

Physics, Technology, and Theology in Pavel Florensky

“If the ignorance of nature gave birth to the gods, the rise of knowledge of nature is calculated to destroy them ... Man, when instructed, ceases to be superstitious.”¹ This bleak diagnosis can have no positive prognosis unless Alfred North Whitehead’s comment, made in the 1920’s, goes unheeded: “When we consider what religion is for mankind and what science is, it is no exaggeration to say that the future course of history depends upon the decision of this generation as to the relations between them.”²

For, as John Paul II wrote to George V Coyne, the Director of the Vatican Observatory, on the occasion of the 300th anniversary of the publication of Newton’s *Philosophiae Naturalis Principia Mathematica*, unless intense dialogue takes place between science and religion, these two fields of thought will not contribute to the future integration of human culture but to its fragmentation. Interestingly, among the few authors mentioned in *Fides et ratio* for their “courageous research” in a “fruitful relationship” between faith and reason is

* Raymond Zammit is Head of the Department of Moral Theology at the Faculty of Theology, University of Malta

¹ Paul Henri Thiry, Baron d’Holbach [1820-21], *The System of Nature: or Laws of the Moral and Physical World*, 3 vols. with notes by Denis Diderot (New York: Lenox Hill Publishing, 1970), 1:174. Cited in Edward L. Schoen, “Between Addition and Difference: A Place for Religious Understanding in a World of Science,” in *Zygon* 33, no. 4 (1998): 600.

² Alfred North Whitehead, *Science and the Modern World* (Glasgow: Fontana Books, 1975), 215. Cited in Michael Heller, *The New Physics and a New Theology*, trans. George V. Coyne, Simonetta Giovannini, and Tadeusz M. Sierotowicz (Notre Dame: University of Notre Dame Press, 1996), 23.

Pavel A Florensky who,³ in his own words, sought to open “new ways for a future global vision of the world.”⁴

Florensky’s religious and philosophical convictions did not arise from philosophical books but from his childhood observations.⁵ His journey started in the *Caucasus* mountains, which he described as an Edenic paradise in which he developed a deep and mystical love for the natural environment which remained with him throughout his life.⁶ Educated in a scientific vision of the world without any concern for religion, he enrolled as a student at Moscow University where he turned to the sciences and their law: “The mystery I kept within myself, the laws were proclaimed for myself and others.”⁷ Following “a metaphysical dream of existential darkness and meaninglessness,”⁸ however, Florensky turned to the study of theology and was ordained a priest. The dichotomous appeal of mystical intuition and the laws of science remained with him throughout his life, even when the Moscow Theological Academy was closed and he dedicated himself to scientific research, teaching mathematics and supervising electrification projects. Though his insistence on wearing the priestly cassock irked the Soviets, his downfall was to be his work on Einstein’s Theory of Relativity which the Soviet communists did their best to suppress, seeing it antithetical to their materialism.⁹ Timiryazev denounced relativity as Machism; Maksimov, a party ideologue, pleaded for a recasting of Einstein’s physics by proletarian scientists;¹⁰ in a speech in 1947, Zhdanov called for a fight against “smuggling God into science” while Kuznetsov argued that the development of science could only be secured by the “total renunciation of Einstein’s conception, without compromise

³ Pope John Paul II, Encyclical Letter *Fides et ratio* (1998), no. 74.

⁴ Pavel Florenskij, “Avtoreferat [Nota autobiografica]” (1927), in *Pavel A. Florenskij. Il simbolo e la forma. Scritti di filosofia della scienza*, ed. N. Valentini and A. Gorelov (Torino: Bollati Boringhieri, 2007), 5.

⁵ Avril Pyman, *Pavel Florensky: A Quiet Genius: The Tragic and Extraordinary Life of Russia’s Unknown Da Vinci* (New York: Continuum, 2010), 7.

⁶ Florensky devotes a chapter in *The Pillar and Ground of Truth* to nature as creation (“Letter Nine: Creation”). See Pavel Florensky, *The Pillar and Ground of the Truth: An Essay in Orthodox Theodicy in Twelve Letters*, trans. Boris Jakim (Oxford: Princeton University Press, 2004), 190–230.

⁷ Pavel Florensky, *Detiam moim, Vospominaniia proshlykh dnei* [To my children, Memories of past days] (Moscow, 1992), 190. Cited in Richard F. Gustafson, “Introduction to the Translation,” in *The Pillar and Ground of the Truth*, x.

⁸ Ibid.

⁹ Stanley L. Jaki, “The Fate of Physics in Scientism,” in *The Relevance of Physics* (Chicago: University of Chicago Press, 1966), chap. 11.

¹⁰ Ibid., 486.

or half measure.”¹¹ Florensky’s *Imaginary Numbers in Geometry*, published in the 1920’s, was devoted to the geometrical interpretation of Einstein’s Theory of Relativity. In it Florensky proclaimed that the geometry of imaginary numbers predicted by the Theory of Relativity for a body moving faster than light is the geometry of the Kingdom of God. This was deemed to be a crime of “agitation against the State,”¹² for which he was sentenced to ten years in the labour camps where he continued to conduct research until his execution in 1937.

In a letter to his son Kirill from the Solovki islands on 21 February 1937, Florensky wrote:

I wanted to write to you about my works or more precisely of their meaning, of their interior essence, so that you would be able to continue to advance that thought which luck no longer allows me to elaborate and to conduct it to its end, which will be reached only when it has become intelligible to others. What did I do all my life? I contemplated the world as a whole, as a picture and a compact reality, but in every instance, or more precisely, in every phase of my life, from a determined point of view ... Its angles change, one enriching the other; and (in the change of visual angle) there lies the reason of the continuous dialectic of thought, together with the constant orientation of looking at the world as one whole.¹³

Such a vision, known to past civilisations and people living in close contact with nature, was unfortunately abandoned by modernity as if it were a useless superstition, such that people today are no longer capable of “Science but of sciences, or more accurately of disciplines.”¹⁴ Thus, replying to his mother from the gulag, he wrote:

¹¹ Ibid., 488.

¹² “Despite his active support of government policies, and despite his recognized standing as a mathematician and scientist, a status which saved Cosmist thinkers like Tsiolkovsky, Chizhevsky, and Vernadsky, Florensky was arrested; the stated reason being a paper he had written about the theory of relativity, arguing that the geometry of imaginary numbers predicted by the theory of relativity for a body moving faster than light is the geometry of the Kingdom of the Divine. For that, he was sent to a labor camp in the farthest north, where despite nearly intolerable conditions he continued his scientific work ...” See George M. Young, “Esoteric Elements in Russian Cosmism,” *The Rose + Croix Journal* 8 (2011): 124-139. www.rosecroixjournal.org/archive. Accessed 1 June 2018.

¹³ Pavel Florenskij, *Sočinenija v četyrech tomach*. Opere in quattro volumi (Moskva: Mysl’, 1998) ed. Natalino Valentini and Lubomir Žak, trans. Leonid Charitonov and Giovanni Guaita, in Pavel A. Florenskij, ‘Non dimenticatemi.’ *Le lettere dal gulag del grande matematico, filosofo e sacerdote russo* (Milano: Mondadori, 2006), 379-380. Cited in Armando D’Ippolito, *Arte e metafisica delle forme: Creazione, Crisi, Destino* (Roma: Inschibboleth edizioni, 2016), 241.

¹⁴ Paraphrase of Florensky’s words in Pavel Florenski, “Le radici universali dell’idealismo. Filosofia dei popoli,” in *Realta e mistero* (Milano: SE, 2013), 22. Cited in Lubomir Žak, “La

No, not even if I were in Moscow would I participate in works, in modern studies of physics; I would rather occupy myself with cosmophysics, with the general principles of the structure of matter, but as this is given in real experience, and not how they construe it in an abstract way starting from formal premises. Closer to reality; closer to the life of the worlds: this is my tendency.¹⁵

Restoring What Ockham Took Away¹⁶

The origin of the present cultural and intellectual crisis of the West can be found in Ockham's nominalism which dethroned realist philosophies, leading to a distrust of metaphysics and a manifold of consequent cultural and spiritual fragmentations. Much of Russian philosophy, however, being geographically shielded from Scholasticism and many post-Scholastic developments, as well as being aided by the Eastern Orthodox ascetical-mystical tradition, did not give up "that more ancient sense of metaphysics, nor the foundational premise that knowledge of the truth includes both communion with the truth and communion with other knowers of the truth."¹⁷ Thus, reacting to German Idealism, in nineteenth century Russia there arose the philosophical movement of Slavophilism in which Florensky's thought is to be situated.

Florensky believed that the separation of science and religious dogmas by Scholasticism amounted to "Christianity's wake."¹⁸ He called

Modern philosophy is a 'narrow coffin of logical definition' and an 'endless marching and stamping in place, going nowhere' (PGT 7-9).¹⁹ From Descartes on, we have "morticians of ideas" (20). Empiricism, idealism, pragmatism, and Kantianism, all fail because they turn knowing into "thinking," a picture or description enclosed on itself (60f). Identity and sufficient reason are hallow, A=A formulas – dead facticity. Without a proper metaphysical ground, all

complessita del reale e la sua conoscenza. Spunti di riflessione sull' 'allargamento della ragione' proposto da P.A. Florenskij," in *Divus Thomas* 119, no. 3 (2016): 140.

¹⁵ Florenskij, «*Non dimenticatemi*». *Le lettere dal gulag del grande matematico, filosofo e sacerdote russo*, 284. Cited in Lubomir Žak, "La complessita del reale e la sua conoscenza," 143.

¹⁶ See Patrick Henry Reardon, "Truth Is Not Known Unless It Is Loved: How Pavel Florensky Restored What Ockham Stole." <http://www.booksandculture.com/articles/1998/sep/oct/8b5044.html>. Accessed 1 June 2018.

¹⁷ Ibid.

¹⁸ C. V. Vodenko, "Antinomic-Symbolic Epistemological Concept in Russian Philosophy," *International Journal of Applied and Fundamental Research* 1 (2011): 55. <http://www.science-sd.com/387-23470>. Accessed 1 June 2018.

¹⁹ PGT refers to Florensky's *The Pillar and Ground of the Truth*, and within the quote the page references to PGT are provided within their parentheses.

thought is in a ruptured state, and hurls the knower into delirium, dementia, and what Florensky calls 'bad' infinity (30).²⁰

Florensky rejected the Kantian separation of noumena and phenomena with all his being, instead drawing strongly from the Platonic tradition.²¹ "For me," he writes:

The phenomenon was always the manifestation of the spiritual world, and the spiritual world *beyond* its own manifestation was understood by me in so far as not-manifested, existing in itself and for itself – *not* for me. The phenomenon is the substance itself (implied: in its manifestation), the name is the denominated itself (in the measure in which it passes into consciousness and becomes the object of knowledge). But the phenomenon (two-in-one spiritual-material), the symbol has always been dear to me in its immediateness, in its concreteness, with its flesh and its soul. In every fibre of its body I saw, I wanted to see, I sought to see, I believed to be able to see the spirit, the only spiritual substance.²²

Florensky was heavily influenced by Goethe, whose natural philosophical method based on the conception of "primordial phenomenon" he appropriated. The German author, it must be noted,²³ was particularly provoked by Newtonian science,²⁴ believing that the capacity for wonder and the sense of the whole was radically threatened by science and disputing the claim that science could give us real knowledge of nature with its analytical methods.²⁵ His friend Scheler

²⁰ David Pratt, "Spatial Metaphors in Pavel Florensky's Absolute Knowledge: Guideposts in a 'Lonely' Critique of Reason," in Lieven Boeve, Joeri Schrijvers, Wessel Stoker et al., *Faith in the Enlightenment? The Critique of the Enlightenment Revisited* (Amsterdam: Rodopi, 2006), 209.

²¹ Florensky was "enchanted" with Plato. "Throughout his entire philosophical-theological corpus, he makes frequent references to Plato, and, most certainly, it was Plato who inspired Florensky to explore the *other* reality by pointing at the existence of 'other planes [and] other layers,' which exist 'behind the fore of the empirical'" (Florensky, *Khristianstvo i kultura*, 399). Also, Plato likely played a role in Florensky's interest in mathematics as an essential tool in a philosopher's toolbox. See Sergei Baranov, "An Examination of The Attitude of Pavel Florensky Towards The Interaction of Science And Theology" (Institute for Orthodox Christian Studies, Cambridge, UK), p. 4. <https://oxford.academia.edu/SergeiBaranov>. Accessed 1 June 2018.

²² Pavel A. Florenskij, *Ai miei figli. Memorie di giorni passati*, ed. Natalino Valentini and Ludomir Žák, trans. C. Zonghetti (Milano: Mondadori, 2003), 201-2. Cited in Pavel A. Florenskij, *Il simbolo e la forma. Scritti di filosofia della scienza*, 166, n. 12.

²³ Johann Von Goethe, best known as a poet, was also a leading figure in the Romantic reaction against Newtonian science. His theory of colour and work on plant morphology has long been ridiculed by the scientific establishment but is now being reassessed. See Stratford Caldecott, "A Science of the Real: The Renewal of Christian Cosmology," *Communio* 25 (1998): 471.

²⁴ George S. Hendry, *Theology of Nature* (Philadelphia: Westminster Press, 1980), 43.

²⁵ He believed that the capacity for wonder and the sense of the whole was radically threatened by science; disputing the claim that with its analytical methods science could give us real

had also lamented how science had robbed nature of its enchantment and joy: “unconscious of the joys she dispenses ... she lavishly obeys the law of gravity, a nature shorn of the divine.”²⁶ Florensky would agree. And, on the basis of Goethe’s morphology of nature, the Russian scientist and mystic delineates a new science capable of unifying different specialities through the notion of symbol:

All my life I have thought basically about one thing: about the relationship of the phenomena to the noumenon, of its manifestation, its incarnation. I am speaking of the symbol. All my life I have reflected on only one problem, the problem of the symbol.²⁷

Symbols and the Antinomy Between Science and Religion

Florensky thus dwells at length on an epistemology of the symbol, which he defines in many ways, to arrive at a “concrete metaphysics.” It is “a part which is equal to the whole, while the whole is not equal to the part;”²⁸ it is “a being which is more than itself: this is the foundational definition of symbol. The symbol is something that manifests in itself that which is not itself, that which is greater than itself, and yet is essentially manifested through itself. “The symbol is a substance the energy of which, being conjoined ... with the energy of another substance ... carries in itself this latter substance.”²⁹ All our knowledge, he maintains, is but symbols, even though there can be a series of symbols for any given reality which would mean that a hierarchy of symbols is needed.

Florensky also gave systematic considerations to antinomies, both in scientific thinking and religion, such that it grew into a methodology. Perhaps impressed

knowledge of nature. He was particularly provoked by the science of Newton against which he waged a determinate and desperate war for many years. He would have nothing, for example, of Newton’s analysis of light by means of a prism, rejecting the belief that one could study light by breaking it up in this way. “Friends, avoid the darkened prisons // Where they pinch and tweak the light // And in pitiful decisions // Bow to rays distorted quite, // Worshippers most superstitious // Thronged in plenty down the year. // Leave in hands of teachers vicious // Spectres, madness, cheats and leers.” (As quoted in *ibid.*, 43.)

²⁶ *Ibid.*, 43-44.

²⁷ Florenskij, *Ai miei figli. Memorie di giorni passati*, 201.

²⁸ Pavel A. Florenskij, *Sočinenija v čertyrech tomach* (Opere in quattro volumi), ed. A Trubačëv, MS Trubačëva, PV Florenskij (Moskva: Mysl’, vol 3/1, 1999), 138. Cited in Florenskij, *Il simbolo e la forma. Scritti di filosofia della scienza*, 187, n. 6.

²⁹ Pavel A. Florenskij, *Sočinenija v čertyrech tomach*, vol 3/1, 257. Cited in Florenskij, *Il simbolo e la forma. Scritti di filosofia della scienza*, 187, n 6.

by the fact that the majority of Platonic dialogues are a great antinomy artistically dramatized,³⁰ Florensky argues:

Knowledge of contradiction and love of contradiction, along with ancient scepticism appears to be the highest achievement of antiquity. We must not, we dare not cover contradictions. Let contradiction remain as profound as it is.³¹

For him, thought is dialectic, and reality is discontinuous and full of antinomies which, for the dialectic mind, are not destructive, but motivating. Florensky is thus unperturbed by Lalande's quip that he could not find any trace of God in the heavens,³² or by Karl Büchner's caustic jest that the creative force had not written his name in the heavens with the stars.³³ Neither could he, replies Florensky, find the law of gravity emblazoned in the sky.³⁴ Nowhere is there written that a star is a star. Thus, focusing on the antinomies between nature and history, nature and culture, nature and religion, nature and meaning, Florensky argues that: "All sciences are a *description of reality*. Reality is described by symbols or images. Every image and every symbol ... *we name*, and therefore it is a *word*... all [sciences] are language and only language."³⁵

The natural sciences are characterised not by explanations but by descriptions of phenomena, expressed in symbols and mechanical forms.

Against classical deterministic mechanics Florensky held the symbolic structure of language as paradigmatic of scientific thought, even before the disagreements on the interpretation on quantum mechanics seemed to settle in favour of the Copenhagen Interpretation, according to which there is no consistent metaphysical interpretation of the entities represented by quantum mechanics. Bohr, who later formulated the Complementarity Principle, remarked: "there is no quantum world. There is only an abstract quantum physical description. It is wrong to think that the task of physics is to find out

³⁰ Vodenko, *Antinomic-Symbolic Epistemological Concept in Russian Philosophy*, 56.

³¹ Ibid.

³² Joseph-Jérôme Lefrançois de Lalande. Cited in Florenskij, *Il simbolo e la forma. Scritti di filosofia della scienza*, 123.

³³ Karl Büchner, *Kraft und Stoff*, 8-te Auflage (Leipzig: Theodor Thomas, 1864). Cited in Florenskij, *Il simbolo e la forma. Scritti di filosofia della scienza*, 123-124.

³⁴ Ibid., 127.

³⁵ Originally Pavel A. Florensky, "Simvolicheskoe opisanie," *Feniks* (Moscow, 1922) 1: 90, 92, 94, quoted in Pavel A. Florenskij, *Mnimosti v geometrii*, ed. Michael Hagemeister (Munich: Verlag Otto Sagner, 1985), 13. Cited in Kirill Sokolov and Avril Pyman, "Father Pavel Florensky and Vladimir Favorsky: Mutual Insights into the Perception of Space," *Leonardo* 22, no. 2 (1989): 238.

how nature is. Physics concerns what we can say about nature.”³⁶

Words, names and terms are, according to Florensky, eyes of the mind without which there can be no perception, no understanding, no science for these are the preconditions for observation without which phenomena have no meaning. Words and terms are tools by which humans understand the world and come to knowledge of it, with knowledge being understood as the biological activity of humans as they adapt to their environment.

What Bioethics Could Have Been

Though bioethics today, at least for many, is a new form of medical ethics necessitated by the rapid development of technology in the biomedical sciences, the term was coined by van Potter in 1970 to refer to the bridge between nature and culture, science and values.³⁷ Even before him, the German pastor Jahre had spoken of bio-ethics, in the hyphenated form, to extend Kant’s moral imperative to non-human life.³⁸ Florensky, of course, did not use the term himself, but his thoughts on science, technology, and the world seem to offer a robust argumentation for a religiously based philosophy of the environment.

Knowledge, argues Florensky, is the biological activity of man by which he adapts to the environment. Nature, as he puts it, is beholden to man and transformed to culture.—Biologically, rationality is man’s purposeful activity revealed externally as a set of instruments or technology, and internally as cognition, or the totality of the aims of these instruments. The content of reason is thus incarnated and materialised in the form of instruments which Florensky, following Kapp’s idea of organ projection, considers to be an extrapolation of the

³⁶ This famous remark was made by Niels Bohr in 1927 when the quantum debate erupted at conferences in Como and Brussels. Though the Copenhagen Interpretation met bitter resistance immediately after its first articulation at these meetings, during the 1930’s it evidently was regarded as the orthodox interpretation of quantum theory and came to be accepted by both the majority of the textbooks on the subject. It stands as the most influential interpretation of quantum theory even today. The most significant dissident to Bohr’s interpretation was Einstein who regarded its idealistic aspects as implausible. See Niels Bohr, “Discussions with Einstein on Epistemological Problems in Atomic Physics,” in Paul A. Schilpp, ed. *Albert Einstein: Philosopher – Scientist* (La Salle: Open Court Publications, 1970), 209. Bohr’s position is also criticized by Stanley L. Jaki in his account of this controversy, in *The Road to Science and the Ways to God* (Chicago: University of Chicago Press, 1978), 200-203.

³⁷ Van Rensselaer Potter, *Bioethics: Bridge to the Future* (Englewood Cliffs: Prentice-Hall, 1971).

³⁸ H. M. Sass, “Fritz Jahr’s 1927 Concept of Bioethics,” *Kennedy Institute of Ethics Journal* 17, no. 4 (2007): 279-295.

body by which man, who is better known as *homo faber* rather than *homo sapiens*, expands and amplifies the senses.

Florensky provokes material atheists by calling such technical activity “magic” which he defines as “the act of moving the boundaries of the body beyond its’ usual space,” not however in the sense of mystery or complexity but as manifestation of will, due to a morphological identity between organ and instrument. The human body is thus less of a machine, an idea typical of eighteenth-century deism, with its mechanistic conception of the universe created by an excellent clockmaker who could thus retreat from the automaticity of the world. In line with the nineteenth century discovery of the organism, Florensky compares the human body more to a dwelling place where the potential for all technology is to be found already.

Now, the projection of the body and its organs in tools and instruments, including words, occurs in a subconscious and superconscious way such that there is a close connection between the projections of one’s organs and that of the psyche. He thus argues that there is not much difference between the creation of art, science, fantasy and dreams, and the process of symbol creation which they entail. If these are to be graded, this is to be done according to their diffusion, more than the peculiarity of the visions themselves, with religious, philosophical, scientific and artistic symbols and dreams graded in terms of their diffusion from the most diffused and public to the least diffused and private, respectively. These symbols are incarnated or materialised in culture, as well as the economy, which can be seen as the achievements of the technologies we have created to satisfy our needs. The body is thus likened to a membrane which separates phenomena and noumena; it is “the concretised equilibrium between exterior and interior, subjective and objective, mystic and material; it is the root of our person, our support, Jacob’s ladder which leads us down into consciousness and up into super consciousness.”³⁹

The empirical mastery of the world and its assimilation and technical organisation is made possible by “the world’s presence in me.” Indeed, “all terms, numbers, representations, categories, all that we can think or say about the world is ‘decisively and absolutely anthropomorphous,’ reflecting man and his external structure and internal processes.”⁴⁰ It is perhaps for this reason that Florensky ended his *Imaginary Numbers in Geometry* (1922), published 600 years after Dante’s death, with a detailed reading of the Tuscan poet’s spatially enigmatic

³⁹ Florenskij, *Il simbolo e la forma. Scritti di filosofia della scienza*, 206.

⁴⁰ Ibid., 207.

ascent in *The Divine Comedy*. Florensky praises Dante's Ptolemaic worldview, transposing the poet's movement onto a scientific backdrop with a discussion on the movement of a body moving at the speed of light in the elliptical non-Euclidean space in which Dante travels.

Through the body and its technological extensions, man has the power to control the world through the lower magic of technical mastery and science, the higher magic of philosophy and art, and through the theurgy of religion and ascetic effort. To do this, however, man needs to establish control over himself (his body) for the interior purposes of man (for good or bad) are projected externally through the technological extensions of the body. One must recognise in this regards the reciprocal self-determination between man and the world, and the compenetration of one in the other, recently brought to our attention once again through Pope Francis's encyclical *Laudato si* (2015). Though man is sovereign with respect to the world, he is not to be a tyrant, usurping his mastery, but rather man is to be to the world as a bridegroom is to his bride, loving her, caring for her and being one with her.

Unfortunately, however, Western civilisation has not been preaching to all creatures (see Mk 16: 15);⁴¹ neither has it been the good news of Resurrection and Transfiguration; nor has it been the news of a new earth and a new heaven.⁴² It has rather been a rapacious civilisation with no love or mercy for creatures, aimed not at aiding nature manifest the hidden culture inside of it, but rather a forceful imposition of external aims onto it. Any violence to nature, however, is equally a violence to man who, when sacrificing nature for profit, sacrifices himself.⁴³

Florensky was also interested in Vladimir Vernadsky's idea of the biosphere becoming a noosphere, or planet of thought,⁴⁴ which Vernadsky defined as the "sphere of manifested scientific thought and technics," recognising it as "new

⁴¹ Ibid., 209.

⁴² Ibid., 209-210.

⁴³ Ibid., 210.

⁴⁴ Known mostly for his book *The Biosphere* (1926), Vernadsky (1863–1945) is considered to be one of the founders of geochemistry, biogeochemistry, and radiogeology. This Soviet scientist, who was also a founder of the Ukrainian Academy of Sciences, used the term 'biosphere', coined by Eduard Suess in 1885, to hypothesize that the earth develops from a geosphere (inanimate), to a biosphere where biological life becomes the geological force that shapes the earth. This then develops into a noosphere (a term coined by Theilard de Chardin in 1925 when he met Vernadsky at the Sorbonne in Paris where the latter was lecturing) where human cognition fundamentally transforms the biosphere. See Barbara Sundberg Baudot, ed. *Candles in the Dark: A New Spirit for a Plural World* (Seattle: University of Washington Press, 2011), 183.

geological factor *unprecedented in its power*.”⁴⁵ In a letter sent to the Soviet scientist in 1929, Florensky suggests “that interpenetrating the biosphere, or perhaps lying over it, is what he would call the ‘pneumatosphere,’ a sphere of spirit and culture intimately related to, affecting and effected by, the rest of the biosphere,”⁴⁶ which he defined as “a special part of a substance that has been drawn into the cycle of culture, or more exactly, the cycle of spirit.” Florensky continues:

Undoubtedly, this cycle is not the same as the general life cycle. But there is a large amount of data, admittedly not yet sufficiently worked out, which points to a special kind of stability shown by material formations created by spirit, for example, objects of art.⁴⁷

Florensky himself admits, however, that it might be still “premature to speak of the pneumatosphere as a subject for scientific investigation.”⁴⁸

One might of course debate whether this notion is still relevant today, or whether it is still premature to speak of it. In any case, however, Florensky has allowed religion back into the public discussion with science. In a letter to his mother in 1900 in which he described how mathematics is the key to his worldview, Florensky writes:

With a mathematical worldview, there is no need to deliberately or unconsciously ignore phenomena, or to augment or supplement the reality. Natural philosophy becomes one whole with ethics and aesthetics. Religion acquires a very special meaning by finding its place in this whole, the place, which it was deprived of earlier so that it had to build itself a [...] detached room.⁴⁹

⁴⁵ V. I. Vernadsky, *Biosphere and Noosphere* [Биосфера и ноосфера, Айрис-пресс, Москва.], 2004, 16. Cited in Sanja Veršić, “An Integral Approach to the Thought Space or Noosphere – Evolving of Human Consciousness and its Energy,” *Integral Leadership Review* (2016). <http://integralleadershipreview.com/14485-an-integral-approach-to-the-thought-space-or-noosphere-evolving-of-human-consciousness-and-its-energy/>. Accessed 1 June 2018.

⁴⁶ George M. Young, *The Russian Cosmists: The Esoteric Futurism of Nikolai Fedorov and His Followers*, (Oxford: Oxford University Press, 2012), 132.

⁴⁷ See Baudot, ed. *Candles in the Dark: A New Spirit for a Plural World*, 188. “Florensky stresses how the symbolic function of an object transforms the object materially. This refers to the process of transformation of the material aspect of a symbol or a sign in the semiotic sense, as it is influenced by the symbolized aspect. Florensky was particularly interested, for example, in the material differences between Orthodox icons and other objects of a similar kind.” Ibid.

⁴⁸ Young, *The Russian Cosmists*, 132.

⁴⁹ Letter to his mother dated 4 October 1900. Cited in Sergei Baranov, “An Examination of the Attitude of Pavel Florensky Towards the Interaction of Science and Theology.”

Conclusion

I would like to conclude with a quote from Dietrich Bonhoeffer who reminds us that:

The best-informed man is not necessarily the wisest. Indeed there is a danger that precisely in the multiplicity of his knowledge he will lose sight of what is essential. But on the other hand, knowledge of an apparently trivial detail quite often makes it possible to see into the depths of things. And so the wise man will seek to acquire the best possible knowledge about events, but always without becoming dependent upon this knowledge. *To recognise the significant in the factual is wisdom.*⁵⁰

Another prisoner, under a different regime and in a different context, would have agreed. Florensky's original approach to the phenomena of nature lies in recognising not so much their conformity with established laws, but rather in the interior perception of the presence of mystery in every natural reality. Never losing sight of the vision of the whole in his focus on a particular phenomenon, Florensky sought not so much the how but the why, or the ultimate meaning of that phenomena, embracing an authentic mysticism that sought to purify the heart to see clearly the invisible within the visible. In this way, this great Russian polymath leads the way to enable us once again to be able to arrive at "The Love that moves the sun and the stars."⁵¹

Ray Zammit
Department of Moral Theology
Faculty of Theology
University of Malta
Msida MSD 2080
Malta

ray.zammit@um.edu.mt

⁵⁰ Dietrich Bonhoeffer, *Ethics* (New York: Simon and Schuster, 1955), 70-71. My italics.

⁵¹ Dante, *The Divine Comedy: Paradise*, trans. Dorothy Sayers and Barbara Reynolds (Penguin, 1962), canto 33, line 145. Cited in Elizabeth A. Johnson, "Does God Play Dice? Divine Providence and Chance," *Theological Studies* 56 (1996): 18.