

BOOK REVIEWS AND NOTICES

Michał Heller, *Ostateczne wyjaśnienia wszechświata* [Ultimate Explanations of the Universe], Universitas, Kraków 2008, 246 pp.

Awarding somebody an international prize in a scientific field often makes this person and their interests, which till then were little known to the wider public, suddenly the subject of heated discussions, TV programmes and press comments. However, since the media constantly look for new topics and don't devote a long time to covering current affairs, the picture of the world they create is superficial. The „information noise” which arose after Reverend Professor Michał Heller was awarded the Templeton Prize in 2008 simply proves the case. This special and fully-deserved recognition of Heller's life accomplishments introduced the wider public, unfamiliar with science or philosophy, to some elements of cosmology, quantum physics and the search for a connection between the natural sciences and theology, all of which constitute the main field of interest for the scientist from Tarnow. It goes without saying that media coverage does not allow for an honest presentation of the state of contemporary knowledge. However, it was fortunate that with the Templeton Prize awarded to Michał Heller the above mentioned issues attracted general attention. Hopefully, the people who are more interested in these issues will make an effort to further explore what was barely touched on in the media. A perfect opportunity to do so presents itself in Heller's works for the general public, which include numerous books on cosmology, physics and philosophy. The latest one, entitled *Ultimate Explanations of the Universe*, came out almost simultaneously with the author's reception of the Templeton Prize. Thus it is worth examining this publication and encouraging its extensive reading.

The book consists of three parts, enriched with a short preface, an introductory chapter and an epilogue. In the preface the author explains that the inspiration for the book was a lecture entitled „*Can the Universe Explain Itself?*” which he gave during the 26th International Wittgenstein Symposium which took place in Kirchberg Am Wechsel in 2003. The issue of anthropic explanations raised in M. Heller's speech became a central part of the reviewed publication (Part II: *The Anthropic Principle and other Universes*) and was extended by models of the universe (Part I: *Models*) as well as the question of the origins of the universe (Part III: *The Origins of the Universe*)

The first chapter, which could be treated as an introduction to the whole book, deals with the quest for an ultimate explanation of the origins and function of the universe. First, the author ponders the meaning of „to explain” and „to understand”

in terms of the modern philosophy of science. He observes that every scientist has natural aspirations to grasp and know reality in the best possible way. Cosmology, which is an example of a natural science examining the universe as a whole, cannot go beyond empirically based methods for explaining the universe. However, since cosmology in a sense talks about a whole, this involves the new perspective of seeing things „from the outside”, which as a consequence allows for dissertations metaphysical or even theological in their nature. Thus the „ultimate explanations” require defining the boundaries of the method which is used by a scientist at a given moment. Keeping in mind the necessity of differentiating between the planes of cognition, M. Heller, in the next three parts of his book, passes from an analysis of cosmological models based on the achievements of contemporary relativistic cosmology and quantum physics, through explanations referring to various versions of the anthropic principle and on to theological conceptions of the creation of the universe.

In the first part (chapters 2-7), M. Heller presents a group of cosmological models built in accordance with the achievements of relativistic cosmology, inflationary cosmology and quantum cosmology. The author considers them in the context of the question about the origins of the world, a question which arises as a consequence of the analysis of the models discussed. Heller notices their cognitive value but at the same time subjects them to a number of criticisms. The presentation of the contemporary cosmological models dealing with the genesis of the universe informs the reader not only concerning the condition of the recent research conducted by cosmologists, but also concerning their main aim (that is producing a coherent cosmological theory). Analysing each model, the author takes the utmost care to differentiate between the strictly theoretical elements of a given model and those which can be proven through observation or experiments. Heller explains his carefulness in assessing certain models by the necessity of obtaining empirical data that would work to their advantage. Moreover, the author makes an effort to single out the philosophical level present in the various cosmological theories which the creators of these models draw on. According to Heller, the special care needed so as not to overstep the competences of cosmology as an empirical science, is something that is still not always respected by cosmologists.

In the second part (chapters 8-12), Michał Heller raises the issue of the multitude of universes, whose existence is accepted in some cosmological theories and interpretations of quantum mechanics. This idea emerged in connection with the so called „anthropic principle”. Heller claims that these principles, in different ways, observed that the existence of living organisms, on at least one planet in the universe, greatly depends on the initial conditions and other parameters characterising the universe. (p. 20) Thus, the author tackles contemporary questions such as: what made the universe „life-friendly”? The idea of a multitude of universes seems to be a rational attempt at explaining the universe by means of the universe itself. However, M. Heller wonders whether the „multiverse” idea is still science. The

author treats with reserve attempts to challenge the scientific method, in such a way that the idea of a multitude of universes, incomprehensible by definition, could be treated as the proposal of a „new science” going beyond empirical knowledge. At the same time Heller admits that the limits of rationality do not coincide with the limits of the scientific method and so it is worthy engaging in rational discourse also beyond these limits.

The third section of the book (chapters 13-21) is devoted to the creation of the universe. M. Heller analyses the development and changes in the understanding of the theistic concept of creation over the centuries, from the Old Testament Genesis to the contemporary theological vision developing in accordance with cosmological data. He pays special attention to those interpretations of creation which relate to contemporary science. Consequently, he re-examines the relationship of the natural sciences and theology and looks for a holistic vision of the universe. The above mentioned analyses result from Heller's conviction that both images of the world (scientific and theological) fall within the limits of rationality, even though their methodology is very different. In the conclusion of this part of the book, M. Heller argues that the rational approach to reality means that questions should be asked as long as there remains something to be explained. Thus no scientific theory, even if it was the „ultimate theory”, can answer Leibniz's famous question: why is there something rather than nothing? The ultimate explanation of the universe remains an unresolved issue.

The book is supplemented with a short epilogue entitled: „*The Lesson of Pseudo-Dionysius*”. M. Heller refers here to the ideas of a monk from the 5th century, who signed his remarkable theological works as Dionysius the Areopagite. Pseudo-Dionysius is a representative of the so-called „negative theology” whose supporters believed that God is transcendent to such a degree that it is impossible to know Him and consequently, it is impossible to say anything positive about Him. Instead, we are doomed to our human conceptions of God, which are certainly far from His real Person. In the context of Pseudo-Dionysius' theories, Heller points out serious limitations to human rationality. However, he believes that these limitations do not force us to adopt a human criterion of what can be perceived as meaningful. According to Heller, there is also Mystery, which requires from us an open-minded attitude that allows for the crossing of the limits of what has so far been recognized as rational.

This book is deeply inspirational for a reader struggling to answer questions about the universe, its beginning and origins. It should be seen as an interesting review of contemporary scientific and philosophical knowledge dealing with the creation of the universe. What must be emphasized is the author's great care to distinguish between scientific hypothesis and facts established through observation. Such a clear division between cognitive levels is possible due to Heller's education being both scientific and philosophical. He is, undoubtedly, a rare example (at least in Poland) of a person who is capable of combining the natural sciences (physics,

cosmology) with philosophy and theology. For this reason reading his works, including the reviewed book, provides the reader with thorough knowledge, although it is conveyed in a popular manner. At the same time the book offers food for thought of a philosophical nature. Contrary to its title, the book certainly does not claim the right of giving an ultimate explanation of the universe. Instead, it indicates a direction for those who seek such explanations. Heller strongly recommends accepting many ultimate explanations, which in turn suggests that the question of explaining the universe is unanswerable, or at least requires the gaining of new knowledge and the creation of new interpretations. Thus the „ultimate explanations” are in fact only temporary. And this is also the way to treat the book of the winner of the Templeton Prize, keeping in mind that this in no way belittles the worth of the author’s search for the ultimate.

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Józef Bremer, *Osoba – fikcja czy rzeczywistość? Tożsamość i jedność ja w świetle badań neurologicznych* [A Person: Fiction or Reality? Identity and Oneness of the I in View of Neurologic Research], Wydawnictwo WAM, Krakow 2007, 489 pp.

The issue of identity is often approached against the following backgrounds: nationality, ethnicity, style of education for the independent choice of a life path. A shaped identity affects the ethical behavior of the individual, their ecological actions, and their mature tolerance. On one hand, identity is described as a process of individualization, on the other, the need for the person to be established in the norms and customs of their society is emphasized. A new way of thinking about identity appeared in relation to so called virtual reality – the sense of identity that the Internet user gains (cf. J. Kojkoła (ed.), *Filozofia tożsamości*, Gdańsk 2007). The book *The Person: Fiction or Reality? The Identity and Unity of the I in View of Neurological Research*, exceeds this scope. It is a story about man – about attempts to understand the human being. The story presented reaches back from ancient times, from the ideas of Plato and Aristotle, to the proposals of e.g. J. Fodor, selected from contemporary conceptions of the *I* – as well as the modular theory of the brain and the *self*, of D. Dennett – where the *I* is treated as a result of narration, or the theory of T. Nagel – who differentiates the non-material *self* from the material brain.

An account of philosophical ways of thinking about man constitutes the bulk of J. Bremer’s book. What is original is their arrangement (e.g. other historical arrangement of the concept of a person may be found in the book of J. Kozuchowski,

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