

Orthodox Theology and Current Science – a Complementarity Perspective

Eugen GANȚOLEA¹

Abstract: The universe presents itself as a unitary, rational multilevel reality, as evidenced by the order and harmony of its constituent elements, elegantly described by the laws of various scientific paradigms. For Orthodox Christian theology, every existing thing has its own reason in God’s Reason, or the Logos of God. The existence of anything has its origin in God’s will for it to be, the entire universe having a Christocentric scope. The Christocentric Orthodox Theology always had a complementary approach on relation with science, founded on the distinction of their domains, having specific practical methods for knowing the Truth.

Keywords: Logos, Christocentrism, Rationality, Creation, Universe, Science, Theology, Complementarity

Introduction

The position of the Orthodox Church regarding the relationship between theology and science is affirming their distinction and complementarity², in accordance with Tradition.

St. Maximus the Confessor emphasizes that in creation there are three essential laws. “By ‘general laws’ I mean the natural law, the scriptural law, and the law of grace³.”⁴ The first law is fundamental to the entire cosmos, ensuring

¹ Eugen Ganțolea is PhD candidate at the Doctoral School of the Faculty of Theology “St. Andrei Șaguna” in Sibiu, advisor: Rev. Assoc. Prof. Dr. Nicolae Moșoiu; E-mail: gantolea@gmail.com.

² Ierotheos Vlachos, *Bioetică și bioteologie*, trans. Rev. Teofan Munteanu (Bucharest: Christiana, 2013), 67-69.

³ Saint Maximus the Confessor, “On Difficulties in Sacred Scripture: The Responses to Thalassios, Qu. 64,” in *The Fathers of the Church*, volume 136, trans. Rev. Maximos Constas, Holy Cross Greek Orthodox School of Theology (Washington D.C.: The Catholic University of America Press, 2018), 510, footnote 83; cf. above, Qu. 39, and below, Qu. 65, Scholium 19.

⁴ Saint Maximus the Confessor, “On Difficulties,” 510; Saint Maximus the Confessor, *Qu. A.T. 64*, in *PG 90, 724C*; for the Romanian translation, see *Filocalia*, volume 3, (Bucharest: EIBM-BOR, 2009), 459.

its existence towards the *Christocentric* scope. By contemplating nature (*θεωρία Φυσική*) with all its constituent elements, motivated by knowing and living by the Truth, one can gain a natural knowledge of God, His justice, wisdom, and goodness. The second law is contained in the Scriptures, more precisely in the Old Covenant. It presents God's relationship with men in history, being summarized in the laws and commandments given to men by God. The third law corresponds to humanity, the *Logos*, and to His saving and deifying work. It is the spiritual law of Christ (*Gal 6:2*).

The Logos is the author of all three laws, being present in them in different degrees. The three laws present the economy of creation, salvation and deification of man. They correspond to the progressive revelation of *the Logos* to the people and the progressive development of their degree of knowledge of God, towards fullness in Jesus Christ. Thus, through the first law we arrive at the second, and through this at the third, which ensures the fullness of the union and knowledge of God. So, the spiritual law includes the other two previous ones, being their fulfillment in the mystery of humanity of the *Logos*.

The Possibility of Knowing the Logos from His Creation Through Science

The Holy Apostle Paul teaches in the Epistle to the Romans that human beings are created as thinking (*logikoi*) beings, thus having the possibility of knowing God through the study of creation:

“For since the creation of the world [*κόσμου*], His invisible attributes are clearly seen [*καθορᾶται*]⁵, being understood [*νοούμενα*]⁶ by the things that are

⁵ The term *καθορᾶται* (*kathoratai*) means “to see clearly” or “to perceive distinctly”. The meaning of the term “*Καθορᾶται*” in this verse is:

a) *To perceive clearly*: The root *ὁράω* (*horao*) means “to see” or “to observe”. The prefix *κατά* (*kata*) intensifies the action, thus *καθορᾶται* means “to see clearly” or “to perceive distinctly”. It is a term that indicates a deep and clear perception, not just a superficial observation.

b) *Inner Perception*: In the theological context, *καθορᾶται* implies a deep understanding, which goes beyond mere visual perception and refers to an inner, intellectual knowledge.

⁶ The term *νοούμενα* (*nooumen*) derives from the Greek verb *νοέω* (*noeó*), which means “to perceive”, “to understand” or “to observe with the mind”. The history of this term is related to the development of Greek philosophical thought and has been used in various contexts to describe the process of intellectual knowledge and perception.

Ancient Greece

a) *Heraclitus* emphasized the importance of the *Logos* and intellectual perception. Although he does not explicitly use the term “nooumen”, the concept of understanding through the “logos” is fundamental to his philosophy.

b) *Anaxagoras*. *Nous*: Anaxagoras introduced the concept of *nous* (*νοῦς*), which is the ordering and intelligent principle of the universe. This *nous* was responsible for the order and structure of the cosmos and could be understood through intellectual contemplation.

made, even His eternal Power [δύναμις] and Godhead [θειότης], so that they are without excuse.” (Rom 1:20)⁷

St. Maximus the Confessor teaches the following about “His invisible attributes” (Rom 1:20), emphasizing the importance of scientific endeavor (“contemplate cognitively”):

“The principles of beings – which were prepared before the ages in God, in a manner known only to Him, and which divine men customarily call ‘good will’⁸—are invisible in themselves, yet are ‘clearly visible in the things that are made,’ when, that is, they are seen with the eyes of the intellect⁹. For when with true understanding we contemplate cognitively all of God’s creatures according to their nature, they secretly

c) *Plato. Noesis*: Plato distinguished between the sensible world (of sensory perception) and the intelligible world (of intellectual perception). *Noesis* (νόησις) is the act of pure, direct knowledge of ideal forms, an essential concept in the Platonic theory of knowledge.

d) *Aristotle. Nous*: Aristotle continued the tradition of using the term *nous*, referring to the active intellect, capable of understanding the essences of things. He distinguished between the passive and the active intellect, where the active is the one who perceives and understands.

Hellenistic Philosophy

The Stoics. Logos: The Stoics took up the concept of *logos* as the divine reason that pervades the entire universe. They believed that men could understand the universal *Logos* through their individual reason.

Judeo-Hellenistic Philosophy

Philo of Alexandria. Logos: Philo combined Greek philosophy with Jewish theology, using the term *Logos* to refer to the divine reason by which God created and maintains the universe. *Noumen* would be involved in the process of understanding this Godly “*logos*”.

Christianity

Saint Paul. Noumen: In his epistles, St. Paul uses forms of the verb *noeo* to emphasize the act of perceiving or understanding God’s Truth, such as in *Heb 11:3* and *Rom 1:20*, where he describes understanding creation and God’s attributes through practicing faith and observation.

Modern Philosophy

Immanuel Kant. Noumenon: Kant revitalized the term in the form *noumenon*, which means thing in itself, distinct from phenomenon (thing as it appears to the senses). For Kant, *noumenon* is the reality that exists independently of human perception and is inaccessible to direct knowledge.

The term *noumen* and its derived forms have evolved significantly throughout the history of philosophy, from the description of the process of intellectual understanding in ancient Greek thought, to the notion of *noumenon* in Kant. Over time, this concept has been central to discussions about the nature of knowledge, perception, and reality.

⁷ *The Orthodox Study Bible*, prepared under the auspices of the Academic Community of St. Athanasius Academy of Orthodox Theology, Elk Grove (California: Thomas Nelson Publishers, 2008).

⁸ Saint Maximus the Confessor, “On Difficulties,” Qu. 13, footnote 2; a reference to Dionysios, DN 5.8 (188, lines 8-9; 824C), a passage that Maximus cites in *Ambigua* 7.24 (DOML 1:106-109).

⁹ Saint Maximus the Confessor, “On Difficulties,” Qu. 13, footnote 3; that is, the *logoi* are visible in creation through natural contemplation.

announce to us the principles by which they were created, disclosing in themselves the divine intention for each one, consistent with the words: ‘The heavens declare the glory of God, and the firmament proclaims the work of His hands’¹⁰. As for God’s ‘eternal power and divinity,’ this is His providence that holds beings together, and His providential activity that divinizes those under its care. [...] For just as from created beings we believe in the existence (in the truly proper sense) of God, so too, from the essential differences of beings according to their specific forms, we learn of His Wisdom, which is naturally inherent in His essence, and which holds beings together. And, again, from the essential motion of beings according to their specific forms, we learn of His Life, which is naturally inherent in His essence, and which brings completion to beings. And from the wise contemplation of creation, we apprehend the principle concerning the Holy Trinity, I mean of the Father and of the Son and of the Holy Spirit, because the ‘eternal power’ of God is the Word, since He is consubstantial, and the ‘everlasting divinity’ is the consubstantial Spirit^{11,12}.

St. Maximus the Confessor emphasizes the duty of man to praise God through the understanding of the reasons of creatures, obtained also through scientific study, as much as possible:

“When we bring to the Lord the spiritual principles we have discerned in creation, we bring him ‘offerings,’ for by nature He has no need of any of these things¹³. For we do not bring the principles of beings to Him as if He were in need of them as others would be, but rather so that we

¹⁰ Saint Maximus the Confessor, “On Difficulties,” Qu. 13, footnote 4; *Ps 18:1*. Maximus comments on this verse in *Ambigua 10.20* (DOML 1:179-81).

¹¹ Saint Maximus the Confessor, “On Difficulties,” Qu. 13; in this adumbration of the Trinity in creation, the existence of creatures is understood as an image or reflection of God the Father; their organization into unity and diversity as an image of the Son (as Wisdom); and their movement and life as an image of the Holy Spirit; cf. *Ambigua 10.39*, where the contemplation of nature reveals to the saints that “the divine cause exists, is wise, and is something living, from which they learned the divinizing and salvific principle of the Father, the Son, and the Holy Spirit... into which they were piously initiated with respect to the mode of God’s existence” (DOML 1:209); and the discussion in Polycarp Sherwood, “The Triune God,” in idem, *St. Maximus the Confessor: The Ascetic Life, The Four Centuries on Charity* (New York: Newman Press, 1955), 37-45.

¹² Saint Maximus the Confessor, “On Difficulties,” Qu. 13, 123-124; Sfântul Maxim Mărturisitorul, *Răspunsuri către Talasie 13*, in *Filocalia sau culegere din scrierile Sfinților Părinți care arată cum se poate omul curăța, lumina și desăvârși*, volume 3 (Bucharest: EIBMBOR, 2009) 74-75.

¹³ Saint Maximus the Confessor, “On Difficulties,” Qu. 51, footnote 9; cf. *Ps 15:2*.

might, on behalf of all His creatures, praise Him in song for all that He has given us.”¹⁴

The spiritual man, accustomed to the practice of the faith (*pistei*), focused on the Eucharist, receives as a gift through the contemplation of creatures, the understanding of “the sustaining principles of faith beyond rational demonstration”, and this spiritual understanding received as a gift from God, although it does not need any rational scientific demonstration, does not in any way imply the exclusion of the effort of the rational scientific study of creatures.

“Insofar as an ‘offering’ is also something given to those who have previously brought forward nothing, the intellect engaged with knowledge receives ‘offerings’ from the contemplation of beings, and brings them to the Lord. These offerings, which the intellect both receives and gives, are the sustaining principles of faith beyond rational demonstration; a faith to which no one has ever brought anything, insofar as a person naturally beholds his own Creator, proclaimed to him by creation, without any of the technical contrivances of various arguments¹⁵ – for what could one possibly bring forward that would be equal to faith, as if his faith were due to his own efforts, and not an offering to him from God? The same intellect also receives the ‘gifts’ of the natural laws of beings, to the extent that it imitates their modes of existence.”¹⁶

Thus, all the human beings are called to praise God also through the investigation of the reasons of creatures, motivated by knowing the Truth, which can be done either through scientific research, or through spiritual practice, or, ideally, through the synergistic combination of these ways.

“Having granted existence to the entire visible creation, God did not leave it to be moved about solely by means of sense perception, but implanted, within each of the species comprising creation, spiritual principles of wisdom and modes of graceful conduct. His aim was not only that mute creations should loudly herald Him as their Creator, proclaimed by means of the principles of the things that came into being, but also that the human person, being tutored by the natural laws and ways of

¹⁴ Saint Maximus the Confessor, “On Difficulties,” Qu. 5, 307; Sfântul Maxim Mărturisitorul, *Răspunsuri către Talasie*, 51, 245.

¹⁵ Saint Maximus the Confessor, “On Difficulties,” Qu. 51, footnote 10; see Qu. 5, where sustaining life “through artifice or through some other contrivance” is said to be characteristic of human life after the fall of Adam.

¹⁶ Saint Maximus the Confessor, “On Difficulties,” 307-308; Sfântul Maxim Mărturisitorul, *Răspunsuri către Talasie* 51, 245.

visible realities, should easily find the road of righteousness, which leads to Him¹⁷. And this in fact was the sign of God's extreme goodness, namely, that He did not simply establish the divine and incorporeal essences of the intelligible hosts as images of divine glory – each one proportionately receiving, as much as is permitted, the inconceivable splendor of the unapproachable beauty – but He also intermingled even among sensory creatures, who are greatly inferior to the intelligible essences, resonances¹⁸ of His own magnificence. These have the power to bear and convey the human intellect unerringly to God, so that it comes to reside beyond the whole of visible reality, planting its foot on the extremity of blessedness and on all the intermediaries it left behind when it passed through them and so completed its journey. And not only this, but also so that none of those who 'worship creation rather than the Creator'¹⁹ would have ignorance as a ground for justifying himself, hearing creation heralding its own Creator more clearly and distinctly than any other voice"²⁰

St. Paul tells us that the Gentiles (*ethnē*) have the opportunity to know the *Logos* through the laws of nature, which can be understood through honest scientific study, motivated by the knowledge of the Truth and the love of Wisdom, which implies the choice of a virtuous rational life, according to the conscience, helped by *Logos*.

“For not the hearers of the law [*νόμου*] are just [*δίκαιοι*] in the sight of God, but the doers of the law will be justified [*δικαιωθήσονται*]; for when Gentiles [*ἔθνη*], who do not have the law [*νόμου*], by nature do the things in the law, they without having a law are their own law; they show the deed of the written law [*γραπτὸν*], these, although not having

¹⁷ Saint Maximus the Confessor, “On Difficulties,” Qu. 51, footnote 2; cf. above, Qu. 39, and below, Qu. 64 and Qu. 65.

¹⁸ Saint Maximus the Confessor, “On Difficulties,” Qu. 51, footnote 3; *ἀπήχημα* (pl. *ἀπηχήματα*) is a term well attested in later Neoplatonism, where it is a sonic or auditory metaphor for the doctrine of emanation and participation (normally described as a diffusion of light), and usually designates a faint or distant echo of its source; cf. Proclus, *Platonic Theology* (Henri Dominique Saffrey and Leendert Gerritt Westerink [Paris: Belles Lettres, 1968], 1:124, line 18); idem, *Commentary on Plato's Timaeus* (Ernst Diehl [Teubner, 1906; repr. 1965], 3:158). The term appears among Christian writers, such as Eusebios of Caesarea, *Commentary on the Psalms* (*PG* 23:1288A); but especially in Dionysios, who is undoubtedly the bridge from Proclus to Maximus; e.g., DN 4.4 (147, line 12; 697D); DN 4.20 (166, line 1; 720A); DN 4.20 (167, lines 4-5; 720C); DN 7.2 (195, lines 16-17; 868C); and CH 2.4 (15, line 4; 144C). For a related use of *ἀπηχήματα*, see Maximus, QD. 119 (CCSG 10:87, lines 18-21).

¹⁹ Saint Maximus the Confessor, “On Difficulties,” Qu. 51, footnote 4; *Rom* 1:25.

²⁰ Saint Maximus the Confessor, “On Difficulties,” Qu. 51, 305-306; Sfântul Maxim Mărturisitorul, *Răspunsuri către Talasie* 51, 243-244.

the law, are law to themselves, who show the work of the law written in their hearts, their conscience [συνειδήσεως], also bearing witness, and between themselves their thoughts [λογισμῶν] accusing or else excusing them.” (Rom 2:13-15)²¹

The scientific endeavor must be motivated by knowing the Truth and the love of Wisdom

St. Maximus the Confessor emphasizes that the man who loves wisdom, lives virtuously, seeks the Truth, and intellectually investigates the laws of nature, which can be rationally understood, is perfected by Jesus Christ, *Logos* incarnated.

“Clearly, then, the nature of visible realities naturally has spiritual principles of wisdom and modes of graceful conduct implanted within it by the Creator. When, like the great king Hezekiah, every intellect naturally crowned with virtue and knowledge attains to rule over Jerusalem²², that is, over the state in which one beholds only peace, which is a condition free of every passion – for Jerusalem means ‘vision of peace’ – such an intellect, I say, has all creation at its command, by means of all the species of which it is comprised. Through the mediation of the intellect, creation brings to God, like offerings²³, the spiritual principles of knowledge. To the intellect, creation brings, like gifts, modes for the realization of virtue, which exist within creation, according to the natural law. Through both, creation welcomes and receives the one who is able mightily to esteem both, I mean the philosophical mind perfected in the principle of contemplation and in a life of practice”.²⁴

In the Epistle to the Hebrews (11:3) Saint Apostle Paul states:

²¹ *The Orthodox Study Bible.*

²² Saint Maximus the Confessor, “On Difficulties,” Qu. 51, footnote 5; cf. 4 Kgs 18:1-2.

²³ Saint Maximus the Confessor, “On Difficulties,” Qu. 51, footnote 6; The role of the human person in the cosmic order has a strong liturgical and indeed Eucharistic character, highlighted by the language of “offering,” which bears comparison with Byzantine liturgical texts. In the theology of St Maximus, this was the “priestly” role that Adam was called to perform, returning creation to God, but which he failed to do; cf. *Ambigua 41.2-10* (DOML 2:103-15).

²⁴ Saint Maximus the Confessor, “On Difficulties in Sacred Scripture: The Responses to Thalassios...”, 306-7; Sfântul Maxim Mărturisitorul, *Răspunsuri către Talasie* 51, 243-244.

“By faith [πίστει]²⁵ we understand [νοοῦμεν]²⁶ that the worlds [αἰῶνας]²⁷ were framed [κατήσθαι]²⁸ by the word of God, so that the things which are seen [βλεπόμενον]²⁹ were not made [γεγονέναι]³⁰ of things which are visible [φαινομένων]³¹.” (Heb 11:3)³²

In other words, considering the meaning of the terms used “By practicing faith (*pistei*) we understand (*nooumen*) that the universe (*aiōnas*) was created (*katērtisthai*) by the word of God, so that everything that is seen (*blepomenon*) was not made (*gegonenai*) of anything that is visible (*phainomenōn*)”.

The theological significance of this verse can be summarized as follows:

Faith and Reason: The verse says that the act of faith/trust is aimed at understanding a reality that goes beyond what is directly accessible through the senses or reason. Faith/Trust reveals the truth about the origin of the universe, which cannot be known by direct observation of visible phenomena.

Creatio ex nihilo: In Christian theology, this verse is essential to the dogma of creation out of nothing (*creatio ex nihilo*). The physical world was not created from anything material pre-existent, but through and for the *Logos* (Col 1,16).

The Power of God’s Word (Logos): This verse highlights the central role of God’s Word (*Logos*) in the act of creation. Everything that exists visibly in the

²⁵ The term *πίστει* (*pistei*) is commonly translated as “faith,” meaning firm trust in God and His promises. It is a trust that goes beyond empirical and rational knowledge, based on God’s revelation in Sacred Scripture and Tradition.

²⁶ The term *νοοῦμεν* (*nooumen*) used by St. Paul in this verse and in Romans (1:20) is a form of the Greek verb *νοέω* (*noeō*), which means “to perceive”, “to understand” or “to observe with the mind”. This verb and its derived forms are related to *nous* (*νοῦς*), the Greek term for “mind” or “intellect.”

²⁷ The term *αἰῶνας* (*aiōnas*) is often translated as “ages” or “universe”. The meaning of the term is that of the universe in its multitude of dimensions.

²⁸ The term *κατήσθαι* (*katērtisthai*) is commonly translated as “has been formed” or “has been drawn up”. The verb *κατηρτίζω* (*katartizo*) means “to put in order”, “to prepare” or “to prepare”. In its passive form the term *κατήσθαι*, designates something that has been arranged, formed or created, and in the theological context of creation, the meaning is that of “to be drawn up” or “to be brought into existence” in a planned and ordered state.

²⁹ The term *βλεπόμενον* (*blepomenone*) refers to material things that are visible or perceptible through the physical senses.

³⁰ The term *γεγονέναι* (*gegonenai*) comes from the verb “*γίγνομαι*” (*gignomai*), which means “to become”, “to be done”, “to happen” or “to happen”. In the perfect passive context “*γεγονέναι*”, the term indicates that something has been made or has become, emphasizing the passage from non-existence to existence, from potentiality to reality. In the theological context of creation, it highlights that the universe was made by God through a creative act, out of nothing.

³¹ The term *φαινομένων* (*phainomenōn*) refers to “things that are seen” or “visible”, being derived from the verb *φαίνω* (*phainō*), which means “to appear” or “to become visible”.

³² *The Orthodox Study Bible*.

universe has been brought into existence (being) through the Word (*Logos*) of Almighty God.

In the discourse in the Areopagus, St. Paul says:

“So that they should seek the Lord, in the hope that they might grope [ψηλαφήσειαν] for Him and find Him, though He is not far from each one of us.” (*Acts 17:27*)³³

With regard to this verse of Holy Scripture, where St. Paul uses the verb *ψηλαφάω* (groping, touching, palpating), St. Maximus the Confessor *teaches the importance of synergistic knowledge of the Logos “by having chosen the spirit of Scripture, the logos of nature, and his intellect, and by uniting them indissolubly to each other, he found God – in the sense that he came to know God, as much as this was necessary and possible – in the intellect, in the logos, and in the spirit”:*

“Whoever does not look upon all the visible and corporeal worship of the law through sense perception alone, but carefully examines with his intellect each of the visible symbols, thoroughly apprehending the divinely perfect logos hidden in each, finds God in that logos. In this way he rightly uses the power of his intellect to ‘gropes’ through the material ordinances of the law, as if groping through a heap of rubbish³⁴, hoping to find buried somewhere ‘in the flesh of the law’³⁵ the pearl of the *logos*, which utterly escapes sense perception³⁶. To be sure, the one who does not limit his perception of the nature of visible things to what his senses alone can observe, but who in his intellect wisely searches after the logos in every creature, likewise finds God, for from the manifest grandeur of beings he learns who is the Cause of their being. Inasmuch as the ability to make distinctions is the characteristic mark of the one who ‘gropes after God,’ it follows that the one who examines the symbols of the law with knowledge, and who contemplates the visible nature of beings with true understanding of its cause, makes distinctions within

³³ *The Orthodox Study Bible.*

³⁴ Saint Maximus the Confessor, “On Difficulties,” Qu. 32; I.e., *ὡς ἐν φορυτῶ τῶ ὄλῃ*; cf. below, Qu. 59, footnote 2; Disp. Biz.: “With the letter alone blocking their minds like rubbish” (*μόνω τῶ γράμματι ὡσπέρ τινι φορυτῶ ἐγκώσαντες τὸν νοῦν*) (Ed. Allen and Neil, Documents from Exile, 92); *Ambigua 45.2*: “[I am] like a blind man with outstretched hands, who, groping his way through the rubbish of the material world [*φορυτὸν ὄλῃς*], often stumbles upon something of value” (DOML 2:193); Q.Thp.: *τῶ φορυτῶ συμφορομένῳ* (75, lines 31-32); and Clement of Alexandria, *Protreptikos 10.92.4*, citing Democritus, fr. 147 (*SC 2:160*).

³⁵ Saint Maximus the Confessor, “On Difficulties,” Qu. 32, footnote 3; Origen, *Commentary on Romans 6.12.8*, the Greek text of which is extant in the catenae; cf. A. Ramsbotham, “Documents: The Commentary of Origen on the Epistle to the Romans,” in *JTS 14* (1913): 10-22.

³⁶ Saint Maximus the Confessor, “On Difficulties,” Qu. 32, footnote 5; cf. 2 *Cor 3:6*.

Scripture, nature, and himself. In Scripture, he distinguishes between the letter and the spirit³⁷; in nature, between its inner logos and its outward manifestation; and in himself, between intellect and sensation. And by having chosen the spirit of Scripture, the logos of nature, and his intellect, and by uniting them indissolubly to each other, he found God – in the sense that he came to know God, as much as this was necessary and possible – in the intellect, in the logos, and in the spirit.”³⁸

The Duty to Express the Theological Cosmology (Ktisiology) Taking Account of Current Scientific Language

The Holy Apostle Peter tells us that we have the duty to prepare ourselves adequately, in order to provide a rational (*logon*) apologetic (*apologian*) explanatory answer to those who ask us about our hope (*elpidos*) in the *Logos* incarnate, Jesus Christ. Of course, this rational response is elaborated theologically according to the Patristic methodology, but it must be expressed in a language accessible to the audience, including according to the scientific paradigm with which the audience is familiar, in order to make ourselves understood.

“Sanctify the Lord God in your hearts, and always be ready to give a defense [*ἀπολογία*] to everyone who asks you a reason [*λόγον*] for the hope [*ἐλπίδος*]³⁹ that is in you” (1 Pet. 3:15)⁴⁰

In his PhD thesis, J.J. Johnson Leese concludes that the concepts of creation, new creation, protology, Adam, the image of God, eschatology, bodily resurrection, and the Church (as those who are now being re-created into the image of Christ) are central to Saint Apostle Paul’s articulation of the Christ event and to his understanding of the recapitulation for renewal (Eph. 1:10) that was inaugurated as a result of the Christ event.⁴¹

³⁷ Saint Maximus the Confessor, “On Difficulties,” Qu. 32, footnote 4; cf. *Mt* 13:45-46.

³⁸ Saint Maximus the Confessor, “On Difficulties,” Qu. 32, 204-5; Sfântul Maxim Mărturisitorul, *Răspunsuri către Talasie* 32, 150-151.

³⁹ The ancient Greek term *ἐλπίδος* (*elpidos*), which is the genitive singular form of *ἐλπίς* (*elpis*), defines “hope” or “expectation”. The term is used to express hope, expectation, trust, confidence.

⁴⁰ *The Orthodox Study Bible*.

⁴¹ J.J. Johnson Leese, *Christ, Creation, and the Cosmic Goal of Redemption: A Study of Pauline Ktisiology and its Interpretation by Irenaeus*, submitted for the Degree of Doctor of Philosophy at The University of Durham Department of Theology and Religion, 2014, p. 230; <http://etheses.dur.ac.uk/10850> (accessed December 15, 2023)

St. Luke of Crimea, being faithful to Tradition, affirms that “the Bible is in accordance with all natural realities, and therefore also with science, which discovers these facts,”⁴² noting that “geology and paleontology have accurately confirmed the order of creation found in the Bible.”⁴³

Vladimir Lossky states that there can be no conflict between Orthodox theology and science because science does not have the means to start any conflict with theology or to bring to theology something new, through which to change the dogmas, which represent the boundaries of its practical spiritual experience. Although Lossky does not explicitly state it, he starts from the consideration that, since the object of science is the created world, it is difficult to suppose that it could contribute to the development of theology, as an practical experience of transcendental things. Lossky points out that:

“Christian theology [...] reconciles itself very well with any scientific theory about the universe, with condition that the latter does not go beyond its limits and does not try to deny [...] what is outside its field of study.”⁴⁴

Thus, having no philosophical or scientific preference⁴⁵, the Church will always freely use philosophy and science for apologetic and cosmological purposes, but the Church will never dogmatize a particular scientific paradigm. That is why cosmologies will in no way affect the fundamental Truth discovered and experienced in the Eucharist, by the Church.

⁴² Sfântul Luca al Crimeii, *Știința și religia*, trans. Denis Chiriac (Iași: Doxologia, 2018), 62-63.

⁴³ Sfântul Luca al Crimeii, *Știința și religia*, 70.

⁴⁴ Vladimir Lossky, *Teologia mistică a Bisericii de Răsărit*, (București: Humanitas, 2010), 124.

⁴⁵ *A scientific paradigm* is a set of concepts, theories, methods and practices accepted and recognized by the scientific community in a specific field of research. It represents a general framework in which experimental data are interpreted and new hypotheses and theories are formulated. Paradigms provide a set of rules and standards against which scientific theories and models are evaluated and developed. Paradigms can include the following elements:

a) *Fundamental theories and concepts* that explain the observed phenomena.

b) *Experimental methods and tools* used to obtain and analyse the data.

c) *Methodological principles and rules* for the validation and interpretation of experimental results.

d) *Values, norms and beliefs* that influence the scientific process and the evaluation of theories.

A scientific paradigm can be influenced by several factors, such as experimental results, technological advances, changes in the philosophy of science, and social and cultural influences. As knowledge and technologies progress, paradigms may undergo shifts and alterations or be replaced by new paradigms that provide a more comprehensive understanding of natural phenomena.

From the current Orthodox theological perspective, adequate scientific study (intellectually motivated by knowing the truth and the love for wisdom), has the potential to bring man closer to God, through the understanding of the laws of science of which *the Logos* is the maker:

“The openness of Orthodoxy to the world is maximum. Its embrace is comprehensive; nothing is left out! Any experience of knowledge in the field of sciences, in any field, can be a step towards getting closer to God. The embrace of Orthodoxy encompasses the whole world and all legitimate human endeavors. Our perseverance and the grace of God can transform the research laboratories into narthexes, in which our feeling and reason are prepared to perceive in the visible, the invisible, in the transient and the impassable, in Creation the traces of the Creator.”⁴⁶

In this regard Ștefan-Lucian Petcu notes:

“We can say that divine reasons are also the physical laws planted by God in the created universe, in view of its existence and proper functioning, the search for laws requiring a rational approach that is done for the glory of God.”⁴⁷

St. Luke, Archbishop of Crimea, a physician of genius, emphasizes a harmonious, complementary relationship between Orthodox theology and science, ruling out the possibility of any conflict:

“Many other arguments could be made, which would fully justify the assertion that true science and true religion, which is only the religion of the Bible, do not contradict each other. Religion is not against science [...]. Between revelation and nature itself there is no contradiction, nor can there be, for God is the Creator of both. The common cause of preconceived ideas against religion lies, first of all, in ignorance.”⁴⁸

*St. Luke points out a common mistake, that of confusing science with the opinion of scientists*⁴⁹, as well as the fact that:

⁴⁶Dan Chițoiu, Pr. Petre Comșa, Sorin Mihalache, Costea Munteanu, “Raționalitatea creației”, in *Repere patristice în dialogul dintre teologie și știință*, ed. Adrian Lemeni (Bucharest: Basilica, 2009), 233-234.

⁴⁷Rev. Lucian-Răzvan Petcu, *Cosmologia Creștină și teoriile fizicii moderne*, (Bucharest: Sophia, 2008), 166,

⁴⁸Sfântul Luca al Crimeii, *Știința și religia*, 71-72.

⁴⁹Sfântul Luca al Crimeii, *Știința și religia*, 51.

“Many false things are also said about the relationship between religion and science. An attempt is made to create a conflict between the Gospel and human reason.”⁵⁰

Archbishop Lazar Puhalo also considers that there can be no conflict between science and theology:

“All apparent conflicts between science and faith have their source in models of reality, and not in reality itself. The solution to this conflict could come from re-examining the models of reality that we have formed, which are based on outdated information. We should believe that the Church Fathers would have had the integrity and intelligence to renew their understanding of the history, geography, and nature of the Earth and the Universe, if they had had access to the technology and information that are readily available in our century. The Holy Fathers were open to knowing and exploring the world around them, and they themselves used the knowledge they had. We have every reason to believe that they would have used our own research and knowledge to alter many of their own models of reality. Altering our models of reality does not conflict with the basic dogmatic teachings concerning God (Creator, Progenitor and Savior).”⁵¹

Alexei Nesteruk notes that there is a fundamental difference between the status of the event of humanity of the Logos, understood as the beginning of ecclesial history on earth, and any other natural event that could lead to explainable consequences in its own future. An example from science would be that of the singular event called the Big Bang, as an initial event at the beginning of the universe’s existence, which according to modern cosmology predetermined the necessary background for the unfolding of all consecutive events in the long history of the universe, including its current state. The reality of this initial cosmological event is based on the axiom of the existence of a correspondence between this initial event and its subsequent consequences, which we observe today, based on the scientific laws that explain the dynamics of the development of the universe.⁵²

The distinction that existed in the past between the term *theologia* (referring to the direct knowledge of God through practical experience, in the liturgical framework), and the term *oikonomia* (referring to God’s relationship with the

⁵⁰ Sfântul Luca al Crimeii, *Știința și religia*, 120.

⁵¹ Lazăr Puhalo, *Dovada lucrurilor nevăzute. Ortodoxia și fizica modernă* (Oradea: Theosis, 2015), 119-120.

⁵² Alexei V. Nesteruk, *Lumina de la răsărit: teologie, știință și tradiție ortodoxă răsăriteană*, trans. Evagrina Dârțu și Irina Scurtu (Bucharest: Basilica, 2017), 114.

created world) has disappeared today. The term theology has been replaced by knowledge of both God and His relationship to the world. Unfortunately, in modern debates on the relationship between science and theology, there is a lack of the fundamental experimental component associated with the term *theology*, as participation in the Mysteries of the Church, corresponding to the patristic use of the word *theologia*. This lack is mainly caused by the fact that theology is considered almost exclusively in the modern Western understanding, meaning primarily economy, the teaching about the relationship between God and the world. In modern academic language, to this limited meaning of theology has been given various names, such as systematic theology or natural theology. This is the spectrum of theological discourses used in modern dialogue with science. As Alexei Nesteruk remarks, at present, no one is yet taking the risk of deeply analyzing the relationship between the contemporary scientific paradigm and mystical theology.⁵³

Archbishop Lazar Puhalo emphasizes that:

“If we are not able, as preachers of the faith and as theologians, to approach in a pertinent and open way the problems caused by the new paradigms of the age in which we live, then we will remain stuck in outdated and meaningless models of reality, which we will always place in fierce conflict with the models of reality of physics and of all the sciences. If we fall prey to such arrogance, we will not be able to respond to all the spiritual needs and aspirations of humanity, we will not be able to spread the word of the Gospel and we will end up speaking only to the most superstitious and uncultured categories belonging to various social spheres. The younger generation will find itself betrayed by us, just as we betray the Gospel and the faith by manifesting a blind, reactionary religiosity, instead of opening ourselves to a new understanding and penetration into the inexhaustible richness of Orthodox revelation.⁵⁴

Between Orthodox Theology and Science Cannot Be Contradiction

It should be noted that the founder of modern science, Galileo Galilei, stated that Holy Scripture contains revealed truth, including those about the functioning of the universe. The apparent inconsistency between scientific and theological explanations arises only when both scientists and theologians venture to make statements outside their field of competence.

⁵³ Alexei V. Nesteruk, *Lumina de la răsărit*, 112.

⁵⁴ Lazăr Puhalo, *Dovada lucrurilor nevăzute*, 136-137.

“Our opinion is that the Scriptures agree entirely with the natural truths demonstrated. Rather some theologians unskilled in astronomy, they should be careful not to accuse the Scriptures of erring when they interpret them in contradiction with statements that may be true and demonstrated in [nature]. [...] There is not, or could be, an insurmountable difficulty in reconciling them with the truths demonstrated.”⁵⁵

This conclusion is also underlined by Fr. professor Ioan Ică:

“The real conflict is not between reason and faith, but only between a certain kind of science and a certain form of theology; therefore, this conflict exists not between science as such and Revelation itself, but between the ideological interpretative schemes in which they have been apologetically presented. The main responsible for this situation was the philosophy of Late Antiquity, whose axioms massively infiltrated medieval theology, but were also maintained in classical science. Ancient philosophical rationalism and determinism, which permeated scholastic theology and, from there, classical science, succeeded in dismantling both biblical Revelation and modern science, leading to a profound cosmological and anthropological division. This rationalism is to blame for the obsession with statism and fixity of species, for the refusal of evolution and time as constitutive dimensions of nature as a whole. Contemporary non-classical science is discovering precisely what Genesis and the Bible had already revealed (and Christians had forgotten under the pressure of the axioms of ancient philosophy): universal connectivity, the intimate connection in time and space of all individual beings and species of the material world, the essential unity between nature and man, between macrocosm and microcosm, between the beginning and the end of all creation. These connections have been forgotten in medieval Western theology, reconfigured.”⁵⁶

We would like to emphasize one of the fundamental messages of Orthodox Christian theology, namely that in order to relate to God it is necessary to know Him, which is achieved practically through participation in the liturgical life specific to the Church. Thus, it is easy to see that the perception of God can be

⁵⁵ Galileo Galilei, *Lettere Copernicane (Scrisori Copernicane)*, trans. Smaranda Bratu, Elias Gheorghe Stratan (Bucharest: Humanitas, 2010), 279.

⁵⁶ Rev. Ioan Ică, “Dr. Kalomiros despre facerea lumii, iad și slava materiei și terapia discursului religios și pedagogic al Bisericii”, in Rev. Ioan Ică, Dr. Alexandros Kalomiros, Deacon Andrei Kuraev, Rev. Doru Costache, *Sfinții Părinți despre originile și destinul cosmosului și omului* (Sibiu: Deisis, 2003), 9.

expressed as an existential affirmation, based on experiencing Him directly; and not using rational proofs.

The Triune God revealed Himself, creating the world out of love, with love and for eternal love. The Logos became human and carried the message of the Father in the midst of creation. Thus, the paths of the natural sciences, which investigate the economic works of God in the created world, can constitute a way of living theologically.⁵⁷ In this regard Archbishop Lazar Puhalo pointed out that the only thing that Orthodox Christianity would ask from scientists is that they practice their profession with integrity and they refrain from trying to do theology.⁵⁸

St. Luke of Crimea emphasizes that both science and theology have as their goal and finality the knowledge of God:

“Where does the widespread opinion among students and, in general, among educated people that science contradicts religion come from? The reason for this prejudice lies in a superficial knowledge of both the scientific and religious fields. This also confirms the idea: ‘Knowledge leads to God, while partial knowledge distances us from Him.’ Half-knowledge (superficial knowledge) is a scourge of our time: it is the one that generates the prejudice of which I have spoken.”⁵⁹

St. Luke of Crimea emphasized that only certain ideologized philosophical interpretations of the scientific paradigm can be in contradiction with theology

“The so-called «scientific» atheism is, in reality, in contradiction with religion, but it is only an unproven and unprovable assumption of educated people.”⁶⁰

Archbishop Lazar Puhalo notes the need for

“(…) a more open, comprehensive, and theologically valid perspective on the physical and biological sciences, on human progress, and on the benefits of technology – all of which are gifts from God, who has endowed us with an intelligence capable of advancing in these areas.”⁶¹

⁵⁷ Alexei V. Nesteruk, *Lumina de la răsărit*, 110.

⁵⁸ Lazăr Puhalo, *Dovada lucrurilor nevăzute*, 15.

⁵⁹ Sfântul Luca al Crimeii, *Știința și religia*, 49.

⁶⁰ Sfântul Luca al Crimeii, *Știința și religia*, 51.

⁶¹ Lazăr Puhalo, *Dovada lucrurilor nevăzute*, 16.

Complementarity of Orthodox Theology and Science in Cosmology

The logos/reason of being of science is that it is methodologically and epistemologically rooted in philosophy and theology. Scientists can think about the universe because it is endowed with rationality, and humans have access to it through *dianoia* and *nous*. Scientific knowledge, by its nature, is cataphatic, given that all philosophical generalizations of science are constructed as statements.⁶²

Scientific knowledge is based on the monism affirmed since the classical era of Greek philosophy. This philosophical vision considers that the universe is ontologically self-sufficient, self-sustaining, thus being possible an exhaustive epistemological explanation, without the need for the involvement of the transcendental, of any entity that could have any creative and maintaining role. The monist perspective has generated many philosophical currents. Naturalism, for example, considers that everything that happens is natural in the sense that it can be explained in ways that, although scientifically paradigmatic, are based exclusively on physical objects and events, denying the possibility of the existence of transcendental objects. Objective naturalism is purely methodological, and does not address ontological topics at all, considering that this is the sphere of philosophy and in any case, it is not relevant for the scientific approach. The followers of naturalism can have spiritual, religious, theological concerns, they can be idealists, materialists, theists or atheists. Out of them, materialists are those who have no concern for theology, since they deny the possibility of the existence of the transcendental, the world being reduced only to sensory perceived objects.

Immanuel Kant considers that any attempt to speak about God from the perspective of this world will involve the antinomy of reason, which cannot be resolved if one remains in the monistic sphere, which implies the reduction of God to a simple logical idea, devoid of ontological content.

The inductive arguments for the existence of God from the observation of the created universe can be useful to theology only if it is continued with the direct, apophatic experience of Him. In this way could be avoided the possibility of human thought falling into the trap of absolutization, through which cataphatic concepts are considered as replacements of transcendent realities experienced liturgically.

John Polkinghorne, an Anglican mathematician, physicist and priest, states:

“Reasoned faith, as surprising as it may be, should encourage theology to take a bottom-up approach and base its beliefs on real experience. [...] In both science and theology, the combination of experience and interpretation implies a degree of circularity, but this fact must not

⁶² Alexei V. Nesteruk, *Lumina de la răsărit*, 149.

invalidate the rational commitment to well-reasoned and discerned faith.”⁶³

Polkinghorne’s statements of theistic induction are identical to those of St. Maximus the Confessor, who states that in order to have a rational discourse about God, based on the created world, it is necessary to transcend the division between created and uncreated. For Polkinghorne, the transcendental leap from the cataphatic to the apophatic is accomplished simply by recognizing that the God expressed in words is known liturgically through direct experience. Thus, the monism of the created world is overcome, but not in a rational discursive way, but through mystical practical experience.

Science not only answers questions about how the universe works, but it is able to do so in a universally accepted way. However, *human consciousness plays a decisive role in scientific study because the facts studied are already interpreted by scientists*. Most of the time it is not possible to see directly what was happening, being necessary to deduce from what we observe, and deduction requires an interpretation. Then *the results of the experiments must be interpreted with the involvement of the human intellect*, as the Anglican scholar and theologian John Polkinghorne stated:

“To make interpretations, you have to already know some science. You can’t just sit and watch; You have to choose a point of view. Choosing the point of view implies an act of intellectual daring, it involves betting that things are one way or another. This means that in science, experiment and theory, fact and interpretation are always merged. They are as inseparable as the meaning and ink that together make up [written] words.”⁶⁴

Alexei Nesteruk notes an important difficulty for both scientists and theologians:

“For scientists as well as for theologians it is a real challenge to be professionals in both fields, that is, to be rational with regard to the realities of these times and to be mystical with what is at the foundation of the visible world and which contains within itself the signs of the invisible and the uncreated. [...] It seems to be true at the same time that theologians must go beyond their own ‘specialty’ in order to acquire the language of science, and that scientists must become theologians in the complex sense of the word, that is, not only to generalize their theories to the level of philosophical limits, but also to acquire the

⁶³ John Polkinghorne, *Teologia în contextul științei* (Bucharest: Curtea Veche, 2010), 16-17.

⁶⁴ John Polkinhorne, *Quarci*, 15.

way of contemplating the world that leads them to God [Holy Trinity Persons] and that makes it possible to express what is contemplated through a new language. [...] The dialogue between theology and science requires a theological-scientific, intellectual (academic) and experiential (ecclesial) context that can be described in terms of the reciprocity of science and theology, without raising the question of the assimilation of one by the other.”⁶⁵

Science, through its various paradigms, explains us in more and more detail the way the physical world works. The road map is useful for those who travel, but no one thinks that highways are thin blue lines, and cities are black dots. If a map did not represent at least part of the truth of reality, it would not work at all. The same is true of scientific paradigms, which draw up maps of the physical world that can satisfy certain needs, but not all.

It is known that religion involves faith. Unfortunately, however, faith sometimes has pejorative connotations in contemporary culture, being associated by the ignorant with the unconditional acceptance of certain dogmatic formulations. In contemporary language, *trust or confidence* are the most appropriate words to express the religious reality of Orthodox Christianity. Trust is an action that has a specific purpose: knowledge. Thus, trusting in God implies knowing Him both personally and in the communion of the Church. We note that *both science and theology are based on concrete empirical observations*, of course the first in the physical field, and the second in the metaphysical field, they complement each other in the knowledge of the physical and spiritual Truth. John Polkinghorne states:

“In essence, science and religion are intellectually related. Both seek motivated faith. None of them can support an absolute certain knowledge, because everyone must base their conclusions on an interpenetration between interpretation and experience. [...] Both are part of the huge human effort to understand.”⁶⁶

Science alone gives us only a limited view of reality. It is incapable of talking about aesthetics, art, etc. The human conscience does not appreciate the beauty of a painting after scientific analysis of the composition of paints or canvas; nor do they appreciate the beauty of music according to the scientific analysis of sound waves. Also, ethical values and feelings cannot be scientifically analyzed. Normally love is sought, desired and appreciated, and hatred is avoided.

Alexei Nesteruk emphasizes that:

⁶⁵ Alexei V. Nesteruk, *Lumina de la răsărit*, 30-32.

⁶⁶ Alexei V. Nesteruk, *Lumina de la răsărit*, 22.

“If we accept that both theology and science show two modes of spiritual activity of the human being, it is difficult to accept that these two modes lead to contradictory perspectives on the nature and meaning of humanity and the universe as God’s creations. Therefore, a careful investigation of the meaning of science within a broader theological context (one based on an open epistemology) would be of great use. [...] The thesis that no scientific synthesis can affect theology, can really be interpreted in a positive sense – namely, that nothing in science (as a mere component of a much larger experience) can come against the whole of this experience which is theological by definition.”⁶⁷

All sciences have a common principle (*logos*, the basic principle of their functioning, structure, object of interest). This principle can be formulated in such a way that all variants of scientific discourse have a similar relationship to theology.

Nesteruk concludes that science, as a participant in the dialogue with theology, cannot enter into this dialogue in a «purely scientific»⁶⁸ manner. The science will be interpreted inevitably in a broader cultural, linguistic and social context, in a way that places the global perception of science in the metaphysical perspective of philosophy and theology. As such, philosophy plays the role of linguistic and conceptual mediator between the rational structures of science and the open apophatic theology. Therefore, the mediation between science and theology can only be attempted from within theology and, it can be carried out as a way of practical theological experience.

Such a mediation can make use of any existing philosophy by its ability to mediate between dualism and monism, and by the fact that it is not an *a priori* set of logical rules, but an open epistemology that follows the path of open apophatic theology.

“It follows, therefore, that the dialogue between science and theology is not possible from a non-theological perspective, because reflecting on theology (if it is understood in the patristic sense) is, in itself, an activity of theologizing – and is therefore theology.”⁶⁹

The field of theology, as an intellectual expression of faith in God, is broader than the field of science, which explores a sub-field that corresponds to the created world. Therefore, the mediation between science and theology is in fact an inseparable part of the undivided experience of the human person as a communion with God. Our goal is to make the experience of mediation between

⁶⁷ Alexei V. Nesteruk, *Lumina de la răsărit*, 134.

⁶⁸ Alexei V. Nesteruk, *Lumina de la răsărit*, 140.

⁶⁹ Alexei V. Nesteruk, *Lumina de la răsărit*, 121-2.

science and theology clearly formulated into categories of thought, emphasizing that apophatic Orthodox theology gives us the freedom to use any philosophical ideas and schemes for the purpose of constructing the methodology of this description.

Francis Collins⁷⁰, director of the Human Genome Project, says:

“Science is the only reliable way to understand the physical world, and its means, when used correctly, can penetrate into the depths of material existence. But science becomes powerless when it has to answer questions such as: «Why did the universe come into being? What is the meaning of man’s existence? What happens after death?»”⁷¹

Professor Owen Gingerich⁷², affirmed the complementarity between science and theology:

“Just as I believe that through the Book of Scripture the path of God is illuminated, I also believe that through the Book of Nature, with all its amazing details – the blade of grass, the absence of [atomic] mass five⁷³

⁷⁰ *Francis Sellers Collins* (born April 14, 1950) is an American physician-scientist who discovered the genes associated with a number of diseases and led the Human Genome Project. He served as director of the National Institutes of Health (NIH) in Bethesda, Maryland, from 17 August 2009 to 19 December 2021. Before being appointed director of the NIH, Collins led the Human Genome Project and other genomics research initiatives as director of the National Human Genome Research Institute (NHGRI), one of the 27 institutes and centers at NIH. Before joining NHGRI, he earned a reputation as a gene hunter at the University of Michigan. He has been elected to the Institute of Medicine and the National Academy of Sciences, and has received the Presidential Medal of Freedom and the National Medal of Science. Collins also has written books on science, medicine, and religion, including the New York Times bestseller, *The Language of God: A Scientist Presents Evidence for Belief*. After leaving the directorship of NHGRI and before becoming director of the NIH, he founded and served as president of The BioLogos Foundation, which promotes discourse on the relationship between science and religion and advocates the perspective that belief in Christianity can be reconciled with acceptance of evolution and science, especially through the idea that the Creator brought about his plan through the processes of evolution. In 2009, Pope Benedict XVI appointed Collins to the Pontifical Academy of Sciences.

⁷¹ Francis Collins, *Limbaaj lui Dumnezeu: Un om de știință aduce dovezi în sprijinul credinței*, trans. Silvia Palade (Bucharest: Curtea Veche, 2009), 12.

⁷² *Owen Jay Gingerich* (March 24, 1930 - May 28, 2023) was an American astronomer who had been professor emeritus of astronomy and of the history of science at Harvard University and a senior astronomer emeritus at the Smithsonian Astrophysical Observatory. In addition to his research and teaching, he had written many books on the history of astronomy. Gingerich was also a member of the American Academy of Arts and Sciences, the American Philosophical Society, and the International Academy of the History of Science. A committed Christian, he had been active in the American Scientific Affiliation, a society of evangelical scientists.

⁷³ The “mass-5 roadblock” refers to a significant limitation in the process of nucleosynthesis during the early universe, particularly during the era known as Big Bang nucleosynthesis (BBN). This is a critical factor in understanding the formation of elements in the early universe. Due to

or the incredible complexity of DNA – a God of purpose and a God of design is suggested. And I think that faith doesn't make me any less of a scientist.”⁷⁴

St. Luke of Crimea emphasizes that science has the role of leading man thirsting for truth, from what is created to the Creator:

“If we analyze religion in its essence, we must say that it is an inner experience, as worship before God and communication with Him. We should agree that science not only does not contradict religion, but even more than that, science leads to religion. [...] Science is the one that demonstrates its necessity. It asks the questions that religion answers. According to the law of cause and effect, science brings us to the First Cause of the world, and religion answers us Who is this Primary Cause, Creator not only of the world, but also of man. [...] Science reveals us the eternal Logos of existence, which conditions this harmony. Science brings us to the need for a rational meaning in life. [...] Religion answers us that GOD is that [rational meaning].”⁷⁵

John F. Haught's book entitled “Science and Religion: From Conflict to Dialogue”⁷⁶ offers a reasoned and balanced perspective on the complex relationship between science and religion, promoting dialogue and mutual understanding between the two fields. Haught addresses the complex relationship between science and religion, and tries to overcome the perception of conflict between the two fields, promoting a constructive dialogue. Haught explores the complementarity between science and theology, highlighting that the two disciplines address different aspects of reality and that they complement each other in the deep understanding of the world in which we live. He argues that science and religion can have a fruitful dialogue, providing complementary perspectives on the world and human existence. Haught discusses the limited aspects of science, emphasizing that science has its own methods and limits in terms of understanding reality, and religion offers essential dimensions and questions that science cannot address. He argues that religion brings meaning, value and ethics to human life, aspects that cannot be reduced to scientific explanations.

the absence of stable nuclei with a mass number of 5, the nucleosynthesis process during the Big Bang was limited to the production of the lightest elements. The creation of heavier elements had to wait for the complex processes occurring in stars, thereby shaping the elemental composition of the universe as we observe it today, thus implying the *fine-tuned universe* and *anthropic principle*.

⁷⁴ Owen Gingerich, *Universul lui Dumnezeu*, trans. Viorel Zaicu, (Bucharest: Curtea Veche, 2010), 99.

⁷⁵ Sfântul Luca al Crimeii, *Știința și religia*, 72-3.

⁷⁶ John F. Haught, *Știință și religie. De la conflict la dialog*, XXI (Bucharest: Eonul Dogmatic, 2002).

Francis Collins, affirms the complementarity between theology and science, stating:

“In my opinion, there is no conflict between being a rigorous scientist and a person who believes in a God who has a personal connection to each of us. The field of science is the research of nature. God’s realm was in the realm of the spiritual, a territory impossible to explore with the means and language of science. It must be searched with heart, mind and soul – and the mind must find a way to embrace both territories.”⁷⁷

His Eminence Nicholas, Metropolitan of Mesogaia and *Lavreotiki*, is director of the “Center for Biomedical Ethics and Deontology” in Athens and president of the Bioethics Commission of the Synod of the Greek Orthodox Church. At the meeting of the Synod of the Church of Greece on 4 October 2012, he stated that the opinion of Francis Collins, head of the Human Genome Project (HGP) human gene research program, about the relation between science and theology is remarkable. In his book entitled «The Language of God», Collins argues that God is not a subject for science, but for scientists, and that all atheistic statements are not evidence of scientific research, but the findings of scientific brains, guided by an arbitrary judgment. As such, Collins’s book represents a unique, personal journey on the path of faith of one of the greatest scientists of the genetics domain. However, it is sad to notice that this book remains largely unknown and has great difficulty in being properly promoted. Despite the fact that the science domain of genetics has been largely misinterpreted ideologically, as having an implicit scientific demonstration of God’s inexistence, one of the most important genetics scientists confesses his belief in God. The rigorous scientific research and astonishing results in genetics, helped Collins to become Christian.⁷⁸

Denis Alexander⁷⁹, Director of the *Faraday Institute for Science and Religion*, Fellow of St. Edmund College at the University of Cambridge, states that

⁷⁷ Francis Collins, *Limbajul lui Dumnezeu*, 12.

⁷⁸ “Biserica față în față cu noile concepte și tehnologii – ÎPS Nicolae, Mitropolit de Mesogaías și Lavreotikís”, Logos. Portalul Tineretului Ortodox din Republica Moldova, <http://logos.md/2013/02/18/biserica-fata-in-fata-cu-noile-concepte-si-tehnologii-ips-nicolae-mitropolit-de-mesogaiais-si-lavreotikis/> (accessed May 12, 2017).

⁷⁹ Dr. Denis Alexander has spent 40 years in the biomedical research community. He is an Emeritus Fellow of St. Edmund’s College, Cambridge and an Emeritus Director of the Faraday Institute for Science and Religion, Cambridge which he co-founded with Bob White in 2006. Alexander has written on the subject of science and religion since at least 1972, when his book «Beyond Science», written at the age of 25/26, was reviewed by Hugh Montefiore, then Bishop of Kingston upon Thames in the *New Scientist*. In the late 1980s he became a member of the National Committee of Christians in Science (www.cis.org.uk) and served on the Committee until 2013. In 1992 he became editor of the journal *Science and Christian Belief*, a post he held until

“The fact that we take evolution as a biological theory should not affect our Christian belief in the uniqueness of humanity’s role in the image and likeness of God. [...] Christians who have made it their mission to attack evolution, mistakenly assuming that it is against God, are embarrassing and bring a bad name to the gospel. [...] Attacking the theory of evolution brings division and divides the Christian community, erecting superfluous barriers to those who want to know more about the heart of the teachings of the Christian faith. From my experience in the scientific community, I know that today the word Christian is often equated with the idea of creationism (literally) or the Intelligent [Design] Project, making it even more difficult to spread the good news about Christ.”⁸⁰

Former Roman Catholic priest and professor of molecular biology at Irvine University in California, Francisco Ayala⁸¹, states:

2013. Alexander served on the Executive Committee of the International Society for Science and Religion and is a member of the Cambridge Papers Writing Group for which he writes papers related to science and religion. In January 2006 Alexander became the founding Director of the Faraday Institute for Science and Religion which was originally founded as part of St Edmund’s College, Cambridge. The Institute carries out research on science and religion, runs courses, and engages in academic dissemination on the topic through seminars, lectures, panel discussions and in schools. In October 2012 Alexander became Emeritus Director and is now Chair of the Board of Trustees of the Institute. In December 2012 Alexander gave the Gifford Lectures at St Andrews University on the theme “Genes, Determinism and God”. Alexander writes and lectures widely on science and religion. His book *Rebuilding the Matrix – Science and Faith in the 21st Century* was published in 2002. Alexander is well-known for his critique of creationism and of “intelligent design”. Alexander engages in the public understanding of science and religion. This includes articles published on web-sites such as Nature, The Guardian and The Huffington Post. TV programmes such as David Malone’s *Testing God* documentary for Channel 4, Rod Liddle’s Channel 4 programme *The Trouble with Atheism* and a series of interviews for the US “Closer to Truth” TV series, together with numerous radio discussions and interviews, such as his interview with Joan Bakewell in her BBC series “Belief”, on Australian national radio, and radio debates with Stephen Law and P.Z. Myers. In 2018 Alexander spoke in favour of the motion “This House Believes that Science Alone Can Never Answer our Biggest Questions” at an Oxford Union debate.

⁸⁰Denis Alexander, *Creation or Evolution: Do we have to choose?*, trans. Viorel Zaicu Ramona Neacșa-Lupu (Bucharest: Curtea Veche, 2010), 399-401.

⁸¹*Dr. Francisco José Ayala Pereda* (March 12, 1934 - March 3, 2023) was a Spanish-American evolutionary biologist and philosopher who was a longtime faculty member at the University of California, Irvine, and University of California, Davis. Ayala was previously president and chairman of the board of the American Association for the Advancement of Science. At University of California, Irvine, his academic appointments included University Professor and Donald Bren Professor of Biological Sciences, Ecology & Evolutionary Biology (School of Biological Sciences), Professor of Philosophy (School of Humanities), and Professor of Logic and the Philosophy of Science (School of Social Sciences). Earlier in life, Ayala was a Dominican priest, ordained in 1960 and leaving the priesthood that same year. After graduating from the University of Salamanca, he moved to the United States in 1961 to study for a PhD at Columbia University. There, he studied

“There should be no antagonism between evolution and religious convictions. Believers could see the presence of God in the actions of nature and in the creative powers of natural selection, first observed by Darwin.”⁸²

On the contingent nature of the laws of science, professor John Hands⁸³, who studied chemistry at the University of London, states:

“Science, an empirical discipline, cannot explain what caused the existence of these physical and chemical laws, why these parameters have their respective critical values, and why there was on planet Earth a concurrence of extremely improbable and unusual factors, which, combined, produced the necessary conditions for our evolution. (Multiverse conjectures are just untestable speculations, and most are based on questionable logic.) And without this knowledge, the causal chain that led to the emergence and evolution of humans is incomplete.”⁸⁴

Saint Luke of Crimea, emphasize that science cannot be used as a rational justification for inexistence of God:

“In general, we don’t see things as they are, but we perceive them according to our own point of view from which we analyze them. If we cannot understand by use of scientific means of knowledge what lies be-

for his doctorate under Theodosius Dobzhansky, graduating in 1964. He was a critic of intelligent design theories, claiming that they are not only pseudoscience, but also misunderstood from a theological point of view. He suggested that the theory of evolution resolves the problem of evil, thus being a kind of theodicy. In 2001, Ayala was awarded the National Medal of Science. On April 13, 2007, he was awarded the first of 100 bicentennial medals at Mount Saint Mary’s University for lecturing there as the first presenter for the Bicentennial Distinguished Lecture Series. His lecture was entitled “The Biological Foundations of Morality”. Ayala delivered a lecture at the Trotter Prize ceremony in 2011 entitled “Darwin’s Gift to Science and Religion.”

⁸² Francisco J. Ayala, *Darul lui Darwin către Știință și Religie*, trans. Doina Rogoti, (Bucharest: Curtea Veche, 2009), 248.

⁸³ *John Hands* is a British author, trained as a scientist. Hands won an Arts Council England award to research and write *Cosmosapiens: Human Evolution from the Origin of the Universe*, published in the UK by Duckworth Overlook in 2015 and in the USA in 2016. John Hands’ “Cosmosapiens” is a monumental work that challenges readers to rethink their understanding of the universe and human evolution. By synthesizing scientific knowledge with philosophical inquiry, Hands provides a nuanced perspective that acknowledges the complexity and mystery of our existence. The book calls for a humble and open-minded approach to scientific inquiry, recognizing the limitations of our current understanding while celebrating the progress made. In essence, “Cosmosapiens” is a testament to the human quest for knowledge and meaning, offering a hopeful vision of continued discovery and intellectual growth. It underscores the importance of curiosity, critical thinking, and ethical consideration in our ongoing exploration of the cosmos and ourselves.

⁸⁴ John Hands, *Cosmosapiens: Evoluția omului de la originile Universului*, trans. Carmen Strungaru and Doru Căstăian (Bucharest: Humanitas, 2019), 671.

hind things, i.e., their essence, even more we cannot know the Primary Essence, God. This is the reason why science cannot deny the existence of God, because this domain is outside its competence, as well as the entire domain of the essence of things.”⁸⁵

His Eminence Ioannis Zizioulas noted that for a long time, science and theology seemed to be looking for different types of Truth in their specific endeavors, as if Truth were not one in the exhaustiveness of existence. This was the result of the dichotomous analysis of Truth, between the transcendent and the immanent and, in the final analysis, of the fact that both the theological notion of truth and the scientific notion of it were deprived of the attribute of communion, being considered only in terms of the subject-object structure, as an analytical method of research.

“Einstein’s revolution in science, however, meant a radical reorientation of the scientific search for Truth. Its ultimate consequences have not yet been perceived, but one thing seems clear: the Greek conception of being was decisively affected by the notion of relationship; for the natural sciences after Einstein, being became relational. This brings scientific truth to where the Greek Fathers arrived at the philosophical level and gives us the opportunity to speak of a unique Truth in the world, which we approach scientifically or theologically.”⁸⁶

His Eminence Ioannis Zizioulas notes that if theology creatively uses the Greek patristic synthesis on Truth and communion and applies it in the Church, then the apparent dichotomy between theology and science will disappear. The scientist is at the same time a member of the Church, a man capable of realizing that he is fulfilling a Eucharistic call, which can lead to the liberation of nature from the slavery imposed by modern man, who is increasingly dependent on technology. The Eucharistic conception of the Truth is destined, on the one hand, to free man from the passion of the greed to dominate creation by enslaving it; and on the other hand, to make man aware that Christ – the Logos – Truth became human for the whole creation. The deification that Christ brings as a communion of divine life (cf. *2 Pet* 1:4) relates to the whole of creation, not just to the human being.⁸⁷

Alexei Nesteruk notes that the notion of truth in a theological context makes the experimental dimension of theology fundamental, because since St. Ignatius of Antioch and St. Irenaeus of Lyons, truth was inextricably linked to true life understood in a practical liturgical sense, centered on the Eucharist. This renewing perspective has made the Eucharist the principle of human existence, understood

⁸⁵ Sfântul Luca al Crimeii, *Știința și religia*, 50-1.

⁸⁶ Ioannis Zizioulas, *Ființa eclezială*, (Bucharest: Editura Bizantină, 2007), 123-4.

⁸⁷ Ioannis Zizioulas, *Ființa eclezială*, 124.

as true life. Thus, Holy Communion became the fundamental, defining principle of truth, and implicitly a principle of immortality. Being subject, in our daily life, to corruption and death, life in the Church, understood as the acquisition of the ecclesial hypostasis in our own nature (that is, of incorruption and immortality), is possible only through the Eucharist, because Christ gives us life, keeps us alive and gives us a foretaste of eternity⁸⁸, through participation in His victory over death.

Conclusion

There are many who promote the dialog between Science and Religion. In this article we have referred to only a few of them. We could say that today, perhaps more than ever, science is theology's best friend, since it has crushed all the idolatry of the god of ignorance: "We believe in a divinity because we cannot understand certain phenomena in nature"; and thus, only true faith remains: "I trust God because I can know Him in an interpersonal relationship, of cooperation, of communion, fully in Christ Jesus in His Church."

Thus, science in its approach, being limited only to physical objects, can only note the involvement of metaphysics in the creation and maintenance of the universe, and scientific observations cannot be separated from the consciousness of the observer. So, science cannot be used to disprove the existence of God.

Both the Scientific Method and the Orthodox Spiritual Theological Method (theognosia) are based on the rejection of knowledge obtained exclusively rationally, without practical experimental validation. Also, both methods have a repetitive character of practical experience. In Orthodox theology, every person, from every time and place, who experiences God in the Church, centered in the Eucharist, goes through the same stages of dispassion, illumination and deification (*Christomorphization*). The Saints and the testimony of Tradition is eloquent in this regard.

⁸⁸ Alexei V. Nesteruk, *Lumina de la răsărit*, 87.