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GREGORY PALAMAS' COSMOLOGY IN THE CONTEXT OF ANCIENT GREEK PHILOSOPHY

INTRODUCTION

From the inception of my intellectual inquiry into the Middle Ages under the mentorship of Professor Kiełbasa, reflections on the margins of anthropology and cosmology have been a constant companion. Indeed, among the courses he taught, some of the earliest ones I attended revolved around the medieval understanding of man's unique status as a microcosm, considered alongside the concepts of man's iconicity (created in the image of God) and personhood. There, Professor Kiełbasa inevitably referred to many cosmological concepts that culminated in theological and philosophical anthropology. In his lectures, he focused primarily on the Latin-speaking representatives of scholasticism—the field in which he remains a distinguished authority. In this paper, I have chosen to revisit the topic of medieval cosmology along a line of research much closer to my heart—namely, the thought of Gregory Palamas, a leading representative of Byzantine spiritual and intellectual culture of the fourteenth century.

The purpose of this paper, therefore, is to define Palamite cosmological views and to situate them within the broader current of philosophical reflection on the natural world represented by ancient authors. For the purposes of the present study, the juxtaposition of Palamas with the aforementioned ancient philosophers will be limited to representatives of the Greek pagan tradition, with Christian authors omitted deliberately as falling outside the scope of the reflections here.

The description of Palamas' cosmology is included in the first part of the paper. The second part identifies analogous concepts found in the works of

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Greek pagan authors. The article concludes with a short summary containing suggestions on the process of direct or indirect reception of the cosmological thought of ancient philosophers in the works of Palamas.

1. PALAMITE VIEWS

Saint Gregory imagines the whole created world as hierarchical. It consists of various metaphysical domains subject to one another, similarly to how the whole creation is subject to the uncreated God.[1] First of all, the created reality can be divided into immaterial, i.e. intelligible (νοητός) (CL 27, 110), and material, i.e. sensible (αἰσθητός) (CL 24, 108), worlds. The immaterial world is identified by Palamas with the multitude of incorporeal (CL 27, 110) and ontologically indivisible (T2 3.72, 754) spirits, referred to as angels (CL 30, 114). They are noeric and noetic at the same time (CL 27, 110), meaning that they are not only endowed with rational mind but are also cognisable solely by the mind and not by the senses.

Occupying the highest place in the ontological hierarchy (CL 26-27, 110), angels possess this dignity partially due to their nature and partially due to their choice for, as Palamas believes, the angels were capable of choosing to either lovingly submit to God or to disobey Him.[2] Apart from this choice between good and evil, angels appear impassive (DL 1, 344). Those who chose the second option fell from God's grace and became demons, receiving a place lower than all other members of the metaphysical ladder (CL 27, 112; 41, 128). Remaining who they were in their immaterial essence (T3 2.16, 876), they turned towards matter, and became entangled in it more profoundly than all the beings material by nature (B1 52, 492).

Those angels who remained with God form an internal hierarchy. Even if Gregory does not pay much attention to the details of the angelic orders, he is very explicit about its crucial role, stating that, in heavens,[3] the uncreated Grace is participated by the lower beings via the mediation of the higher (H53 40, 312). Therefore, the hierarchical constitution of the material world discussed below is seen by Palamas as a mirror and image of a similarly ordered spiritual reality (H3 7, 82).

[1] The most fundamental distinction between the uncreated and the created is seen by Palamas as exhaustive and mutually exclusive (EA 3, 786).

[2] This is clearly implied in CL 27, 112.

[3] Notably, Palamas systematically distinguishes between heavens (i.e. the immaterial abode of angels) and heaven (material firmament above earth). Compare, e.g., CL 3, 84–86 and CL 54, 146.

With regard to the material world itself, it is most generally divided into heaven and earth, composed of four basic elements: fire, air, water and earth (CL 10, 72), as well as aether (CL 10, 72). Among them, the last one is present only in the region closest to heaven, while the other four not only possess their own domains but are also jointly present in earthly living creatures (H3 6, 82). Four basic elements exist in the world in equal proportions with regard to their mass (CL 10, 92).Originally, as Palamas presents it, God created the whole material (corporeal) world at once out of non-being.[4] It came into existence in a disorderly state, gradually gaining its proper form and harmony (T2 3.44, 700; CL 23, 104–6) during the following six biblical days of creation (H6 6, 176; H17 2, 486; CL 22, 104). Both heaven and earth were at first created "as a sort of all-containing receptacle of matter, bearing all things in potency" (CL 21, 104). Earth was thus "mixed with water and each was pregnant with air, and with animals and plants according to their species, while heaven was pregnant with the various lights and fires in which he [God] established the universe" (CL 21, 104). The very first moment of creation is also implied to give rise to numbers (H17 6, 492). and the categories of time and place (defined as "the boundary of its container" (D2 60, 226), for they are simultaneously treated by Palamas as the necessary framework in which everything else comes to pass and as created beings themselves.[5]

In the act of ordering, God brings form into the primordial creation imagined as an all-potent matter (CL 22, 104). All corporeal beings, i.e. both particulars and the whole harmoniously arranged universe, thus appear as compounds of form and matter (A1 9, 408). The only simple natures in the material world are the four basic elements (CL 3, 84), atoms of which are portrayed by Saint Gregory as building blocks of all bodies. Notably, the heaven itself seems to constitute an exception from that rule as it possesses a unique, unspecified simple nature, different from aether or any other classical element.[6]

In the macrocosmic scale, the ordering of the universe consisted primarily in allocating every element to its proper sphere, according to its weight and density (CL 3, 84). As Palamas specifies, all that is heavy tends downwards, towards the centre of the universe, while that which is light tends upwards (CL 4, 88; 7, 90; T2 3.43, 696). The topmost place was assigned to heaven

[4] PD 19, 1098; CL 21, 102. The whole universe (and its parts) is thus characterised by having a beginning; CL 1, 82.

[5] H46 1, 88; C2 XII.50, 160; T2 3.15, 646. As creatures, they participate in the Divine energy of Existence; T3 2.23, 888.

[6] CL 3, 86; 5, 88; 7, 90. Although Palamas never specifies what this nature might be, he takes the light to be the form of the stars; B2 55, 564.

(CL 4, 88; 7, 90), more rarefied and lighter than all other elements (CL 5, p. 88; 7, p. 90). Pregnant with lights, heaven was also adorned with the stars, firmly fixed upon its firmament.[7] Being the lightest of all the material entities, heaven cannot move upwards or downwards, and so the only movement it can perform is that of constant rotation around and above the inferior spheres (CL 4, 88; 7, 90).

Against those who imagine heaven to be moved by a soul, Gregory starkly rejects any possibility of celestial psychology. He claims soul can move and animate only those bodies which possess organs (CL 3, 84); that, however, cannot be attributed to heaven, made of the aforementioned simple and thus uniform essence (CL 3, 84). Moreover, if the soul immanent in heaven was identical to the Greek World Soul, then it would have to be rational and move by its will. Such a deliberate motion, Palamas argues, would not be constant and unchanging, in contrast to what can be actually observed (CL 3, 84). Therefore, heaven must be an inanimate entity, moving in circles according to its own irrational nature rather than to some sort of a god-like soul (CL 3, 86).

The celestial firmament encompasses all other elemental spheres (CL 6, 88). Immediately, it borders the domain of aether (CL 5, 88; 11, 94.), imagined as a vast cold space filled with celestial bodies different from the stars, i.e. the sun, the moon and the planets (H3 5, 80). Moving in the opposite direction than heaven, these bodies are seen by Palamas as a God-planned counterpoise to the heaven's rapid movement (CL 23, 106). Similarly, by their own heat, they balance out the aether's excessive cold, which in all probability results from the vast expense of this sphere (CL 23, 106). Gregory does not explicitly say whether the non-stellar celestial bodies are themselves made of aether, the mysterious celestial essence, or, as implied by their hot temperature, of fire, although the latter option seems less likely to the extent fire is portrayed as heavier than aether and, therefore, it should thus not be expected to hover in a lighter plane.

Apart from their balancing functions, the aetheric bodies are perceived by Palamas as profitable for the inhabitants of the earthly realm,

> providing us with the beneficial, yearly changes of season, the measures of temporal extension, and to the wise the knowledge of God who created, ordered and adorned the world. Thus, for a twofold purpose did he permit some bodies to dance round in the upper air in fast rotation, namely, for the sake of the beauty of the universe and for manifold benefit. (CL 23, 106)

[7] H3 5, 80. Palamas also mentions some kind of celestial winds, different from those present in our regions; CL 8, 90–92.

When discussing the relationship between the two principle non-stellar bodies, namely the sun and the moon, Gregory comes across as an educated man, capable of reconstructing the scientific argumentations of his time. He speaks about the moon as circulating closer to the earth than the sun and the stars—the Pleiades to be precise—the fact of which, as he claims, can be easily proven by astronomical observation of the moon's phases (A1 11, 410; CL 19, 100–102). Moreover, the moon is depicted as reflecting the rays of the sun but unable to receive its light from any other source, even if it cannot accept all of the sun's brilliance (C7 XI.38, 850).

The sensible (i.e. non-spiritual) light itself is seen by Palamas as characterised by shape, volume and qualities (T2 3.6, 628). It is the form of all celestial bodies (B2 55, 564), it requires a medium for its propagation, the most common of which is air (T1 3.35, 436; T3 1.22, 808; A1 12, 412). Following the Genesis narrative, Gregory depicts light as the first thing created by God (G3 23, 1120), which should most probably be understood as indicating the first being to emerge from the primordial, indefinite mixture of heaven and earth. Interestingly, Palamas claims that light metaphysically preceded that to which it properly belongs as a form, being originally dispersed in the whole material world (B2 55, 564; H53 11, 274).

Encompassed by heaven, the sphere of aether circumscribes the inferior plane of fire. Gregory does not talk much about this domain, limiting himself to the acknowledgment of its existence (H3 6, 82; CL 11, 94). All we can suggest is that Palamas most probably imagined it as invisible because fire, as he claims, only becomes manifest once it comes into contact with combustible matter (T3 1.34, 832).

Next in the cosmic hierarchy comes the stratum of air, directly surrounding the two last spheres of water and earth (CL 11, p. 94). Fixed in the middle of the whole cosmos, the earth constitutes its solid axis, stabilising the circular motions of all the upper spheres (H6 7, 178; CL 22, 104). Together with the aforementioned realm of fire, these four domains constitute the sublunary world, clearly distinguished by Palamas even if not denominated by him with this classical term (CL 11, 94). Unlike the celestial bodies above, all beings located in this part of the material world are characterised by weight and passibility, coming into being, experiencing change, and ceasing to exist (H6 9, 180).

Saint Gregory's account on this matter, however, does not seem very precise. Firstly, his notion of weight appears incoherent, with no crucial difference between the celestial and sublunary worlds in this regard. If, on the one hand, weight is taken as necessarily connected with being lighter or heavier, then every

material entity must possess it, for all hierarchical spheres are located according to their heaviness or lightness. On the other hand, when identified solely with the downward pull, weight should be treated as a relative notion, aether having weight when compared with heaven but not when juxtaposed with fire. In any case, Palamas does not seem to employ the notion of weight in a technical way, rather pointing out the natural earth-like heaviness characterising the great majority of commonly observable composite beings, contrasted with celestial bodies lightly circulating in the upper regions.

Secondly, the sublunary changeability must also be understood in a weaker, relative meaning. As Gregory states explicitly, coming from nothingness to existence is the very foundation of all change (H22 3, 48; EA 36, 846), and so to consider celestial beings truly immutable would be nothing but to falsely equate them with that which is eternal and uncreated. Still, the stars and aetheric bodies are treated by Palamas as perfectly constant in their movement and qualities, something we cannot say about the beings observable on earth or in the daily sky (apart from the sun). The celestial bodies can thus be seen as unchanging in comparison with the sublunary beings, but only insofar as this term is taken in a relative rather than the absolute sense.

Endowed with an equal mass and concentrically distributed in accordance with their density, each elemental sphere is imagined as bigger or smaller than those adjacent to it (CL 10, 92). Consequently, every sphere apart from heaven must be encompassed by another one, with the smallest region fully covered by all the others. Following this line of reasoning, however, it is hardly possible to explain why the last sphere, i.e. that of earth, is only partially covered by the penultimate plane of water (CL 11, 94). To explain this discrepancy, Gregory makes an exception in the axiom of concentricity and produces a peculiar interpretation, according to which the much greater sphere of water must be eccentric with regard to the smaller earthly globe (CL 11, 94).

Arguing in favour of his position, Palamas once again manifests a certain level of interest in scientific calculations. He employs mathematical equations to count the necessary eccentricity, based on the assumption that people inhabit about one tenth of the earth's surface (CL 9, 92), i.e. a half of one of the five zones into which the whole globe is divided (CL 12, 94). As he concludes, the watery sphere must be "eight times greater in magnitude"[8] in comparison with

[8] CL 12, 96. Unfortunately, Palamas' calculations seem thoroughly mistaken, not only in the light of modern science, but also in that known to Gregory. For example, the fact that people inhabit half of one of the five zones into which the earth is divided does not in any way mean that the region

the earthly sphere, "with its centre at what seems to us the lowest extremity of the earth" (CL 12, 96). With one eighth of the aquatic plane "merged with the earth" (CL 13, 96), the water appears to pervade the whole globe,

> and so, a great many springs burst up from it and abundant, ever-flowing river streams issue forth, and the gulfs of not a few seas pour into it, and a multitude of marsh waters seep upwards. And there is scarcely anywhere on earth where you can dig and not find water welling up. (CL 13, 96)

Although from the perspective of a modern reader they lack any actual scientific value, Palamas' geographical reflections constitute a vital witness of scientific topics engaging the intellectual milieu of his time. Moreover, they present Gregory as proficient in contemporary academic discussions, both religious and secular. Finally, they imply a decent level of Palamas' adolescent education, allowing him to make use of mathematical argumentation, even if it was utterly flawed at the level of both its assumptions and its conclusions.

Constituting the only region above the waters (CL 10, 92) the dry portion of the earth's surface is simultaneously the sole place inhabited by land animals (CL 14, 98), with the other animate creatures implied to live in water and, possibly, air. Belonging to the inferior and changeable sublunary realm, animals, plants and all different kinds of living beings are nonetheless portrayed by Palamas as ranking higher in the metaphysical hierarchy than the relatively immutable celestial bodies.[9] The precious feature responsible for such a characterisation is nothing but life, present in all bodies made of four basic elements (H3 6, 82) and possessing a soul.[10] Surpassing all inanimate objects, the living creatures are in turn inferior to beings which, apart from life, are also endowed with mind and reason (CL 79, 174). With no other created gift more valuable than that,[11] noeric and rational entities crown Palamas' natural hierarchy. Only by God's grace and free cooperation with it can one ascend even further, having

inhabited by people corresponds to one tenth of the earth's circumference, if only because the zones in question are not equal.

[9] As inanimate beings, they are least similar to God and, therefore, lowest among all natures; CL 79, 174.

[10] In most cases, Palamas does not make a clear ontological distinction between the living and sensible creatures, usually mentioning both categories together. Their terminological differentiation may, however, suggest the implicit acceptance of their classic hierarchisation. See CL 3, 84; UD 16, 952; DO 46, 1212–14; 47, 1214; H1 1, 27.

[11] CL 27, 110. The nature of our mind, according to this text, is such that there is nothing better than it κατὰ φύσιν, which I interpret as "according to nature" in the sense of "among all natural, created beings" and not, as Sinkewicz translates it, in our human nature (111).

become spiritual and divine by sharing in God's deifying energies (T1 3.43, 452). What Gregory presents is thus a tripartition of all created beings into the categories of existent, living and rational (CL 86, 184; B2 32, 536), corresponding to the demiurgic energies of being, life and wisdom.[12] The natural participation in these three allows then for a supernatural,[13] uncreated union with the Divine Light, transcending all created order.

Apart from the immaterial angels, the only rational and noeric beings mentioned by Palamas are humans (CL 4, 88), inhabiting the aforementioned unique portion of dry land (CL 14, 98). They are seen by Palamas as the crowning achievement of God's demiurgic work (CL 24, 106–8), simultaneously unifying and summing up all other kinds of creatures qua microcosm (H26 1, 152; H53 55, 330). Humans are depicted as joining the intelligible and sensible worlds, simultaneously possessing a material body and an immortal soul. As per their bodies, humans share in the existence proper to living beings as well as in their four-element constitution (CL 24, 108). As per their souls, they resemble incorporeal angels, originating from the regions above this world (CL 4, 88; CL 24, 108) as indestructible, immortal (PD 8, 1080) substances. Moreover, the soul's highest power—the mind—resembles the clear and all-encompassing heaven (H26 2, 154), while the lower psychological faculties join the mind together with the senses, not unlike the numerous spheres which constitute a link between heaven and earth (H26 1, 152; 2, 154; H53 55, 332). Human νοῦς is also compared to God both with respect to its inner structure and its dominion over the rest of the human being, although such juxtaposition appears in the context of the question of the image of God rather than the microcosm.

Endowed with a rational soul, man occupies the highest position in the metaphysical hierarchy together with the angels. As to the relationship between them, one could point out two different sets of fragments where the ontological primacy is attributed either to the former or to the latter. On the one hand, Palamas underscores the purely incorporeal nature of angels, rendering them more similar to the utterly immaterial being of God (CL 27, 110). On the other hand, man is presented as an entity which not only possesses the Divine image in a more perfect manner than angels (CL 32, 126) but also was the only one capable of attaining the hypostatic union with God.[14] Seeing no contradiction in the above,

[12] CL 87, 186; 91, 188–90. Sometimes, the first element of the triad is replaced by Goodness. See A1 12, 412; CL 34, 116–18.

[13] Palamas uses this term to denote all things surpassing the nature and capabilities of created reality. See T1 3.15, 394; T2 3.23, 658; D2 70, 246; 71, 248; C5 XXIII.87, 594; XXIII.88, 596.

[14] CL 24, 108. Moreover, all was created for man, including angels, see H36 2, 412.

Gregory apparently makes a crucial distinction between the two primacies. As he implies, the pre-eminence proper to angels arises principally from the difference of status between the good spirits and the humans after the fall of Adam and Eve (CL 27, 110; 40, 128; 43, 132; 64, 158), while the all-surpassing dignity of man is rooted in his inalienable nature. Angels seem to surpass man only insofar as the present condition is concerned, for after the resurrection even the bodies of the saved will be spiritual (EX 14, 242; C3 II.2, 236), seemingly immaterial (T1 3.36, 438), of a nature identical with that of the incorporeal mind (T1 3.37, 440; C5 XII.21, 716; C6 XII.41, 716), and thus of a metaphysical dignity matching that of angels. Meanwhile, the image of God is always more perfectly present in humans, stemming, ironically, from their possession of a body animated by the immortal soul (CL 38, 124).

2. ANCIENT SOURCES

The use of the term κόσμος for the universe to indicate its beauty and arrangement has a traditional Pythagorean provenance (ALLERS 1944, 343). The hierarchical view of the universe, composed of a range of beings from the material to the divine, was typical of Greek pagan religion, while philosophically it can be associated primarily with Platonism (PLATO, *Timaeus*, 34b–37c; 39e–41e), especially in its Neoplatonic interpretation (PLOTINUS, *Enneads*, 5.2, 549–51). Plato also introduced the sharp distinction between the intelligible and the sensible worlds (*Republic*, VII, 509d–520a). He also seems to be the first to establish the immaterial status of human souls along with other divine beings, be they traditional Greek gods or demons (*Phaedo*, 81a; *Phaedrus*, 245c–e; *Timaeus*, 43a). The entanglement of evil angels in matter is reminiscent of a Platonic myth, according to which human souls inhabit their bodies as a result of a fall from their natural abode, i.e. heavens (*Phaedrus*, 246c–e).

The notion of a hierarchical mediation of God's grace between the various choirs of angels corresponds to the Neoplatonic view of participation, according to which all lower beings share in the realities above them (PLOTINUS, *Enneads*, 6.4.11, p. 751; 6.5.4, p. 763; PROCLUS, *Elements of Theology* 23, p. 27; 24, p. 29). In particular, such a vision was elaborated by Proclus through the inclusion of various levels of participation, beginning with the famous Henads (PROCLUS, *Elements of Theology* 113–65, pp. 100–145).

The division of all sensible reality between heaven and earth is another traditional concept common to ancient Greek authors, including philosophers

(PLATO, *Theaetetus*, 176a–b; *Epinomis*, 981e; *On the Universe* 2, 391b; CICERO, *De natura deorum* II.56). In particular, the distinction between the sublunary and superlunary worlds was systematised by Aristotle, the latter being seen as the domain of generation, destruction, and change (*Meteorology* I.3, 339a–340b). The doctrine of four basic elements forming the entire realm below the moon has its philosophical roots in the theory of Empedocles (DIELS and KRANZ 1960, 1:287–89). The addition of aether as a separate element proper to the celestial bodies was posited by Aristotle (*On the Heavens* I.3, 269b), although it already appears in Plato's *Epinomis* (981c). The existence of elements in equal proportions was first explicitly stated by the author of *On the Universe* (5, 397a).

For the ancient Greeks, the idea that the world was created out of non-being was unheard of. On the other hand, the view that the world first existed in a chaotic state and gradually acquired form and harmony was deeply rooted in their pagan religiosity (HESIOD, *Theogony* 116). In philosophy, Plato was the first to describe this process in his *Timaeus* (27c–42e). It is also in this work that Plato refers to the disorderly world, subject to the power of the Demiurge, as a receptacle capable of being informed in any way, containing a primordial mixture of all elements (49a, 52d–e).[15] The identification of this receptacle with matter entered the Platonic tradition a little later, as can be seen in Alcinous (1854, 260). Plato's account is also consistent with the Palamite view of time as created along with the world (*Timaeus*, 37c–39e). As far as numbers are concerned, the various Platonic dialogues give contradictory impressions, associating numbers either with ideal forms (*Phaedo*, 101c) or with the generated world (*Parmenides*, 143a–144a; *Timaeus*, 34c–35b).[16] The Platonic concept of place, on the other hand, seems to be closely related to, if not identified with, the notion of the receptacle (*Timaeus*, 52a–52d). The definition of place as "the boundary of its container" belongs to Aristotle (*Physics*, IV.4, 212a).

The designation of the four basic elements as simple can also be found in Aristotle (*On the Heavens* I.2, 268b; III.1, 298a; III.8, 306b). However, the idea that the heaven itself possesses a simple nature, distinct from both the aether and the other four elements, is absent from the Aristotelian corpus. It might have something in common with the Stoic notion of the void, with the significant caveat that, unlike the Palamite heaven, the void is completely immaterial and cannot be called a body (BRUNSCHWIG 2003, 213).

[15] Anaxagoras was the first to speak of a primordial mixture of all things, HERMANN and KRANZ (1959, 2:35). See also TORRIJOS-CASTRILLEJO (2019).

[16] See also CALIAN (2021, 219–36).

The distribution of the elemental spheres according to their weight and density, with the heaviest elements towards the centre of the universe, is another Aristotelian concept (*On the Heavens* I.3, 269b), although it is already implied in the Platonic tradition (*Timaeus*, 31b–32c; 40a–c; 55d–57d). The Peripatetic view of the universe, based primarily on Aristotle's *On the Heavens* and the anonymous *On the Universe*, includes other Palamite cosmological motifs, such as the positioning of the heaven in the highest sphere at the circumference of the universe (*On the Heavens* I.7, 275b; *On the Universe* 2, 391b), the constant circular motion of heaven encompassing all other spheres (*On the Heavens* I.7, 275b; *On the Universe* 2, 391b), the identification of heaven with the realm of the stars which rotate immutably together with the firmament (*On the Heavens* I.9, 278b; *On the Universe* 2, 392a), the association of aether with the Sun, the Moon and the planets (*Meteorology* I.3, 340b; *On the Universe* 2, 392a), the motion of the planets contrary to that of the stars (*On the Heavens* II.2, 286a; *On the Universe* 2, 392a), the vast size of the realm of aether (*On the Heavens* II.14, 297b–298a), the harmonious arrangement of all the celestial bodies and phenomena (*On the Universe* 5, 396b), as well as their association with the cycle of the seasons and fixed periods of time (*On the Universe* 5, 397a). The reasoning based on the phases of the Moon, which shows that the Moon merely reflects light from the Sun and is closer to us than the Sun and the stars, also goes back to the Peripatetics (*Problems* XV.7–11, 911b–912b).

The idea that neither heaven nor the astral bodies in it are living and rational beings contradicts all the main schools of Greek philosophy, be it the Platonic (*Timaeus*, 39e–40b), Aristotelian (*On the Heavens* I.9, 279a), or Stoic (WHITE 2003, 128–29; ALGRA 2003, 166–69) tradition, and so has no clear historical basis in ancient authors. On the other hand, the Peripatetic view of aether implies that its eternal circular motion is somehow intrinsic to the nature of this element (*On the Heavens* I.2–3, 268b–270b). The Palamite view of aether as a cold and light element, contrasted with the warmth of the celestial bodies, is also foreign to the ancient authors, who imagined the aether either as a kind of refined air (*Timaeus*, 58d), fire (*On the Heavens* I.3, 270b; III.3, 302b), or a separate fifth element, neither cold nor warm, dry nor moist, light nor heavy (*On the Heavens* I.3, 269b; see also FEKE 2009, 58, 64). Rather, the balance of warm and cold in the cosmic spheres is spoken of in the context of the fiery substance heating the adjacent layer of air "cold as ice" (*On the Universe* 2, 392a–b). The heating activity of the planets is also well rooted in ancient cosmology, as witnessed by Aristotle (*Meteorology* I.3, 340a) or, in its more developed form, by Ptolemy (FEKE 2009, 162). The view that aether is a light element, however, seems to

be associated with the above-mentioned opinions which presented aether as a distinct kind of air or fire.

Gregory's idea of light is first of all reminiscent of the Peripatetic theory, according to which a ray is emitted by an object and reaches the eye of the observer, rather than the other way round (SAMBURSKY 1958, 114–15). Palamas also agrees with Aristotle and his commentators on the need for a transparent medium for light to emerge (*On the Soul* II.7, 418a–419a; SAMBURSKY 1958, 114–15). On the other hand, the Palamite position also draws on the views of authors such as Euclid, Archimedes, Hero and Ptolemy, who focused on the physical behaviour of light rays propagating in straight lines through space, in the manner of a corporeal being (SAMBURSKY 1958, 115). The fusion of these two accounts, as already seen in Palamas, took place gradually throughout the period of late antiquity, with John Philoponus being one of the most important authors responsible for the emergence of a new, combined concept of light (117–26).

The general order of the elemental spheres beginning with aether in the highest position (leaving aside the question of heaven and its elemental nature), proceeding downward through air, fire and water, and ending with earth at the very centre of the universe, was first described by Aristotle in his *On the Heavens* (II.4, 287a), although the notion of earth as the central point stabilising the whole cosmos (*Timaeus*, 40b–c), and the mediating role of air and water between earth and fire, is already explicitly stated in *Timaeus* (31b–32b). The claim that the cosmic realm of fire is in fact a combustible fuel that only becomes visible and fiery when affected is consistent with the Aristotelian description of this sphere (*Meteorology* I.3, 340b–341a) and various meteorological phenomena, such as shooting stars and comets (7, 344a). The Stagirite is also the ultimate source of the concept of winds in the outermost part of the sphere of air, distinct from the air blowing at the level of the surface of the earth and resulting from the revolutions of heaven located directly above (3, 340b–341a). Conversely, the attribution of weight and generation to the highest sphere of aether together with its celestial bodies contradicts the Peripatetic view, according to which the superlunary world is eternal and does not move on the up-and-down axis proper to other elements) (*On the Heavens* 3, 269b–270a).

The notion of equal proportions among all the elements comes from *On the Universe* (5, 397a), as does the idea that the spheres are generally concentric and vary in size proportionally to their density (5, 393a). The idea that some of the celestial spheres might be eccentric came later with authors such as Hipparchus (FRASER 2006, 19) and Ptolemy (FRASER 2006, 24), although, as far as

I'm aware, none of the ancient philosophers or astronomers considered the sphere of water to be the eccentric one.

The concept of five climatic zones comes from Parmenides (SANDERSON 1999, 669), while the assertion that man inhabits only half of one of these zones does not seem to be found in ancient authors. The geometrical calculations made by Palamas correspond to the mathematical knowledge going back to Euclid (1908, XII.18).

Palamas' portrayal of all living beings as possessed of a soul is in line with the Peripatetic and Neoplatonic view.[17] The ontological hierarchisation of all created beings into the existent, the animate and the rational is already implicit in Aristotle, who clearly speaks of a certain ontological ascent from inanimate things to intelligent beings via plants and animals, endowed with an increasingly wider range of locomotive and cognitive powers (*History of Animals* VIII.1, 588b; *On the Soul* II.2, 414a–415a; *Metaphysics* I.1, 980a–b. However, the explicit mention of these three stages is associated with the Neoplatonic triad of being, life and intellect introduced by Plotinus.[18]

Finally, the concept of the microcosm demonstrated by Palamas is another concept with a long history in ancient thought. Anaximenes was the first author to draw a comparison between man and the world, emphasising the unifying function of the human soul in relation to the body on the one hand, and of air in relation to the entire universe on the other (CONGER 1967, 2). The idea that man "is a combination of all the elements of which the universe consists" entered Greek philosophy via Anaximander (ALLERS 1944, 340). The concept of the four elements appears in this context a little later, possibly in Empedocles and certainly in the Hippocratean treatises (CONGER 1967, 5; BARTOŠ 2021, 124–29). It is also here that we first encounter the notion that man reflects the universe as a structured whole. This is made explicit in Plato's *Timaeus*, where the intelligent World Soul is presented as "the archetype of the human soul" quickening the universe in much the same way as the soul animates its body (28d–30c; ALLERS 1944, 352). Although the body of the world is very different from that of a human being, there is a deep affinity between these two entities. The analogy between "the movements of the heavens and those of the minds" appears in Plato's *Laws* (IX, 897c; CONGER, 1967, 9).

[17] ARISTOTLE, *On the Soul* II.1, 412a; ALEXANDER OF APHRODISIAS, *On Aristotle Metaphysics* VII.10, 475, p. 507; PLOTINUS, *Enneads* 5.1.3, 536. For Plotinus, however, the inferior soul common to all living things must be distinguished from the true, immortal souls (1.1, 43–53).

[18] PLOTINUS, *Enneads* 5.4.2, 579–580; 6.2.6, 687; D'HOINE (2016, 100–101). The triad is also implied in PLATO, *Sophist*, 248e–149a.

The first philosopher to use the expression μικρός κόσμος itself was Aristotle (*Physics* VIII.2, 252b), who ironically does not pay much—if any—attention to the concept as such (GUERRERO VAN DER MEIJDEN 2019, 156–57). It is with the Stoics that the notion is further elaborated, a notable example being the microcosmic view of Posidonius (ALLERS 1944, 347). Drawing a parallel between man and various ontological layers of the universe, Posidonius describes man as sharing the "mixture of elements" in his body with inanimate matter, "the powers of reproduction and nutrition" with plants, and "instinctive movement, courage, appetition, and the powers of perception and respiration" with animals. Nor does man lack communion with the intelligible world by means of reason, together with other rational and moral qualities (347). Furthermore, Posidonius speaks of the soul as being reminiscent of God, who pervades the universe in the same way that the soul pervades the body (CONGER 1967, 13).

CONCLUSION

Palamite cosmology, in its general outline, reproduces all the main elements of the classical view of the universe, going back to Aristotle through the important mediation of Ptolemy: its spherical construction, the distinction between the sublunary and superlunary worlds, and the theory of the four elements and of the aether. Similarly, the hierarchical view of the chain of beings and the microcosmic theory of man are part of the widespread legacy of ancient philosophy and science.

Given the great interest that astronomy aroused in late Byzantine intellectuals, including Palamas' teacher Theodore Metochites, it seems quite reasonable to assume that Saint Gregory could have read crucial works on the subject, both ancient and medieval. This would be particularly true of the writings associated with Aristotle, as evidenced by Palamas' explicit quotation from *On the Universe.* A remarkable number of Palamite cosmological ideas, which are difficult to trace back to the ancient Greeks, may further strengthen the hypothesis that Gregory drew his knowledge from more recent texts, which could thus also constitute an important mediating factor.

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GREGORY PALAMAS' COSMOLOGY IN THE CONTEXT OF ANCIENT GREEK PHILOSOPHY

Summary

The purpose of this paper is twofold: first, to methodically present the cosmological views found in the corpus of Gregory Palamas' extant works, and second, to situate them in the context of ancient Greek philosophy. Palamas' cosmology is shown to be ordered and hierarchical, aligning with the fundamental principles of the ancient Greek worldview and Christian doctrine. The Palamite universe comprises two distinct worlds: the intelligible and the material. The former encompasses the realm of angels, while the latter extends from the heavens to the earth, passing through the intermediate elemental spheres of fire, air, and water. The human being, as the preeminent inhabitant of the universe, is regarded as a microcosm reflecting the diverse aspects of the world through its natural constitution. In most of his views, Palamas is portrayed as a faithful follower of the ancient Greek cosmological tradition originating with Aristotle.

Keywords: Gregory Palamas; cosmology; ancient philosophy; Greek philosophy; Orthodox theology; microcosm

KOSMOLOGIA GRZEGORZA PALAMASA W KONTEKŚCIE STAROŻYTNEJ FILOZOFII GRECKIEJ

Streszczenie

Celem niniejszego artykułu jest metodyczne przedstawienie kosmologicznych poglądów zawartych w dziełach Grzegorza Palamasa, a także umiejscowienie ich w szerszym kontekście starożytnej filozofii greckiej. Jego kosmologia przedstawia wizję świata jednoznacznie uporządkowanego i zhierarchizowanego, zgodnie z podstawowymi założeniami formułowanymi zarówno przez pogańskich, jak i chrześcijańskich autorów starożytnych. Opisywana przez Palamasa rzeczywistość składa się z dwóch odrębnych światów: poznawalnego umysłowo – tzn. świata aniołów – oraz materialnego, obejmującego następujące po sobie sfery ziemi, wody, powietrza, ognia i nieba. W ramach tak zarysowanej kosmologii człowiek zajmuje centralną pozycję, stanowiąc uwieńczenie całego stworzenia. Jednocześnie człowiek ukazywany jest jako mikrokosmos, odzwierciedlający w swojej wewnętrznej ontologicznej strukturze całość wszechświata. Całościowe ujęcie kosmologii palamickiej pozwala na wskazanie daleko idących powiązań między XIV-wiecznym teologiem oraz starożytną grecką tradycją kosmologiczną, w głównej mierze wywodzącą się od Arystotelesa.

Słowa kluczowe: Grzegorz Palamas; kosmologia; filozofia starożytna; filozofia grecka; teologia prawosławna; mikrokosmos