Science and Religion – Historical and Contemporary Issues

(Lecture + Classes)

M. KARABA

60 hours / 10 ECTS

Lecture

Introductory description

The mutual relation between science and religion is one of the actual questions in the present time. The principal aim of designed lectures is to introduce and to explain the main topics from science – religion interaction as we can find it in the history and in the recent conceptions as well. The students will be charged with historical development of the relation between Christendom and natural sciences from the view of fivefold typology, specifically subjection, conflict, independence, dialogue and integration. The second part of classes will be involved in particular questions appearing in science – religion interaction, namely from physics, astronomy, cosmology, and evolutionary biology. The students involvement in lessons will be able to entitle, classify, analyze, and critically evaluate basic questions, problems, and conceptions in the field of science – religion interaction.

Course content

- 1. History of the relation between science and religion
- 1a Subjection of science to religion
- - Situation in ancient and medieval, philosophical and theological background
- 1b Conflict between science and religion
- - Conflict in the early modern period, enlightenment, deterministic mechanicism, philosophical responses (Hume, Kant)
- 1c Independence between science and religion
- - Situation in science and philosophy at the turn of 19th century

- 1d Dialogue between science and religion
- - Processes in Catholic Church (The Second Vatican Council, John Paul II, Benedict XIV)
- 1e Integration of science and religion
- - Contemporary situation in science – religion dialogue, dialogue centres, situation in Central and East Europe
- 2. Particular questions appearing in science religion interaction
- 2a Evolution and continuing creation
- - Introduction to the theory of evolution
- - Evolutionary materialism
- - Complexity and self-organisation
- - Levels, emergence, and wholes
- - Philosophical and theological implications
- 2b Astrophysics, cosmology and creation
- - Introduction to the Standard cosmological model and Big Bang theory
- - The anthropic cosmological principle
- - The intelligibility and contingency of the cosmos
- - Chance and design
- - Philosophical and theological implications
- 2c Physics and metaphysics
- - Introduction to the quantum theory, theory of chaos, general relativity and thermodynamics
- - Complementarity, indeterminacy and the role of observer
- - Space, time, and matter
- - Chaos theory and complexity
- - Metaphysical and theological implications (role of mind, freedom, holism)
- 2d Genetics, neuroscience, and human nature
- - Reductive materialism, genetic determinism and human freedom
- - Body/soul dualism or complementary perspectives
- - Mind and brain – two aspects of one processChristian personalism and ethics

Requirements of credits – Assessment criteria

- Active participation (40%)
- Final exam (60%)

References / Literature / Reading list

1. BARBOUR, I.: Religion and Science. New York : HarperCollins, 1997.
2. BROOK, J. H.: Science and Religion : Some Historical Perspectives. Cambridge : Cambridge University Press, 1991.
3. COBB, J., GRIFFIN, R. G.: Process Theology : An Introductory Exposition. Philadelphia : Westmister Press, 1948.
4. McGRATH, E.: Dawkins's God: Genes, Memes, and Meaning of Life. Blackwell Publishing, 2004.
5. MURPHY, N.: Theology in the Age of Scientific Reasoning. Ithaca; London : Cornell University Press, 1990.
6. MURPHY, N., ELLIS, G.: On the Moral Nature of the Universe : Theology, Cosmology, and Ethics. Minneapolis : Fortress Press, 1996.
7. PANNENBERG, W.: Towards a Theology of Nature : Essays on Science and Faith. Louisville : Westminster John Knox Press, 1993.
8. PEACOCKE. A.: Creation and the World of Science. Oxford; New York : Oxford University Press, 2004.
9. POLKINGHORNE, J.: Belief in God in an Age of Science. New Haven; London : Yale University Press, 1998.
10. POLKINGHORNE, J.: Faith, Science and Understanding. New Heaven; London : Yale University Press, 2000.
11. RUSSELL, R. J. & al.: Quantum Mechanics : Scientific Perspectives on Divine Action. Berkeley, CA : CTNS and Vatican Observatory, 2001.
12. RUSSELL, R. J. & al.: Chaos and Complexity : Scientific Perspectives on Divine Action. Berkeley, CA : CTNS and Vatican Observatory, 1995.

Classes

Introductory description

The classes follow on lecture involved in science – religion relations. The students will read and analyze selected texts which are essential in this field. Involvement of students will consist in two main activities. The actual text which will be dedicated for class will be presented by one or two students in the beginning. The class will continue with the discussion, where all students could present their ideas, questions and concrete applications as well. The concrete texts will be selected with the respect to contemporary most influential authors and the thought in the East-Central Europe region. According to the time available, particular time will be devoted to video materials viewing. The students involvement in classes will be able to entitle, classify, analyze, and critically evaluate basic questions, problems, and conceptions in the field of science – religion interaction.

Course content

Specific texts will be selected according to circumstances but the principal issues will address the following topics:

- Philosophy and methodology of science
- Models and paradigms in the structures of science and religion
- Ways of relating science and religion
- View of the historical development of the relationship between science and religion
- Physics and religion
- Evolutionary biology and religion
- Astronomy and religion
- Neuroscience and religion
- The role of process philosophy and theology in science-religion dialogue
- Possibility of divine action in the world in the light of current scientific knowledge

Requirements of credits – Assessment criteria

- Active participation on lessons (40%)

- Critical analysis and its presentation (cca 10 standard pages, 45 minutes for presentation + 45 minutes for discussion) (60%)

References / Literature / Reading list

1. BARBOUR, I.: Religion and Science. New York : HarperCollins, 1997.
2. BROOK, J. H.: Science and Religion : Some Historical Perspectives. Cambridge : Cambridge University Press, 1991.
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