

## A New Research Project on the Croatian Philosophical and Scientific Heritage at the Institute of Philosophy in Zagreb

Presentation of the research project *Croatian Philosophy and Science in the European Context Between the 12th and 20th Century (Hrvatska filozofija i znanost u europskom kontekstu od 12. do 20. stoljeća)* conducted by Erna Banić-Pajnić, Great Hall of the Institute of Philosophy, 12 November 2014.

On 12 November 2014, the Institute of Philosophy in Zagreb hosted a presentation of the research project *Croatian Philosophy and Science in the European Context Between the 12th and 20th Century (Hrvatska filozofija i znanost u europskom kontekstu od 12. do 20. stoljeća)*. Since scientific projects are no longer financed by the Ministry of Science, Education and Sports, this project is being funded (in accordance with the new model) by the Croatian Science Foundation over a four-year period, from 1 June 2014 to 31 May 2018. Erna Banić-Pajnić, senior research fellow at the Institute of Philosophy and the project's principal investigator, has gathered for the purpose of this project four associates from the Institute of Philosophy, two associates from the Institute of the History and Philosophy of Science of the Croatian Academy of Sciences and Arts (HAZU), and one full member of the Croatian Academy of Sciences and Arts. Public presentation of the project, with Croatian philosophical and scientific thought at its focus, has offered the researchers a chance to introduce the prospective public to the reasons and objectives of their research topics in greater detail.

In her opening speech, the project manager pointed out that “the awareness of the preservation of the national culture, in particular of one’s own philosophical and scientific tradition, represents the underlying issue of every component of the European and global community.”<sup>1</sup> This guiding idea of the first researchers of the history of Croatian philosophy and science, as well as their continuous efforts to preserve the national identity, are the basis of this project that aims “to cover the yet unexplored aspects of the activity of Croatian philosophers and scientists in order to get a more thorough insight into their contribution to the European and global philosophy and science”. After her remark of this being, to the best of her knowledge, “the only project that inquires into the Croatian philosophy and science,” she introduced her segment of work.

<sup>1</sup> The synopsis of the project proposal, [www.ifzg.hr/projekti/HRFIZ-2014-2018/oProjektuHRFIZ.htm](http://www.ifzg.hr/projekti/HRFIZ-2014-2018/oProjektuHRFIZ.htm) (20 January 2015)

The research topic of Erna Banić-Pajnić entitled “Characteristics of the reception of Plato’s philosophy in the works of Croatian philosophers from the 12th to 16th century” adds to her long-time study of Renaissance Platonism and its Croatian exponents. The reception of Plato’s philosophy in the teachings of the Croatian thinkers continues to remain in the centre of her scientific interest although a shift of her focus to the period from the 12th to 16th century “will provide a full insight into the presence and characteristics of the reception of Plato’s philosophy in the most significant and prolific period of the older Croatian philosophy.” In the first phase of the project, Erna Banić-Pajnić aims to explore the reception of Plato’s teaching in the work *De essentiis* by Herman Dalmatin (Hermannus Dalmata). Even though most recent studies of Herman’s works have confirmed that his philosophical thought is a synthesis of Aristotelianism, Platonism and Hermeticism, there are still no analyses “that would precisely identify the postulates and determine the sources of the afore-mentioned components of his philosophy in the teachings of his predecessors and contemporaries.” This particularly pertains to his Platonism and the potential Arab authors as his sources for the study of Plato. In the next phase, she will establish whether and to what extent Calcidius’ translation and commentary of Plato’s *Timaeus*, Plato’s only dialogue known to the Western world before the 12th century, influenced the formation of Herman’s thoughts in *De essentiis*. Plato’s *Timaeus*, notably his cosmological views, remains the subject-matter of Erna Banić-Pajnić’s research in the third year of the project, this time with regard to its significance for the work of Frane Petrić (Franciscus Patricius, Francesco Patrizi), especially for his *Discussiones peripateticae*. The analysis of the influence of Plato’s *Timaeus* on Petrić will enable both the comparison of Medieval and Renaissance reception of the mentioned dialogue and Plato’s philosophy in general. The final fourth year of Erna Banić-Pajnić’s research will be dedicated to the influence and contribution of Plato’s philosophy to the birth of the Early Modern science, with emphasis on the critical analysis of the works of the Renaissance philosophers such as Juraj Dragišić (Georgius Benignus de Salviatis), Federik Grisogono (Federicus Chrysogonus), Frane Petrić, Pavao Skalić (Paulus Scalichius), Giulio Camillo Delminio and others. This will put a perspective on the contribution of the distinguished Croatian Renaissance philosophers to the emergence of early modern natural science.

Bruno Ćurko (Institute of Philosophy) covers a thematic unit entitled “Philosophy of Juraj Dragišić”. His work focuses on the works and the reception of the works of Juraj Dragišić (Georgius Benignus de Salviatis), along two main routes:

- 1) analysis of the natural philosophy and logic of Juraj Dragišić;

- 2) study of the reception of Dragišić's teaching from the 16th century up to the present, based on digital libraries and databases, but also on non-digital works.

Bruno Ćurko starts his research with a critical analysis and interpretation of Dragišić's work *De natura caelestium spirituum quos angelos vocamus* (1499) through a prism of natural philosophy, and continues by examining the reception of Dragišić's teaching in the 16th century on the basis of the works available in digital libraries and databases. Dragišić's natural philosophy remains in the focus of Ćurko's interest in the second year of his research, when he shifts his attention to Dragišić's work *Correctio erroris qui ex aequinoctio vernali in Calendario procedere solet* as well as his remaining written legacy. Dragišić's potential influence on the thinkers from the 16th to 18th century will also be examined, along with the reception of Dragišić's natural philosophy in the 17th and 18th centuries. The third year will involve a critical analysis and interpretation of the first edition of Dragišić's logic *Dialectica nova secundum mentem Doctoris subtilis et beati Thomae Aquinatis aliorumque realistarum* (1488) and a study of the reception of Dragišić's teaching in the 19th and 20th centuries. His last year on the project will be rounded off with a critical reading and interpretation of Dragišić's logic *Artis dialecticae praecepta vetera ac nova* (1529) and an analysis of the reception of Dragišić's works in the 21st century. In addition, Bruno Ćurko will be actively promoting the project on the domestic and international scene, as he did at the Department of Philosophy of the *Univerzita Palackého* in Olomouc in the Czech Republic, where on 11 November 2014 he held a lecture on Juraj Dragišić within a series of lectures entitled "Renaissance and Early Modern Times".

In the introduction of her thematic unit entitled "The development and shifts in the Aristotelianism in 16th and 17th century," Mihaela Girardi-Karšulin (Institute of Philosophy) primarily highlights the scientific reasons that prompted her to submit the afore-mentioned subject as part of the project. According to her opinion, it is indisputable that Renaissance philosophy and Renaissance Aristotelianism had an impact on the development of the modern natural science and philosophy, however, the question remains as to which Renaissance philosophical stream, in what way and to what extent influenced its development. The starting point of her research is the hypothesis "that the emergence of modern natural science was marked not only by the apologetic aspect of Aristotelianism, but also by Aristotelianism in self-destruction, self-disintegration," which prompts the question "in what way did the Renaissance Aristotelianism contribute to the birth of modern science". This raises other questions as to why "the decline of Aristotelianism" in the Renaissance contri-

buted to the development of early modern natural science, or what caused the modern natural science to emerge at that very point in time and not earlier or later. The research of Mihaela Girardi-Karšulin, as she points out, should lead to the following results.

(1) Indisputable and self-explanatory until the Renaissance, Aristotelianism becomes questionable and disputable. Questions regarding forms and essences put forward by Aristotelianism did not enable the finding of mathematical accuracy in nature. Mihaela Girardi-Karšulin argues that the mentioned paradigm shift, “the leap into the new,” did not take place within philosophy (neither Platonism nor Aristotelianism), but with Galileo and his view that the book of nature was written in a mathematical language.

(2) The self-explanatory and indisputable status attributed to Aristotelianism until the Renaissance impeded the emergence of mathematised natural science.

(3) Why at that particular moment? – Mihaela Girardi-Karšulin assumes with great certitude that the reason behind it lies in “the decline of the hitherto self-explanatory science which stopped being indisputable”. As to how and why Aristotelianism stopped being self-explanatory and indisputable will be elucidated by a forthcoming analysis of the texts of the Croatian Renaissance authors, also submitted within the project. During her presentation Mihaela Girardi-Karšulin emphasized that by now she had already covered a part of her thematic unit, the one regarding the significance of Pletho’s philosophical thought for Petrić’s criticism of Aristotle.

With her research unit “Croatian aesthetics and poetics in the European context between the 16th and 18th century,” Željka Metesi Deronjić (Institute of Philosophy) continues her work in the field of aesthetics, Croatian and Italian theory of poetry and fine arts of the Renaissance and Baroque. Her research is based on a comparative analysis of the ideas of the Croatian and Italian art theoreticians of the 16th, 17th and 18th century. Her analysis centres on the themes of beauty and love, as well as the very process of poetic creation as understood and interpreted by Frane Petrić, Annibale Romei, Jacopo Mazzoni, Torquato Tasso, Giovanni Paolo Lomazzo, Gregorio Comanini, Camillo Pellegrino, Federico Zuccaro, Fran Krsto Frankopan, Emanuele Tesauro and Giambattista Vico. The bulk of her research will examine the significance and contribution of Petrić’s conceptions in the midst of change of the earlier views in poetics, and especially his contribution to the later discussions on poetry.

Vanja Flegar (Institute of the History and Philosophy of Science of the Croatian Academy of Sciences and Arts) presented a segment of her work entitled “The relationship between natural philosophy and alchemy in the works

of Croatian authors Andrija Dudić, Pavao Skalić, and Frane Petrić”. She starts with a thesis that “the determining factor for the Renaissance thought is the permeation of different philosophical traditions, and that natural philosophy is its integral part which, towards the end of the Renaissance, gradually separates from philosophy, grows more independent, and develops into natural science.”<sup>2</sup> In her research, Vanja Flegar attempts to analyse and valorise the writings of Andrija Dudić (Andreas Dudithius), Pavao Skalić and Frane Petrić, wherein their alchemical and iatrochemical views are most evident, which should give us a more comprehensive picture of the contribution of the Croatian thinkers to the development of natural sciences in the Renaissance. As thoroughly explained by the author, a major part of her research will focus on the correspondence of Andrija Dudić (1533–1589). The Institute of Philosophy and Sociology of the Polish Academy of Sciences and the Institute for Literary Studies of the Hungarian Academy of Sciences made a dedicated effort to publish a series entitled *Epistulae*, six volumes containing around two thousand of Dudić’s letters. The first volume was published in commemoration of the 400th anniversary of Dudić’s death, and includes the letters from the first period of his correspondence (1554–1567). The second volume contains a hundred and seventy-three letters dating from the period 1568–1573, which, in terms of content, are divided into the letters dealing with political and theological issues, but also letters that reveal his scientific interests. The third volume (1574) contains letters of political nature, the fourth comprises political and diplomatic correspondence dating from 1575, including Dudić’s attempts to install a member of the Habsburg family on the Polish throne. The fifth volume contains a hundred and sixty-two letters dating from 1576, the year in which Etienne Bathory’s accession to the Polish throne and the death of Maximilian II marked the end of Dudić’s diplomatic mission. The sixth volume contains letters from the period 1577–1580. They bear witness to Dudić’s interest in natural sciences, medicine, philosophy and theology, but also to his participation in the discussion on the comet that appeared in November 1577, which he expounded in *De significatione cometarum commentariolus* in the form of a letter dedicated to Johannes Crato von Craffheim. The unpublished, seventh volume brings Dudić’s correspondence from the period 1580–1589, wherein Dudić shows great interest in natural philosophy. In collaboration with the Academy of Sciences in Hungary, Vanja Flegar aims to gather Dudić’s unpublished letters mentioned above, and conduct their thorough analysis and valorisation in order to come forward with Dudić’s alchemical and iatrochemical views in the European context.

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<sup>2</sup> The synopsis of the project proposal, [www.ifzg.hr/projekti/HRFIZ-2014-2018/oProjektuHRFIZ.htm](http://www.ifzg.hr/projekti/HRFIZ-2014-2018/oProjektuHRFIZ.htm) (20 January 2015)

“The process of the separation of natural sciences from philosophy that lasted from the end of the Renaissance to the 18th century”<sup>3</sup> is the object of the research of Snježana Paušek-Baždar (Institute of the History and Philosophy of Science of the Croatian Academy of Sciences and Arts). Within the project, she has submitted the theme “The development and abandonment of alchemy in Croatia”. Her research focuses on the alchemical views in the original texts and manuscripts of the Croatian authors in the period from the Middle Ages to the end of the 17th century, and is a continuation of her previous work. In the course of her four-year research, Snježana Paušek-Baždar has set several objectives. The first is to evaluate the alchemical work of Daniel of Istria (Daniel di Bernardo del Pozzo di Capodistria) entitled *Sulla pietra filosofale* and that of Petar Bono (Petrus Bonus) entitled *Pretiosa margarita novella*, written in the first half of the 14th century. The research to date shows that the alchemical views of Daniel of Istria and Petar Bono had a direct influence on the development of the European alchemy and not vice versa. This calls for the study of their reception in Europe, especially in the light of Neoplatonism and Hermetic chemistry. Her next goal is to investigate all the relevant components of the alchemical teaching of Giulio Camillo Delminio in his manuscript on the transmutation of metals. A critical reading of Delminio’s manuscript will involve a comparative analysis of his alchemical views and the views of the European natural philosophers of the Renaissance. Snježana Paušek-Baždar will also analyse the texts of the European authors who wrote about the alchemic interests of Queen Barbara of Cilli (1381–1451), known to have performed the transmutation of metals in the basement of her castle in Samobor. The queen’s alchemic skills had already been described by Johann von Laaz, her contemporary, in his work *Via Universalis*, and later also by Basilius Valentinus in the foreword of the seventh edition of his *Chymische Schriften* (1646). Among the topics tackled by her research is also Federik Grisogono (Federicus Chrysogonus) and his work *De modo collegiandi, pronosticandi et curandi febres...* (1528), on the basis of which a parallel will be drawn between his alchemical views and the views of the Renaissance natural philosophers who were either in favour or against alchemy. Following the analysis of a manuscript by an anonymous author on the creation of the philosopher’s stone, kept at the Zagreb Metropolitana Library, Snježana Paušek-Baždar will examine the treatise *Discorso della vecchia et nuova medicina* (1592) by Ivan Bratti, in which the Pula-born professor explains the healing methods involving natural and artificial gold. Finally, she will examine the book entitled *Fundamentum*

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<sup>3</sup> The synopsis of the project proposal, [www.ifzg.hr/projekti/HRFIZ-2014-2018/oProjektuHRFIZ.htm](http://www.ifzg.hr/projekti/HRFIZ-2014-2018/oProjektuHRFIZ.htm) (20 January 2015)

*naturae medicatricis adaequatum* (1710) by Ivan Leopold Payer, in an attempt to valorise his views – especially that of water (and not of the philosopher’s stone) as the source of life – in a broader European context. The scientific research of Snježana Paušek-Baždar “will demonstrate how the main guidelines in the works of Petar Bono, Daniel of Istria and Giulio Camillo Delminio relate to the Renaissance Hermetic chemistry and cosmic Christianity, and how those in the works of Federik Grisogono, Ivan Bratti and Ivan Leopold Payer relate to the reception of Paracelsus’ views in European science”.

A need to further investigate the directions, ideas and methods in Croatian chemistry of the 20th century underlies the research of the academician Nenad Trinajstić (Croatian Academy of Sciences and Arts) on “The history of Croatian chemistry within the development of natural sciences in the 19th and 20th century”. His aim is “to examine the development of chemistry and natural sciences on the eve, during and after the period of the Independent State of Croatia (the NDH), which is unknown to date.”<sup>4</sup> This will make room for “a revalorisation of the knowledge gained so far on the development of chemistry in the First Yugoslavia, during the NDH and afterwards.”<sup>5</sup> With this goal in mind, which should eventually enable a comparison of the scientific production in Croatia during the mentioned periods, the academician Trinajstić begins his work by exploring the emergence and reception of natural sciences in Croatia, especially after the foundation of the Croatian Society of Natural Sciences in 1885. In so doing he will focus his attention on the discussions of the Croatian intellectual circles of the time, on the reception of the views of natural sciences from the international, more advanced centres, on the opposition of the ecclesiastical circles to the spreading of natural sciences in Croatia and on the ongoing debate on the issue of primacy between the popularisation of science and fundamental research. Trinajstić’s research will also include an analysis of the scientific contribution in the articles of the first Croatian university professors of natural sciences in the specialised journals of respective sciences and the development of natural sciences in the period of the First Yugoslavia (1918–1941). The second phase of his work on the project will be marked by the study of the development of Croatian natural sciences during the period of the NDH (1941–1945), and the third during the Second Yugoslavia (1943–1991). The latter will provide an overview of the reasons behind an involuntary departure of Croatian professors from the University of Zagreb to

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<sup>4</sup> The synopsis of the project proposal, [www.ifzg.hr/projekti/HRFIZ-2014-2018/oProjektuHRFIZ.htm](http://www.ifzg.hr/projekti/HRFIZ-2014-2018/oProjektuHRFIZ.htm) (20 January 2015)

<sup>5</sup> The synopsis of the project proposal, [www.ifzg.hr/projekti/HRFIZ-2014-2018/oProjektuHRFIZ.htm](http://www.ifzg.hr/projekti/HRFIZ-2014-2018/oProjektuHRFIZ.htm) (20 January 2015)

the Universities of the other republics of the former Yugoslavia and abroad, their reasons for further specialisation outside Croatia and their return home after having gained insight into the modern scientific research abroad, but also an interpretation of the significance and the role of the foundation of the Ruđer Bošković Institute in Zagreb (1950). The academician Trinajstić will complete his research on the four-year project with an analysis of the development of natural sciences in Croatia until the end of the 20th century, the period of the founding of specialised institutes, new educational institutions, faculties and new departments, as well as the Department of Natural Sciences and Mathematics of Matica hrvatska, of thematic exhibitions of the history of science and the latest achievements of natural sciences in the MGC (Zagreb Centre of Museums and Galleries) and the Technical Museum in Zagreb, of adopting new computer and information technologies and visual methods and techniques in the scientific research in Croatia, and the collaboration of Croatian scientists with the scientists from the leading international research centres.

Although an insight into the present state of the research on the history of Croatian philosophy in the 19th and 20th century reveals praiseworthy individual efforts, a comprehensive overview or a critical valorisation of the mentioned period is still lacking. Hence, it justifies the need for the study of this period of Croatian philosophical thought which, by putting the focus on the analysis of the yet insufficiently known elements, authors and their works, would contribute to the knowledge and evaluation of the Croatian philosophical thought in the European context. It is upon these motives and objectives that Pavo Barišić (Institute of Philosophy) laid down the basic goals of his research entitled “A review of the history of Croatian philosophy in the 19th and 20th century”. Starting with a “hypothesis that the basic tendencies of European philosophy and science of the mentioned period can be recognised and confirmed in Croatian philosophical and scientific works,”<sup>6</sup> in his research of Croatian philosophy of the 19th century Pavo Barišić will attempt to shed light on the main Croatian philosophical streams, authors and works, and on the impact of the philosophical educational institutions on the development of science and particular scientific disciplines. Furthermore, he will examine the modernisation of the methods of scientific thought, the development of new aspects in the debate between philosophy and science, and the beginnings of philosophy in the Croatian vernacular, the development of legal and political philosophy, and of scholastic practical philosophy at universities, and the philosophical foundations of the Croatian state law. He will cast light on the impact

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<sup>6</sup> The synopsis of the project proposal, [www.ifzg.hr/projekti/HRFIZ-2014-2018/oProjektuHRFIZ.htm](http://www.ifzg.hr/projekti/HRFIZ-2014-2018/oProjektuHRFIZ.htm) (20 January 2015)



of Immanuel Kant's philosophy and the attempt to merge critical thought with Scholasticism, on the development of Neo-Scholasticism that reached its peak at the turn of the 20th century and the academic philosophy grounded in Herbartian formalism. The analysis of the development of Croatian philosophy in the 20th century involves the analysis of academic philosophy and tendencies in Neo-Scholastic thought, the development of Neo-Marxism, philosophy of existence, personalism, practical philosophy, analytical philosophy, philosophy of science, and the philosophy of language. The aim of Barišić's research is the affirmation of the initial research hypothesis that "the philosophical streams in Croatia intersect and mirror the plurality of conceptual orientations of the spiritual realm of Europe in a very specific way". Such result would provide "the basis for a synthetic overview of the development of Croatian philosophy in the European context."

The research findings of the project collaborators, united in their intention to demonstrate and evaluate the yet unknown or insufficiently known segments of Croatian philosophical and scientific thought between the 12th and 20th century within the frames of European intellectual currents, will be presented to the European and global scientific community on as many occasions as possible, and lastly in a collection of the papers that is to be published at the end of the four-year project.

Željka Metesi Deronjić