

FUTURE ORIENTATION OF BIOCOSMOLOGICAL STUDIES

Paul BEAULIEU¹

ABSTRACT. *This short essay address some of the key questions related to the future of bio-cosmological studies, that field of multidisciplinary studies where a scientific community looks for advancement of the understanding of the living processes of our cosmos. This paper also illustrates the history of the progressive scientific limitations that came from the sensate knowledge of the cosmos.*

The main argument of this paper is that the perspective of becoming a domain for real integral research and scholar scientific debates the true nature of integral studies must be established as the core approach in biocosmology studies. A new perspective given from a real integration of the two “faces” of the reality where the knowledge of the sensate appearances (as well as its abstract intellections) produced by modern science and the sustained aspiration of humanity to know the intelligence of the cosmos are reconciled is certainly the promising future of biocosmology studies.

KEYWORDS: *Biocosmology studies, integral knowledge, cosmosophy, reductionism, spiritual world, organicism, Steiner epistemology*

Contents

1. The limitation of sensate knowledge of the cosmos
2. Integral knowledge of the cosmos
3. The domain of integral biocosmology

The life of a scholar’s community where a sense of responsibility for the future of humanity prevails always requires a continuous awareness and vigilance about the appropriateness in its orientation and its destination.

In this short essay I want to address some of the key questions related to the future of bio-cosmological studies, that field of multidisciplinary studies where a scientific community looks for the advancement of the understanding about the living processes of our cosmos. *Bio* prefigure a foundational assumption for that field of study that our cosmos is a living entity and that it presents analogic rules of functioning as does the logic of organisms. This is a categorization of the object under study that is radically different than just asserting a potential carbon-based bio-molecular origin of our universe (King 2012) that is based on a physico-chemical

¹ University of Quebec in Montreal, Montreal (Quebec), CANADA.

metaphysical position and/or its frontier's quantum version on cosmogenesis as assumed by physical-cosmology. BioCosmology try to get human the understanding of universe out of its actual dominant materialistic alienation from life in nature and in our cosmos and develop a scientific approach and knowledge that may directly apprehend the life in itself that animate the cosmos.

This scientific community is gathered around the momentum created by the *Biocosmological Association*, its scientific journal *Biocosmology – Neo-Aristotelism* (launched in 2010) and the *International Seminar on Biocosmology*. This scientific community is relatively recent in its global membership but ardent in regard of its *raison d'être*.

The scholars that participate in the development and the activities of these knowledge endeavors are scientists dedicated to the investigation and collective discussion related to the main following questions: a) regarding the cosmic life; b) the ordering of our cosmos and its development; c) the development of an integrative worldview of the cosmos; d) the laws and forces that structure its dynamics as a “wholistic” living organism; and e) the roles assumed by its living entities in its evolution, especially human beings¹.

This community shared the strategic intent of contributing to the scientific debates through the re-actualization of an Aristotelian metaphysical perspective for the study of cosmological problems and questions. The experience of the attractiveness of the Biocosmological Association (BCA) and especially its past seven International Seminars show a significant diversity of interests for the study of cosmological issues outside of the actual dominant paradigm prevailing in normal science that is the physical cosmological perspective. The physical perspective focus on the assumption of a lifeless nature and cosmos made of matter structured by forces driven forward without any immanent finality. Even the most innovative fringe of the physical cosmology paradigm, such as the *holographic principle* and the cosmic theory of Leonard Susskind – one of the founders of the strings theory – (Susskind 1995; Talbot 1991) manifests symptoms of maturity and progressive erosion of its explanatory capacity. In the last two decades we have seen this discomfort transformed in a research for alternative cosmological worldviews. As a consequence, even if it is strongly embedded inside all scientific institutions of the system of normal science, the dominant physical cosmological paradigm is no more seen as the unique worldview for the interpretation of our cosmos. It is still the dominant and structuring paradigm prevailing in scientific communities and institutions around the world but a freedom of creative investigation is growing among scientific communities searching for a living perspective on the cosmos.

Coming from the academic world but also from communities of independent scholars, we see the emergence of an alternative worldview where our cosmos is assumed as being a living and intelligent entity. The BCA emerging community started on that assumption with the goal of developing an understanding and

¹ The foundational-editorial of the journal *Biocosmology – Neo-Aristotelism* is of interest in regard of these objectives. See Khroutski – 2010: 4.

knowledge of our cosmos that focus on its living dynamics that is, the biocosmological perspective.

Common to the emergence's phase of any knowledge community, the need for a conversation about the finalities of the field of study could move to solving the issue of to a more precise identification of the agenda and orientation of the perspective. Following the enthusiasm of the emergence it is of great value to take time for debating more clearly the orientation of the field that should retain the collective attention as defining the foundational elements of the perspective of the biocosmological studies project.

As a contribution to this conversation on the orientation of biocosmological studies I want to raise some preliminary thinking concerning essential core questions related to the study of cosmic dynamics through a living perspective. These thinking are not aimed at being some sort of a programmatic research design. These reflections are mainly focused at circumscribing the main axis of the problematic related to the orientation for the future of biocosmology. Also, I want to raise the civilizational issue that pertains to the development of a conscious apprehension of the intelligence of our living cosmos.

1. The limitation of sensate knowledge of the cosmos

There are plenty of symptoms and emerging evidences of the actual anxiety in regard of the dominant worldview of the science-system because of its enclosure and limitation inside of a materialist assumption on the nature of the cosmos and of the reality. The Biocosmology Initiative has been developed in respond to that dissatisfaction in regard of this paradigmatic drifting of the modern scientific ideology since the Baconian positivist and practical's turn for *The Advancement of Learning* in 1605 (Vickers 1996: xxiv) and the pragmatist orientation given to what was to become modern sciences and metaphysic.

Cosmology is one of the essential domains of the metaphysical knowledge. It closely relates, and is tightly interdependent, with the other two objects of the metaphysical investigation. The postulates, assumptions and hypothesis that we formulate about cosmological realities are inter-related to the others that we put forward in regard of the ontological nature of realities and also through the ways and methods of knowing (epistemology) that are chosen. Cosmology studies went through a progressive reductionist orientation in the last three centuries. Following the termination of the European Middle-Age and the closing of the Renaissance tentative for the renovation of classical knowledge, the struggle that opposed the two main perspectives on the secularization of the future of rational advancement of knowledge resulted in the prevalence of the positivist-empiricist cultural project and the marginalization of the "Pansophia" movement¹ of cultural reformation.

¹ Interesting relatively to the history of this civilizational struggle are Yates (1972), Godwin (2007) and the John Comenius's European "pilgrimage" (Webster-1970) to convince kings and political leaders of the required restoration for all human field of knowledge and educational systems, including religious paths of knowledge which finalities are to develop conscious links with the

Since the institutionalization of the scientific enterprise in Occident and in the other cultures, two phases of epistemological reductionism occurred in leading-societies. Social studies of sciences and particularly the fields of history of science and philosophy documented extensively these crucial steps that influenced dramatically the limitation of the scope of investigation in cosmology. First, taking roots from Lucretius's *On the Nature of Things* early materialist approach of nature, the ideological materialist turn promoted by the triumvirate of Bacon/Descartes/Hume, through the *Mathesis Universalis* "logico-mathematical" scientific aspiration (which already is far away from the Pre-Socratic, Pythagorean and Egypt-Chaldean worldviews¹ of our cosmos) and driven down by utilitarian empiricism, emerged as the leading epistemological doctrine for modern science and consequently influenced all the field of cosmology. The philosophy of nature became limited to the investigation of objects and events limited to space-time range of the reality. The Physics' orientation would then be concentrated on the explanation of the dynamic and transformation of material reality as it appears to our senses and in abstracted modeling through human intellection.

The Enlightenment period (impulse by LaMettrie and Holbach – 18th Century) fostered the expansion of a materialist and mechanical perspective of the macrocosm as well as of the human being. Abstract rationality became the legitimate approach and paradigm for science development (Anthony 2006: 28). Materialistic empirical investigation of our cosmos since that period dominated cosmology and the later aggressions on metaphysic's cognitive investigations performed by the epistemological community dedicated to philosophy of science (including natural philosophy), especially the Vienna Circle of logical positivism (*Scientific World-View Manifest* of 1929). These new doctrines on science reduced the "legitimate" investigation of the cosmos to a physico-chemical closed-paradigm and supported by the multiple technological-proxies of analogical data gathering that since served to the physical-cosmology research and theorization.

The second phase of reductionism that influence significantly the philosophies related to natural sciences (like the philosophy of biology) but also in the main domains of human sciences is something that we could call pejoratively "mental quasi-castration". Kant hegemony in philosophy and his critical epistemology induced in the civilization the cognitive doctrine that "human beings cannot know the thing in itself". Human knowledge would be restrained to phenomena, to the

spiritual world of the cosmos. The *Pansophist* cultural proposal was to integrate the knowledge of supra-natural realities with the emerging natural sciences.

¹ There is an extensive scientific literature that investigated the higher institution of knowledge and learning of the antiquity that goes deeper than the naïve investigation of ritual practices prevailing in Temple complexes in Orient, in the Crescent Fertile and in Occident. Interesting on that subject are the Hornung (2001), Scott (2014), Uzdavinyas (2010 and 2011), Jacob (2007), Lyons (2009), and Green (1992). The Pythagorean Centre in Crotona, Platonic Academy in Athens, the Ptolemaic Alexandrian Museum, the Academy of Gundishapur in Persian 6th Century, and the House of Wisdom implemented by Caliph Harun al-Rashid in Baghdad in the late 8th Century were all later-descendants institutions in filiation with the ancient Mystery Schools (like the Egyptian House of Life) but adapted to the *Axial Age* Period (Eisenstadt-1986) of civilizational evolution.

reflections happening in their mind. This doctrinal position, never demonstrated and supported by objective evidences, cut the field of cosmological studies from the legitimacy of the heritage coming from antique cosmological investigations done in past civilization's institutions for advanced-knowledge through theosophical supra-sensible direct observation of the cosmos.

Following this second phase of reductionism in cosmological studies and metaphysic we saw in the late 19th and early 20th Century waves of transcendental idealism crafting sophisticated conceptual systems for the interpretation of the world. Hegelian philosophy of ideas, Whitehead process cosmology (Whitehead 1928-29), and Husserl phenomenology (Husserl 1936) are good examples of these efforts to find an alternative way to the closeness of the physical-cosmological paradigm. Recently, we have seen recurrent version of this reductionist struggle with the advancement of neo-materialism (see Shaviro 2014 and Sparrow 2014), complexity science (see Kauffman 1995 and 2009) and also process-cosmology on the biological front (see Ulanowicz 2009a and 2009b).

Nevertheless, all these intellect-based conceptualization are all kept in the domain of the sensate knowledge. This is the domain of knowledge coming from sense's observations and their proxies-technological substitutes as well as is essentially the rational conceptualization that uses the physical human brain as a reflector for thinking. This way of knowledge will always be kept preclude from a direct observation of "the things and entities themselves"; even they be ideational as characterized by Sorokin (1957) typology of cultural mental types. The intellectual path of scientific knowledge is certainly appropriate for naïve knowledge (including super-sophisticated one that could be generated through humans technological enhancement) of the universe and its order, its perceived finalities and its dynamic. The cosmologies generated inside the spectrum of the two epistemological-cultural polarities of the rational-sensate cognition and of the ideational mentality (including its intermediary position of the idealistic-type) limit themselves to the register of intellectual knowledge and will never have the capacity to access directly to Cosmic Life and Intelligence.

The idealist and idealistic cultural mentality's types, even if they are adopted by scientists of goodwill working intensively for the advancement of the human understanding of the universe, will always keep science at bay of the true nature of our cosmos. So, a fruitful alternative to the physical cosmology perspective must be based on the collective methodology of building valid scientific anchored to a new path of knowledge that will aim at observing and intuiting directly the Intelligence and the Life animating our Cosmos. This is a radical metaphysical position that may link the humanity's heritage of theosophical knowledge of the cosmos, which have been developed in the past by civilizations of the East and of the West, with a renewed path of integral knowledge.

Evidently, to choose to refrain from the experimentation and the investigation of a real integral path of knowledge of the cosmos realities would be morally a passive attitude contributing to impoverishment of human culture and civilization through the continuation of sensate and hyper-sensate knowledge.

2. Integral knowledge of the cosmos

Alternative to the relatively recent hegemony of the metaphysical and science reductionist perspective into a materialistic paradigm of normal science there has always existed (Godwin 2007) worldviews and explanation systems of the universe that are reached from a transformation of human mind's capabilities toward an intuitive-based knowledge of the spirit in our cosmos. Spirit understood here as the objective supra-sensible intelligent entities and their related processes that form and constitute the objective essence of the cosmos. Metaphysically it means that our cosmos is made of spiritual intelligent entities (including human beings) in all the spectrum of the reality and that our cosmos may be perceived and consciously known by human beings from the two "sides" or planes of its existence. That means from the material appearances to the human senses and from real mental conscious intuition of the intelligent entities that form our cosmos.

The Centres and institutions of higher-learning for the advancement of knowledge in antique civilizations, as examples those in Delphi or Memphis in Egypt, were having an operative and collectively validated experience of the spiritual plane of our cosmos. These ancient Mystery Schools and their descendant institutions from the *Axial Age* of civilizational transformation were metaphysically-based on cosmological worldviews that assume the existence of a spiritual plane to our universe. The traditions and ancient manuscripts when adequately understood testified that researchers working in these higher-learning institutions were performing other ways of knowing (Broomfield 1997) for the investigation of the universe that gave them an objective access to the spiritual plane of the cosmic reality. These Centres were selective institutions that practiced collective validation of knowledge and inter-institutional exchanges of knowledge, experiences and practices.

With the development of rational abstract thinking in humanity during the Axial Age, the theosophical knowledge developed and accumulated by these ancient Centres lost their momentum due to the erosion of the cognitive capabilities of their knowers-researchers caused by the civilizational turn to sensate and abstract thinking. As an effect of this evolution of the higher-knowledge's path the preoccupations of researchers turned to practical, material and technical problems and aspects of civilizational realities. More and more the cosmological interpretation of the reality became focused on the appearances and evidences that were present to the senses and abstract conceptualization instead of "pneuma-intuitive" direct apprehension of the spirit in the cosmos and became the dominant pattern of legitimate knowledge. Later, even the Middle-Age mental model of the universe developed through the Aquinas's scholastic became discarded (Lewis 1964) and was progressively substituted by the modern physical abstract worldview.

In the early decades of the last century the Russian spiritualist philosophers like Solovyov, Bulgakov, Florensky and Lossky lunched a cultural quest for the restauration of the knowledge of the spirit and cosmic intelligence, the Sophia. This Slavic impulse was mostly oriented to the restauration of the relation of the humanity with the cosmic Sophia through intuitive thinking as described in Solovyov's *Integral*

Knowledge and Lossky's *Intuitivism* (Kornblatt 2009) and idealized in his notion of the *Divine-Humanity*. As said before, these endeavors are part of a continuous effort inside humanity¹ to maintain a living access to the Universal Mind, the same quest that worth to Anaxagoras to be expelled from Athens because of his metaphysical position for an individualized conscious and objective direct knowledge of the *Noos*, the cosmic mind, instead of it being mediated through the Pantheon of Athenians Gods and their temple's priests (Geldard 2007).

Many independent scholars, practicing philosophers² and spiritual researchers, necessarily outside the paradigm and institutions of the actual normal sciences, started working intensively since the 20th Century to re-discover the paths of valid knowledge that may give access to the spiritual plane of the reality and of our cosmos. Researchers like Sri Aurobindo in India, Jean Gebser in Switzerland, and Ken Wilber in America are good examples of scholar's works done with the intention of finding a new way of knowledge for the objective integral investigation of the cosmos. A knowledge that would bring a direct living cognition of the essence of the cosmos instead of simple abstract-intellections, that is a "cosmosophy". They are looking, with many other contemporaries to find what Gangadean (2008) call "a science of the cosmic logos"³.

However, the most extensive and scientific investigation of the spirit in the universe was done by Rudolf Steiner in the first two decades of the 20th Century⁴. He elaborated through a renewed supra-sensible path of knowledge and spiritual objective cognition an extensive cosmosophy of the universe and what he named an anthroposophy for both the actualization of humanity's understanding of the macrocosm and of the microcosm (the integrality of the human being). Based on supra-sensible observation and intuitive cognition of the spiritual plane of the reality Steiner opened the way for a scientific investigation of the spirit of the cosmos, a science of the spirit that would complete the human understanding of the cosmos. This represents a radical breakthrough in term of developing an alternative worldview

¹ This same effort was also active in Orient with the Chinese Taoist interpretation of the universal formative-forces as well as its way of knowledge as well as in their equivalent from the traditional Indian Wisdom and its spiritual practices. In the Islamic Tradition, The Suhrawardi *Philosophy of Illumination* written in 1186 describes extensively the supra-sensible nature of the light and the cosmic formative-forces that are embedded in it (Suhrawardi 1999).

² Practicing philosophers is envisioned in the sense so well explained by the French philosopher Pierre Hadot (2002 and 2004). He spent all his scholar life working on the restoration of the original understanding of philosophy as a practice and quest of intuitive mental fusion with the intelligence embedded in the reality.

³ Other interesting scholar's works looking for a new epistemology and knowledge path that could give access to the inner dimension of the cosmos and move away from the closed and limitative physical's worldview: Berry (2009); Bortoft (1996); Capra and Luisi (2014); Chandler (2001); Tarnas (2006).

⁴ The cosmosophy of Rudolf Steiner is presented in his book *An Outline of Occult Science* (1925). The historical of the evolution of the philosophical ideas that are anterior to his development of a spiritual science are contained in *The Riddles of Philosophy* (1923) and in *Intuitive Thinking as a Spiritual Path. A Philosophy of Freedom* (1918). Also relevant to his cosmosophy is *The Boundaries of Natural Science* (1920).

to the physical cosmology's paradigm and for the hope of succeeding one day to develop in the future an effective and a real integral knowledge of our cosmos¹.

3. The domain of integral biocosmology

In the perspective of becoming a domain for real integral research and scholar scientific debates the true nature of integral studies must be established as the core approach in biocosmology studies.

Integral biocosmology must be understood as a monist research approach for the study of the cosmos that includes and that interprets its constituents and dynamic as an integrated unity that presents two faces for observation, like the Janus antique symbolic for the apprehension of the reality. Given the actual development of the rational cognitive capabilities gained by humanity in the last period of civilization where human thinking reached its full extension in logical and abstract objective knowledge for the interpretation of the world, the integration of the spiritual essence of the reality in his knowledge of the cosmos becomes a crucial development's step. Crossing that cognitive threshold will give to biocosmology the possibility to find the solution of the Aristotelian's enigma of the teleological immanence dynamic embodied in the cosmic reality.

The nature of the integral approach is in the ontological redefinition of the spirit-based constituency of the universe where a living intelligent cosmic body of spiritual entities is reintroduced in the scientific way of knowledge and in a collective peaceful validation of the truth of reality². It is more than just re-modeling the interpretative framework of conceptualization on an organicist analogical basis; even in its actualized versions of a *Biocentrism Approach* (Lanza and Berman, 2009), of an abstract *Akasha Revolution* (Laszlo 2014), or a *Quantum Activism* (Goswami 2011). It need the development and the application of a new way of knowledge for the direct observation and comprehension of the life of the cosmos, *in itself*, by crossing the "cognitive-line" draw by Kant's doctrine of limitation to human cognition. Necessarily it is a complex scientific endeavor but it offers the real potential to generate, for the advancement of human understanding, a cosmic worldview that will reveal the naivety of the physical cosmology paradigm.

In doing so, the world hypothesis based on *organicism* as the root-metaphor (Pepper 1942: 280) for biocosmological studies becomes comprehensive of the logical functioning of this cosmic *house* (eco) where human beings and the nature can be re-interpreted in a true perspective of apprehending the real life dynamic that animates our cosmos. This new organicist perspective that re-introduces the objective observation and the intuited knowledge of the spirit will open the way for a real

¹ Lovejoy (1964/1936) history of the idea of *The great chain of being* or Bulgakov (2010/1929) Sophiology on the *Jacob's Ladder* were examples of initiatives to redraw the perimeter of a *new cosmography* as extensively described by Lovejoy (1936: chapter IV).

² We say peaceful validation of truth in remembrance of the history of the past behavior of Middle-Age cultural authorities in regard of the intolerance and violence performed by the institutionalized apparatus of religious organizations that monopolized the definition of the cosmic doctrines and knowledge.

ecosophy congruent with an integral biocosmology. As identified by Tarnas in *Cosmos and Psyche* (2006: 292), it will open a new cycle of creativity for the field of cosmology.

In conclusion, we can say that the integral study of our cosmos is an historical imperative for the advancement of the global civilization. This new perspective will be generated from a real monist integration of the two “faces” of the reality where the sensate appearances and its related abstract intellections are merged in complementarity with the objective cognition of the spiritual plane of the cosmos. This “new alliance” would re-actualize the sustained aspiration of humanity to know the intelligence of the cosmos and would certainly be promising for the future potentialities of biocosmology studies.

References

- Anthony, Marcus. 2006. A Genealogy of the Western Rationalist Hegemony, *Journal of Future Studies*, 10(4): 25–38.
- Berry, Thomas. 2009. *The Sacred Universe. Earth, Spirituality, and Religion in the Twenty-First Century*. New York, NY: Columbia University Press.
- Bortoft, Henri. 1996. *The Wholeness of Nature. Goethe’s Way Toward a Science of Conscious Participation in Nature*. Edinburg, UK: Floris Books.
- Broomfield, John. 1997. *Other Ways of Knowing. Recharting our Future with Ageless Wisdom*. Rochester, VE: Inner Traditions.
- Bulgakov, Sergius. 2010/1929. *Jacob’s Ladder. On Angels*. Grand Rapids, MI: Wm. B. Eerdmans Publishing Co.
- Capra, Fritjof and Luisi, Pier Luigi. 2014. *The Systems View of Life. A Unifying Vision*. Cambridge, UK: Cambridge University Press.
- Chandler, Keith. 2001. *The Mind Paradigm. A Unified Model of Mental and Physical Reality*. New York and Shanghai: Authors Choice Press.
- Eisenstadt, Shmuel N. 1986. *The Origins & Diversity of Axial Age Civilizations*. Albany, NY: State University of New York Press.
- Gangadean, Ashok K. 2008. *Meditations of Global First Philosophy. Quest for the Missing Grammar of Logos*. Albany, NY: State University of New York Press.
- Geldard, Richard. 2007. *Anaxagoras and Universal Mind. The Birth of Philosophy in Classical Greece*. New York, NY: The Ralph Waldo Emerson Institute Books.
- Godwin, Joscelyn. 2007. *The Golden Thread*. Wheaton, IL: Quest Books.
- Goswami, Amit. 2011. *How Quantum Activism Can Save Civilization*. Charlottesville, VA: Hampton Roads Publishing.
- Greene, Mott T. 1992. *Natural Knowledge in Preclassical Antiquity*. Baltimore, MA: The Johns Hopkins University Press.
- Hadot, Pierre. 2002. *What is Ancient Philosophy?* Cambridge, MA: Belknap Press.
- Hadot, Pierre. 2004. *Le voile d’Isis. Essai sur l’histoire de l’idée de Nature*. Paris : Gallimard.

- Hornung, Erik. 001. *The Secret Lore of Egypt. Its Impact on the West*. Ithaca, NY: Cornell University Press.
- Husserl, Edmund. 1989/1934. *La Terre ne se meurt pas*. Paris : Éditions de Minuit.
- Husserl, Edmund. 1970/1936. *The Crisis of European Sciences and Transcendental Philosophy*. Evanston, IL: Northwestern University Press.
- Jacob, Christian. 2007. *Lieux de savoir. Espaces et communautés*. Paris: Albin Michel.
- Kauffman, Stuart A. 2008. *Reinventing the Sacred. A New View of Science, Reason, and Religion*. New York: Basic Books.
- Kauffman, Stuart A. 1995. *At Home in the Universe. The Search for Laws of Complexity*. New York: Oxford University Press.
- Khroutski, Konstantin S. 2010. On Biocosmology, Aristotelism and the prospects of becoming of the universal science and philosophy. *Biocosmology – Neo-Aristotelism* 1(1):1–17.
- King, Chris. 2012. Biocosmology – Part 1. *DNA Decipher Journal*. 2(1): 01–35.
- Kornblatt, Judith Deutsch. 2009. *Divine Sophia. The Wisdom Writings of Vladimir Solovyov*. Ithaca, NY: Cornell University Press.
- Lanza, Robert & Berman, Bob. 2009. *Biocentrism. How Life and Consciousness are the Keys to Understanding the True Nature of the Universe*. Dallas, TX: Benbella Books Inc.
- Laszlo, Erwin. 2014. *The Self-Actualizing Cosmos. The Akasha Revolution in Science and Human Consciousness*. Rochester, VT: Inner Traditions.
- Lewis, C.S. 1967. *The Discarded Image*, Cambridge: Cambridge University Press.
- Lovejoy, Arthur, O. 1964/1936. *The Great Chain of Being*. Cambridge, MA: Harvard University Press.
- Lyons, Jonathan. 2009. *The House of Wisdom. How the Arabs Transformed Western Civilization*. London, UK: Bloomsbury Press.
- Pepper, Stephen C. 1942. *World Hypotheses. A Study in Evidence*. Berkeley, CA: University of California Press.
- Scott, Michael. 2014. *Delphi. A History of the Center of the Ancient World*. Princeton, NJ: Princeton University Press.
- Shaviro, Steven. 2014. *The Universe of Things: On Speculative Realism*. Minneapolis, MN: University of Minnesota Press.
- Solovyov, Vladimir. 2008. *The Philosophical Principles of Integral Knowledge*. Grand Rapids, MI: Wm. B. Eerdmans Publishing Co.
- Sorokin, Pitirim. 1957. *Social and Cultural Dynamics. A study of Change in Major Systems of Art, Truth, Ethics, Law and Social Relationships*. Boston, MA: Porter Sargent.
- Sparrow, Tom. 2014. *The End of Phenomenology: Metaphysics and the New Realism*. Edinburg, UK: Edinburg University Press.
- Steiner, Rudolf. 1973/1923. *The Riddles of Philosophy*, Spring Valley, NY: Anthroposophic Press.
- Steiner, Rudolf. 1983/1920. *The Boundaries of Natural Science*. Spring Valley, NY: Anthroposophic Press.

- Steiner, Rudolf. 1995/1918. *Intuitive Thinking as a Spiritual Path. A Philosophy of Freedom*. Spring Valley, NY: Anthroposophic Press.
- Steiner, Rudolf. 2012/1925. *An Outline of Occult Science*. Mansfield Centre, CT: Martino Publishing.
- Suhrawardi. 1999. *The Philosophy of Illumination*. Provo, UT: Brigham Young University Press.
- Susskind, Leonard (1995). The World as a Hologram. *Journal of Mathematical Physics* 36 (11): 6377–6396.
- Talbot, Michael. 2011/1991. *The Holographic Universe: The Revolutionary Theory of Reality*. New York: Harper Perennial.
- Tarnas, Richard. 2006. *Cosmos and Psyche. Intimations of a New World View*. New York, NY: A Plume Book.
- Ulanowicz, Robert E. 2009a. *A Third Window. Natural Life beyond Newton and Darwin*. West Conshohocken, PA: Templeton Foundation Press.
- Ulanowicz, Robert E. 2009b. A Call for Metaphysical Reform, *Ludus Vitalis*, XVII (32): 459–463.
- Uzdavinys, Algis. 2011. *Orpheus and the Roots of Platonism*. London, UK: The Matheson Trust.
- Uzdavinys, Algis. 2010. *Philosophy and Theurgy in Late Antiquity*. San Rafael, CA: Sophia Perenis.
- Vickers, Brian. 1996. *Francis Bacon – The Major Works*. Oxford: Oxford University Press.
- Webster, Charles (ed). 1970. *Samuel Hartlib and the Advancement of Learning*, Cambridge, UK: Cambridge University Press.
- Whitehead, Alfred North. 1978/1927-28. *Process and Reality. An Essay in Cosmology*. New York: Free Press.
- Yates, France A. 1972. *The Rosicrucian Enlightenment*. London: Routledge.
- Zajonc, Arthur. 2009. Every Object, Well Contemplated, Change who you are, in Cayley, David (ed.) *Ideas on the Nature of Science*. Fredericton, NB: Goose Lane Editions: 129–148.