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Introduction

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Artykuł został zdigitalizowany i opracowany do udostępnienia w internecie ze środków specjalnych MNiSW dzięki Wydziałowi Historycznemu Uniwersytetu Warszawskiego.

Tekst jest udostępniony do wykorzystania w ramach dozwolonego użytku.



INTRODUCTION

The ten texts below are extended versions of the papers presented at the Symposium *The Problem of Continuity and Discontinuity of Ancient, Medieval, Modern and Contemporary Science: A Reappraisal* during the 3rd International Conference of the European Society for the History of Science (Vienna, September 10–12, 2008)¹.

The aim of the symposium was to carefully consider the subject of the symposium in the context of recent research, in order to decide whether we should correct our views on this matter. The authors of the papers of this symposium struggled with the following matters and issues that had initially determined the contents of their papers:

- A description and critical examination of the views of scholars who debated the problem mentioned: historians of science, philosophers of science and representatives of exact sciences, including such scholars as e.g. Pierre Duhem, Alexandre Koyré, Alistair C. Crombie.
- Platonic, Aristotelian and Archimedean traditions in science.
- *Classical and Baconian* sciences.
- The concepts of medieval science and modern science.
- Medieval experimentation and thought experiments as well as modern experimental knowledge.
- The reasoning *ex suppositione*, the reasoning *ex hypothesi*, hypothetical modelling, hypothetico–deductive method, and the hypothetico–deductive method of correspondence–oriented thinking.
- The Copernican Revolution, the Scientific Revolution.
- Multicultural impacts in the origin of the Scientific Revolution against a Eurocentric conception of the revolution.
- Models and metaphors in the history of science, including the concept of the Scientific Revolution as a *big picture*, a *big metaphor*.
- The scientific revolutions before the 16th–17th centuries.
- Different kinds and models of scientific revolutions.

In reply to these matters, the authors of the papers concentrated their attention on the following issues:

Dr. Robert Podkoński, from the Department of Philosophy, University of Łódź, focuses on the question: *why did fourteenth-century natural*

¹ The symposium was organized and chaired by the present author. See: <http://www.oeaw.ac.at/kgmm/ESH3rdCongress/>, <http://www.oeaw.ac.at/kgmm/ESH3rdCongress/Book%20of%20Abstracts.pdf>.

philosophers focus their attention on some ideas and not on other ones?, gives special consideration to Richard Klivington's thought.

Prof. Elżbieta Jung, from the Department of Philosophy, University of Łódź, analyses the problem of continuity or discontinuity of the fourteenth and seventeenth-century projects of mathematical physics.

Dr. Thomás A. S. Haddad, from the School of Arts, Sciences and Humanities, University of São Paulo, focuses his attention on Christoph Clavius' logic of argumentation in an early modern cosmological dispute on world systems and he compares it with Galilei's logic of argumentation.

Prof. Arun Bala, from the Department of Philosophy, University of Toronto, questions the view that the Copernican Revolution and the Scientific Revolution are simply the outcome of ideas and problems rooted in the European tradition of philosophy and science.

Dr. Fabio Zanin, from the Department of Philosophy, Padova University, analyses the distinctions of the common sensibles and the primary properties according to Galileo's *Saggiatore*. He shows these ideas in the context of Aristotelian, Platonic and Archimedean traditions in science.

Dr. Raffaele Pisano, from the University of Rome *La Sapienza*, presents a case study on method in Leonardo da Vinci's mechanics. His aim is to highlight Leonardo's attempt to elaborate a method as a synthesis between theoretical and practical science.

Prof. Maria Teresa Borgato, from the Department of Mathematics, University of Ferrara, describes the problem of continuity and discontinuity in the development of Italian mathematics from the beginning of the nineteenth century to the beginning of the twentieth century. She shows us the changing patterns of education, initially coming from France and later from Germany.

Assoc. Prof. Isabel Serra, from the Department of History and Philosophy of Science, Lisboa University, gives a case study on the electron. She notices that an analysis of the issue of electron can contribute to the study of the continuity-discontinuity of the scientific thinking in modern age, as well as to discuss models and metaphors in history of science.

Dr. Raffaele Pisano, from the University of Rome *La Sapienza*, and Ms. Ilaria Gaudiello, a student of the MA program, Department of Philosophy, University of Bologna, discuss the problem of continuity and discontinuity in the history of science from the point of view of an epistemological inquiry through the categories of *logics* and *choice of infinite*. They give examples of such interpretation in the cases of chemistry (Lavoisier), mechanics (Archimedes, Galilei and Torricelli) and heat theories (Sadi Carnot).

Finally, Assoc. Prof. Michał Kokowski, from the Institute for the History of Science, the Polish Academy of Sciences, presents a reappraisal of the problem of continuity and discontinuity in the development of science from ancient times to the present. His aim is to re-examine this age-old problem in order to remove or, at least, to explain several difficulties of this subject-matter by shedding new light on the problem through historical and supra-historical approaches.