



BRILL

SCRINIUM 17 (2021) 335–348

SCRINIUM

Journal of Patrology and
Critical Hagiography

brill.com/scri

Cosmological Polemics in *Against Eunomius*

II, 72–76 of Gregory of Nyssa

With Whom Does Gregory Argue?

Dmitry Biriukov | ORCID: 0000-0003-3000-0864

Saint Petersburg State University of Aerospace Instrumentation
(SUAI), National Research University Higher School of Economics,
St Petersburg, Russia
dbirjuk@gmail.com

Abstract

I analyze the polemically charged exposition of classical cosmologies by Gregory of Nyssa in *Against Eunomius* II, 72–76, and identify probable sources for this passage and the targets of Gregory's criticism of classical cosmologies, manifested in this passage. In *Against Eunomius* II, 73–75, Gregory presents the Aristotelian cosmology and polemicizes with it. My analysis shows three avenues of Gregory's criticism of the Aristotelian cosmology, which are manifested in this passage. As my analysis of *Against Eunomius* II, 76 shows, in this passage, Gregory summarizes and criticizes the Stoic natural-philosophical and cosmological doctrine that there is the limitless void beyond the limits of the cosmos, in which cosmos moves (probably by expanding and contracting). I identify two points in Gregory's criticism of this doctrine. Finally, I suggest that the immediate Gregory's source regarding this Stoic doctrine was a treatise of Cleomedes.

Keywords

cosmology – Gregory of Nyssa – Aristotle – Stoicism – Cleomedes – ether – void – creationism

In* II.72–76 of *Against Eunomius*, Gregory of Nyssa polemicizes with some cosmological doctrines. As far as I know, up until now there has been no analysis of this passage and no attempts to understand who was the object of Gregory's polemics, which sources it was based on, and what were the reasons for Gregory's polemical argument in this passage.

In the second book of *Against Eunomius*, Gregory of Nyssa attempts to clarify his thesis about unknowability of the essence of God and addresses the cosmological problems for demonstrating that a phenomenon may be known without understanding the reasons behind it and its essence. Gregory asks rhetorical questions pointing to the fact that the human mind is unable to understand the reasons for the observed phenomena, from which it follows that the man is even more unable to understand the essence of the divinity.

At first Gregory describes astronomical phenomena emphasizing that from the positivist point of view, their reasons remain hidden.¹ He speaks about the circular motion of the firmament, rotation of planets, and movement of the luminaries through the zodiac. He points out that luminaries differ from each other in their size and brightness, and move along the fixed orbits; their movement corresponds to the seasons. Gregory mentions such astronomical phenomena as eclipses of the luminaries and the sun; disappearance of stars from the visible zone and their reappearance, and the combination of luminaries. Gregory maintains that seasons depend on the distance of the sun in relation to Earth. It follows that Gregory has a very specific knowledge of astronomy received, directly or indirectly, from professional astronomers. Thus, he speaks about the phenomenon of wandering stars which was well known already in Plato's times and was discussed in detail by Plato's disciple Eudoxes of Knidos.² This is the anomalies of the movement of the celestial bodies when some of them first move along the orbit in the same direction as the moon and the sun, but after some time they change their orbit and start to move in the opposite direction, after which they switch the direction of their movement again, and so on.

Then, following the same strategy, Gregory starts to formulate astronomical argument in a more critical spirit and his speech becomes more "hermetic":

* This study was supported by the Russian Foundation for Basic Research, Project No. 20-011-41004 "Treatise of John Philoponus 'On the Creation of the World' in the context of the Middle Eastern Syrian-Palestinian and Byzantine Theological (Christological, anthropological, cosmological) Traditions."

1 Gregory of Nyssa, *Contra Eunomium* II, 71: *Gregorii Nysseni opera*, Pars prior, Liber I at II, Ed. W. Jaeger, Leiden, 1960, p. 247.

2 Simplicius, *In Aristotelis quattuor libros De Caelo commentaria*, in *De Caelo* II, 12: *Simplicii in Aristotelis de caelo commentary*, ed. J. L. Heiberg (CAG, VII), Berlin, 1894, pp. 488, 493–497.

<72> Οἱ δὲ γινώσκειν ταῦτα κομπάζοντες πρότερον μὲν περὶ τῶν ὑποβεβηκότων εἰπάτωσαν, τί τὸ οὐράνιον οἴονται σῶμα, τίνα δὲ τὴν κυκλοφοροῦσαν διὰ παντὸς μηχανήν, ἐν τίνι δὲ τὴν κίνησιν γίνεσθαι; ὅπερ γὰρ ἂν τις τῇ διανοίᾳ λογισηται, πάντως εἰς τὸ ἀμήχανόν τε καὶ ἀκατάληπτον ὁ λογισμὸς προῖων καταλήξει. <73> εἴ τε γὰρ ἕτερον ὁμοιοσημάτιστον σῶμα λέγοι τις ἐν τύπῳ περιηρισμένον περικρατεῖν τὴν φοράν, ὡς αἰεὶ τὸν δρόμον καμπτόμενον ὁμοιοτρόπως περὶ ἑαυτὸν ἐλίσσεσθαι, τῇ ἀνάγκῃ τοῦ περιέχοντος ἐξενεχθῆναι πρὸς τὸ εὐθὺ καλυόμενον, πῶς ἐρεῖ διαμένειν ταῦτα τὰ σῶματα, διὰ τῆς διηνεκοῦς τρίψεως ἐν ἀλλήλοις οὐ δαπανώμενα; <74> πῶς δὲ καὶ ἐνεργεῖται ἡ κίνησις, δύο σωμάτων ὁμοφυῶν πρὸς τύπον ἀλλήλοις ἐναρμοσθέντων, ὅταν τὸ ἕτερον ἀκίνητον μένη; τῇ γὰρ ἀκινήσι καὶ τοῦ περιεδοραγμένου τὸ ἐντὸς διασφιγγόμενον ἀδυνατήσει πάντως πρὸς τὴν ἰδίαν ἐνεργεῖαν. τί δὲ καὶ τὸ ἐδράζον τοῦ περιέχοντος ἐκείνου τὴν παγιότητα, ὥστε διαμένειν ἄσειστον, ὑπὸ τῆς τοῦ ἐνηρμοσμένου κινήσεως μὴ τινασσόμενον; <75> εἰ δὲ κάκεινον κατὰ τὴν πολυπραγμοσύνην τῆς διανοίας εἶναι τις ἔδρα ὑποληφθεῖη ἢ συντηροῦσα ἐν τῷ παγίῳ τὴν στάσιν, πάντως προῖων κατὰ τὸ ἀκόλουθον ὁ λόγος κάκεινης πολυπραγμονήσει βᾶσιν τῆς βᾶσεως καὶ ταύτης ἄλλην καὶ τῆς ἐφεξῆς ἑτέραν καὶ οὕτω διὰ τῶν ὁμοίων ἢ ἐξέτασις ἀνιούσα πρὸς τὸ ἄπειρον ἐνεχθήσεται καὶ εἰς ἄπορον καταλήξει, τοῦ εἰς τὴν τοῦ παντὸς σύστασιν ὑποβεβλημένου σώματος τὸ ἐπέκεινα πάλιν κατεξετάζουσα, ὡς μηδαμοῦ στήναι τὸν λόγον τοῦ αἰεὶ περιέχοντος τὴν περιβολὴν ζητοῦντα. <76> ἀλλὰ τοῦτο μὲν οὐχί· κενὸν δὲ τι κατὰ τὴν ματαίαν τῶν ταῦτα πεφιλοσοφηκότων ὑπόνοιαν τοῖς οὐρανίοις περικέχεται νότοις καὶ τούτῳ ἐνολισθαίνουσα τοῦ παντὸς ἢ δίνησις πρὸς ἑαυτὴν ἀναστρέφει, μηδεμίαν ἐκ στερεοῦ τίνος ἀντιτυπίαν εὐρίσκουσα τὴν δυναμένην ἐξ ἀντιβάσεως στήσαι καὶ ἀνακόψαι προῖουσαν ἐν κύκλῳ τὴν κίνησιν. τί τοῖνυν ἐστὶ τὸ κενὸν ἐκεῖνο, ὃ μήτε σῶμά φασι μήτε νόημα, καὶ μέχρι τίνος ἰστάμενον, καὶ τί τὸ διαδεχόμενον; τίς δὲ τοῦ ναστοῦ καὶ ἀντιτύπου ἢ πρὸς τὸ κενὸν καὶ ἀνυπόστατον ἐκεῖνο συγγένεια; τί τὸ μεσιτεῦον τοῖς παρηλλαγμένοις τῇ φύσει;³

<72> The people who boast of knowing these things should first tell us about the lower movements – what they think is the material of the sky, and what the mechanism is which revolves continuously, and wherein its movement has its origin. Whatever reasoning the mind may apply, when rational thought approaches the impossible and incomprehensible, it will surely fail. <73> For if one were to suggest that another body of exactly the same shape, fitted round its exterior, controls its impetus, so that its movement is continually turned back to repeat the same revolution

3 Gregory of Nyssa, *Contra Eunomium* II, 72–76: *Gregorii Nysseni opera*, Pars prior, pp. 248.4–249.11.

around itself, and is restrained by the strength of its container from flying off at a tangent, how could one explain how these material bodies persist, and are not worn out by their constant friction against each other? <74> How, furthermore, is the motion stimulated, if two bodies of the same kind fit exactly together, when one remains unmoved? What is inside is gripped tight by the immobility of what holds it in, and will surely not be able to achieve its proper impetus. What, too, is the frame that gives that container its stability, so that it remains solid, and is not shaken up by the movement fitted inside it. <75> If one were to speculate mentally and suppose that this too has a frame which ensures that it stays firmly in place, then surely the argument must logically go on to postulate a framework for that framework, and for that another, and for the next yet another, so that the enquiry repeats itself and goes on in an infinite regress, ending up in perplexity; it will always be looking yet again for what lies beyond that material body which gives the universe stability, since the argument can at no point stop searching for what goes round the next container. <76> Alternatively, according to the vain theory of the astronomers, a void is spread over the top of the sky, and because it slips on this the rotation of the universe revolves upon itself, meeting no solid corresponding structure which could cause resistance and reduce its circular motion. What then is that void, which they say is neither material nor mental, how far does it extend, and what lies beyond it? What is the relation between the solid, resistant matter and that insubstantial void? What is the link between things of contrary nature?⁴

Keeping in mind specific aspects of the cosmological doctrine of Gregory of Nyssa and polemical twist which can be discerned behind these rhetorical questions, we may assert that the speech of Gregory in this passage is polemically charged. As I intend to show, some details in Gregory's questions make it possible to regard them as clear polemics with the cosmological ideas of two schools of the antique philosophy: Aristotelianism and Stoicism.

Indeed, the cosmology of Gregory of Nyssa which appears in his *Interpretation of the Hexameron* significantly differs from the cosmology he describes in this passage. Based on the cosmogony of the Book of Genesis, Gregory stated about the origin of luminaries during the first three days from

4 Transl. by S. Hall, in: Gregory of Nyssa, *Contra Eunomium II: an English version with supporting studies: Proceedings of the 10th International Colloquium on Gregory of Nyssa (Olomouc, September 15–18, 2004)*, edited by L. Karfíková with the assistance of V. Hušek and L. Chvátal (Supplements to Vigiliae Christianae, 82), Leiden, Boston, 2007, pp. 75–76.

fire-light (cf. Gen. 1:3–5). According to Gregory, this fire-light which consisted from the elements of different masses, was separated with time into various fractions corresponding to lightness/heaviness of the elements. In this way the celestial bodies were formed in the course of three days. These bodies were distributed in the cosmos in such a way that the stars (which differ from each other depending on the lightness/heaviness of fire elements from which they are composed) constitute the outer sphere of the physical world; the Earth is in the middle of the cosmos; the sphere of rotation of the sun is in the middle between the level of the stars and the earth, and the moon rotates below this sphere, closer to the Earth.⁵

Gregory does not ask the question concerning the nature of the phenomenon of the wandering stars, although he is aware of it. Therefore, his cosmology does not include the doctrine of the homocentric spheres, which was widely known in Antiquity and a version of which, in my opinion, is one of the targets of polemics by Gregory in the above passage. Indeed, the cosmological teaching about homocentric spheres apparently resulted from Plato's call for "salvation of the phenomena", that is, for explaining the anomalies in the movement of the celestial bodies through the philosophically-grounded aggregate of ordered forces corresponding to the harmonious divine order. Accordingly, all movements of the celestial bodies are described on the basis of the model, in which the movement of these luminaries is understood as a result of the combination of the cosmic spheres (since the sphere is a perfect figure) with the single centre. Rotation of spheres around different axes defines different kinds of movements by the luminaries. This teaching is distinguished by domination of geometrical and mathematical reasoning. One of the principal differences between the cosmology of Gregory of Nyssa, to which this specific doctrine is alien, and the version of the antique cosmology based on the teaching about homocentric spheres gives Gregory the reason to criticize the corresponding cosmological teaching.

This cosmological theory of spheres appeared already in Plato who argued that particular spheres corresponded to each of the main seven luminaries moving along their own orbits.⁶ Plato's disciple Eudoxes attempted at explaining the nature of irregularity in the movement of the celestial bodies in his treatise *On Speeds*.⁷ He elaborated a doctrine presupposing a large number

5 Gregory of Nyssa, *Apologia in hexaemeron*, PG 44, 113c–120b.

6 Plato, *Republica* X, 616–617.

7 The content of this treatise is partly known from the 12th book of Aristotle's *Metaphysics* and partly from the commentaries on the Aristotelian treatise *On the Heavens* by Simplicius. See: Aristotle. *Metaphysica* Λ, 8, 1073b–1074a; Simplicius, *In Aristotelis de caelo: Simplicii in Aristotelis de caelo commentaria*, pp. 493–506.

of cosmic spheres, the combination of which had to describe specific movements of the luminaries on the firmament. These spheres were one inside the other; they rotated around different axes going through the centre of the universe (where the Earth was located) with different speeds. In this system, the movement of each of the luminaries was subdivided into the aggregate of the movement of these osculant spheres along the orbit. Eudoxes' cosmological system also included the sphere which was responsible for the movement of the immovable (that is, rotating regularly) stars on the firmament. This was the most exterior cosmic sphere, the movement of which always corresponded to the one of the spheres defining the movement of the luminaries.

In his cosmology, Aristotle followed the general principles of Eudoxes' system with the exception of its own distinguishing feature, fundamental for my observations concerning the background of the cosmological polemics in Gregory of Nyssa's passage quoted above. Understanding of planetary spheres as physical bodies was missing in Eudoxes and other cosmologists who preceded Aristotle, since their cosmological models were mathematical and geometrical. Conversely, Aristotle started to consider these spheres as physical objects. He also embedded this doctrine on the celestial spheres into his philosophical system, supplying it with philosophical contents.

Specific features of the Aristotelian cosmology in its physical aspect are discussed in his treatise *On the Heavens* and to a somewhat lesser degree in *Meteorology*, and its philosophical implications are presented in *Metaphysics* A, 8.

In *On the Heavens* II, 4, Aristotle speaks about the cosmos as a spherical system of rotating and osculatory material spheres carrying the celestial bodies. In *On the Heavens* I, 2, Aristotle formulates his concept of ether, which is essential for his physical model of the cosmos, in the context of his doctrine of elements and types of simple movements. Aristotle mentions two of such movements: straightforward and circular (I, 2: 268b15–21). According to Aristotle, the four elements (the simplest kinds of bodies) which are present in our world – fire, air, water, and earth – correspond to the simplest natural movements. In the case of each of these elements, this movement is straightforward. However, since there is one more kind of simple movement – circular, which we observe when we look at the sky, the element to which such movement corresponds, should also naturally exist. Such element is not available to our perception, but Aristotle deduces its existence speculatively and calls it “ether.” As far as circular movement is primary in relation to straightforward movement, ether is also the primary element in relation to all the other elements, and as such is a more divine element (I, 2: 269b31–32). Accordingly, Aristotle understands

ether as a transparent element not having weight and able to rotate eternally (around the centre of the universe).

Further in his treatise, Aristotle asks what the stars and sphere to which they are attached consist of. Rejecting the view (shared by Plato)⁸ that stars consist of fire, Aristotle states that stars and the corresponding spheres are composed of ether which ensures their eternal rotating movement around the centre of the universe (II, 7). In his *Meteorology*, Aristotle argues that there can be no void in the continuous cosmic space, and ether is the medium constituting the cosmos from the most exterior cosmic sphere – the sphere of immovable stars – to the moon.⁹ This argument supports the idea shared by Aristotle and going back to Eudoxes, according to whom the rotation of the external cosmic sphere – the sphere of immovable stars – gives impetus to the movement of other spheres. This point is formulated in *Metaphysics* Λ 8¹⁰ where Aristotle incorporates this theory of homocentric spheres into ontological context of his philosophy.

Thinking about the reasons for eternal rotation of the heavens and dissatisfied with the idea (expressed in *On the Heavens*) that this rotation was associated with the very nature of ether as element constituting celestial bodies and spheres, Aristotle introduces the idea of bodiless, immovable, and eternal essences-movers for explaining such movement. According to this model, each sphere which defines the movement of each of the luminaries and immovable stars, which move in the simplest way and are attached to only one sphere, corresponds to its own mover moving this sphere.¹¹

The passage of *Against Eunomius* II, 73–75 of Gregory of Nyssa shows implicit polemics precisely with this Aristotelian cosmological model. I can propose three points with the polemical context. Firstly, this is polemics with the whole idea of the cosmos as a system of rotating and osculatory material spheres carrying the celestial bodies. This idea reflects specific features of Aristotele's cosmology, who placed the mathematical-geometrical model into ontological and physical context.

8 Plato, *Timaeus* 40a.

9 Aristotle, *Meteorologica* I, 3, 339b–340b.

10 Aristotle, *Metaphysica* Λ 8, 1073b, 25–26. This thesis implies that generally, every previous set of spheres (in the direction from the most extreme sphere of the immovable stars to the centre of the world) for each luminary influences the next set of spheres of the next luminary. This compelled Aristotle to add retrograde spheres to each luminary's set of spheres. Retrograde spheres are the spheres rotating in such a way that they balance the influence of the previous spheres upon the next ones (*Metaphysica* Λ 8, 1073b38–1074a14).

11 Aristotle, *Metaphysica* Λ 8, 1073a23–1073b1.

In my view, exactly this cosmological “physicalism” is criticized by Gregory of Nyssa when in *Against Eunomius* II, 73–74, he asks a rhetorical question about the possibility of cosmology based on the idea of two celestial material bodies identical in their nature, embracing and embraced, tightly adjoining each other in such a way that the embracing remains immovable, while the embraced is moving along the circular trajectory directed by the embracing body. Gregory critically points out that in the case of such bodies, there would be friction between the embracing and embraced bodies.

The Aristotelian model for explaining rotation of a luminary in the cosmos, is quite clearly visible here. If we translate Gregory’s words into Aristotelian language, it will mean the circular motion of a cosmic luminary and the corresponding adjoining ethereal spheres rotating in relation to each other, which are enclosed into one another and one of which (the embracing) corresponds to the sphere of the immovable stars, and is therefore called immovable by Gregory. If we summarize this model in a holistic cosmological picture, such picture appears in the following passage of Aristotle’s *On the Heavens*, which may be one of the passages which inspired Gregory of Nyssa in his critical inquiry on the physical-geometrical cosmology:

Ἐπεὶ δὲ τὸ μὲν πρῶτον σχῆμα τοῦ πρώτου σώματος, πρῶτον δὲ σῶμα τὸ ἐν τῇ ἐσχάτῃ περιφορᾷ, σφαιροειδὲς ἂν εἴη τὸ τὴν κύκλῳ περιφερόμενον φορᾶν. Καὶ τὸ συνεχὲς ἄρα ἐκείνῳ· τὸ γὰρ τῷ σφαιροειδεῖ συνεχὲς σφαιροειδὲς. Ὡσαύτως δὲ καὶ τὰ πρὸς τὸ μέσον τούτων· τὰ γὰρ ὑπὸ τοῦ σφαιροειδοῦς περιεχόμενα καὶ ἀπτόμενα ὅλα σφαιροειδῆ ἀνάγκη εἶναι· τὰ δὲ κάτω τῆς τῶν πλανήτων ἄπτεται τῆς ἐπάνω σφαίρας. Ὡστε σφαιροειδῆς ἂν εἴη πᾶσα· πάντα γὰρ ἄπτεται καὶ συνεχῆ ἔστι ταῖς σφαίραις.¹²

But the primary figure belongs to the primary body, and the primary body is that which is at the farthest circumference, hence it, the body which revolves in a circle, must be spherical in shape. The same must be true of the body which is contiguous to it, for what is contiguous to the spherical is spherical, and also of those bodies which lie nearer the centre, for bodies which are surrounded by the spherical and touch it at all points must themselves be spherical, and the lower bodies are in contact with the sphere above. It is, then, spherical through and through, seeing that everything in it is in continuous contact with the spheres.¹³

12 Aristotle, *De caelo* II, 4, 287a2–11.

13 Aristotle, *On the Heavens*, with an English Translation by W. K. C. Guthrie, M.A., Cambridge, MA, London, 1939, pp. 157–159.

Secondly, in *Against Eunomius* II, 73 Gregory of Nyssa mentions that in the case of the cosmological model he is discussing, it is “restrained by the strength of its container from flying off at a tangent” (τῆ ἀνάγκῃ τοῦ περιέχοντος ἐξενεχθῆναι πρὸς τὸ εὐθὺ κωλυόμενον).¹⁴ It means that Gregory speaks here about the force of inertia, which would necessarily emerge in the framework of this model. In my view, these words represent a polemical argument against the Aristotelian theory of ether, which was one of the main features of Aristotle’s cosmology. Indeed, Aristotle understood ether in such a way that its natural movement was circular. Therefore in the case of the circular motion of ether as Aristotle understood it, inertia could not emerge. Gregory’s words testify to the fact that he did not accept the basic foundations of the Aristotelian theory of ether, namely his thesis about the natural manner of circular movement of this element. This is the reason why in his mental experimental modeling, Gregory mentions the inevitable emergence of the inertial force in the case of circular rotation of the celestial bodies.

Thirdly and finally, the polemics of Gregory of Nyssa with the Aristotelian cosmology is manifested by Gregory’s words in *Against Eunomius* II, 74–75, where he asks about the foundation for the stability of the immovable embracing body and states that if there were such a foundation, this foundation would require another foundation *ad infinitum* (εἰ δὲ κάκεινου κατὰ τὴν πολυπραγμοσύνην τῆς διανοίας εἶναι τις ἔδρα ὑποληφθεῖη ἢ συντηροῦσα ἐν τῷ παγίῳ τὴν στάσιν, πάντως προῖών κατὰ τὸ ἀκόλουθον ὁ λόγος κάκεινης πολυπραγμονήσει βάσιν τῆς βάσεως καὶ ταύτης ἄλλην καὶ τῆς ἐφεξῆς ἐτέραν).¹⁵ I regard this as a polemical reference to the thesis formulated by Aristotle in *Metaphysics* Λ 8 that each cosmic sphere is preceded by the mover-essence as the cause which moves it,¹⁶ including the sphere of immovable stars with its simplest movement, which is moved by the first of these essences.¹⁷ Evidently, Gregory Nyssa was not satisfied by this Aristotle’s claim and criticized it using the argument *regressus ad infinitum*. The reason for this, as far as I can judge, lies in the fact that this Aristotelian concept presupposed the immanence of the cause of cosmic movement to the cosmos itself, which was radically different from the cosmological views of Gregory of Nyssa, grounded in biblical creationism. Gregory’s views entailed the transcendent cause for the cosmos and cosmic

14 Gregory of Nyssa, *Contra Eunomium* II, 73: *Gregorii Nysseni opera*, Pars prior, p. 248.13–14.

15 *Ibid.*, p. 248.21–26.

16 Aristotle, *Metaphysica* Λ 8, 1073a–1074a.

17 Aristotle, *Metaphysica* Λ 8, 1073b, 1–3.

movements (even if we take into account specific aspects of the creationist attitude propagated by Gregory of Nyssa).¹⁸

Further in the passage under discussion, Gregory turns to the views from the field of cosmology/philosophy of nature, typical of a very different philosophical tradition of Antiquity, namely, the Stoicism. In *Against Eunomius* II, 76, Gregory critically mentions the cosmological teaching, according to which there is emptiness beyond the surface of heavens, which is neither body nor thought, and in which rotation of the universe takes place, and this emptiness or void moves in oscillatory way. This may be a polemical reflection on the concepts typical of the Stoic philosophy of nature.

Indeed, the specific position of the Stoics in the philosophy of nature and cosmology, where the notions of “emptiness” (τὸ κενόν) and “place” (ὁ τόπος) were opposed,¹⁹ consisted of the idea that everything was filled within the limits of the cosmos and therefore everything had its “place” and there was no emptiness in the cosmos. This concept of Stoicism was based on distinctive Stoic doctrine of pneuma which permeated everything in the cosmos and formed its structure, making the cosmos one coherent and structurally-sympathetically organized whole.²⁰ However, according to the Stoics, limitless void was beyond the limits of the cosmos, making it possible for the cosmos to expand by igniting (and accordingly, to contract by cooling down). Thus, the Stoic doctrine of the void was associated with one of the key components of the Stoic doctrine – the concept of cosmic ignition, ἐκπύρωσις. According to the Stoics, it is wrong to say that there is nothing beyond the limits of the cosmos for when cosmos expands, there is “something” which accepts and contains the body which starts to occupy place in this manner. Therefore, the void is not “nothing”, but some kind of reality, yet bodiless, intangible, and formless, possessing only one property – ability to contain.

All these concepts of the Stoic doctrine of the void were consistently formulated in the treatise by the follower of the Stoic school Cleomedes, which

18 This specific aspect of creationism of Gregory of Nyssa is connected to his inherent Platonism, thanks to which, in my opinion, we can speak about the “soft” version of creationism in Gregory. According to it, material things consist of immaterial qualities created by God. See: A. Marmodoro, “Gregory of Nyssa on the creation of the world,” in: *Causation and creation in Late Antiquity*, Ed. by A. Marmodoro and B. Prince, Cambridge, 2015, pp. 94–110.

19 Cleomedes. *Caelestia* 1, 2: *Cleomedis de motu circulari corporum caelestium libri duo*, ed. H. Ziegler, Leipzig, 1891, p. 4.7–9. See: R. Todd, “Cleomedes and the Stoic concept of void”, *Apeiron*, 16 (1982), pp. 352–366. On the Stoic doctrine of emptiness, see also: *Stoicorum Veterum Fragmenta*, Coll. I. ab Arnim, Vol. 11, *Chrysippi fragmenta. Logica et Physica*, Leipzig, 1903, S. 170–172, Fr. 534–546.

20 Cleomedes, *Caelestia* 1, 4–5: *Cleomedis de motu*, pp. 8.15–10.5.

survived under the title, *Teaching about Rotation of the Celestial Bodies*.²¹ This text contains key points mentioned by Gregory of Nyssa in *Against Eunomius* II, 76, or, more precisely, we can see the points which Gregory mocks in that passage. Therefore, I suppose that this text was the source for Gregory of Nyssa regarding the cosmological doctrine which he mentioned in *Against Eunomius* II, 76. Cleomedes formulates the teaching of the Stoics about the void in the following way:

“Ὡστε φύσιν ἔχων τὴν διοικοῦσαν αὐτὸς μὲν πεπέρανται ἀναγκαίως· τὸ δὲ ἐκτὸς αὐτοῦ κενὸν ἐστὶν ἀπὸ παντὸς μέρους εἰς ἄπειρον διήκον.”²²

Since the cosmos has Nature administering <it> throughout, it is itself necessarily limited, whereas what is outside it is a void that extends without limit in every direction.²³

Πᾶν σῶμα ἔν τι εἶναι ἀναγκαῖον. Τοῦτο δὲ ἐν ᾧ ἐστὶ, τοῦ κατέχοντος αὐτὸ καὶ πεπληρωκότος ἕτερον εἶναι δεῖ, ἀσώματον ὃν καὶ οἶον ἀναφές. Τὴν οὖν τοιαύτην ὑπόστασιν, οἶαν τε οὖσαν δέχεσθαι σῶμα καὶ κατέχεσθαι, κενὸν εἶναι φαμεν.²⁴ Every body is necessarily present in something; but the thing that a body is present in, given that it is incorporeal and as such without physical contact, must be distinct from what occupies and fills it; we therefore speak of such a state of subsistence – namely, a capacity to receive body and be occupied – as void.²⁵

Καὶ μὴν καὶ τὸν κόσμον αὐτὸν δυνάμεθα ἐπινοῆσαι κινούμενον ἐκ τοῦ τόπου, ὃν νῦν τυγχάνει κατειληφώς. Ταύτη δὲ αὐτοῦ τῇ μεταβάσει συνεπινοήσομεν τὸν τε ἀπολειφθέντα τόπον κενὸν ὄντα, καὶ εἰς ὃν μετέστη, κατειλημμένον καὶ κατεχόμενον ὑπ’ αὐτοῦ· οὗτος δ’ ἂν εἴη κενὸν πεπληρωμένον.²⁶

We can also conceive of the cosmos itself moving from the place that it currently happens to occupy, and together with this displacement of it we shall also at the same time conceive of the place abandoned by the

21 On this treatise and its author see: A. Bowen, R. Todd, “Introduction,” in: *Cleomedes’ lectures on astronomy: a translation of the Heavens with an introduction and commentary*, by A. Bowen and R. Todd, Berkeley and Los Angeles, 2004, pp. 1–18.

22 Cleomedes, *Caelestia* 1, 2: *Cleomedis de motu*, p. 4.5–7.

23 *Cleomedes’ lectures on astronomy*, p. 22.

24 Cleomedes, *Caelestia* 1, 2: *Cleomedis de motu*, p. 4.11–15.

25 *Cleomedes’ lectures on astronomy*, p. 22–23.

26 Cleomedes, *Caelestia* 1, 3: *Cleomedis de motu*, p. 6.6–11.

cosmos as void, and the place into which it is transferred as taken over and occupied by it. The latter [place] must be filled void.²⁷

“Ὅθεν οἱ λέγοντες ἔξω τοῦ κόσμου μηδὲν εἶναι φλυαροῦσιν. Αὐτὸ γὰρ τοῦτο, ὃ μηθὲν καλοῦσιν, οὐδήπου χεομένη τῇ οὐσίᾳ ἐμποδῶν δύναται στήναι ὥστε ἐπιλήψεταιί τινος χεομένη ἢ οὐσία, καὶ τὸ ἐκάστοτε κατὰ τὴν χύσιν ἐπιλαμβανόμενον ὑπ’ αὐτῆς πληρωθήσεται ὑπὸ τοῦ ἐπιλαμβάνοντος καὶ γενήσεται τόπος αὐτοῦ, ὅπερ ἐστὶ κενὸν ὑπὸ σώματος κατεχόμενον καὶ πεπληρωμένον. Τοῦτο οὖν, πάλιν συστελλομένης τῆς οὐσίας καὶ εἰς ἐλάττονα ὄγκον συναγομένης, κενὸν γενήσεται. Ὡσπερ τοίνυν ἔστι τι τὸ σῶμα δεξάμενον, οὕτω καὶ τὸ οἶόν τε δέξασθαι σῶμα. Τοῦτο δ’ ὅπερ καὶ πληρωθῆναι καὶ ἀπολειφθῆναι ὑπὸ σώματος οἶόν τε, κενόν ἐστίν. Ἀναγκαῖον τοίνυν εἶναι τινα ὑπόστασιν κενοῦ. Ἔστι δὲ ἀπλουστάτη αὐτοῦ ἢ ἐπίνοια, ἀσωμάτου τε καὶ ἀναφοῦς ὄντος, καὶ οὔτε σχῆμα ἔχοντος οὔτε σχηματιζομένου, καὶ οὔτε τι πάσχοντος οὔτε ποιούντος, ἀπλῶς δὲ σῶμα δέχεσθαι οἷου τε ὄντος.”²⁸

So those who claim that there is nothing outside the cosmos²⁹ are talking nonsense. The very thing that they term “nothing” obviously cannot stand as an impediment to the substance [of the cosmos] as it expands. As a result, when the substance expands, it will occupy something, and what is on each occasion occupied in a natural [process] will be filled by the object that occupies it, and will become its place, which is void that is occupied (i.e., filled) by body. This [filled void] will duly become void when the substance [of the cosmos] is again compressed (that is, contracted into a smaller volume). Now just as there is that which has received body, so also there is that which is capable of receiving body; the latter, which can both be filled and abandoned by body, is void. Now it is necessary that the void possess a state of subsistence. But our way of conceiving void is entirely without qualification, since void is incorporeal and intangible, since it neither possesses a shape nor has one imposed on it, and is neither acted on in any way nor acts, but is without qualification capable of receiving body.³⁰

Thus, in formulating a Stoic cosmological doctrine, Cleomedes states that there is a void beyond the limits of the cosmos, in which cosmos moves: expands,

27 *Cleomedes' lectures on astronomy*, p. 24.

28 Cleomedes, *Caelestia* 1, 3–4: *Cleomedis de motu*, pp. 6.26–8.14.

29 Aristotle (*De caelo* 279a12–14) and the Peripatetics (see the references given by A. Bowen and R. Todd in: *Cleomedes' lectures on astronomy*, note 21 on p. 25 and note 29 on p. 26).

30 *Cleomedes' lectures on astronomy*, pp. 24–25, with minor changes.

and contracts. A similar doctrine is mentioned by Gregory of Nyssa in *Against Eunomius* II, 76. Accordingly, when Gregory speaks about the movement of the universe in the encompassing emptiness and return of the universe to itself, I regard it as a reflection on the Stoic concept mentioned by Cleomedes, concerning the cosmic ignition and cooling, that is, the Stoic doctrine of eternal return.³¹ It should be mentioned that Gregory speaks about rotation of the universe, while Cleomedes does not mention rotation.

Some other points also show a correlation between this passage in Gregory and the text of Cleomedes. Thus, Gregory says that the void, according to some unnamed thinkers, is neither a body nor a thought (μήτε σῶμά φασι μήτε νόημα),³² while Cleomedes describes the void as bodiless (ἄσώματος) and intangible (ἀναφές).³³ This is the only description of “qualities” of the void (similar, although not identical, to the one mentioned by Gregory), which I could find in the descriptions of the void by the Stoics.

When Gregory further asks: “Until where is it extended and what is beyond it?” (μέχρι τίνος ἰστάμενον, καὶ τί τὸ διαδεχόμενον),³⁴ it is a polemical reference to the words of Cleomenes that the void is extended limitlessly in all directions (ἀπὸ παντὸς μέρους εἰς ἄπειρον διήχον).³⁵ Finally, when Gregory calls the void “non-existent” (ἀνυπόστατος),³⁶ this seems to be a polemic with the concept of the Stoics that the void is not “nothing,” but something existing (τινα ὑπόστασιν³⁷), mentioned by Cleomedes. Recognition of the exterior cosmical emptiness by the Stoics as existing, that is, substantiation of such emptiness as some kind of element represented a threat to monotheistic creationism shared by Gregory. This is the reason for his words about the void as something without existence. Thus, in *Against Eunomius* II, 76, Gregory of Nyssa argues with the Stoic cosmological and natural philosophical doctrine which was likely the variant formulated by Cleomedes.

Conclusions

My analysis of the polemically charged exposition of classical cosmologies by Gregory of Nyssa in *Against Eunomius* II, 72–76 makes it possible to identify

31 See: *Stoicorum Veterum Fragmenta*, Vol. II, S. 183–191, Fr. 596–632.

32 Gregory of Nyssa, *Contra Eunomium* II, 76: *Gregorii Nysseni opera*, Pars prior, p. 249.8.

33 Cleomedes, *Caelestia* I, 2, 4: *Cleomedis de motu*, p. 4.13, 8.12.

34 Gregory of Nyssa, *Contra Eunomium* II, 76: *Gregorii Nysseni opera*, Pars prior, p. 249.8–9.

35 Cleomedes, *Caelestia* I, 2: *Cleomedis de motu*, p. 4.6–7.

36 Gregory of Nyssa, *Contra Eunomium* II, 76: *Gregorii Nysseni opera*, Pars prior, p. 249.10.

37 Cleomedes, *Caelestia* I, 4: *Cleomedis de motu*, p. 8.10–11.

probable sources for this passage and the targets of Gregory's criticism of classical cosmologies, manifested in this passage. In *Against Eunomius* II, 73–75, Gregory presents the Aristotelian cosmology and polemicizes with it. Three avenues of Gregory's criticism of the Aristotelian cosmology are manifested in this passage. Firstly, this is the criticism of the idea of cosmos as a system of rotating and osculatory material spheres carrying the celestial bodies. Secondly, Gregory polemicizes with the Aristotelian theory of ether constituting celestial spheres and having natural circular rotation around the centre of the world. Thirdly, Gregory of Nyssa polemicizes with the Aristotelian idea of unmoved movers which are causal reasons and movers of rotating celestial spheres. As my analysis of *Against Eunomius* II, 76 has shown, in this passage, Gregory summarizes and criticizes the Stoic natural-philosophical and cosmological doctrine that there is the limitless void beyond the limits of the cosmos, in which cosmos moves (probably by expanding and contracting). I have identified two points in Gregory's criticism of this doctrine: Gregory's question on what is beyond this void is polemically directed against the idea of its limitless expanse. Another point is Gregory's statement that this void does not exist. I think that Gregory makes this statement opposing the Stoic emphasis that the void is not nothing, but something existing in reality. Finally, I have suggested that the immediate Gregory's source regarding this Stoic doctrine was the treatise of Cleomedes, which has survived under the title *Teaching about Rotation of the Celestial Bodies*.