

## **Interdisciplinary research, a natural endeavour**

The launch of this new publication, *Journal for Interdisciplinary Research on Religion and Science*, in the Romanian academia, is a highly significant intellectual event.

Firstly, it follows the great European tradition, which has never separated science from wisdom, culture from spirituality and theology from higher education.

Secondly, it restores, in an updated academic context, the Romanian tradition in the interwar period, when the dialogue between theology, science and philosophy was a prerequisite for every member of the academic community.

The publication is conferred a distinct identity and greater authority due to its being published by “Al. I. Cuza” University of Iasi, with the endorsement of the University council and of research figures recognised at national and international level in fundamental fields of cognitive and scientific research.

The fact that it enjoys the support of prominent academics from abroad is proof of their trust in the potential of “Al. I. Cuza” University and also a genuine aid to interdisciplinary and transdisciplinary research in this part of Europe which, having experienced atheist and totalitarian ideology, is nevertheless deeply firmly attached to the European values, which are, in fact, the secularised version of the Judeo-Christian values.

Some researchers have reservations about the launch of such a publication, while others look to it with hope. Beyond any reservation, a publication that tackles the issue of the dialogue between Science and Religion is nowadays a vital undertaking, especially in a society that naturally strives towards integral knowledge, where science, in the modern sense of the concept, does not discard wisdom, while wisdom is not detached from science.

Our publication is part of this perspective. Its title highlights the general framework of the scientific contributions of those who will support it with their studies and articles; it is quite a generous framework that allows for mansided approaches and interpretations of the dialogue

between the scientific rationality and the existential experience of religious faith, with all their positive or negative effects upon the human conscience and its life environment.

We are keenly aware of the painstaking efforts that need to be made in this area, on the one hand, in order to rethink, in a critical way, the potential, the means and the limits of the dialogue between Religion and Science, and on the other, in order to escape two irrelevant attitudes to this dialogue, namely: the propensity towards a totalising monism of knowledge, based on the desire to achieve a balanced synthesis between scientific data and metaphysical and religious truths, and the tendency towards a dividing dualism, which precludes any systematic correlation between the domains of scientific knowledge and those of religious knowledge.

In order to surpass these two extreme attitudes, which could block the edifying dimension of dialogue, we consider it necessary that all those interested in this dialogue assume intellectual diligence and a permanent concern for being up-to-date, both in their own field of research and in those of their partners in dialogue; acknowledge that the ultimate statements of religious faith, called metaphysical in traditional language, are not the conclusions of an epistemological undertaking, part of a continuum of scientific effort. The aim of their application is not the instrumental scientific reason, but the integral reason illuminated by the faith in a transcendental sense of life in general and of the human person in particular.

At the same time, they should have in view the fact that the scientific paradigms have changed profoundly. The revolutions in the field of knowledge, caused by the theory of relativity, quantum physics, cybernetics, thermodynamics, and biology have forced scientists to raise further questions about the foundations of science, the boundaries of scientific rationality and the status of knowledge.

Against the backdrop of these profound changes in the field of scientific knowledge, the paradigms of the theological discourse have also been transformed. Theologians have had to abandon categorical scholastic assertions on the objective knowledge of reality, liable to conflict with the outcomes of science and have turned to the hermeneutical dimension of

theological discourse, which is a prerequisite for the scientific and the philosophical discourse alike.

We believe that these new orientations have already created the premises for a genuine model of dialogue and communication, of responsible and edifying research in all the fields of knowledge.

It is a fact that nowadays most of the issues we are faced with, in whatever field, are frontier issues, of a profound interdisciplinary kind. For example, in the area of philosophy, even when we debate questions that seem to be exclusively philosophical, we face many drawbacks so long as we are not open to other fields of reason, such as the scientific, the theological or the literary or aesthetic. If we consider the European philosophical tradition, we realise that most of the leading philosophers, from Descartes to Gadamer, have pursued, in addition to the special philosophical education, one, two or even three different specialisations, of which one in the sciences and another in the humanities, quite often in letters and theology. This requirement of academic training, valid especially in the Anglo-Saxon and German academia, was practised as long as it was believed that one could not convincingly defend philosophical arguments if one lacked considerable cultural openness towards other relevant fields.

In fact, such a project of thorough interdisciplinary investigation of fundamental contemporary issues is indeed natural. Europe's culture and spiritual life have actually developed through the decisive encounter between the Judeo-Christian spirituality, the Greek and Latin spirituality and the cultural traditions of peoples in their proximity. This process unfolded as a great historical synthesis, in the Patristic age. It has often been said – and rightly so – that Europe was born in the Patristic age. More precisely, it was born at the meeting point of great cultural and spiritual traditions, where their dialogue became history. For those in the field of philosophy, the problem nowadays is to find ways to restore the dialogue between philosophy, sciences and theology. Moreover, to what extent can this dialogue be truly effective, alive in our thought and decisions on our way of life. Indeed, the dialogue between

these areas of the spiritual life is not absent, yet it often only seems to be formal, conventional and external. Therefore, one should aim for a different kind of dialogue, which should not make anyone indifferent, neither the philosopher who meditates alone on the categories of thought or of life, nor the scientists who withdraws in his laboratory to carry out experiments, or the theologian who at one point feels the urge to retreat from the hustle and bustle of daily life. This may be perhaps the only way to verify the reality of this dialogue, i. e. if it is truly thriving and effective then it will accompany those who have opened to it especially in those moments when they retire in solitude, to pursue their initial calling. In truth, dialogue is possible when, in solitude, you come to think that the other can be right or that another approach can lead to the truth.

Several experiences at the Faculty of Philosophy within "Al. I. Cuza" University of Iasi, such as the Group for Hermeneutical Research, which has also included colleagues from the faculties of Theology, Letters, Law or Sciences, have reassured us that such openness is both necessary and possible. The openness towards alternative or complementary views and perspectives is ultimately natural. Being open culturally to other areas of thought and life means to take into consideration new forms of understanding, new arguments and concepts, even when one asserts certain ideas that are strictly linked to a distinct field.

The focus on a single discipline or a single mode of thought would create a real menace. The menace of confinement to a single field, a single logic or a single method is ultimately the menace of making man one-dimensional or of turning man into a fractured being, forcibly divided by one's experiences, be they technical, religious, aesthetic, political, etc. The lack of durable or convergent points of reference will then be keenly felt. For a single experience or view, if detached from the others, cannot offer meaning to man in this vast world of life. The part cannot replace the whole, neither the sum can be a substitute for parts that are indifferent to each other, just as a broken mirror cannot provide an adequate reflection of life.

We often believe, rightly so apparently, that we should become good specialists or experts in a field that is as clearly demarcated as possible. It is of course necessary to become good specialists and to thoroughly explore a difficult area. Yet if we maintain this attitude, the disciplinary and methodological isolation can make us lose the meaning of our actions. In other words, that very limited disciplinary area can make us blind. That is why we should simultaneously move towards other issues or concepts, towards other views, so that the specialisation should be put into perspective and be given a meaning. The need to learn about what happens beyond confined specialisations, beyond the walls of a single specialisation, seems to us to be very natural and a kind of prerequisite of thinking in today's world.

Interdisciplinary research has today many premises or sources, both scientific and cultural, as well as spiritual. We will mention a few of them below. In his book, *Christ for all the Universe*, Jean - Michel Maldamé shows that the notion of creation is the fruit of the meeting of two traditions: the former is the Abrahamic sources, expressed in the Torah texts that assert God's uniqueness, the latter is the Greek one, related especially to the thinking of Plato and Aristotle who rationally established the existence of a unique Principle for everything that exists.

The first great scientists who recognised God's creation in the perfection and harmony of the Universe were Kepler, the founder of modern astronomy, and Newton, the creator of classical dynamics. The words by which Kepler ends the last volume of *The harmony of the World* are proof from those days: "I give thanks to You, Lord, our Creator, for deeming me worthy to see beauty in Your creation. Behold, I have fulfilled the work I felt I was called to; I have proclaimed the greatness of Your work to the people who will read these demonstrations." Similarly, Newton, in a letter addressed to the Reverend Richard Bentley on 10 December 1662, shows that 'the motions which the planets now have could not spring from any natural cause alone but were impressed by an intelligent agent.' (*Elements of Cosmology*)

In the time scale there followed the Enlightenment, which spanned almost 250 years. During this time, Darwin published the *Origins of Species*, according to which the evolution of the biological species occurred through competition and selection. Man himself emerged as the result of this evolution. The belief in a creator was severely questioned, at least in the academic world. Yet creationists wonder how Darwin's theory can account for the simplest of organs such as the eye and the year. Both have clearly defined purposes. "Similar to these two organs, the other organs work so that the body can function properly; the latter gives the final meaning of its parts." (Isabelle Stengers). In parallel with Darwin's theory, Newton's dynamics later developed by Lagrange, Hamilton, Jacobi and Laplace achieved remarkable successes in the study of celestial movement. As the movement of the stars is conservative, it emphasises a sense of repeatable, reversible motion that resumes eternally. All these led to a vision of the Universe as being finite in time and space, a static Universe without change, a Universe without beginning and end, a Universe with no ambition. Obviously, such a Universe did not need a creator.

The classical dynamics had already turned into a closed science that claimed to have answers to every question. At the turn of the 20<sup>th</sup> century, Poincaré proved that the positions of the trajectories on which the planets revolve around the Sun depend on the initial conditions. If the initial conditions had been different, the position of the trajectory of the planet Earth in relation to the Sun would have been different, and life would not have existed. There is no proof to attest whether Poincaré wondered who had established the initial conditions.

One of the greatest discoveries in astronomy in the 20<sup>th</sup> century was the expansion of the Universe, by the astrophysician Hubble, in 1924. If the Universe is expanding, then at the moment  $t = 0$ , its whole energy was concentrated in an extremely small volume, of infinite density (the *Big-Bang* singularity). The expansion began with an initial explosion. With this discovery, the dialogue between science and religion was re-established after some 250 years. "So long as the Universe had a beginning, we could suppose it had a Creator", declares one of the world's greatest physicians, Stephen Hawking. It appears that the electrical charges and the masses

of the elementary particles that were to form after the explosions and the speed of expansion of the Universe were planned since the initial conditions, prior to the coming into existence of the Universe. The expansion took place at such speed that would allow the emergence of the chemical elements that are essential to living creatures, i. e. H, C, N and O. These atoms can only be synthesised within the stars where the nucleosynthesis of elements is possible (Atkins, Maldamé). Had the nuclear forces been weaker, it would not have been possible for deuterium, an intermediary stage in the formation of helium, to appear. This is the starting element for the nucleosynthesis of heavy metals. Energy is quantized at the level of atoms. The value of the smallest quantum of action, called Plank's constant, is  $h = 6,67 \cdot 10^{-34}$  J·s. If the energy of electrons had not been quantized, an infinity of unstable chemical compounds would have formed.

Another physical quantity is the dimension of space. We live in a tridimensional space  $D = 3$ . If space had the dimension  $D = 4$ , then the forces of attraction between the planets would have been very great and the whole Universe would have been a monolith.

Are all the data presented the result of chance, of hazard, or, as we already wrote, were they included in the initial conditions so that the Universe should be like it is today. "The whole history of science has been the gradual realization that events do not happen in an arbitrary manner, but that they reflect a certain underlying order, which may or may not be divinely inspired." (Hawking). Science, of course, will never find an equation to prove the existence of God in the Universe. Nonetheless, the great scientists have discovered phenomena that can be described by subtle mathematical equations, which reveal the perfect coherence between the macroscopic and the microscopic dimensions. Is this coherence the result of hazard? This is one of the questions that science and religion are called to answer through shared work.

Editorial Directors