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## On the Origin and the Existence of the World

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### Abstract

We consider evolution of the Universe according to the standard Big Bang model, quantum models of creation (e.g. Hartle & Hawking 1983; Witten 1995; Steinhardt & Turok 2002), and recent theory of nonlinear dynamics, including deterministic chaos (Stewart 1990), fractals (Mandelbrot 1982), and multifractals (Macek 2012). We show that by looking for an order and harmony in the the complex surrounding real world these modern studies give also new insight into the most important philosophical issues exceeding the classical ontological principles, e.g., providing a deeper understanding of an old emotional philosophical question: why does something exist instead of nothing (Macek 2013)?

We believe that those modern concepts can bridge science and religion. Therefore, we can discuss the consequences of science and religion for the sense of human life in the surrounding Universe (Heller 1996, 2010). Admittedly, even though the methods of science and religion are different, studies on quantum reality (Espagnat 1983) suggest that one can mutually help each other to approach the unique Truth (Heller 2010). In fact, in mathematical-natural sciences we ought to look for the sense of the world in the mystery of rationality; the sense of its existence is the justification of the Universe. In our view this requires new philosophical concepts based on metaphysics exceeding the classical ontological principles (Macek 2000). Moreover, in our experience science is continuously renewing our thoughts about God (Macek 2009, 2010, 2011).

Finally, we believe that this scientific view gives also sense and hope to human existence. Therefore, it would seem that both science and religion provide important contributions that shape our emotions when we experience the world in which we are immersed.

### References

- Espagnat, B. d', *In Search of Reality*, Springer-Verlag, New York-Berlin, 1983.  
Hartle, J.B., Hawking, S.W., Wave function of the Universe, *Physical Review D* 28, 2960–2975, 1983.  
Heller, M., *The New Physics and a New Theology*, translated from Polish by G. V. Coyne, S. Giovannini, T. M. Sierotowicz, Notre Dame, Vatican Observatory Publications, 1996.  
Heller, M., *The Sense of Life and the Sense of the Universe. Studies in Contemporary Theology*, Copernicus Center Press, Kraków, 2010.

- Macek, W. M., On being and non-being in science, philosophy, and theology, in *Interpretations of Reality: a Dialogue among Theology and Sciences*, eds. P. Coda, R. Presilla, Quaderni Sefir, 1, Pontifical Lateran University, Rome, Italy, pp. 119–132, 2000.
- Macek, W. M., The God of Scientists, *The Japan Mission Journal*, Vol. 63, No 3, 166–172, Oriens Institute for Religious Studies, 2009.
- Macek, W. M., *Theology of Science according to Father Michał Heller* (in Polish, Summary and Contents in English, see <http://www.cbk.waw.pl/~macek>) UKSW Edition, Warsaw, 2010.
- Macek, W. M., Theology of Science, in *Faces of Rationality. On Michał Heller's Thought (Jubilee Book*, in Polish), eds. B. Brożek, J. Mączka, W. P. Grygiel, M. L. Hohol, Copernicus Center Press, Kraków, 2011, pp. 203–237.
- Macek, W. M., Multifractal Turbulence in the Heliosphere, in *Exploring the Solar Wind*, edited by M. Lazar, Intech, ISBN 978-953-51-0399-4, 2012.
- Macek, W. M., *On the Origin and Evolution of the Universe: Chaos or Cosmos? (invited paper) XXI Conference of European Society for Astronomy in Culture (Société Européenne pour l'Astronomie dans la Culture, SEAC 2013 ) on Astronomy: Mather of Civilization and Guide to the Future*, 1–7 September 2013, Athens, Greece.
- Mandelbrot, B. B., *The Fractal Geometry of Nature*, Freeman, San Francisco, 1982.
- Steinhardt, P. J., Turok, N., A cyclic model of the Universe, *Science* 296, 1436–1439, 2002;  
Cosmic evolution in a cyclic universe, *Physica D*, 65, 126003, 2002.
- Stewart, I., *Does God Play Dice? The New Mathematics of Chaos*, Blackwell Publishers, 1990.
- Witten, E., String theory dynamics in various dimensions, *Nuclear Physics B*, 443, 85–126, 1995.