

MOVEMENT AND ITS STABILITY AS AN ARGUMENT FOR CREATION, IN THE CAPPADOCIAN FATHERS

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ABSTRACT

The Cappadocian Fathers consider that the orderly movement of creatures and, especially, the stability of heavenly bodies is an indication of the existence of the Creator and divine providence. In St. Basil the Great we find a version of the argument of the First Mover from Aristotle, developed also by Thomas Aquinas. In St. Basil the Great and St. Gregory of Nazianz, as in Aristotle, the question of the existence of movement was posed not only in the sense of an original impulse towards movement, but also for the continuation of movement once begun. The sustaining in motion had to have a cause outside the one being moved. And St. Gregory of Nyssa shows that the stability of the movement of heavenly bodies is a witness of divine proneness, as a sign of the specificity of the uncreated, which is unchangeability, in contrast to the attribute of change that dominates the creature. The Cappadocian Fathers do not base faith on reason, but by rational arguments and facts of nature they strengthen the solidarity between faith and reason and clear the obstacles, coming from wrong philosophies, which obstruct the channels through which natural revelation inspires manry.

Keywords: *prime mover, orderly motion, gravity, created, uncreated, change, unchangeability;*

1. A BRIEF INTRODUCTION TO THE CLASSICAL ARGUMENT OF THE FIRST MOVER AS AN ARGUMENT FOR THE EXISTENCE OF GOD

Throughout the history of thought, the “motion” argument has been inspired primarily by the classical axiom stated by Aristotle in the seventh book of his *Physics*: “Whatever is in motion must be moved by something.” That is to say, every movement has, *outside the thing being moved*, a producing and *sustaining* cause, a mover. It is worth noting that when we read Aristotle or Thomas Aquinas about the argument from motion, we make the mistake of thinking of the “motion” they speak of in the sense that Newtonian physics understands it. The latter states that if no outside forces act on a body, it retains its initial state of stationary or uniform rectilinear motion, i.e. for a body to acquire a certain motion, it needs only to receive an initial impulse in a certain direction and the motion will take place and continue without further intervention on it. In Aristotle and Thomas Aquinas, on the other hand, the meaning of motion is broader than the meaning we give it today (under the influence of Newtonian mechanics).

Namely, Aristotle and his disciples required explanations not only for the initiation of a movement or a change, but also for its further continuation, for its sustaining over time¹. Thus, Thomas Aquinas, according to a fundamental principle of Aristotelian physics, “saw

¹ Cf. “First Mover”, in Antony Flew, *A Dictionary of Philosophy*, London: Pan Books; ²1979, p. 114.

motion not as intrinsic to but as impressed upon the Universe, and sustained by an outside Force”². Therefore the example he chose to suggest motion is also indicative of the principle he used: a stick shaken (moved) by a man will stop moving when the man stops shaking it. But here is another example which does not give the same result, does not illustrate the same principle (of the continually sustaining cause for movement): an arrow sent from a bow continues its movement to its target even after the archer has completed his movement (the act of throwing). “*Aristotelians laboured to explain this second sort of phenomenon by appealing to putative continuing pressures in and from the surrounding air*”³.

Inspired by Aristotle, Thomas Aquinas was to state that since everything in motion is moved by something else and that mover is also moved by something else, resulting in a series of movers, it cannot go on forever, but there must be a Prime Mover (or Prime Motor) to set the world in motion and, it is understood, to sustain its movement. This Prime Mover is, of course, God.

2. THE FIRST MOVER'S ARGUMENT TO ST. BASIL THE GREAT AND ST. GREGORY THE THEOLOGIAN

In his turn, St. Basil the Great affirmed the impossibility of conceiving an infinite series of movers (supporters of movement), to show that “all is sustained by the Creator’s power”⁴. But he made this argument referring not to the cosmos as a whole or to the totality of its movements, but to the possible cause (or causes) that could sustain the earth (planet) and its foundations. However, he also states that if the earth is supported by one body, and this by another body, we would conceive of a range of movers (causing movement) that cannot be an endless series, which is specific to the First Mover's argument: “*Do you suppose that a heavier body prevents the earth from falling into the abyss? Then you must consider that this support needs itself a support to prevent it from failing. Can we imagine one? Our reason again demands yet another support, and thus we shall fall into the infinite, always imagining a base for the base which we have already found. And the further we advance in this reasoning the greater force we are obliged to give to this base, so that it may be able to support all the mass weighing upon it. Put then a limit to your thought.*”⁵

Today, thanks to scientific progress, St. Basil's argument is obsolete and seems irrelevant, since every schoolboy knows that the weight of the earth is kept in a revolutionary motion around the sun by gravitational attraction. And then it is no longer necessary to consider the series of bodies which, by supporting the smaller by the larger, have the overall purpose of supporting the foundations of the earth.

And yet, St. Basil's argument has a component that may still be interesting today. His point was that if we are to consider that there are a series of supporting bodies for the earth, then it cannot go on and on, but there must be a first immovable mover (hence God), but in any case, whatever explanation we give for the support of the earth, whether we “admit that the earth rests upon itself, or let us say that it rides the waters”, “*the surest answer we can give to our minds*” “*and to those who ask on what this great and awesome weight of the earth rests*”⁶ is that “In His (God *n.n.*) hands are the ends of the earth.” (Ps.

² *Ibidem*, p. 114.

³ *Ibidem*.

⁴ St. Basil the Great, *Hexaemeron*, I, 9, coll. “The Nicene and Post-Nicene Fathers Second Series”, vol. 8, edited by Philip Schaff, New York: The Christian Literature Company, 1893, p. 57.

⁵ *Ibidem*.

⁶ *Ibidem*.

94:4), i.e., “all is sustained by the Creator’s power” Most interesting, apart from affirming the impossibility of an endless series of sustainers of the planet, is the idea that if we do not think from the beginning that God is the One Who directly sustains the earth, then another sustainer, if we think of it as of a created nature, must necessarily exert its action on the earth through direct contact, i.e., through the mediation of matter, ultimately through a material force (one thought possible being the weight of another large body that could sustain the earth). And interestingly, we replace all these ancient considerations with the force of gravity, which is true, but we forget or neglect that gravity is a natural law *only described* by science, but not *explained*. Because its real causes are unknown. How is it that any two bodies in the universe instantly communicate with each other this attractive force? The formula for the gravitational force (formerly called Newton's force) has been clearly established in terms of their relative masses and distances, but how does this force communicate faster than the speed of light and without any exchange of matter between the two bodies, even as a thread? Any two bodies in the universe, at any great distance, communicate a force between them instantaneously! A rigorously measurable force! How do they do this “wirelessly”⁷?

To this day, the cause of the gravitational force and the device that makes it work remains an enigma to science. The sustaining cause of gravity can be either material and belonging to this universe or spiritual and outside this universe. But in the first case scientists (Richard Feynman, Nobel laureate, for example) argue that the graviton cannot exist⁸. Even if it did exist it cannot be evidenced by observations, which makes it more of a mystical explanation than a naturalistic one. So that leaves as a plausible explanation a spiritual and sustaining cause of all the elements of the universe through the law of gravity, hence the whole universe. So not only can the data of this universe alone not explain the rationality of matter, but not even the law of gravity, which is from the beginning united with all the elements of the universe, can be explained by an autonomous universe alone, if the universe is considered a physical system closed to any transcendence.

That is why St. Basil's intuition that there must be a supporting body for the earth that has a contact through matter with it is correct (this contact should have been made at least by hypothetical particle such as the graviton), and the truth that this happens through a force as “simple” and physically and logically inexplicable as the force of gravity only enhances the mystery and leads us to think that, if there is no communication of matter between bodies, and the entire space of the universe automatically obeys the law of gravity, it can only be due to a Creator of all, a fact also recorded by Newton in the 18th century, when he discovered the law and formula that bears his name.

But St. Basil also mentions to his listeners another hypothesis of physicists who explain the stability of the earth as being due to its place “in the middle of the universe and

⁷ Recalling how God created everything by movement and stationary, St. Gregory of Nyssa describes how the Creator fixed the heavenly vault on an axis, imparting to it a stable rotational movement “as if he had tightened with a string around the earth the matter which was whirling as a result of its circular rotation” (St. Gregory of Nyssa, *On the Making of Man*, I, coll. “The Nicene and Post-Nicene Fathers Second Series”, vol. 5, edited by Philip Schaff, New York: Charles Scribner’s Sons, 1917, p. 388. Indeed, the law of gravity is very much like a tension inserted in an invisible string that produces the cohesive force of matter!

⁸ “All we have done is to describe *how* the earth moves around the sun, but we have not said *what makes it go*. Newton made no hypotheses about this; he was satisfied to find *what* it did without getting into the machinery of it. *No one has since given any machinery.*” (Richard P. Feynman, *Six Easy Pieces: Essentials of Physics; Explained by Its Most Brilliant Teacher*. Addison-Wesley, 1995, p. 107)

not being able to incline more to one side”⁹. What St. Basil meant is rendered in modern language by the fact that our planet is at the centre of gravity of the universe and as such, according to the laws of physics, stands still, however great and varied the velocities and motions of the rest of the universe. (The hypothesis is still valid for science: since motion is relative, i.e. either the earth moves relative to the universe or the universe moves relative to the earth, the possibility remains open that the earth is at the centre of gravity of the universe. Hence the question: how did it get there?)

In his turn, St Gregory of Nazianz, taking from Aristotle the identification of God with the “fifth element” of which the world is composed, along with the other four traditional “*stoicheia*” of the ancient world (i.e. earth, water, fire and air), asks rhetorically: “*what is the force that moves your Fifth Element, and what is it that moves all things, and what moves that, and-what is the force that moves that?*”¹⁰

Thus, since an infinite regress of movers (sustaining causes) was impossible to conceive of, then there must necessarily have been a motionless first mover. That is, God.

Also in St. Gregory of Nazianz we find an allusion to the impossibility of an infinite regression of movers (or supporters) causing the stability of the earth: “How is it that the earth stands solid and unswerving? On what is it supported? What is it that props it up, and on what does that rest? For indeed even reason has nothing to lean upon, but only the Will of God.”¹¹ But Saint Gregory also recalls the orderly movement of the sun, producing the regularity of the seasons, the alternation of days and nights, all in good order for our benefit and that of all creation. Therefore, the untiring and life-giving sun makes Saint Gregory wonder: “*But who gave him motion at first? And what is it which ever moves him in his circuit, though in his nature stable and immovable?*”¹²

That is to say, the sun, a material body, inert and, by its very nature, dead, is constantly in motion and the giver of enormous energy, indispensable to life. But to this day, the system of sun, earth and moon, essential to life, is a miracle that cannot be put into mathematical equations and which Newton himself believed could only be fully explained by divine intervention.

It is worth noting that, like Aristotle, for St. Gregory the Theologian the movement of a celestial body (the sun or the earth) requires, in order to be continuous, not only a first impulse, but also a permanent support from a mover (supporter). This seems bizarre to our thinking entrenched in the deistic prejudices to which modernity has accustomed us, but, for example, Newton's contemporaries were debating whether gravity is an intrinsic property of matter or a direct action of God¹³.

In fact, it cannot be logically proven that it is a property of matter, this is just a deistic (mechanistic) assumption that has been introduced as a postulate in science, but it is not provable.

⁹ St. Basil the Great, *Hexaemeron*, I, 10, p. 57.

¹⁰ Gregory Nazianzen, *Orationes*, 28 (Second Theological), 8, coll. “The Nicene and Post-Nicene Fathers Second Series”, vol. 7, edited by Philip Schaff and Henry Wace, reprint of 1894 edition, Peabody: Hendrickson, 1995, p. 291.

¹¹ Gregory Nazianzen, *Orationes*, 28 (Second Theological), 26, p. 298.

¹² *Ibidem*, 30, p. 300.

¹³ Horia Roman-Patapievici, *Recent Man*, Humanitas Publishing House, ⁵2008, p. 80.

3. THE STABILITY OF MOVEMENT AS A SIGN OF THE EXISTENCE OF GOD, IN SAINT GREGORY OF NYSSA

St. Gregory of Nyssa also states that movement is more widely understood than its simple or mechanical meaning: “For as motion is not conceived merely as local shifting, but is also contemplated in change and alteration.”¹⁴ Likewise, the divine wisdom and power rule everything “with the reins of a double operation (for it was by rest /στάσις/ and motion /κίνησις/”¹⁵. In fact all that was created or brought to life by God “sprang both from motion (κίνησις) and from stationary (static: στάσις)”¹⁶.

But St. Gregory of Nyssa does not expound the argument from motion with detailed analysis and the assertion of the impossibility of an infinite series of second or intermediate movers, as found in Aristotle and Thomas Aquinas.

Saint Gregory of Nyssa takes the natural revelation indicated by the psalmist (“*The heavens declare the glory of God, and the work of his hands proclaims His strength*”, Ps. 18, 1-3) and illustrates it by the orderly and stable movement of the heavenly bodies.

“The very heavens... all but shout aloud with a voice, and, though without voice, proclaim the wisdom of their Creator. For we can hear as it were words teaching us: «O men, when ye gaze upon us and behold our beauty and magnitude, and this ceaseless revolution, with its well-ordered and harmonious motion, working in the same direction and in the same manner, turn your thoughts to Him Who presides over our system, and, by aid of the beauty which you see, imagine to yourselves the beauty (kalon) of the invisible Archetype.»”¹⁷

Even in the above quoted passage (“...and this unceasing movement of revolution, with its well-ordered and harmonious *movement*, working in the same direction and in the same way...”), the attention that St. Gregory of Nyssa gives to the movement stands out. His cosmological argument emphasizes movement, but not just any kind of movement, but that “well-ordered and harmonious” movement, that is, movement and stability at the same time, or “stable movement”, as St Maximus the Confessor would later insist.

St. Gregory of Nyssa also adds a subtlety to the argument of motion, affirming the distinction between the kinds of motion, in heaven and on earth, in contrast to each other, that on earth being characterized by changeableness, and the celestial (astronomical) by the permanence of order (or ordinance). “*The earthly country belongs among things changeable and variable. Nothing of the kind, such as not retaining the same form and condition, is known to us among those which appear and move in heaven, but all things in heaven proceed on their proper course in series and order and sequence (eirmōi kai taxei kai akoluthiai pros ton idion dromon).*”¹⁸

¹⁴ St. Gregory of Nyssa, *On the Making of Man*, I, 4, p. 389.

¹⁵ *Ibidem*, p. 388.

¹⁶ *Ibidem*.

¹⁷ St. Gregory of Nyssa, *Answer to Eunomius second book*, VI (224), coll. “The Nicene and Post-Nicene Fathers Second Series”, vol. 5, edited by Philip Schaff, New York: Charles Scribner’s Sons, 1917, pp. 272-273. See also in Jaroslav Pelikan, *Christianity and Classical Culture. The Metamorphosis of Natural Theology in the Christian Encounter with Hellenism*, Yale University Press, 1993, p. 66.

¹⁸ St. Gregory of Nyssa, *Homilies on the Beatitudes: An English Version with Commentary and Supporting Studies: Proceedings of the Eighth International Colloquium on Gregory of Nyssa Paderborn 14-18 September 1998*, Brill, 2000, pp. 84-85.

He had written it to affirm the “unchangeable and permanently consistent quality of the gift which hope holds out to us.”¹⁹ and that heavenly goodness is beyond any fear of change. Despite the contrast between the changing earth and the stable order of heaven, it is a fact that even in heaven there is “nothing that moves of its own proper motion”²⁰. And what is common and visible in both the movement of the heavens and the earth “all that appears, or that is conceivable in respect to us, depends on a Power Who is inscrutable and sublime”²¹. By the way, the regular movement of the seasons, as well as of day and night, all bear witness to that transcendent power beyond all movement or change²².

Thus, starting from his fundamental distinction between created and uncreated, more radical and systematic than in all his predecessors²³, Saint Gregory also adds the “decisive distinction”²⁴ between two defining attributes of created and uncreated, namely changeability and unchangeability respectively. While the uncreated being is characterized by unchangeability or immutability, for the created being the capacity for change is essential. However, in creation too, both change and constancy are manifested through the two simultaneous properties of movement and stability. Thus, St. Gregory points out, the unchangeability present in each created nature, especially in the movement of heavenly bodies, the laws of nature or species, is a clue, a sign that must lead us to think of their unchanging Cause Who created them, that is, of God, since invariability and unchangeability are attributes of the divine nature²⁵. And the fact that they are nevertheless subject to change (and implicitly to corruption) is left so that “property of nature which constitutes its immutability and immobility might not, when viewed in any created object, cause the creature to be accounted as God”²⁶, i.e. the unchangeability of the creature does not arouse idolatry towards it.

Despite the constant struggle between the opposites that make up the universe, there is a stable balance between what is stationary and what is in perpetual motion. And this balance is a sign and testimony of the Creator Who sustains both orderly movement and its stability between opposites.

CONCLUSIONS

We found in St. Basil the Great a version of the First Mover argument put forward by Aristotle, but with the difference that in St. Basil the impossibility of an infinite regressive series of intermediate movers does not refer to the whole universe, but only to the planet Earth. It is worth noting that the cappadocian saint showed the impossibility of an endless series of intermediate movers of the Earth based on the necessity of physical contact between them. Which reminds us that the law of gravity, responsible for sustaining the

¹⁹ *Ibidem*, p. 85.

²⁰ St. Gregory of Nyssa, *Answer to Eunomius second book*, VI (224), p. 273.

²¹ *Ibidem*.

²² St. Gregory of Nazianzus, *Orationes*, 6, 15, in coll. “*The Fathers of the Church. A New Translation*”, vol. 107, Washington D.C.: The Catholic University of America Press, 2003, p. 14: “And the seasons gently and gradually merging and succeeding one another and easing the harshness of their extremes by the interval between them does it not seem that it is peace that fitly gives them their direction with a view at the same time both to pleasure and to utility?”

²³ *The Brill Dictionary of Gregory of Nyssa*, edited by Lucas Francisco Mateo-Seco and Giulio Maspero, Brill, Leiden-Boston, 2010, p. 185.

²⁴ *Ibidem*, p. 186.

²⁵ St. Gregory of Nyssa, “On the Making of Man”, I, 4, p. 389: “for as has been said, neither of these (neither that which is unstable, nor that which is mutable) can be considered to belong to the more Divine nature.”

²⁶ *Ibidem*.

planet in orbit around the sun, does not need physical contact to act. But that makes it all the more mysterious and inexplicable. And here St. Basil meets Newton who, unable to know the inner workings of the law of gravity, said “I do not imagine hypotheses”, leaving to God the mystery of its instantaneous and wireless efficiency.

Saint Gregory of Nyssa, affirming that the created being is characterized by change, and the uncreated by unchangeability, shows that the unchangeable aspect of some creatures, as well as the movement in stability of the heavenly bodies, are testimony to the existence of God who created them, sustains them in existence and cares for them. It is based on the premises of empirical observations, namely that anyone can see that, in concrete terms, opposites tend not to unite, but to break down each other, and that stable order is not produced by chaos or chance, but that order tends to turn into disorder (which is also a corollary of the second principle of thermodynamics).

It is important to note, that although the Cappadocian Fathers use reason for considerations and arguments in favour of creation *ex nihilo*, they do not base faith exclusively on the discursive use of analytical reason, but bring through reason testimonies that show faith in solidarity with reason and the laws of nature, thus strengthening believers in faith.

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