nominibus* we confirm that the divine creativity, since it is energetically projected, adds properties, which are presented as composing the principles in which universe functions, in a field which in a second level can only be also energetic. In this way, although we can draw natural laws, we cannot build a coherent theory out of Pachymeres'

⁸ Cf. George Pachymeres, *Paraphrasis of De divinis nominibus*, P.G.3, (hereafter: *Paraphrasis...*), 753 C: «Ἀλλὰ καὶ αὐτὰ αἱ ἄλογα ψυχὰι, καὶ πάντα τὰ ἄλογα ζῶα, τὰ ἀέρια, τὰ χερσαῖα, τὰ ἔρπετά, τὰ ἐν ὕδατι, τὰ ἀμφίβια, τὰ ὑπὸ γῆν ἐγκεχωσμένα, πάντα ταῦτα διὰ τὴν τοῦ Θεοῦ ἀγαθότητα ἐψύχωνται καὶ ἐζῶνται· ὁμοίως καὶ τὰ φυτὰ, καὶ ὅση ἀψυχὸς καὶ ἄζωος οὐσία, διὰ τὰγαθὸν, τὰ μὲν τὴν θρεπτικὴν καὶ αὐξητικὴν ζωὴν, ἢ δὲ τῆς οὐσιώδους ἕξεως εἴληθεν». This passage seems that it has been influenced by the first chapter of Gregory of Nyssa's *De hominis opificio*, P.G. 44, 124 D–256 C, which refers to particular descriptions of physiology, that is to say, regarding the creation of the world, as well as the events that precede the creation of man. The terms «θρεπτικὴ» and «αὐξητικὴ» are found in this treatise of Gregory of Nyssa and, specifically, in chapter 8, 143 A–149 A, where he stresses that these are properties which offer the appropriate material in order those which are fed to grow organically. The interesting thing is that the term “hexis” (disposition) does not only mean a psychological tendency, for it also receives ontological characteristics. It is a tendency that covers the entire existence of the lower beings. The discussion here is basically about the tendency or the capability of some beings to preserve their being, although they are part of the organic nature. On the same topic about the multi-mode creation, cf. for instance, *Paraphrasis...* 613 D, where Pachymeres mentions: «Ὁ Θεὸς δὲ ἀπάντων τόπος ἐστίν, οὐ σωματικῶς, ἀλλὰ δημιουργικῶς· τὸν γὰρ οὐρανὸν, καὶ τὴν γῆν, καὶ τὰ πάντα αὐτὸς πληροῖ», where particularly important is that God has formed the requirements in order bodies to be created but he is not a body; as well as *Paraphrasis...* 620 B, where we read: «Πάλιν Τριάδα, ὡς τρισπόστατον, καὶ διὰ τὴν πατρικὴν ὑπερ ἔνοιαν ἀναρχὸν πρόδοον, εἰς ἔκφρασιν τοῦ Υἱοῦ καὶ τοῦ ἁγίου Πνεύματος, ἐξ ἧς πᾶσα πατριὰ ἐν οὐρανῷ (δηλονότι τὰ οὐράνια τάγματα), καὶ ἐπὶ γῆς (δηλονότι αἱ πνευματικαὶ συγγενεῖαι καὶ ἀλληλουχίαι, πατριὰς γὰρ τὰς συγγενεῖας φησὶν ὁ Μωϋσῆς) ἔστι τε καὶ ὀνομάζεται». Cf. also, *Paraphrasis...* 624 D, 632 A and 788 A. The last comment shows the relation of the ontological states of the objects with how they are described in names. So, a name is not something conventional and does not refer only to a simple or technical correspondence between a signifier and a signified. It is clearly realistically founded and describes what an object is per se. For a systematic elaboration of these, cf. chapters 5, 7, 8 and 9 of Basil the Great's *In Hexaemeron*, 86–522 (Sources Chrétiennes, Lyon 1968). Cf. also, Gregory of Nyssa, *Apologia in hexaemeron*, P.G. 44, 61 A–123 C and, particularly, 69 B.

⁹ Cf. for instance, the following passage: «Κἄν τὸν ἀέρα εἴποις, καὶ αὐτὸς δημιουργημᾶ ἔστω» (888 B). For a systematic approach of wind in the context of a broader cosmological function, cf. the sixth chapter of Basil the Great's *In Hexaemeron*. Cf. Gregory of Nyssa, *De hominis opificio*, 133 C–136 A. We need to mention here that in the context of a tradition that is formed by Empedocles there is an explicit judgement that no element can be considered as the absolute founding principle of universe. This aspect, as we will see in our study, is completely justified in the theocentric monistic axis of Christianity.

references. Either way, this is a plan which, since it is divine, cannot be investigated, only through its products, which also constitute the main source for the formation of its categorical inclusions. And since this investigation is constantly under development, it is inevitable that the system of concepts and definitions remains always open.

So, having in mind that the entire natural world is subject to the divine creativity, we could first of all mention in particular the following, which are related to the next sections of our study: so, regarding the soulless beings, Pachymeres focuses on the capacity of their natural state and disposition, that is, their natural particularity and the functions that it defines or goes with. And obviously this disposition, although it is dynamocratic and rational, does not follow the consciousness terms of human beings. Regardless of this detail, it is clear that we are not facing a cosmic system unaltered and with inflexible modes of structure and manifestation. For instance, a stone, the dominant element of which is earth, falls down, fire goes up and water moves in various ways which are analogous to the particular formation of the general conditions which takes place: «τοῦ λίθου ἐστὶ τὸ κάτω φέρεσθαι καὶ τοῦ πυρός, τὸ ἄνω· καὶ τοῦ ὕδατος, τὸ ἐν παντὶ σχηματίζεσθαι».¹⁰ We need first of all to mention that this passage is part of a general thematic whole that deals with both the special way in which the divine energies create beings and the desire of them to revert to their source in the way that it is appropriate for each one. In other words, this is not an inflexible standard creation, so every category of beings has a particular capacity –that is, a tending capability of manifestation– of functions and ascents. In fact, Pachymeres adds to this multi-mode and multi-form state the qualities of a worshipping hymnology of the cosmic universe, which can be conceived by man. So, empirical observations lead to conclusions that have to do with what can be defined as cosmic relativism with intense artistic and aesthetic qualities. We need, however, to pay attention in that, while stone and fire have a consistent movement, water is subject to the field conditions, that is to say, the cosmic-environmental functionalism which is applied in each case, and it somehow is present-intervenes as the dialectical composition of the opposites, which do not affect the order of the created world.

These particular explanations are extremely important on the topic under investigation, since the elements mentioned not only are God's creations, but they have also been produced to serve a specific purpose. Considering all these, the elements as theophanies need to have the

appropriate respect by man, including its scientific-theoretical approach. This aspect is a position that emerges by definition, since the opposite situation would lead man to arrogance and to an attempt for independency against natural world. But this mental and practical choice is not acceptable by Christianity. So, in this case we would face both moral and ontological relegation of beings. The lower ones would be evaluated negatively depending on their position in the hierarchical scale and the Christian worldview, according to which the created world is saved and sanctified as a whole, would be refuted. Following Christian teaching to this day, the relegation of nature constitutes moral deviation and alienation from the divine plan, while, by extension, it leads to painful environmental problems. It is obviously not accidental that it is often emphasized by its representatives that nature feels happiness and pain together with man, that is, depending on his behavior it also expresses its own.¹¹

Do also note as a general comment that the fact that everything comes from the One as Good means that any devaluation, even of the elements-essential bases, would constitute an ontological and logical contradiction. By extension, the whole reference and reversion of beings to the Creator would be also refuted and, instead of this great eschatological aspect, every being would orient its references to that which is immediately superior to it, without actually such a movement being certain. In the context of this perspective, the reality of the One as the universal Principle and Cause would be refuted and there would be multiple individual reference points, depending on the particular case of causal relation. A number of sub-systems would develop without the coherent and holistic presence of their common source. So, we could even face the refutation of one of the most basic Christian principles, that of monotheism, which is the greatest expression of ontological monism. Contrary to this view, however, Pachymeres insists on the endless positively defined movement of the entire created world and the upward tendency towards the Divine, which is one and constitutes the natural and only principle of any cosmic function and meaning, which has nothing to do with mechanistic automatisms.¹²

2. The cosmological function of the elements

From a cosmological point of view, Pachymeres discusses quite often the function of the elements, using both direct and indirect descriptions, which reveal the om-

¹⁰ Cf. George Pachymeres, *Paraphrasis...* 629 B–C. For a systematic approach of the natural elements, cf. the fourth chapter of Basil the Great's *In Hexaemeron*, where we read the following explanation: «Τὸ μὲν ὕδωρ ἰδίαν ποιότητα τὴν ψυχρότητα ἔχει· ὁ δὲ ἀήρ τὴν ὑγρότητα· τὸ δὲ πῦρ τὴν θερμότητα. Ἀλλὰ ταῦτα μὲν, ὡς πρῶτα στοιχεῖα τῶν συνθέτων κατὰ τὸν εἰρημένον τρόπον τῷ λογισμῷ θεωρεῖται, τὰ δὲ ἤδη ἐν σώματι κατατεταγμένα καὶ ὑποπίπτοντα τῇ αἰσθήσει, συνεζευγμένως ἔχει τὰς ποιότητας». Particularly important here is the epistemological details which clearly bring us in mind Plato. Specifically, sense approaches the composite formed bodies, while intellect the first elements which cannot be approached by direct experience. Note also that Pachymeres' former passage comes from the first chapter of his *Paraphrasis...*, where he establishes a systematic Christian Epistemology, which includes both Platonic and Aristotelian theoretical schemata.

¹¹ On this, cf. Phillip Sherrard, *Human image: The death and the resurrection of sacred cosmology* (Limni: Denise Harvey, 2004). This is a particularly interesting book both historically and systematically, since it brings into communications Christian Cosmology with different cosmological approaches, including the scientific ones. Interest is extended by the fact that this study discusses how the Christian cosmological question has come to the fore in modern times due to the new breakthroughs.

¹² We find a systematic approach of these in the ninth paragraph of the ninth chapter of Pachymeres' commentary (932d–933d), where movement appears as a natural law with ontological and intentional qualities, while at the same time there are also explanations on how one should understand the condition of immobility in God given that the discussion is about the absolute and transcendent ontological state.

nipotence of the Divine as well as the way in which its providence works with respect to everything included in matter, to which he adds a clearly dynamic content that causes formations and corporealizations. According to the Byzantine thinker's Christian view, God is the Supreme Being that is able to cause any intervention in the sensible world. Specifically, he is able to create (and that is why he is characterized as "thesis") but also to change, since he is capable of removing from those created core conditions the properties which he chooses in every case (and that is why he is characterized as "aphairesis").¹³ As an extremely typical example, Pachymeres presents that of the earth, from which, if dryness and gravity are removed, it remains in the state of water, namely, the flowing and not solid.¹⁴ So, obviously such a possibility is excluded, for this would overturn the natural function of the world and God would appear as the one who overturns what he has created, in fact, with the teleological plan being explicit. It should not escape our attention that both in the Christian and Neoplatonic model the functions of the creative cause are not autonomous, but they are formed and receive meaning in a way that supports the actualization and justification of the completely divine evaluation of the final cause. In the context of this cosmological function as rational order, the Byzantine thinker also says that «καὶ τὸ πῦρ θερμαίνει καὶ καίει, οὐ θερμαίνεται δὲ καὶ καίεται»,¹⁵ which means that "fire warms and burns but it cannot be warmed or burned", that is to say, it works not passively but actively regarding the properties which it possesses. This particular Christian cosmological model is not univocally self-referential, given that the divine teleological plan is constantly present and applicable through the activity of some core factors of matter.

We need to mention that the passage mentioned before is part of a broader discussion on that there is no precise similarity between the divine Hypostases as causes and the created effects. The reason why is the fact that the created beings have only the potential images which come from God, who is transcendent before them. In the same discussion, however, another quite important ontological topic is also revealed. George Pachymeres makes a distinction which has to do with how an archetypal integrity exists and is manifested, to which he adds a clear energetic content. So, he stresses that self-life does not receive life but gives it. In the same direction, self-light is not illuminated but gives light. Thinking all these in relation to the encosmic area, he deals with fire which is presented as functioning not in a passive way but in an analogous energetic one. So, we could easily contend that Pachymeres here uses the method of analogy, not from an epistemological point of view but completely ontologically. Nevertheless, in a next phase the epistemological approach can work as well, having in mind how legitimate ambiguities and polysemies are. In fact, he elaborates this topic from the fifth chapter to the end of his work.

We need also to mention that the divine energy can intervene unexpectedly in the functions of the natural world, obviously to correct the imperfections which arise from an unprecise utilization of the divine gifts. In the same context, G. Pachymeres mentions that matter is not found in a different ontological field from forms or qualities. For instance, fire cannot exist without heat or light and, respectively, the existence of water is not possible without the properties of coldness, humidity and blue color.¹⁶ In these comments we see what we could define as the relation of the substance with its proper-

¹³ Cf. George Pachymeres, *Paraphrasis...* 664 D–665 A: «Παννόητος δὲ πάλιν ὁ Θεός, ὡς ἐκ τῶν φιλοδώρων ἐνοιῶν νοούμενος ὅτι ἐστι, καὶ ἐκ τῶν δημιουργημάτων· ἐκ τῶν μὲν, ὅτι σωτὴρ ἐστίν· ἐκ τῶν δὲ, ὅτι δημιουργός. Καὶ θέσιν μὲν τὴν ὑπαρξίν καλεῖ, ὡς ἐξ αὐτοῦ τοῦ Θεοῦ, τῆς πάντων οὐσῆς ὑπάρξεως. Λέγουσι γὰρ οἱ φιλόσοφοι θέσιν τὰ ἐπιτιθέμενα εἶδη τῇ ὕλῃ· ἀφαίρεσιν δὲ, ὅταν αἱ ποιότητες τῶν εἰδῶν ἀφαιρεθῶσιν, οἷον γῆς τὸ ξηρὸν καὶ βαρὺ· τότε γὰρ ἐστὶν τυχὸν ὕδωρ». The fact that God's creative and soteriological interventions are included in the same passage is particularly interesting, while it is also fascinating the connection of the latter with concepts. This connection opens the concepts to ontological foundations and soteriology to a rational prospect. So, the epistemological approach of the topic is explicit and gives a perspective to the relevant investigation. Regarding the references to philosophers, we would say that here he obviously means Plato, in the dualistic ontological system of his forms intervene as metaphysical archetypes in matter and form it. Cf. for instance, Plato, *Timaeus*, 27c–31b. Cf. André-Jean Festugière, *La Révélation d'Hermès Trismégiste II* (Paris: Les Belles Lettres, 1990), 92–152. Luc Brisson, *Le Même et l'Autre dans la structure ontologique du Timée de Platon* (Sankt Augustin: Academia Verlag, 1998), 27–173. These are two studies which have discussed thoroughly Plato's cosmological positions and have opened the path for a detailed elaboration of particular topics. This position is obviously not accepted by Christians, who adopt the monistic model, which leads in that matter is the body of the forms or constitutes what results from their combination. Regardless of what position is accepted, hylomorphism is clear.

¹⁴ At this point we see a generalized Cosmology, which concerned particularly the Byzantine philosophers-thinkers, at least since the fourth century and which placed within the Christian frame the principles on the world which the Ancient Greek philosophy elaborated. This is a composite field which clearly relies on natural science and philosophy of nature. One of its theoretical points is the discussion on the properties of material elements and their relation. It would be also precise if we would content that all these compose a pluralistic materialism. Cf. Pierre Duhem, *Le système du monde: histoire des doctrines cosmologiques de Platon à Copernic II* (Paris: Librairie Scientifique A. Hermann et fils, 1914), 478–487; John F. Calhahan, "Greek Philosophy and the Cappadocian Cosmology", *Dumbarton Oaks Papers* 12 (1958): 29–57, and, especially, 40–48.

¹⁵ Cf. George Pachymeres, *Paraphrasis...* 672 C. Do note that «θερμαίνει» and «καίει» reveal the multifactorial function of the elements, namely, the intensity of their interventions, which can be obviously categorized and measured. At this point observation appears as the basis of scientific research.

¹⁶ Cf. George Pachymeres, *Paraphrasis...* 781 A. We need to mention that G. Pachymeres has explained in a previous reference that: «Καὶ τὸ αἰσθητὸν οὐκ ἄνευ ὕλης ἐστὶ, κρείττον δὲ τῆς ὕλης, εἶδος ὅποσούν μετέχον». The superiority of the sensible is due to the fact that it has been formed, that is, it has become a body. For this very reason it is stressed through a connection of the issue with its epistemological approaches in the 781b that «Διὰ τοῦτο καὶ λόγῳ θεωρητὴ ἐστὶν ἡ ὕλη, καὶ οὐκ αἰσθήσει ληπτὴ, καὶ νόθῳ λογισμῷ καταλαμβάνεσθαι λέγεται», a detail which reveals that matter in its pure state is not perceptible by sense. In this position we will come back at the end of our study with a passage from another work of Pachymeres. However, we need to mention that it is not possible a formed body to be structured without having as its subject matter. In fact, we are not describing two different states but two different modes of being of matter, which appertain to the succession which is found between them. At this point, we could actually have a discussion on the energetic transformation of matter, which contributes to its development to specific formations. This topic is found in both Neoplatonism and Christianity but it is not explicitly founded, since, as strictly scientific, it requires an analogous evolution of the relevant scientific and technological "tools".

ties, which are obviously primary and define how every element exists and is manifested. These properties are clearly included in the energy field, which is able to cause specific forms and functions. In fact, with incorporated natural laws. The questions, however, which can be raised, are quite a lot. For instance: does the substance of an element constitute the ontological determination of its properties or does it arise from their composition? Do also note that any suggestion accepted does not violate Christian teaching. Basically, every element with its properties comes from the divine creative plan. In addition: can we refer to a distinction between primary and secondary properties and which exactly are these secondary properties and in what sense are they placed in this category? For instance, do the properties of wet and color which describe water belong to the same category? The fact that color is different can lead in that it is not an unimportant quality.

The former elaboration leads to the discussion on the natural composition of the elements. For instance, taking into account scientific observations, Pachymeres mentions that the nature of water is to go down while the nature of fire is to go up. Otherwise, we will not have a movement according to nature but against it, an unnatural one, and by extension an opposition to the universal plan will emerge.¹⁷ Regarding this nature of each element, there are more details, such as that «τὸ πῦρ φυσικὴν ἀδυναμίαν ἔχει πρὸς τὸ ψύχειν»¹⁸ (“fire is naturally unable to cool”) and that warmth¹⁹ and to burn²⁰ are part of its natural specifications, with the former indicating eternity of a particular quality condition and the latter showing energy manifestation. Between them there is a direct ontological relation, which can be expressed even with the pair “cause-effect”. We need to mention here that the reference to the properties of the elements and the inability of fire to cool comes from a chapter that deals with the complete way in which matter is formed by God, that is to say, in its indissoluble relation with forms. This is a co-inclusion which leads to a syllogism that will introduce a particular cosmo-

logical theorem. In the same chapter, however, there is also a revision of the Manicheans, for Pachymeres explicitly stresses the absence of evil as an a priori ontological reality and projects an optimistic cosmological and anthropological model. So, he contents, with the method of analogy being dominant here as well, that just like fire does not cool, similarly God as self-goodness is ontologically impossible to produce evil. Such a production would introduce great contradictions. So, we can see the Byzantine thinkers’ flexibility to form apodictic syllogisms through references to different fields than that which he literally discusses. In this narrative way, his word gains precision and becomes understandable.

In addition to the above, George Pachymeres refers to the way in which the elements work in another section in which he elaborates some great cosmological questions, such as the forms of movement and the analogies of the connection between those factors which create natural beings. So, generally approaching, he first of all mentions that a creature is united with one and, at the same time, it moves away from another. In this sense, he describes a programmatic functionalism, which appertains to specific necessary relations and differences, which somehow push beings, on the one hand to be structured according to particular communicative-chemical intentionality and, on the other hand, to preserve a clear distance from what prevents their unhampered cosmological presence. Thus, in order to support the former general syllogism, the Byzantine theologian-philosopher brings the following example from the elements: in the process of formation of a hot state, fire is united with air and, at the same time, it moves away from water «κατὰ γὰρ τὸ θερμὸν τὸ πῦρ τὸ ἀέρι ἐνούμενον, τοῦ ὕδατος χωρίζεται».²¹

Finally, quite interesting is the discussion on the first paradigms as natural cores, according to which all sensible things are formed, that is to say, receive a particular form and function, namely, they have been corporealized.²² Two are the cases stressed by Pachymeres, which come from the sensible world and which he receives

¹⁷ Cf. George Pachymeres, *Paraphrasis...* 769 A: «τὸ μὲν πῦρ, ἄνω· ἡ δὲ γῆ, κάτω». Cf. also, 801 D: «Τοῖς δὲ κατ’ εἶδος τῆς δημιουργίας εἶ τι ἂν καὶ πρόσσεν ἑναντίον, τοῦτο παρὰ φύσιν λέγεται, καὶ οὐ κατὰ φύσιν· ὡς τὸ φέρεσθαι ἄνω τὸ ὕδωρ, καὶ κάτω τὸ πῦρ». At this point, we see the principle of natural regularity, which follows strict laws.

¹⁸ Cf. George Pachymeres, *Paraphrasis...* 781 C. This position is explicitly found in the Dionysian tradition (Dionysius the Areopagite, Maximus the Confessor, Nicholas of Methone, George Pachymeres). Cf. for instance, Eugenio Corsini, *Il trattato “De divinis nominibus” dello Pseudo-Dionigi e i commenti neoplatonici al Parmenide* (Torino: Universita de Torino, 1962), 7–35.

¹⁹ Cf. George Pachymeres, *Paraphrasis...* 808 D; 836 D (where he also stresses that the power of fire to warm is due to God); 881 A (where he stresses that the knowledge of fire to warm is due to common experience, or else, in that human beings are aware of how elements function. At this point a basic epistemological position arises: the validity of knowledge requires the direct co-operative participation of man in the question that intellectual investigation deals with). So, knowledge and, by extension, truth are not the products of just one man, while it is explicit that their confirmations are defined through a constant ascent to the energy projections of the Holy Trinity.

²⁰ Cf. George Pachymeres, *Paraphrasis...* 885 A. We need to mention that in the broader context it is stressed that there are great personalities in history and, the most important, angels, who perceive the function of fire in a divine-form and superior way than man perceives through his sensory organs its causticity. In addition, it is highlighted that this knowledge is superior when there is a reference to God. So, this is not just a gradation of epistemological performances but also a recognition that the natural elements possess more properties and powers than what man can understand. Therefore, Pachymeres explicitly points out that man should not be satisfied only with the knowledge provided by the representational data but he needs to attempt a further penetration into their causal basis, as far as possible of course.

²¹ Cf. George Pachymeres, *Paraphrasis...* 769 B-C. Cf. also, Gregory of Nyssa, *In Hexaemeron*, 89 D, where we read: «Ὡσπερ γὰρ ἐπὶ τῶν μνημονευθέντων στοιχείων ἀντιβαίνει τῷ μὲν ψυχρῷ ἡ θερμότης, τῷ δὲ ὑγρῷ ἡ ξηρότης, οὕτω πάλιν κατὰ τὴν ἐτέραν διάμετρον ἐπὶ τῆς γῆς τε καὶ τοῦ ἀέρος ἐξ ἑναντίου εἰσὶν αἱ ἐκατέρω ποιότητες ἀλλήλαις ἀντικαθήμεναι· στερρότης τε καὶ μανότης, ἀντιουσία καὶ ἀραιότης, βαρύτης τε καὶ κουφότης· καὶ ὅσα ἄλλα κατὰ τὸ ἰδιάζον ἐν ἐκατέρω τούτων, ἐκ τῶν ἑναντίων γνωρίζεται». Here the Cappadocian thinker refers to attractive functions, in order to prevent catastrophes during the development of the physical universe or to prevent the extermination of an element and its functions from their dialectical opposites.

²² Cf. George Pachymeres, *Paraphrasis...* 848 D–849 A. On the hyper-celestial waters, cf. Gregory of Nyssa, *In Hexaemeron*, 89 A–B. This cosmological topic is part of a broader one, which has been systematically discussed by the Neoplatonic thinkers Syrianus (*In Metaphysica*) and Proclus

from Clement of Rome. First of all, he refers to the ethereal fire, which could be considered as the paradigm of the material fire with the property of the corporealized, in the sense of the first cause or, else, the natural basis that the sensible comes from. The position that ether exists by burning and that it is the body or that which performs or the provider of this burning stresses the materiality even of the first cause of the material fire, so that to be clear that in this case we are speaking about elements that are not automatically manifested with respect to what they do. They cannot be considered without their energy, which makes possible the transitions as well as the sources of the formations. And by definition they cannot be placed in the field of metaphysics of transcendence, since they are the formations of metaphysics of immanence, from which they completely receive their responsibilities.

The second case which Pachymeres mentions that has to do with the cosmological relation cause-effect is that of the hyper-celestial waters, which are considered to be the models of the natural one. At this point there is an implicit theological approach, since one can see the distinction-relation between two factors which are involved. The comments are clarifying, since the hyper-celestial waters –if there are any– are subject to a limitation against their natural and regulated standards and remain above. Or, in other words, although it would be inevitable to slip according to their nature, since the structure of their molecules is spherical and slippery, their property of movement is limited due to the divine and creative will. So, there is a sort of cosmic relativism from the absoluteness of the interventions to the transcendent. The implications on their materiality are clear, as well as the possibility to receive or initially possess transcendent in relation to materiality properties, but all these are not explicitly suggested by the Byzantine thinker. That is to say, this is a mode of being, which however cannot be completely confirmed regarding the terms in which causality works and is formed. Unless one approaches them as intermediate states found between the two worlds, which are described by the scientific data of that era.

At this point some critical clarifications begin. First of all, Pachymeres says that the paradigms mentioned before are defined according to this property as to something and that is why they do not possess it completely. That is to say, they work in terms of an ascending referentiality to something former. But, this is where the explanations begin in order the precise ontological boundaries not to be violated. So, he says that the divine wills, more than the hyper-celestial waters, are not only the first causes but also the paradigms, in this very

intentional sense, which obviously is completely ontologically positive. So what happens? If we accept that there are in a way some material paradigms, then there are two levels of paradigms. This is a view which can appear in systems that adopt ontological interventions, like Neoplatonism.²³ At the same time, according to the Christian positions, it is accepted that movement, which is a natural law, will reveal and activate in a particular way the innermost reasons of the cosmological cores and in this way it will be connected with the teleological model, which covers all produced beings. So, through indirect syllogisms and according to the general context, we would contend that precisely this parameter prevents the deification of the natural elements and, by extension, any possibility of pantheism.

Do also note that movement has been given by God and it is not a self-reliant factor of the elements. We need also to explain –even though it is obvious– that there is no teleology in the divine existence, for it exclusively defines natural world, every time in a particular way. So, the hyper-celestial waters mentioned before are not able to define themselves, despite the fact that the position which has he suggested is that they are the cause of the earth waters. They actually determine modes, functions and principles of natural expressions, but even this intervention is performed by assignment. It follows, here as well, that the entire universe is organized according to strict norms, which can be changed by the supreme Principle any time it is necessary. They also reveal both the divine and the intra-world model that the creation is subject to in dynamocratic developmental terms. So, in the light of these composite directions, the hyper-celestial waters, if we accept that they do exist, they are subject to the divine plan and they work in a paradigmatic way in a second level, that of materiality. But they will not have the omnipotence to primarily define themselves, since they will be subject to absolute primary definitions which come from the supreme Principle which created them for actually a particular reason. So, in this context, the interventions, which the Byzantine cosmological thought has discussed thoroughly, work only in this sense.²⁴

3. The allegorical approach of the elements

Focusing on how cosmological procedures are epistemologically approached, we see that the elements are also used by Pachymeres in a metaphorical sense, that is to say, they are approached in a narrative way, without raising pragmatology which is supported by scientific analysis. This is an expressive choice which

(*In Timaeus*). Both of them stress the somehow natural archetypes as a clear example of metaphysics of immanence in terms of permanent integrity, which is related with teleology and ensures principal regularities.

²³ The most emblematic representative of the Neoplatonic School when it comes to the theory of the intermediates is Proclus and Pachymeres has studied and utilized him exhaustively. Cf. Proclus' six-volume treatise under the title *Theologia Platonica*, in which he basically describes his theogonic system, namely, the development of a polytheistic world under analogous in number manifestations of causality. Do note that the fifth chapter of Dionysius the Areopagite *De divinis nominibus*. and its reception by Christian tradition suggest a completely different metaphysical model. They clearly refute polytheism and define that the divine names refer to the divine energies, which are infinite in number and they cannot be hierarchized. Do note that Proclus in his commentary on the *Timaeus* refers to integral natural cores, which, although they belong to the field of the natural world, function under the properties of the metaphysical.

²⁴ Cf. Vladimir Lossky, *Théologie mystique de l'Église d'Orient* (Paris: Aubier, 1977), 87–108.

allows an investigator to exceed some dead-lines to which scientific research leads, at least regarding its explanations. Specifically, having in mind the affirmative predicates given to God, the Byzantine thinker stresses that God has originally included in him in a simple, uncomplicated and unlimited way all beings with the good processes of his providence, but not his essence. That is why he is named light, water, fire.²⁵ In this case, the elements constitute terms which work as expressive means, from the content of which and according to semantic transformations regarding the formal meaning, we can derive every creative gift given to the natural world. At the same time, there is an explanation on every causal condition which forms a particular image of the universe, which is defined by something else, in an integral way in the context of ontological monism. So, since anything is reduced to the absolute, the gifts which come from God arise by extension from the dominant ontological principles, which he has formed. God is the only causal principle of the natural conditions mentioned before, with particularizations which reflect the variants of one general ontological field. So, since these conditions are theophanies, they can explain the range of what is given by their source, which obviously presents similarities with them under the terms of the relationship between cause and effect. By extension and taking into account that there is no room for polytheism in the Christian teaching, as theophanies (*neus in rebus*) they arise from metaphysics of immanence, which, however, will never equate, despite any similarity between them, created beings with their creator. So, immanence preserves the ontological boundaries between God and the created world and declares what is the content of the encosmic processes. From every point of view, however, it prevents pantheism, which, although it is also a monism, it refutes divine transcendence. In fact, the ontological model is permanently optimistic and validates the original position on the teleological-eschatological prospect of the created world, the names of which do not have an autonomous secularized character but they reflect the paradigmatic plans and modes in which their cause is manifested.

In another section which refers to beauty, Pachymeres mentions that this aesthetic condition emerges from all the created beings, since they are good, but not in a single way, that is, uniformly. Obviously here, he speaks about a “palintonos” harmony of the individualities. Attempting to explain the syllogism through specific examples, G. Pachymeres explains that the beauty of the sun is different from the beauty of earth and water, since there are many kinds of beauty and thus not all of them constitute one form of beauty that would be inflexible to individualizations. So, from a ctisiological point of view, the concept of beauty is found in different things. But all of its expressions show, as far as possible, what beauty is in its per se divine condition. In this very condition beauty is uniform, namely of one kind, regardless of the fact that it is differentiated in its individual bodies, among which the original cores of matter are found, namely the elements, the direct causes of all those which will arise in an aesthetically good way.²⁶ So, we could generally contend, for instance, that God can be characterized as flaming beauty, regarding obviously the way in which he is energetically projected.

In this allegorical context, the elements are also used to theoretically define “non-being”, a multi-dynamic term, which is of central importance for the structure of both its metaphysical and cosmological aspect. The Byzantine philosopher says that the concepts mentioned here show something that cannot be measured, does not have a particular form or a specific shape and is neither earth, nor water or fire, since, as it shows God’s hyper-essentiality, non-being is found above all things which are sensibly perceptible.²⁷ We could contend that these clarifications are broadly placed in the context of an apophatic interpretation, which emerges by the concept itself, since it is more possible to determine what God is not –with the emphasis on negation obviously not as lack or imperfection but as transcendence. This is where we see the knowledge of agnosia. But, generally approaching the topic, “non-being” can be used in two ways, with both being extreme and non-compatible one another. The first describes a deprivation –which is appropriate for some conditions of matter which have nothing to do with the elements–, while the second is superlative and shows that this negative expression reflects man’s inability to

²⁵ Cf. George Pachymeres, *Paraphrasis...* 633 A: «ἐναρμονίως καὶ καταλλήλως ἐκ πάντων τῶν ὄντων ὑμνεῖται καὶ ὀνομάζεται φῶς, ὕδωρ, πῦρ, δρόσος, νεφέλη, καὶ τὰ τοιαῦτα». The adverbs «ἐναρμονίως» and «καταλλήλως» do not describe the divine per se, since they are self-evident for its integrity, but how man is asked to approach it. On the same, cf. also, 621 A: «... ὅταν λέγεται ἐπὶ μὲν Θεοῦ, ὡς πῦρ, καὶ ὡς γέρον, καὶ ὡς παλαιὸν τῷ Ἰακώβ, καὶ ὅσα τοιαῦτα». Respectively, in the apophatic field, Pachymeres mentions: «Φῶς δὲ, ἢ πῦρ, ἢ πνεῦμα ἐπὶ Θεοῦ λεγόμενον μᾶλλον ἀπατᾷ τὴν διάνοιαν, μήποτε τι τούτων ἐστί» (773 C). In the superlative field, the Christian thinker contends: «Ὡς γοῦν ἐπ’ ἄλλων αἰτιατῶν εὕρισκομεν τὸν Θεὸν καὶ ἀπὸ τούτων λεγόμενον, καὶ πάλιν ὑπὲρ ταῦτα ὄντα, πῦρ καὶ ὑπὲρ τὸ πῦρ, νοῦν καὶ ὑπὲρ τὸν νοῦν, πνεῦμα καὶ ὑπὲρ τὸ πνεῦμα» (968 A). The gradations mentioned before, apart from the fact that it represents the systematically ascending way of thought which the Byzantine theologians-philosophers had adopted, who in their majority had a realistic prism of approaching ontological questions, it also defines the regulating way in which a Christian is asked to discuss the relations between God and man. This relationship should also include the following twofold ontological parameter: the unparticipated of the divine substance and the participated of the projections of the divine energies. When man is lead to understand these, he proves that he is aware of his limits, range and cognitive capacity. For a systematic approach of these, cf. Lossky, *Théologie mystique de l’Eglise d’Orient*, 21–86.

²⁶ Cf. George Pachymeres, *Paraphrasis...* 761 C–D.

²⁷ Cf. as an addition to the former passage, *Paraphrasis...* 780 D: «Καὶ ἔτι ὑπερουσίως λέγεται τὸ μὴ ὂν ἐπὶ Θεοῦ, ἀάποτος γὰρ καὶ ἀνείδεος καὶ ἀσχημάτιστος, καὶ οὐ γῆ, οὐχ ὕδωρ, οὐ πῦρ, ὁ Θεός ἐστιν, ὑπερουσίως δὲ ὑπὲρ ταῦτα πάντα». Obviously the term “non-being” does not refer to deprivations that would relate to God, but to possession of the properties mentioned before (quantity, form and shape) in a transcendental way, which actually does not restrain his existence and manifestations. Mutatis mutandis, we can see here something analogous with the separated nature of the Platonic Ideas compared to matter. This is a topic which the founder of the Academy has discussed in many dialogues and we could contend that it philosophically reveals the first systematic foundation of Western Metaphysics. The most important dialogues are the *Timaeus* and *Parmenides*, which Proclus has extensively commented, in which he utilizes the relevant middle tradition, such as the representatives of Middle Platonism, Plotinus and Syrianus.

name God, who is not only completely superior but also of different ontological nature. Therefore, the conceptual definitions-predicates which are used will have a degree of potentiality regarding what they precisely declare and which every time will be reflected by particular theoretical references, with the expressive means used by economy being necessarily in use.

Conclusions

Taking into account everything mentioned in this paper, we can classify George Pachymeres' references on the elements into three categories. First of all, the elements are found in passages in which the divine creativity is discussed, in the context of a specific type of ontological monism. Secondly, by using them, their cosmological function is analyzed, which leads to how the divine providence intervenes via organized structures for all the created beings, which in this way ensure their consistent pragmatological foundations as well as the way in which man understands them. Thirdly, they are used in an allegorical sense, which is closely related with metaphorical reason and generally the narrative non-stereotypical regarding what they declare usage. In every case, however, the theory on the elements in a Christian thinker can be placed in the field of Natural Theology, which corresponds to philosophical Cosmology. As a further example for such an inclusion we can constantly use the cosmological texts of Basil the Great and Gregory of Nyssa, which formed a tradition. These three perspectives confirm that G. Pachymeres follows realism, first of all, the metaphysical one and, subsequently, the natural, since he accepts that the divine causality is real and that theophanies are its products. At the same time, he considers that the function of the natural elements is subject to strict regulating ontological norms, which lead to the actualization of the divine teleological plan, which leaves no room for randomness or automatism in the development of natural world. They reveal the divine volitional creativity, which, by extension, leads to the divine freedom, which lies far from necessity. Although we do not meet in the passages which we investigated systematic approaches on the elements, we could contend that G. Pachymeres managed to conceive the concept of the element as an expression of an unchangeable state, which is found in an absolute way in the divine energies, which are the source of it.

Finally, we need to mention that, after we take into account all those discussed, we cannot contend that George Pachymeres forms a systematic theory on elements. Nevertheless, the fact that he is a commentator of Platonic and Aristotelian texts, leads us by extension in that he is aware of the relevant cosmological tradition, which he utilizes from a Christian point of view. In order to confirm

this judgement, we give as an example his Commentary of the tenth book of Aristotle's *Metaph.*, where his references generally to the term "element" as well to every element in particular are quite frequent, while at the same time there is something analogous in the case of the term "matter". Besides, since he lived and wrote during the Palaeologan Renaissance—in which spirituality grew in all fields—, he must have been aware of the scientific knowledge of the past. So, we will end our study with the following passage from this commentary, which is particularly interesting from a cosmological and epistemological point of view: «Τριχῶς γὰρ ἡ οὐσία, ἡ μὲν ὡς εἶδος, ἡ δὲ καὶ ἐπιστήμη γινώσκειται, ἡ δὲ ὡς ὕλη, ἡ δὲ κατὰ μὲν Πλάτωνα νόθῳ λογισμῷ, κατὰ δ' Ἀριστοτέλην κατ' ἀναλογίαν καταλαμβάνεται, τρίτη δὲ τὸ ἀπογένναμα τούτων κατὰ τὸν Πυθαγόρειον Τίμαιον. Τοῦτο δ' ἔστι τὸ σύνθετον· σύνθετον δὲ λέγω οὐ τὸ ἐκ τῶν τεσσάρων στοιχείων συγκείμενον, ἀλλὰ τὸ ἐξ ὕλης καὶ εἶδους ἀπλοῦν κατ' οὐσίαν ὄν, ὅτι τὸ ἀπογένναμα καὶ αὐτὸ οὐσία, ὃ δὲ καταλαμβάνει ἡ αἴσθησις· πῦρ γὰρ, φέρε, γίνεται ἐξ ὕλης τῆς ἀνειδέου καὶ εἶδους τοῦ ἀύλου καὶ θερμὸν καὶ λαμπρὸν ἐστὶ, καὶ τὸ μὲν ἀρή, τὸ δὲ ὄψει καταλαμβάνεται».²⁸ Aristotle refers to the elements in the book Δ of *Metaphysica* (1014a-105a), where we read the following positions of his: we call element the primary component of a thing which (i.e. the element) remains indivisible and does not change form... but even if an element is divided, its parts are similar to the whole, for instance the molecule of water is water... People call the elements of the physical objects with the term nature and one calls it fire, someone else earth, a third one air, a fourth one water and a fifth one anything like that. Do also note that Aristotle refers to Empedocles as well. In all probability, George Pachymeres is obviously aware of these positions, since what he mentions is compatible with their content.²⁹

Further discussion

In a completely open field of investigation, we would attempt to "test" a proposal with broad extensions, which is connected with a "legendary" teaching of Ancient Greek Philosophy. That would be Plato's unwritten doctrines, which refer to the pair "one-indefinite dyad",³⁰ which caused major conflicts between the Platonic Academy and the Aristotelian Lyceum. Applying it in the Christian teaching, we would dare to contend that the divine energies express the one, which through their –intentional– self-manifestations and mutual combinations form the first level of the "indefinite dyad", that is to say, the metaphysical archetypes –or, in other words, the logoi of beings according to Maximus the Confessor–, which subsequently form its second level, to which the natural elements belong.

²⁸ Cf. George Pachymeres' commentary on *Metaphysica*, 6.6–16 [Kommentar zur *Metaphysik des Aristoteles*, einleitung-text-indices E. Pappa (Athens: Academy of Athens, 2002)].

²⁹ Cf. Lambros Couloubaritsis, *L'avènement de la science physique* (Bruxelles: Ousia, 1980), 92–99. In his analyses, the respected scholar presents the elements as ontological foundations as well as requirements for epistemological approaches of the cosmological question. For a systematic approach on the elements, included in Aristotle's general cosmological positions, cf. the sixth chapter of Ingemar Düring, *Aristoteles. Darstellung und Interpretation seines Denkens* (Heidelberg: Winter, 1966), we used the Greek edition of the book: Athens: M.I.E.T., 1991, 85–157).

³⁰ For an extremely systematic approach of this topic with fascinating hermeneutical extensions, cf. the emblematic study of Léon Robin, *La théorie Platonicienne des Idées et des Nombres d'après Aristote* (Paris: Félix Alcan, 1908). This is a study that has changed, almost radically, the research course of this topic.

References

Primary Sources

- Aristotle, *De Generatione et Corruptione*, Loeb Classical Library.
 Aristotle, *Meteorologica*, Loeb Classical Library.
 Basil the Great, 1857, *Homiliae in Hexaemeron*, Sources Chrétiennes, Lyon 1968.
 Gregory of Nyssa, *Apologia in hexaemeron*, J. P. Migne (ed.), *Patrologia Graeca*. v.44. Paris, 1857.
 Gregory of Nyssa's *De hominis opificio*, J. P. Migne (ed.), *Patrologia Graeca*. v.44. Paris, 1857.
 Pachymeres, George. *Paraphrasis of De divinis nominibus*. J. P. Migne (ed.), *Patrologia Graeca*. v.3. Paris, 1857.
 Plato. *Plato: Timaeus and Critias*. Translated by Robin Waterfield. Oxford-New York: Oxford University Press, 2008.

Bibliography

- Brison, Luc. *Le Même et l'Autre dans la structure ontologique du Timée de Platon*. Sankt Augustin: Academia Verlag, 1998.
 Burnet, John. *Greek Philosophy: Part I: Thales to Plato*. London: Macmillan and Co, 1928.
 Callahan, John F. "Greek Philosophy and the Cappadocian Cosmology". *Dumbarton Oaks Papers* 12 (1958): 29-57.
 Corsini, Eugenio. *Il trattato "De divinis nominibus" dello Pseudo-Dionigi e i commenti neoplatonici al Parmenide*. Torino: Università de Torino, 1962.
 Couloubaritsis, Lambros. *L'avènement de la science physique*. Bruxelles: Ousia, 1980.
 Duhem, Pierre. *Le système du monde: histoire des doctrines cosmologiques de Platon à Copernic II*. Paris: Librairie Scientifique A. Hermann et fils, 1914.
 Düring, Ingemar. *Aristoteles. Darstellung und Interpretation seines Denkens*. Heidelberg: Winter, 1966. (Greek edition of the book: Athens: M.I.E.T., 1991).
 Festugière, André-Jean. *La Révélation d'Hermès Trismégiste II*. Paris: Les Belles Lettres, 1990.
 Heisenberg, Werner. *Physics and Philosophy: The Revolution in Modern Science*. New York: Harper & Brothers Publishers, 1958.
 Hoch, Ronald F., and Edward. N. O'Neil. *The Chreia and ancient Rhetoric: Classroom Exercises*. Atlanta: Society of Biblical Literature, 2002.
 Lossky, Vladimir. *Théologie mystique de l'Eglise d'Orient*. Paris: Aubier, 1977.
 Robin, Léon. *La théorie Platonicienne des Idées et des Nombres d'après Aristote*. Paris: Félix Alcan, 1908.
 Saffrey, Henri Dominique, and Leendert Gerrit Westerink. *Proclus. Théologie Platonicienne V*. Paris: Les Belles Lettres, 1987.
 Sherrard, Philip. *Human image: World image: The death and the resurrection of sacred cosmology*. Limni: Denise Harvey, 2004.