Artificial Intelligence in the Face
of the Orthodox Approach
to the Concept of the Person

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If someone attempts to search for a philosophical definition of the person, one will discover that this widespread term has acquired its present meaning thanks to theological reflection. Although philosophy tried to disconnect it from Christian theology, the attribution of respect to the person was one of the elements that distinguished Christian teaching from the Neoplatonic conception of the Greco-Roman world. The inability of Greek philosophy to consider the person as a totality, although the Stoics tended to do so, is attributed to its tendency to analyze man in terms of body and spirit as opposing concepts. Thus, it was difficult for them to perceive him as an entity[1].

The Greek word «πρόσωπον» (πρὸς+ὤψ, τὸ ὄμμα) describes the front of the head, but also the mask[2]. The identification of the face with the mask, associated with the theatrical conventions, shifted the term conceptually to the field of tragedy, where, according to the observation of Ioannis Zizioulas, man's attempt to liberate himself is crushed by

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1. See John D. Zizioulas, Metrop. of Pergamon, «Ἀπὸ τὸ προσωπεῖον εἰς τὸ πρόσωπον: Ἡ συμβολὴ τῆς πατερικῆς θεολογίας εἰς τὴν ἔννοιαν τοῦ προσώπου», *Χαριστήρια εἰς τιμὴν τοῦ Μητροπολίτου Γέροντος Χαλκηδόνος Μελίτωνος*, Patriarchal Foundation for Patristic Studies Publications, Thessaloniki 1977, pp. 287-292; J. D. Zizioulas, *Being as Communion*, St. Vladimir's Seminary Press, Yonkers, New York 1985, p. 29 et seq.

2. E.g., «παρὼν γὰρ ὁ κύων μίμῳ πλοκὴν ἔχοντι δραματικὴν καὶ πολυπρόσωπον ἄλλας τε μιμήσεις ἀπεδίδου τοῖς ὑποκειμένοις πάθεσι καὶ πράγμασι προσφόρους», Plutarch, *Πότερα τῶν ζῴων φρονιμώτερα τὰ χερσαῖα ἢ τὰ ἔνυδρα*, 1, 19.

fate. Similarly, in Latin literature the word *persona* was chosen, which also denotes the mask, since the etymology connects it with the Etruscan word *phersu*, which meant the funerary mask. In the Roman world, the term acquired a legal aspect: *persona* is the role played by an individual or group in the field of social relations. The concept of the legal person is still preserved today. Thus, a concept has established in the Western Europe, that has also been followed in the realm of the theological thought: the person is ontologically identified with his or her relationship to other persons[3].

1. The Divine Persons

The reason for the emergence of the importance of the person was the Trinitarian heresies, which prompted the Great Fathers of the 4th and 5th centuries AD to distinguish between essence and substance as a way of the essence's existence. The distinction between essence and substance cannot be traced in the earlier patristic literatur[4]. The Cappadocians were the first to establish the distinction[5], by utilizing Greek terminology. As Vladimir Lossky has noted[6]. that was a bold move, since there was a danger for them to be misunderstood by the philosophers or the latter to appropriate God for themselves. The term ὑπόστασις also evoked the monastic stream of Sabellianism and Plotinus's Neoplatonism[7].

To avoid the danger of misunderstanding, the Fathers emphasized that the persons of the Holy Trinity are common in essence, but they are

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3. See John D. Zizioulas, Metrop. of Pergamon, «Ἀπὸ τὸ προσωπεῖον εἰς τὸ πρόσωπον…», op.cit., pp. 292-293.
4. «ἐφ' ἑνὸς προσώπου καὶ φύσεως ἢ γοῦν ὑποστάσεως μιᾶς βασανίζων ὁ λόγος τὰ ἐξ ὧν ἐστιν ἤτοι σύγκειται φυσικῶς»; Κυρίλλου Ἀλεξανδρείας, Ἀπολογητικὸς ὑπὲρ τῶν ΙΒ΄ Κεφαλαίων, PG 76, 352.
5. Πχ. see Basil the Great, Ἐπιστολὴ ΛΗ΄, PG 32,325.
6. See V. Lossky, «Ἡ θεολογικὴ ἔννοια τοῦ ἀνθρωπίνου προσώπου», in: Χριστιανικὸν Συμπόσιον Γ΄, K. Tsiropoulos (ed.), Hestia Publications, Athens 1969, pp. 99-104.
7. Tertullian was the first who used the term in Latin, and Hippolytus of Rome the first who used it in Greek. See John D. Zizioulas, Metrop. of Pergamon, «Ἀπὸ τὸ προσωπεῖον εἰς τὸ πρόσωπον…», op.cit., pp. 294-296.

distinguished by their hypostatic attributes: the Father's «ἀγέννητον», the Son's «γεννητόν», and the Holy Spirit's «ἐκπορευτόν». The clarification of the distinction between substance and hypostasis allowed for the Christological heresies to be confronted, by defending the hypostatic unity of the two natures in the person of Christ.

According to Eastern theology, the person is the God's "being". When the person acts, it acts as an entity[8]. It is characteristic that the Sixth Ecumenical Council, in condemning the positions of Monotheism/ Monoenergism, asseverated that energy and will are attributes of the essence and not of the substance. However, the Synod, following the theology of St. Athanasius and the Cappadocian Fathers, stressed that in the case of Christ, there is one active agent, although two of His natural energies, because the Word is the one who motivates the energies. There is a distinction between actor, energy and acted[9].

The divine person is free; it is not necessity-bound. The Father exists because He wants to, not because He is obliged to act likewise[10]. Not being bound by the absoluteness of His essence, He begets the Son, while the Holy Spirit proceeds from Him. The communion between persons lies at the core of the Godhead. When the Church Fathers are talking about the Trinitarian communion, they are referring to the loving unity, not to mere coexistence or communication. The Triadic God, being communion, is also love[11]. Ioannis Zizioulas captured the above in the following ontological equation: being=society=freedom[12].

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8. See Basil the Great, *Κατὰ Εὐνομίου*, PG 29,756.

9. See Io. Karmiris, *Τὰ δογματικὰ καὶ συμβολικὰ μνημεῖα τῆς Ὀρθοδόξου Καθολικῆς Ἐκκλησίας*, Athens 1960, v. I, pp. 221-224. See Despoina Kontostergiou, *Ἡ ΣΤ´ Οἰκουμενικὴ Σύνοδος καὶ ἡ θεολογία της*, P. Pournaras Publications, Thessaloniki 1992, p. 223.

10. «Ὁ δὲ ἐπὶ πάντων Θεὸς ἐξαίρετόν τι γνώρισμα τῆς ἑαυτοῦ ὑποστάσεως, τὸ Πατὴρ εἶναι, καὶ ἐκ μηδεμιᾶς αἰτίας ὑποστῆναι, μόνος ἔχει»; Basil the Great, *Κατὰ Εὐνομίου*, PG 29,5 45. See D. Chiapetti, *The Father's Eternal Freedom*, James Clarke & Co., Cambridge UK 2022, p. 112.

11. *1 John* 4, 16.

12. Cf. J. D. Zizioulas, *Being as Communion, op.cit.*, p. 40; D. Farrow, «Πρόσωπο καὶ Φύση: Ἡ διαλεκτικὴ ἀναγκαιότητας-ἐλευθερίας στὸν Ἰωάννη Ζηζιούλα», in: *Ἡ θεολογία τοῦ Ἰωάννη Ζηζιούλα: Πρόσωπο καὶ Ἐκκλησία*, D. H. Knight, Io. Plexidas (eds.), Greek transl. D. Kalogerakis, Degiorgio Publications, Athens 2009, pp. 171-173.

Thomas Aquinas identified persons with their interrelationships in order to protect, as he saw it, the divine essence's simplicity: "Persons are the relations themselves (*personae sunt ipsae relationes*). The relation suffices to distinguish them"[13]. Western thought follows the essentialist and not the person-centered direction[14].

2. Man as a Person

God's freedom is revealed in the Bible from the very first verses of *Genesis*, when the world, and with it man, is created by God without compulsion and, as it has been later written, *ex nihilo* («ἐξ οὐκ ὄντων»)[15]. Unlike the other creatures, man's creation, introduced by self-induction, is an extraordinary personal action of God: «ποιήσωμεν ἄνθρωπον κατ᾽ εἰκόνα ἡμετέραν καὶ καθ᾽ ὁμοίωσιν»[16]. Thus, man's biblical ontology and eschatology is enveloped. Man bears the image of God and is destined to be deified by grace. In the Bible, the term πρόσωπο is not used, only the word «ἄνθρωπος».

The interpretation according to which God's image is man generally focuses on his spiritual gifts, especially the «νοερόν» and the «αὐτ-εξούσιον». N. Bratsiotis distinguished as qualities of the image of God in man the «κοινωνικόν», the «ἀρχικόν» and «δημιουργικόν»[17]. According to the interpretation proposed by S. Bulgakov, man was created from the image of the Son, who was to be incarnated[18]. The body also belongs

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13. *Summa Theologica*, I, 40, 2. Cf. Boethius, *De Trinitate*, 178, 310. Περὶ τῆς θωμικῆς ἀντιλήψεως τοῦ προσώπου see G. Emery, "The Dignity of Being a Substance: Person, Subsistence, and Nature", *Nova et Vetera* [English Edition/ St. Paul Center of Biblical Theology], 9, 4 (2011), pp. 991-1001.

14. See St. Giagkazoglou, «Ὁ διάλογος θεολογίας καὶ φιλοσοφίας. Ἡ θεολογικὴ ἑρμηνευτικὴ τοῦ Νίκου Νησιώτη», *Θεολογία/Theologia* 84, 3 (2013), pp. 29-49, here p. 40.

15. *2 Macc*. 7, 28.

16. *Gen*. 1, 26.

17. See N. Bratsiotis, *Ἀνθρωπολογία τῆς Παλαιᾶς Διαθήκης*, Athens ⁸1996, pp. 269-280.

18. See S. Boulgakov, *Du Verbe Incarné*, transl. C. Andronikof, Lausanne 1982, pp. 61-64. See also Ieremias Fountas, Metropol. of Gortyna and Megaloupolis, *Ἡ δημιουργία τοῦ Κόσμου καὶ τοῦ Ἀνθρώπου*, Dimitsana-Megalopolis 2011, p. 40, not.

to this image. Although mortal, it is a divine creation. It receives the soul (Hebrew, *nephesh*)[19], and in the New Testament it is called the temple of the Holy Spirit[20]. Man is of dual nature, body and soul, and is the crown of creation[21]. He is charged with the responsibility of being the steward of creation[22]. God declares: «*οὐ καλὸν εἶναι τὸν ἄνθρωπον μόνον*»[23], because man is a social being.

In the *Book of Genesis*, man uses his freedom in a way that ignores its God-given character, and this results for him to be turn away from God. This distancing from the Creator invites death, a return to nothing[24]. Still, man was not created for death; his heart never ceases to yearn for eternity[25]. As things went awry, man started to develop technical civilization to tame the now inhospitable nature. This is not a sinful deviation; in the Bible, it is perceived as God's provision for man to survive the Fall. Typical is the hymn to Medicine and its practitioners in the *Book of Sirach* 38, 1-15. He considers illness to be the result of sin, but attributes the services of the physician to the divine providence. As the Babel narrative vividly illustrates, the Fall leads to the possibility of the technical skills' inappropriate use. In other narratives, however, this ability serves God's plan, as in the Flood. Since man is in conflict with the Creator, he also finds himself in disharmony with creation[26].

The consequences of man's unwise use of his freedom are presented as collective punishments in the earliest layers of the Old Testament,

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19. Regarding the use of the term *nephesh*, *ruach* and *neshamah*, that denote ma's spiritual element in the Masoretic text, see N. Bratsiotis, *Ἀνθρωπολογία τῆς Παλαιᾶς Διαθήκης*, *op.cit.*, pp. 222-223. Regarding the term *tselem* (image) *καὶ demuth* (likeness), see *ibid.*, pp. 227-245. On the proposed interpretation of the God's image in man, as referring exclusively to the body by the German scholars H. Gunkel, P. Humbert and L. Köhler, see *ibid.*, pp. 247-261.

20. *1 Cor.* 6, 19.

21. *Gen.* 1, 28.

22. *Gen.* 2, 15.

23. *Gen.* 2, 18.

24. See John Zizioulas, Metrop. of Pergamon, *Ἡ Κτίση ὡς Εὐχαριστία: Θεολογικὴ προσέγγιση στὸ πρόβλημα τῆς Οἰκολογίας*, Akritas Publications, 2019, pp. 79-91.

25. See W. Zimmerli, *Ἐπίτομη Θεολογία τῆς Παλαιᾶς Διαθήκης*, Artos Zois Publications, Athens 1981, p. 208.

26. See M. Farantos, *Δογματικὰ καὶ Ἠθικὰ I*, Athens 1983, pp. 246-249.

such as in the *Prophets* and *Deuteronomy*[27]. Later, in the Sophiologic literature, the dilemmas are posed on a personal level[28], as attempts are made to provide answers to the problem of theodicy under the influence of the Hellenistic cultural environment. Despite the evolution of interpretations, there are certain constant concepts in the Old Testament: evil always leads to chaos[29] and the Law is the measure by which good and evil actions are distinguished; it is the strict guardian of the distinction between the sacred and the profane. This distinction is of vital importance to Israel. God is the guarantor of its survival. The ἅγιον (Hebr. *qadosh*) is related to the power of God, who is also called *Yahweh Tsebaoth*, that is, the *Lord of Hosts*[30]. The supreme evil is the deviation to idolatry, but it is not limited to it. The censure of all social injustice is not absent from the Old Testament[31]. Evil is gradually hypostatized as the Satan[32].

Man in the Old Testament suffers not from lack of freedom, but from the withdrawal of God's blessing when he chooses to defy its God-given character[33]. At the same time, divine care is equally present. God is standing by through humans, and on many occasions, He appears in the form of an angel[34], as a foreshadowing of the incarnation.

In the New Testament, Christ's teaching overturns many widespread conceptions of what pleases God. Jesus does not abolish the Law; He puts forward love as the most authentic interpretation of it in contrast to the Pharisees' obsession with ritual purity[35]. Love is manifested both

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27. See, among others, *Deuter*. 30, 15-18; *Isahiah* 1, 19-20.

28. See *Wisdom* 15, 14-17.

29. See Maria Pazarski, «Τὸ Κακὸ στὴ Σοφιολογικὴ Γραμματεία τῆς Παλαιᾶς Διαθήκης», *Σύνθεσις/Synthesis* 2, 2 (2019), pp. 111-135.

30. Βλ. P. Jenson, "Holiness in the Priestly Writings of the Old Testament", in: S. C. Barton (ed.), *Holiness, Past & Present*, T&T Clark, Edinburgh 2002, pp. 96-99.

31. See W. Dietrich, *Jesaja und die Politik*, Chr. Kaiser Verlag, München 1976, p. 15.

32. See D. Kaimakis, *Ἡ ἰουδαϊκὴ ἀποκαλυπτικὴ γραμματεία καὶ ἡ θεολογία της*, Vanias Publications, Thessaloniki 2007, p. 199.

33. See John Zizioulas, Metrop. of Pergamon, *Ἡ Κτίση ὡς Εὐχαριστία...*, *op.cit*., pp. 105-113.

34. Βλ. W. Zimmerli, *Ἐπίτομη Θεολογία...*, *op.cit*.,, pp. 90-91.

35. *Matthew* 22, 40.

towards God and towards the neighbor. It is the criterion of salvation[36]. Christ meets each person and addresses Himself personally to each listener according to his perceptive faculties[37]. In order to defeat death, He offers His Resurrection, which passes through His sacrifice[38].

Man is invited to the Church to participate in the Resurrection as a member of Christ. There, he experiences his existence as a person through the Holy Eucharist: he is united with the other persons and they all become one with the risen Christ. Communion becomes the means of salvation. Even a small community of believers celebrating the Eucharist embraces the universality of humanity's participation in salvation[39].

Man is not saved by himself alone, but free cooperation on his part is required. He can cooperate in order for the whole creation to be saved, since Grace is diffused to it through the mysteries. According to the Holy Oblation, the earth's offspring are transformed into the Body and Blood of Christ[40]. Man is the priest of creation.

At the end of the day, we realize that the purpose of our participation in the Church is not some abstract ideal, but our union with a person, Christ.

3. Philosophical and Scientific Aspects of the Human Freedom

The subject in question is beyond our possibilities and the purposes of the present article; nevertheless, a brief outline is deemed necessary for a fuller presentation of our subject, because the concept of the person constitutes a major contribution of theological reflection in philosophical

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36. *Matthew* 25, 31-46.

37. See Th. Ioannidis, *Διδακτικὴ τῶν βιβλικῶν κειμένων*, Ennoia Publications, Athens 2016, pp. 28-29, 61, 186.

38. *Gal.* 3,13.

39. See J. D. Zizioulas, *Being as Communion*, *op.cit.*, pp. 145-150.

40. See K. Io. Belezos, «Παγκοσμιοποίηση καὶ Καινὴ κτίση», *Ε.Ε.Θ.Σ.Π.Α./Epistimoniki Epetiris Theologikis Sxolis Panepistimiou Athinon* 38 (2003), pp. 513-516.

thought[41]. Philosophy has taken up the concept and elaborated it in various ways.

René Descartes (1596-1650) addressed the issue of personal freedom on the basis of his belief in the so-called *vital energy*. The Cartesian dualism between the intangible mind and the biological brain became a means of defending the existence of free will in man[42]. Contemporary and later philosophers challenged Cartesian dualism, most notably Thomas Hobbes (1588-1679), by shifting to a materialistic basis for ethics. Some moved towards Utilitarianism and stressed that man chooses as good that which he perceives from his senses as the most pleasing – individually or collectively. Related positions were reflected in the works of David Hume (1711-1776), Jeremy Bentham (1748-1832), John Stuart Mill (1806-1873) and others[43].

There have been other approaches, which denied utilitarianism and discerned the existence of a supreme moral law. The most important attempt belongs to Immanuel Kant (1724-1804). According to him, man is called upon to overcome his egoistic inclinations and to exercise *Reason* in order to abandon the instinctive and hedonistic stage, which he associated with immorality. Reason is the means to raise man to the level of Morality[44]. For him, the human person can take any action only as long as he accepts that this action could constitute a universal law. If man's judgment does not consent to this, then the particular action is not judged moral[45].

The philosophy of Hegel (1770-1831), which took Kant's work into account, also saw the transcendence of egoism as man's vocation. Unlike Kant, Hegel saw ethics not as an inherent quality, but as a product of the maturation of man's self-consciousness through the relationship with

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41. See G. Florovsky, *Θέματα Ὀρθοδόξου Θεολογίας*, Artos Zois Publications, Athens 1973, p. 154.
42. See A. J. Ayer, *The Concept of a Person and other essays*, MacMillan Education, London – New York 1973, pp. 82-83.
43. See R. Crisp, *Routledge Philosophy Guidebook to Mill on Utilitarianism*, Routledge, London – New York 1997, pp. 19-23, 55.
44. See S. J. Kerstein, *Kant's Search for the Supreme Principle of Morality*, Cambridge University Press, Cambridge, U.K. – New York 2002, pp. 22-32.
45. See S. J. Kerstein, *Kant's...*, *op.cit.*, p. 18.

the "Other". Man is not born a social person; he becomes one, as he is recognized as such by the other person[46].

From the 19th century onwards, various tendencies have manifested themselves in the way of perceiving man. For Friedrich Nietzsche (1844-1900), man is called upon to form his new ideals by transcending himself not socially but individually, becoming a superman. *Existentialism*, from Søren Kierkegaard (1813-1855) to Jean Paul Sartre (1905-1980), featured individual freedom, even as a factor of existential terror.

On the other hand, biology gave prominence to determinism, introducing the concept of the gene. Charl Darwin's (1809-1882) theory of evolution through natural selection[47] and the discovery of the DNA's double helix by J. Watson and F. Crick in 1953 meant that man's future choices are recorded in his genetic map.

According to a theory popularized by the British biologist R. Dawkins in the 20th century, our genes are "selfish" replications of themselves and dominate us in order to perpetuate themselves[48]. Altruism is justified through the competition of natural selection as a fundamentally egotistical behavior: the mutual protection of family members is an evolutionary advantage in the struggle for survival[49]. However, in modern biology we can also trace a tendency for the recognition of freedom in man: he is not entirely free from heredity or acquired characteristics, but there is still room for personal will[50].

Theological anthropology already includes this complexity: there is a belief in man's relative freedom[51], that has been limited because of the fall; still, freedom has not disappeared. Only through the theory of

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46. See Ph. J. Kain, *Hegel and the Other: A Study of the Phenomenology of Spirit*, State University of New York Press, New York 2005, pp. 39-44.
47. See S. Rose, *Μονοπάτια τῆς ζωῆς. Βιολογία, Ἐλευθερία, Ντετερμινισμός*, transl. Katerina Papastavrou, Katoptro Publications, Athens 2005, pp. 242-247, 264-267.
48. Βλ. R. Dawkins, *The Selfish Gene*, Oxford University Press, Oxford 1976.
49. See E. O. Wilson, *Sociobiology: The Abridged Edition*, Harvard University Press, Cambridge, Mass. – London 1980, pp. 22, 37 et seq.
50. See S. Rose, *Μονοπάτια τῆς ζωῆς...*, *op.cit.*, pp. 28-31.
51. See J. Cowborn, *Free Will, Predestination and Determinism*, Marquette University Press, Milwaukee 2008, pp. 56-67, 76-77.

Absolute Predestination was the existence of human freedom theologically rejected[52].

4. Technique and Informatics

As we have mentioned above, Theology does not perceive technical civilization as inherently evil. As Nicos Nisiotis has stressed, Biblical monotheism has also demystified creation by allowing its scientific study[53]. However, man's freedom, combined with his fall, could lead to applications of technical skills that cause destruction, as it has been proved by the two world wars, the Cold War and the ecological deadlocks. Technology's ambiguity belongs to its specifications: Everything it produces does not preclude its misuse[54].

As early as the 17th century, European civilization began to focus on the progress of the natural sciences. Developments that contributed to this were certainly the printing press, the religious reform that limited Papal Rome's strict control over education and, consequently, the emergence of humanism. There was the gradual spread of the spirit of Positivism and the certainty of the Enlightenment that science would answer all mysteries, making religiosity redundant. But scientific progress eventually brought about the questioning of the traditional pillars of science itself, namely Euclidean geometry and Newtonian physics[55]. Science today is defined in an apophatic rather than a positivistic way: It is not unflinching but, on the contrary, it is open to refutation and is pending replacement by another theory, more sound, on the basis of the principle of "Occam's

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52. Although John Calvin was the most prominent supporter of the Predestination theory, Augustine's *De praedestinatione sanctorum* (*Περὶ τοῦ προορισμοῦ τῶν Ἁγίων*). See M. Levering, *Predestination: Biblical and Theological paths*, Oxford University Press, Oxford 2011, pp. 44-52.

53. See St. Giagkazoglou, «Ὁ διάλογος θεολογίας καὶ φιλοσοφίας. Ἡ θεολογικὴ ἑρμηνευτικὴ τοῦ Νίκου Νησιώτη», *Θεολογία/Theologia* 84, 3 (2013), pp. 29-49, here pp. 43-44.

54. See Al. Katsiaras, «Τεχνολογία: Ζήτημα (ἁπλῶς) χρήσεως, ἢ καὶ φύσεως καὶ στάσεως;», *Θεολογία/Theologia* 90, 3 (2019), pp. 5-17.

55. See St. Theodosiou, «Ἐπιστήμη, Θεολογία, Τεχνολογία καὶ Κοινωνία», *Θεολογία / Theologia* 90, 3 (2019), pp. 57-76; M. Farantos, *Δογματικὰ καὶ Ἠθικὰ I*, *op.cit*., p. 248.

razor", i.e. more economical in its axiomatic assumptions[56]. We would say that an outdated impression of science still prevails in public opinion: It is assumed that all its propositions are unquestionable and that the future can only be better, since progress is one-dimensionally identified with the perfection of technical means.

As Spyridon Kyriazopoulos has observed[57], the scholasticism of Western theology, which was based on the Aristotelian thought, had confined research to theoretical exercises on paper without practical impact. The emergence of the technical spirit came along with the questioning of scholasticism and pushed further towards empiricism with the use of the experiment. Nevertheless, along with scholasticism, ontology and teleology were abandoned. We are no longer concerned searching for the purpose lurking behind the movements of beings. Ontology was undone by the emphasis placed on perpetual change. Any question regarding the eternal has been abandoned. Being is no longer the «ἀεὶ ζητούμενον»[58], as Aristotle had suggested. Even the laws of physics no longer seem so stable with the demolition of causality by quantum mechanics.

One of the most important technological revolutions was that of Information Technology. Computing devices with moving parts had been built since antiquity, most famously the Antikythera mechanism of the 2nd century BC. Aristotle had predicted the construction of *automata* to serve man[59]. Among more recent inventions, the French mathematician Blaize Pascal's calculator in 1642 stands out. The most important computer with moving parts is certainly the *Analytical Engine* by Charles Babbage, the first fully programmable computer[60]. He presented his plans for it in 1837, but he didn't manage to complete it. It

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56. Regarding this aspect, a landmark publication has been Karl Popper's, *Logik der Forschung* (1934), which was translated into English and expanded by the writer, and was published in 1959 under the title: *The Logic of Scientific Discovery*.

57. See Sp. D. Kyriazopoulos, *Ἡ καταγωγὴ τοῦ τεχνικοῦ πνεύματος*, Athens 1965, pp. 63-71.

58. Aristotle, *Μετὰ τὰ Φυσικά*, 1028b.

59. See Aristotle, *Πολιτικά*, 1, 4.

60. See Ch. Babbage, "Of the Analytical Engine", in: *Charles Babbage and his calculating engines*, P. & E. Morrison (eds.), Dover Publications Inc., New York 1961, pp. 52-72.

was operated by mechanical, not electronic, elements. Ada De Lovelace (1815-1852), daughter of Lord Byron, was involved in its programming; thus, the new concept of software was introduced into engineering. Interestingly enough, both Pascal and Babbage were imbued with an intense religiousness. They were involved in Apologetics[61] and argued that human intelligence was a constructive secret of the Creator, which could not be reproduced by machines.

Shortly before World War II, the construction of *relay computers* was started by the German Konrad Zuse (1910-1995), followed by the rise of the electronic computer era with the famous ENIAC (Electronic Numerical Integrator and Computer) of 1945[62], which used vacuum tubes. From this point onwards, the speed of developments has been spectacular. In 1954, the vacuum tubes were replaced by *transistors*, greatly reducing the size of computers and increasing their capabilities. From 1964 onwards, crystalline diodes were gradually replaced by *integrated circuits* and there was a new reduction in size and a simultaneous multiplication of computer capabilities. Since the mid-1970s, microprocessors appear, bringing together almost all the basic functions of the computer in an integrated circuit. Computers become personal. Today, even portable computing devices are millions of times more powerful than the first tube computers.

In the 1950s, Alan Turing and Von Neumann laid the theoretical foundations for modern computing[63]. They were focused on the idea of *Artificial Intelligence* (AI) and *machine learning*. Nowadays, AI is closely linked to *artificial neural networks*, where the computer imitates the functioning of the numerous neurons in the human brain, which have the ability to continuously modify the connections between them. Thus, humans and machines that can learn in ways that even the trainer has

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61. Pascal's religious thought is expounded in his famous work *Pensées*. Babbage published in 1837 his book: *On the Power, Wisdom and Goodness of God, as manifested in the Creation*.

62. See A. W. Burks, A. R. Burks, "First General-Purpose Electronic Computer", *Annals of the History of Computing* 3, 4 (10-12 / 1981), pp. 310-389.

63. See P. Ceruzzi, "Nothing New Since von Neumann: A Historian Looks at Computer Architecture, 1945-1995", in: R. Rojas, U. Hashagen (eds.), *The first computers: History and architectures*, The MIT Press, Cambridge, Mass. 2000, pp. 195-217.

not foreseen. AI does not yet possess the flexibility of the human brain[64], nor the number of the latter's neurons, amounting to 86 billion; this explains why its applications are currently very limited. However, it is an exciting development that holds great promise in the field of medicine, having the potential to assist the physician in diagnosing diseases and designing treatments[65].

Theoretically speaking, there is no limit to the speed or memory of the future computers. The quantum computing revolution may be at hand. It is not possible to predict future AI applications. Computers might compete with human intelligence in fields once thought unthinkable. They can already imitate the production of art[66], although it is debatable whether what they produce can be defined as art.

5. Artificial Intelligence's Communication with the Person

Social media have spread a way of socializing between people that could in many cases be considered mechanical and *virtual*. We do not only mean that it has limited face-to-face communication, which was exacerbated by the advent of the COVID-19 pandemic, but that it has also fostered overt competition for popularity, especially among the youngest age groups[67]. There is now abundant talk of *personae* in the social media, especially on the part of the adolescents who use them, who do not object to this new convention – reality's alteration for the

64. See M. A. Arbib, "Biological Neurons and Networks", in: *The Handbook of Brain Theory and Neural Networks*, The MIT Press, Cambridge, Mass., London 2003, pp. 47-55.
65. See Al. Hadjipavlou, Πίσω ἀπὸ τὶς σκιὲς τῶν Ἰατρικῶν Σκέψεων: Παρεκκλίσεις, Νοοτροπίες, Μηχανορραφίες καὶ Ἐκπαίδευση, Broken Hill Publications, Nicosia 2021, pp. 185-190.
66. In the summer of 2023, the case of the American author Jane Friedman caused alarm; she discovered that books under her name, written by an AI application, were circulating. The incident highlighted gaps in the copyright protection of authors. See B. Edwards, "Author discovers AI-generated counterfeit books written in her name on Amazon", in: *Ars Technica* (8.8.2023), https://arstechnica.com/information-technology/2023/08/author-discovers-ai-generated-counterfeit-books-written-in-her-name-on-amazon/ [10.8.2023].
67. See L. Derhally, *The Facebook Narcissist: How to Identify and Protect Yourself and Your Loved Ones from Social Media Narcissism*, Health Communications Inc., Boca Raton 2022.

sake of vanity. Mask's preponderance over the person is consciously accepted.

IT companies had envisaged the next technological step: the spread of virtual reality, so that people could communicate even without their physical form, replacing it with various virtual *avatars*. Despite their efforts, the so-called *metaverse* has so far failed to find a response from the general public. However, the project has coincided with the commercialization of another communication technology, which has been much more successful. These are *Large Language Models* (L.L.M.) services, i.e. AI algorithms that statistically analyze human language and are very convincingly entering into dialogue with humans.

Experiments in human-computer dialogue had been carried out as early as the 1960s with the ELIZA program, which was trying to turn the computer into a psychoanalyst. It was based on a predefined vocabulary and was not able to learning new things. ELIZA's responses were reversing human answers to questions, which usually made no sense. A more advanced machine language learning technology began to be designed in the 1970s[68].

In modern language models, the machine is not fed with a simple vocabulary but with large-scale human texts, which the algorithm analyses statistically, discovering recurring *patterns* of word combinations. Although, this is an extremely demanding computational process, nowadays computer performance allows it to be carried out in a reasonable amount of time and be economically viable, so that there are already many such services of machine dialogue, which are available free of charge. They can simultaneously be utilized by a large number of users. Currently, the dialogue is unilateral: The machine only answers; it does not ask questions, nor does it show signs of impatience, when the man is silent. But this could be changed through more realistic programming. A language model with appropriate programming and the investment of an *avatar* could create the illusion of being a human person.

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68. See Y. Wilks, "An Artificial Intelligence Approach to Machine Translation", in: R. C. Schank (ed.), *Computer models of thought and language*, W. H. Freeman, New York 1973, pp. 114-151 and R. C. Schank, "Identification of Conceptualizations Underlying Natural Language", *ibid.*, pp. 187-247.

Freedom is was makes someone a person. A digital "person" would be free? In 1950, the pioneer of Computing Science, Alan Turing, in his article "Computing Machinery and Intelligence", expressed the belief that, even if all AI's processes are programmed, it can be understood as practically free. He attributed this to its complexity and the its possibility to be learned by man without guidance[69]. What is perceived from our point of view as freedom of AI is therefore only the latter's inability of predicting the outcome. Turing cited as an example the ability of computers to generate numbers "at random". These numbers are not really random, as they result from mathematical operations. Still, they remain unpredictable to us.

This does not prevent the experts from speculating about AI's ability to rise to the level of the human person, which they once hesitated to do. Some have expressed a vision regarding man's technological "transmigration", i.e. the transfer of human consciousness to an electronic environment in order to free it from the deterioration of the body[70]. They are also putting another question: whether AI could acquire self-consciousness[71]. An answer in the affirmative presupposes the definition of consciousness in exclusively biochemical terms, and, of course, the denial of the existence of a soul. There are various theories that are attempting to provide answers, but they have not succeeded. One theory, the so-called *Integrated Information Theory*, proposed in 2004 by the Italian neurobiologist Giulio Tononi, holds that a system with many neuronal synapses and much information at its disposal will be able to perceive its role as an observer and eventually develop self-

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69. See A. M. Turing, "Computing Machinery and Intelligence", *Mind*, LIX / 236 (10/1950), pp. 433-460.

70. The relevant theory is presented under the name of *Extropy*. See D. Dinello, *Technophobia! Science fictions of Posthuman Technology*, University of Texas Press, Austin 2005, pp. 18-31. The most famous version of it has been formulated in the work of Y. N. Harari, *Homo Deus: A brief history of tomorrow*, Harper Collins Publishers, New York 2017.

71. In 2022, the revelation that a Google AI program was expressing fear of death caused a sensation. This impression was dismissed by the scientific community, with the explanation that the program, as a language model, mimics human speech without possessing any real empathy. See N. Tiku, "The Google engineer who thinks the company's AI has come to life", *The Washington Post* (11/6/2022), https://www.washingtonpost.com/techno logy/2022/06/11/google-ai-lamda-blake-lemoine/ [10.9.2023].

consciousness[72]. A mathematical formula was developed to calculate the relative probability.

Grave concerns arise from AI's "personification", that it has been in the past the science fiction's exclusive dominion[73]. They are also beginning to concern prominent scientists, such as Stephen Hawking (1942-2018), who on 28.10.2015 co-signed an open letter with other experts calling for research into the social implications of the new technology[74]. In the last public speech he gave in 2017, he warned that AI could prove disastrous for humanity[75]. Even adherents of the possibility for the humans to be technically "self-deified" through the so-called transhumanism, such as Noah Yuval Harari, call for stricter control over the possible construction of "artificial humans", meaning applications of language models aimed at deceiving the public[76]. They warn that in such an eventuality democracy itself would be at grave risk.

Understandably, the discussion mentioned above is based on different ontological starting points from the theological view of the person. In man we have body and soul, in AI we have only algorithms. The personification of AI will reduce the human person to the capacity of brain function: It will only be a neural network – and not the only one. Such an approach is purely materialistic: "*everything is bodies and void*" («*τὸ πᾶν ἐστι σώματα καὶ κενόν*»), as Epicurus would say[77].

In AI there is materiality, but not physicality. The Word for it was never became flesh. It is worth noting this: according to Orthodox theology,

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72. See G. Tononi, "Integrated Information Theory", *Scholarpedia* 10, 1 (2015), 4164, doi: 10.4249/scholarpedia.4164, http://www.scholarpedia.org/article/Integrated_information_ theory [16.9.2023]. See Ch. Koch, "Proust among the Machines", *Scientific American* 321, 6 (December 2019), pp. 46-49.

73. On science fiction's contribution to highlighting these concerns, see Io. Vogiatzis, *Sci-Fi καὶ Θεολογία*, Harmos Publications, Athens 2022, pp. 47-53.

74. See "Research Priorities for Robust and Beneficial Artificial Intelligence: An Open Letter", Future of Life Institute, https://futureoflife.org/open-letter/ai-open-letter/ [18. 9.2023].

75. His whole speech is available in the official site: *Web Summit*: https://websummit.com/ blog/hall-of-famers [12.9.2023].

76. See H. Devlin, "AI firms should face prison over creation of fake humans, says Yuval Noah Harari", *The Guardian*, 6.7.2023, https://www.theguardian.com/technology/2023/ jul/06/ai-firms-face-prison-creation-fake-humans-yuval-noah-harari [14.8.2023].

77. Epicurus, *Ἐπιστολὴ πρὸς Ἡρόδοτον*, 40.

man is already a human being «ἐξ ἄκρας συλλήψεως»[78], inasmuch as he already possesses body and spirit, even if brain activity is absent. As the meaning of life without brain activity is questioned in the context of debates on abortion and euthanasia, the debate also feeds back into familiar bioethical concerns.

In the Far East, economically powerful and a leader in technological developments, the origins of Buddhism still keep alive the belief in the body-spirit duality, but with contempt for the body. Trends towards AI are shaped accordingly. In Japan, a robot called Mindar, which chants Buddhist scriptures, was commissioned at a Buddhist temple in Kyoto in 2019. Believers have no problem accepting its priesthood. It is believed to be inhabited by an enlightened spirit (bodhisattva), the deity of mercy Kannon[79].

Although Alan Turing did not identify himself as a religious man, he had argued as early as 1950 that an evolved machine could receive a soul from God[80]. He was simply trying to reassure believers by assuring them that an exceptionally sophisticated machine before God was a worthy vessel of the soul. Coincidentally, in 1950, the year when Turing's article was written, Pope Pius XII adopted *ex cathedra* the Augustinian position of the continuous creation of souls by God (*Creationism*) at the moment of the conception of a new body[81].

6. Distinguishing the Person from the Persona / Mask

The fear of the human person's substitution by a personalized machine is no longer considered unsubstantial or exaggerated. Nevertheless, before we are led to speculate about the future, we must focus on a problem that concerns the present. It is the possibility that man will

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78. See John Damascene, Ἔκδοσις ἀκριβὴς τῆς Ὀρθοδόξου πίστεως, PG 94, 921.
79. See H. Lee, "Robot 'deity' preaches Buddha's scripture in Japanese temple", *ABC News* (15/6/2022), https://abcnews.go.com/International/robot-deity-preaches-buddhas-scripture-japanese-temple/story?id=85355691 [8.6.2023].
80. See A. M. Turing, "Computing Machinery and Intelligence", op.cit., pp. 433-460.
81. Regarding the different theories about the origin of the soul, see N. Mitsopoulos, Θέματα Ὀρθοδόξου Δογματικῆς Θεολογίας, Athens 1983, pp. 182-191.

disparage his fellow men, because he will accept that the uniqueness of the human person has been destroyed and that the machine is the only companion he needs. There is not only the danger of the machine's personification, but also that of the human person's mechanization.

The machine is not responsible for man's communicating with the machine to make up for the human society's deficits. Alienation is phenomenon that has been already observed; it is linked to competitiveness and consumerism[82]. Since social media have exacerbated these factors by turning the person into a persona, we are not far away from replacing the former with an artificial persona, which will serve us continuously and be designed to meet our personal preferences. After all, at the very heart of all speculative activity lies the fact that man is considered to be first and foremost a consumer. Lonely people represent a huge consumer market. The use of AI as a virtual "friend" and romantic "companion" by such individuals is now taking its first steps[83].

Psychotherapists are predicted to be replaced by large language models as well, a development that promises free services to have-nots, but also generates legitimate concerns[84]. It cannot be ruled out that they will also take on educational tasks, while the possibility of the mechanical counsellors' "religionization" is also looming, as it is speculated that users will be able to turn to their services for "spiritual guidance"[85]. A linguistic model can nevertheless be a useful tool in theological research. For example, if it contains in its memory the entire Patrology, it can momentarily refer to specific work, render them in another language or

82. On loneliness, competitiveness, and self-esteem see P. M. Murphy & G. A. Kupshik, *Loneliness, Stress and Well-Being*, Routledge, London 1992, pp. 23-24. On loneliness and consumerism see Th. Dumm, *Loneliness as a Way of Life*, Harvard University Press, Cambridge Mass., London 2008, pp. 53-57.

83. See O. Balch, "AI and me: friendship chatbots are on the rise, but is there a gendered design flaw?", *The Guardian*, 7.5.2020, https://www.theguardian.com/careers/2020/may/07/ai-and-me-friendship-chatbots-are-on-the-rise-but-is-there-a-gendered-design-flaw [18.9.2023].

84. See J. Landwehr, "People Are Using ChatGPT in Place of Therapy – What Do Mental Health Experts Think?", *Health* (13/5/2023), https://www.health.com/chatgpt-therapy-mental-health-experts-weigh-in-7488513 [12.6.2023].

85. See J. Speakman, "AI Deities: Spiritual Guidance in a Tech-Driven World?", *Be in Crypto* (21/4/2023), https://beincrypto.com/ai-deities-spiritual-guidance-tech-driven-world/ [1.9.2023].

compare them, depending on the question. But if the advantage of such a tool is that it will answer, its disadvantage is that it will not wonder or puzzle over something. It will be a tool but not a companion in the search for truth.

In this new dialectic that is taking shape today, Orthodox theology is called upon to project its own strong stance: the human person constitutes a psychosomatic unity and its rupture constitutes an existential scandal, which, after all, the Resurrection came to correct[86]. At the core of communion with the risen body of Christ, man must place the sacrificial exit from himself. He participates in ecclesiastical communion with the purpose of deification by grace. We are turning lovingly to the Other because we recognize our common image, that of the Incarnate Word, who «ἑαυτὸν ἐκκένωσεν μορφὴν δούλου λαβών»[87]. The recourse to AI in the role of friend and companion takes us away from communion «πρόσωπον πρὸς πρόσωπον»[88]. The possible substitution of human communion also constitutes an abandonment of its eschatological perspective.

Ioannis Karavidopoulos, in a speech he gave having as its subject the Three Holy Hierarchs[89], had made observations about person and persona/mask that are related to our subject, although at that time he was referring to human hypocrisy. Persona is a standardization, while the person is characterized by freedom. The person is not confined to the individual, but transcends it. Persona does not lead to the perfection of creation, but to its annihilation, as it is moving away from the Creator. Persona is linked to the dramaturgy and a prescribed role. Even the Stoics saw man as an actor in a drama[90]. By contrast, in the Bible, man can and does make subversive choices.

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86. See Chr. Malevitsis, Ὁ ἔγκοπος λόγος – φιλοσοφία καὶ θρησκεία, Harmos Publications, Athens 2010, p. 297.
87. *Phil.* 2, 7.
88. *1 Cor.* 13, 12.
89. See Io. Karavidopoulos, *Προσωπεῖο καὶ πρόσωπο κατὰ τοὺς Τρεῖς Ἱεράρχες: Λόγος στὴν ἑορτὴ τῶν Τριῶν Ἱεραρχῶν*, Thessaloniki 1979.
90. «Μέμνησο, ὅτι ὑποκριτὴς εἶ δράματος, οἵου ἂν θέλῃ ὁ διδάσκαλος; ἂν βραχύ, βραχέος; ἂν μακρόν, μακροῦ; ἂν πτωχὸν ὑποκρίνασθαί σε θέλῃ, ἵνα καὶ τοῦτον εὐφυῶς ὑποκρίνῃ ἂν χωλόν, ἂν ἄρχοντα, ἂν ἰδιώτην». Epictetus, Ἐγχειρίδιον, 17, 1.

However, we are facing the possibility that the machines may prove to be such competent "actors" that we have to settle for the persona/mask. Theology should constantly remind of the uniqueness of human ontology and eschatology. It is also required for it to remind of an overlooked biblical message in our secularized age: In the face of worldly certainties, God does not remain indifferent. In moments of the Pharaoh's arrogance, the voice from within the burning yet not consumed bush to Moses echoes: «ἐγώ εἰμι ὁ ὤν», a statement that encapsulates the divine freedom[91].

Finally, what is required is the "disenchantment" of technology, the new religious awe it is provoking. Popular science has the means to describe the way in which an AI algorithm works, so that it is not seen as something more than what it is: imitation[92], which is another term related to the dramatic art.

As it has been consistently emphasized, Christian theology does not reject progress, but only its abuse that leads to alienation. St. Gregory of Nazianzus stressed: «Μὴ φοβηθῇς τὴν πρόοδον; οὐ γὰρ ἀνάγκην ἔχει Θεὸς, ἢ μὴ προβάλλειν, ἢ προβάλλειν ὁμοίως, ὁ πάντα πλούσιος; φοβήθητι δὲ τὴν ἀλλοτρίωσιν»[93]. To be able to define the correct use of technology, we must first be able to define what the correct is. In order to achieve this, we should bridge the gap between technical and spiritual progress.

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91. Ἐξ. 3,14. The Masoretic text is as follows: *'ehye 'ăšer 'ehye* (*I am who I am*). God reveals a name that simply declares His absolute freedom from human naming. See W. Zimmerli, *Ἐπίτομη Θεολογία...*, *op.cit.*, p. 23.

92. Alan Turing, in his article that we've already mentioned, defines the mechanical intelligence as an "imitation game". We have to determine whether the answers by the machine could be considered as human ones. While we were writing this paper, at least two language models have passed the test.

93. Gregory of Nazianzus, *Λόγος ΚΕ´ εἰς Ἥρωνα τὸν φιλόσοφον*, PG 35, 1224.

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