

Essence and Energy: An Exploration in Orthodox Theology and Physics¹

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Abstract

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This essay provides a parallel study of the meaning of the term “energy” in Orthodox theology (particularly in such figures as John Damascene, Maximus the Confessor, and Gregory Palamas) and physics (particularly in the work of Niels Bohr and Albert Einstein, as well as Max Planck and Max Born) by exploring the way this term is used in these two quite different fields of scholarly endeavor. It does not provide clear-cut definitions and does not pretend to have produced an exhaustive synthesis. Its intention, rather, is to continue building bridges between Orthodox theology and physics on the foundation of existing works and established knowledge. The essay starts with a discussion of the methodological grounds for the parallel exploration of the concept of energy in theology and physics by means of Bernard Lonergan’s “analogical isomorphism,” whose approach allows for bringing forth the similarities of the *relationships* between essence and energy in both cases and *not of the concepts* themselves. The author’s comparative analysis brings a number of common themes to the surface, and concludes by sum-

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marizing the fourteen observations emerging from, and still needing further refinement in, the science-theology dialogue.



I. Introduction: Why Physics? Why Theology?

Although the term “energy” is fundamentally important in both physics and Orthodox theology, it is not confined to the contexts of physics and theology alone. The concept plays a significant role in biology, has some relevance in psychology and, more recently, became very popular within the context of the various kinds of new age spiritualities. It would be fair to say that, while enjoying a growing popularity in ordinary language, the concept of energy is often used in unclear and inappropriate contexts and circumstances.

The concept of energy has a fundamental place in physics – a place that was acquired in the nineteenth century when its emergence provided a new and unifying framework bringing together all known phenomena within the dominating mechanical view of nature and embracing heat, light, and electricity, together with mechanics, in a single conceptual structure.³ This new framework led to the development of the concepts of the physical field, electromagnetic ether, conservation and dissipation of energy which, in the beginning of the twentieth century, opened the way to the formulation of the theories of relativity, quantum mechanics and gravitation. The evolution of these theories still governs our knowledge about the structure of matter, about the world and the cosmos. Yet, the obvious relevance and pervasive use of the concept of energy in physics did not stop Richard Feynman⁴ from writing: “It is

³ Peter M. Harman, *Energy, Force and Matter – The Conceptual Development of Nineteenth-Century Physics* (Cambridge University Press, 1982), 2.

⁴ Richard Feynman (1918–1988), recipient of the Nobel Prize in Physics in 1965 for his contributions in quantum electrodynamics, produced a series of lectures that would eventually become the famous Feynman Lectures on Physics.

important to realize that in physics today, we have no knowledge of what energy ‘is.’”⁵

For its part, Orthodox theology has at its centre the distinction between the essence and energies, and this affects the whole body of Christian doctrine.^{6,7} In the words of Christos Yannaras,

the theology of the Church interprets the reality of existence, the appearance and disclosure of being, starting from these two fundamental distinctions: It distinguishes essence or nature from the person or hypostasis, as it distinguishes the energies both from the nature and from the hypostasis. In these three basic categories, nature-hypostasis-energies, theology summarizes the mode of existence of God, the world, and man.⁸

In a similar way John Romanides points out that: “The teaching of the Church Fathers on God’s relation to the world can be understood if one knows: a) the difference between ‘created’ and ‘uncreated;’ [and] b) the distinction between ‘essence’ (*ousia*) and ‘energy’ (*energeia*) in God.”⁹ This distinction between essence and energy in Orthodox theology has been the subject of multiple theological and philosophical controversies from the fourth century up to the present day.¹⁰ I

⁵ Peter M. Harman, *Energy, Force and Matter*, 2–4.

⁶ George Florovsky, “St Gregory Palamas and the Tradition of the Fathers,” *Sobornost* 4 (1961): 165–76.

⁷ Christos Yannaras, “The Distinction between Essence and Energies and its Importance for Theology,” *St. Vladimir’s Theological Quarterly* 19 (1975): 242–43.

⁸ Christos Yannaras, *Elements of Faith, an Introduction to Orthodox Theology* (Edinburgh: T&T Clark, 1991), 43; see also *Postmodern Metaphysics*, trans. Norman Russell (Brookline, MA: Holy Cross Orthodox Press, 2004).

⁹ John Romanides, *An Outline of Orthodox Patristic Dogmatics* (Rollinsford, NH, 2004), 3.

¹⁰ See D. Stiernon, “Bulletin sur le Palamisme,” *Revue des Études Byzantines* 30 (1972): 231–340; David Bradshaw, *Aristotle East and West – Metaphysics and the Division of Christendom* (Cambridge University Press,

believe that some of the epistemological insights of Orthodox theology will be found very illuminating by physicists, providing the possibility for a reversal of the predominant pattern of science-theology interactions, a pattern that could be characterized by the unidirectional (and unsuccessful) scientific attempts to provide an explanation of the mysteries of faith.

The second aspect of the question is theological and evangelical in nature. It is associated with the answer to a simple question: “In the end, who cares about any existing parallels between the meanings of energy in physics and theology?” I am certain that many believers will find such study irrelevant and useless – a life in Christ based on a personal relationship with the living God does not need additional reasons. Others among them, however, may find such an encounter rewarding because it was God Himself who created us with the possibility of knowing Him in creation and knowing more about some of the common heuristic structures underlying our knowledge of God and the world, about which many questions have been unanswered for centuries.¹¹ In this, I agree with David Bradshaw,¹² Jean-Claude Larchet¹³ and the circle of scholars from the Bulgarian school of Byzantine philosophy¹⁴ that the way to resolve the existing theological disputes and provide clarity about the relevance of the distinction between essence and energy is to give a comprehensive history from its biblical and philosophical roots up through and beyond Saint Gregory Palamas. I believe also that it is important to unfold this historical inquiry within the context of a broader contemporary theological, philosophical, scientific, and cultural discourse. I hope this essay will contribute to such an unfolding.

2004); Jean-Claude Larchet, *La théologie des énergies Divines* (Paris: Les Éditions du Cerf, Paris, 2008).

¹¹ Christos Yannaras, *Elements of Faith*, 38.

¹² David Bradshaw, *Aristotle East and West*.

¹³ Jean-Claude Larchet, *La divinisation de l'homme selon Saint Maxime le Confesseur* (Paris: Les Éditions du Cerf, 1996); “La notion d'*energeia* dans l'Ancien et le Nouveau Testaments,” *Црквене студије/Church Studies* (Niš, Serbia), t. III (2006): 15–22; *La théologie des énergies Divines*.

¹⁴ A group of scholars that emerged at the University of Sofia, Bulgaria, including Georgi Kapriev, Tzotcho Boiadjev, Ivan Christov, Kalin Yanakiev, Oleg Georgiev and others.

II. The Possible Grounds for a Parallel Study of Energy in Orthodox Theology and Physics

Anthropological and Cosmological Implications of the Incarnation

The first ground is rooted in the anthropological and cosmological implications of the event of the Incarnation. It was articulated for the first time in the fourth century by Saint Athanasius of Alexandria and, more recently, in the scientific theology of Thomas F. Torrance¹⁵ and by his former student George Dragas in his lecture on the anthropic principle delivered at Aristotle University of Thessaloniki in 2005. Thomas Torrance points out that theology should operate within the context of a triadic relation between God incarnate, man and world, since it is this world unfolding its mysteries to human scientific questioning becoming the medium of God's revelation and of man's responsible knowledge of him. This implies a connection between theological concepts and physical concepts, spiritual and natural concepts, between theological science and natural science.¹⁶ Scientific concepts are related to natural order of the universe. Theological concepts look through the rational structures of the universe to the Creator, i.e., they indicate but do not exhaust or describe the reality to which they refer.

In a very similar vein, the Greek Orthodox priest George Dragas emphasizes the patristic understanding of the relationship between God, man, and the world:¹⁷

¹⁵ Thomas F. Torrance (1913–2007) is one of the most important Reformed theologians of his era who has been influential by his works on theological method, the relationship between theology and science, and in the "paleo-orthodox" movement of the late twentieth and early twenty-first centuries, which sees the consensual understanding of the faith among the Church Fathers as the basis of biblical interpretation and the foundation of the Church in the present time.

¹⁶ Thomas F. Torrance, *Reality and Scientific Theology* (Edinburgh: Scottish Academic Press, 1985), 68.

¹⁷ George Dragas, "Theology and Science: the Anthropic Principle," available at: http://www.saintjohnthebaptist.org/articles/ANTHROPIC_PRINCIPLE.htm (to be published as part of *The Faith of the Fathers* [Rollinsford: Orthodox Research Institute, 2009]).