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CONFERENCE ON FAITH AND SCIENCE
International Conference on Faith and Science
The Human Search for Truth
Philosophy - Science - Faith : The Outlook for the III Millennium
The Vatican, 23-24 May 2000

I Session
Philosophy, Theology, Science (Tuesday. 23 May 2000)
Jean Ladrière
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In this first session, we have to explore the general theme of the Conference, « The Human Search for Truth », in its fundamental terms, as bringing into play at the same time theology, philosophy and science. However, the intention which has inspired the programme of the Conference is clearly to devote the reflection essentially to the relationship between faith and science, and thus, as the self understanding of faith is theology, to the relation between theology and science. But this does not mean, of course, that we don't have to take account of philosophy.

We can consider, even if it is perhaps somewhat optimistic, that the time of misunderstandings is now over, that the Christian faith has no more to defend itself against the criticisms coming from an inadequate assessment of the scope of scientific thinking, and that in the present conjuncture the way is open for the institution of an authentic dialogue between theology and science. The question which must be raised now concerns the conditions of the dialogue.

The first condition, without doubt, is a mutual understanding. That condition is certainly very demanding : to understand the other is not only to register what he is saying but to enter really into his perspective of research and of reflection, and that while remaining fully faithful to one's Own perspective. There is an aspect of intellectual charity in that attitude. But there is something more in the idea of dialogue the mutual fructification of the concerned perspectives. Each participant must be able to come back, from the recognition of the other, to his own point of view, in order to become more faithful to the constitutive intentionality of his own research. This means a kind of reciprocal reverberation of each perspective into the other one, each one learning to understand more profoundly its proper object while discovering how the other one is understanding its own one. But this is possible only if there is at least a particular segment of reality which is the common concern of the two perspectives, be it indirectly.

Apparently this is not the case: the respective domains of science and theology seem to have nothing in common. There is some truth in such an opinion : a simple juxtaposition of the two worldviews will not be very fruitful. If nevertheless a dialogue has to be hoped, it will demand a mediation. Philosophy, such as it is present in contemporary culture, appears as fully qualified to be such a mediation. Because it has an affinity with science in some aspects and an affinity with theology in other aspects.

Philosophy and science derive from the same source, the idea of authentic knowledge, and more precisely, in terms of Aristotle, the idea of a knowledge according to the principles, the highest science being the knowledge of the first principles. A separation has occurred between philosophy as such and that group of disciplines which we call science today. But something remains of the originary inspiration, even if philosophy had to redefine its project in order to take account of the epistemic power of science and if the meaning of science remains a problem for it.

On the other hand the philosophical project is inhabited by an exigency of radicality which makes of the philosophical endeavour a search for the ultimate. Philosophy aims, formally, at that reality to which religious thinking and experience are referring when they speak of God. We have to take account, to be sure, of the fundamental difference which distinguishes the God of metaphysics and the God of faith. But it can be said nevertheless that philosophical thinking, in its quest of the ultimate, is trying to bring out at least the formal conditions which determine the ontological place of the divine reality. In this sense, philosophy can be considered as having a proximity of essence with theology.

Among the questions which arise at the point of encounter between science and theology, and which can be enlightened by philosophy, some are of an epistemological form, other ones concern the very content of science and of theology. Among the epistemological questions, we could cite the following ones, which are particularly significant : forms of language, types of intelligibility, criteria of validity, specific realities constituting the proper objects respectively of science and of theology. And among the questions concerning the respective contents of scientific and of theological discourse, we could cite : the interpretability of science for theology and reciprocally, the relation of science and of theology to the general horizon of sense, existence as field of encounter between science and theology. Finally, beyond the task of clarification called for by those questions, philosophy has the task of explaining what science and theology have in common, and also what makes exactly the difference which separates them. It will probably appear that the deep meaning of that difference can be deciphered only by theology, and more specifically by the theological

distinction between the order of Creation and the order of Redemption.

The presentations which will be given this morning concern precisely that complex system of relations between science, philosophy and theology. Professor Josef Seifert, from the Internationale Akademie für Philosophie, in Liechtenstein will situate science and philosophy in the context of contemporary culture. Professor Bruno Forte of the Facoltà Teologica dell'Italia Meridionale, in Napoli, will examine the relation of theology with experimental science. And Professor Giuseppe Tanzella-Nitti, of the Università della Santa Croce, in Roma, will analyze the relation between «The Book of nature and the god of Scientists according to the Encyclical "Fides et Ratio" ».

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II Session
Introductin to Session on “Sciences of Nature”
Prof. Nicola Cabibbo

The task of chairing this session is rendered particularly pleasant by the quality of the speakers which will take part in it and the interest of the themes they have chosen for their relations.

The present time sees the emergence of a promising mutual understanding and mutual interest between the world of Science and the world of Religion, an understanding more and more necessary today, when the science driven advances of technology, which are modifying the way we live and work and our very relationship with the planet Earth, require, as clearly stated in "Fides et Ratio", a renewed attention of scientists for the "sapiential dimension", for the ultimate meaning of human life. At the same time the great discoveries of modern sciences, which open new vistas on the structure of matter, both animate and inanimate, and on the structure and history of the Universe, are of crucial interest for the world of Religion, an interest clearly stated in the letter addressed by the Holy Father to the Director of the Vatican Observatory, an important document which was included in the working papers for this meeting.

The session will be introduced by a meditation of Prof. Hodgson of Oxford University, well known for his many contributions to the study of the atomic nucleus.

Professor Michal Heller, who is both a priest and an active scientist, with a particular interest in the epistemology of science, and since many years a member of the Pontifical Academy of Sciences, is the Rector of the Pontifical Academy of Theology of Kracow, and will introduce the main theme of the session, speaking of "Faith and Reason in Dialogue"

Professor R. J. Russel is a physicist who has developed an increasingly strong interest for the relationship between religious belief and scientific discoveries. He will speak of a very fascinating subject: "The Doctrine of Creation out of Nothing in Relation to Big-Bang and Quantum Cosmologies".

The final talk of the session will be given by Professor Edward Nelson of Princeton University. Nelson is well known among physicists for his important contributions towards an understanding of the meaning of Quantum Mechanics, and in recent years his interests have steered towards the very center of modern science, Mathematics, and its foundations. He will speak on "Mathematics and Faith".

One of the greatest contributions of the Church to modern science has been in the mastering of Time through the introduction of the Gregorian Calendar, still today appreciated for its accuracy. Time must be respected, and I do not wish to detract any from the exciting relations we are going to hear, and I will at this point of Time close my brief introduction.

Thank you

III Session
Introduction to session on “Science and Human Life”
Juan de Dios Vial Correa

By means of science man succeeds in interpreting and controlling the world accessible to the senses.

The present session is devoted to “Science and Human Life”. This is a very special subject because even though this Human Life is studied by science, it is in itself the door to all science. It is in this life, and through it that we know that things are or exist (*scio aliquid esse*) and this perception is the basis for everything that may be termed knowledge. Human life which is the subject matter of this meeting, is the necessary condition for science even before it can be thought of as an object to it.

Sciences deal with “classes” of objects, which are in principle interchangeable. In our subject matter of this moment we encounter a peculiar situation which may not be left aside as merely incidental. For each human life there is some one who calls it “my life”, and “my life” is not really an object for my study of reality, but rather the “radical reality” (Julián Marías) in the sense of “radical” that it is the root of all reality which appears before it. In consciousness appear at the same time the reality of things and my own reality. Things around us are not our projection, nor are we a mirror for them. The articulation of the whole of reality and my life is the problem of knowledge and conscience.

The organizers of this Congress have decided that the approach to human life should be attempted following three lines which are to a degree independent even though intimately connected. Of course I do not intend to give a summary of the talks that will shortly follow but I may presume to sketch the reason for this choice of approaches.

1. We experience our lives as a “being in relation” to a world and to other human beings. This complex whole of relations builds in a sense the house of man, the science or discourse about which is of course ecology. Human ecology — a subject which will be addressed by Professor Bompiani — refers to the “social habitat” of the human being. The Encyclical *Centessimus Annus*, reminds that the “first fundamental structure in favour of human ecology is the family where the human being receives the first notions about truth and good...” (CA 39), The professional calling of our distinguished speaker is a reminder that Medicine is also an important element in the relations building up human ecology. The

existence of Medicine rests upon a very special human relation which renders the sick and the feeble worthy of special attention. Medicine is essentially linked to the fact of disease and to our fragile and mortal condition, and suggests that a human society without care for the other, or without solidarity carries within itself the seed of its own destruction.

2. The second line of approach is in charge of Professor Andreij Szceklik, and he has highlighted in his title the “elixir of long life”.

Human life bears the seal of its necessary and special finitude, which does not resemble the end or termination of any other being. Nobody will die of my own death, and nonetheless however important my death may be to me, I cannot properly grasp it in my thought, so that that which is at the same time the most determinant and certain of events, is also properly speaking unthinkable. Human life — always life toward something (Rudolph Spaemann) is marked by the will to last and by the certitude of its fleeting and ephemeral condition. We live in an intensely secularised time. The desire for immortality is alternatively stimulated and quenched by science and technology, so that humanity lives between dread and illusion.

A glance upon the struggle to add yet some little time to life, puts us face to face with our contingency and finitude.

3 - Artificial intelligence is the subject for the third talk to-day which will be delivered by Professor John R. Searle.

The study of intelligence brings us to the fact of consciousness which is certainly one of the distinctive points of “human life”. It raises a very special field of enquiry among the sciences of life. The power of a universal calculator like Turing’s machine has fostered the belief that a computer approach might allow the creation of an artificial intelligence which would not only have the power to calculate — a *syntactical* power, but also would allow to attain the meaning of the signs — developing a real *semiotics*. The contributions by Professor Searle to this question are fundamental and deserve close attention. From a point of view which is far removed from the world of computers, I would venture that the intelligence to be artificially imitated, is far nearer the “semiotic” than the “calculator” aspect. What we primarily apprehend in reality is that the things are, that they exist, the act of being of things. (*Quod primum cadit sub apprehensione est ens*) The intelligence apprehends the act of being in the same direct way that sight apprehends colours. Thanks to this power we live in a world and we are not merely immersed in an environment.

This line of approach touches then, from the point of view of science this most important aspect which is the human condition in front of reality.

The three perspectives chosen allow us to perceive something of the “founding” condition of human life. Human life may not eliminate suffering, but through solidarity can transform it into a factor of union of society. It may not suppress death, but from the very acknowledging of it, it can discover the need for a liberation that surpasses the highest of hopes. Human life cannot create things, but it can organize reality.

This solidarity, this liberation, this acceptance of the whole of reality, make that an authentic living of a human life is like a glimpse at the new heavens and new earth, the initiation of whose advent we celebrate in this jubilar year.

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IV Session
Social Sciences
24 May 2000

Introduction by the chairman, Edmond Malinvaud

Faith et Ratio states “One may define the human being ... as the one who seeks the truth”(n.28). The encyclical then goes on, distinguishing different modes of truth, with in particular scientific truths and religious truths (n.30), noting that knowledge is acquired in society (n.31), and arguing that the human search “looks not only to the attainment of truth which are partial, empirical or scientific ... [but also] towards an ulterior truth which would explain the meaning of life”(n.33).

In this session we must give special attention to new questions and challenges in social sciences, but at the same time “attempt to rediscover the sapiential dimension” of these sciences. Humility is the proper spirit for the approach to such a daunting task. The birth and development of social sciences in the last part of the past millennium, particularly in the last century, leading to the penetration of these sciences in many education programs, may appear impressive. However, we must recognize that our disciplines are far from matching the degree of accuracy, objectivity and unity of that already achieved by natural sciences. Three connected points in *Fides et Ratio* look to me as particularly challenging for us, social scientists.

When we read that “an increasing fragmentation of knowledge ... makes the search for meaning difficult and often fruitless”(n. 81), we cannot but feel that the sentence directly concerns us, who are working in disciplines where fragmentation is ubiquitous, within our respective sciences as well as between them. Each one of us has to find his or her own philosophy about the articulation between a fragmented, partial and imprecise scientific knowledge and the “search for the ultimate and overarching meaning of life”(n.81) in human societies. Should we accept the idea that this sapiential dimension is given to us by ethical principles and religious faith established outside our disciplines, our role being then to modestly search for the real conditions under which implementation of such principles and faith in the economy and society can succeed? Or are our sciences able to also help for progress in the sapiential dimension? If so, is it by pointing to lacunas in the reflection about ethical principles or in the reading of Scriptures? Should we perhaps be more ambitious and entertain to go even beyond this lookout function?

Fides et Ratio warns us against the “misunderstanding which has arisen especially with regard to the ‘human sciences’ : ... The invitation addressed to theologians to engage in human sciences and apply them properly in their enquiries should not be interpreted as an implicit authorization to marginalize philosophy and to put something else in its place”(n.6 1). Such a warning bears on our behaviour, if and when we claimed to speak in place of philosophers or theologians. But I read it as also questioning the ability of social sciences to discover much, on their own, in the sapiential direction. If we have a good response to this questioning, this is the proper time and place to formulate it.

Fides et Ratio also warns us against “the danger which lies hidden in some currents of thought which are especially prevalent today”(n.86). The first of these dangerous currents is eclecticism. A quick reading of the encyclical might make us uneasy because we social scientists often practice eclecticism when we are asked to apply our scientific knowledge to social issues. We then explain that, faced with complex realities and phenomena, we are unable to grasp them at once in their entirety; we therefore have to look at them from different points of view. I tend, however, to be reassured by a closer reading of the encyclical : it does not seem to object to eclecticism in science, but rather to eclecticism in philosophy, and still more in theology, when “in research, teaching and argumentation ... [some] tend to use individual ideas drawn from different philosophies, without concern for their internal coherence, their place within a system or their historical context”. Of course, even in science, eclecticism may be misused, for instance because of a neglect of the historical context. But the main point may again be that philosophy and theology have to look in the sapiential direction beyond the horizon that objective sciences have been able to reach.

The following introductory meditation will lead us to go more deeply into our subject than I could do in these few words. Next, we shall hear a sociologist, speaking under the title “Faith and the conception of humanity in social science”, followed by an economist addressing the subject of “Faith and reason in economics”. It is well-known that sociology and economics are difficult partners : their scientific domains overlap at several places but, even at such places, collaborative research between the two disciplines is infrequent ; neither of the two relies on a single approach but there are pronounced methodological differences between research practices in the two disciplines, for instance about the role of modellization as a tool for the use of reason. In our reflections today this diversity is an asset: it protects us against a too narrow view of our subject.