

SCIENCE AND RELIGION

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In 1992 a letter appeared in the *American Journal of Physics* by Jay Orear of the Physics Department of Cornell University. His letter, as he himself said subsequently, evoked "thoughtful responses" that dealt with "the very basis of physics," asking such questions as "whether there is any kind of absolute truth in science." In answering these queries in a later letter to the Editor, Prof. Orear lined up for us some of the main problems that empirical science and scientists have with religion. Concern #1: the nature of truth. Concern #2: proof for the existence of God. Concern #3: the possibility of life after death. In dealing with these topics Prof. Orear is aware that his questioners often refer to the evidence offered by the Scriptures but he rejoins that "scientists, and all rational peoples as well, should require verifiable and reproducible evidence of such striking claims" for "a fact is a fact and is verifiable and reproducible."

This letter and the debate that it opened were of particular interest to me since it came after the call of the Holy Father Pope John Paul II for a dialogue between the science community and that of faith. In his letter of June 1, 1988 to the Rev. George Coyne, S.J., of the Vatican Observatory, on the occasion of the convening of a conference entitled "Our Knowledge of God and Nature: Physics, Philosophy and Theology,"* he expresses the interest of the Church in science. He first speaks of the two "major institutions within human civilization" which "bear before God enormous responsibilities for the human condition," be-

* *L'Osservatore Romano*, 14 November 1988, pp. 3-5.

cause "historically we have had and continue to have a major influence on the development of ideas and values and on the course of human action." He goes on to point out that "even within the academic community, the separation between truth and values persists, and the isolation of their several cultures — scientific, humanistic and religious — makes common discourse difficult if not at times impossible." But more than this difficulty he points to an "openness of dynamic interchange" between different groups of people and a deep awareness "that the insights and attainments of one [group] are often important for the progress of the other. . . . This drive is essentially a movement towards the kind of unity that resists homogenization and relishes diversity." Turning to the relationship between religion and science, the Pope speaks of "a definite, though fragile and provisional, movement towards a new and more nuanced interchange. . . . We have begun to search together for a more thorough understanding of one another's disciplines, with their competencies and their limitations, and especially for areas of common ground."

These two documents are, I feel, good examples of the present status of the ongoing debate or discussion or dialogue between science and religion. There is an appreciation by the religious world of the value and importance of science in forming the value systems that traditionally have been the realm of religion, and there is the ongoing search of the science world for more comprehensive theories of the world. We see also the contrast. The world of religion seems quite convinced that its facts are true, and the world of science is just as convinced that the only truths are empirical facts.

At this point let us pursue the epistemological question raised by Prof. Orear, *viz.*, the nature of truth and whether we can know of the existence of God, questions which are not new in the science-religion dialogue, especially since the Enlightenment, in both what I might call the traditional way and one probably not yet as well known. I will address first the epistemological question.

The first Reading in the liturgy of the Roman Catholic Mass for the holy men and women is from the Book of Sirach:

My son, conduct your affairs with humility, and you will be loved more than a giver of gifts. . . . What is too sublime for you, seek not, into things beyond your strength search not. What is committed to you, attend to; what is hidden is not your concern. With what is too much for you meddle not, when shown things beyond human understanding. . . . (Sir 3:17-24)

This seems to rule out the scientific task of research and investigation. Yet it is in the Christian West that such science was born and has flourished. Are we to conclude that this pursuit of science, and in particular science research, is anti-Christian since it does not seem to respect this Biblical call for humility?

Such an interpretation has been given, and the history of conflicts between science and religion in Europe has at times moved along this path. The famous Galileo case has its own first chapter of this conflict when Cardinal Bellarmine told Galileo not to be publicly declaiming the movement of the earth around the sun unless he could prove it by his avowed scientific method, something he in fact never seems to have been able to do. But why not publicly state this theory? Because on the surface it does contradict the Scriptures. Another example would be the refusal of the patriarchs of Venice to look through the telescope of Galileo so that he could 'prove' to them that there are bodies going around the planet Jupiter and so the motion of satellites about some larger bodies is not impossible. Again why such a refusal? Because the ultimate truths are beyond the knowledge possible through the use of the empirical, material world which is filled with deception. Only the mind can penetrate to the truth and even here it needs guidance.

Such a mentality is of course not new. This appreciation that the world is filled with mystery is the earliest intuition of mankind. Rather the idea that the human mind can penetrate these arcane mysteries is the novel and new idea, and certainly is the lasting fruit of the scientific revolution of Galileo and Newton. Such admiration of the power of the human mind stands enshrined in the French Revolution of two hundred years ago and is the lasting heritage of the human family today.

So who is correct? Science or religion? Can we know all that is to be known, or as our Scripture reading says, should humility

be the better course? Being educated persons we would probably argue that there is no conflict here; that humility does not mean that we can not and should not seek the truth from all sectors and by all means. We can turn here to our opening document of the Pope and the need and necessity of a dialogue between science and religion. In that call the Pope alludes to the answer to our seeming contradiction. The humility in question is no doubt all the more needed today in this age when science and the scientific method with its fruit of technology captures the minds and hearts of so many living in material poverty, with so few living to enjoy the mature wealth supplied by science and technology. This Scriptural humility refuses to accept that all knowledge can be reduced to the logical and merely 'quantifiable'. It therefore prefers to distinguish and call the knowledge which embraces the human and more than the human, wisdom. Such a search for wisdom sums up much of the Old Testament Scriptures.

So we see that this apparent conflict — one which was not at all 'only' apparent in the history of the two cultures — can be resolved by what seems to be a 'mere' better definition of terms. But we also know that such a better definition of terms is not easily found in most cases. It is the result of much experiencing, reasoning, pondering and prayer. In fact it suggests to me that science and religion are not only not in conflict but, as the Pope suggests, so important to each other that they must be in constant dialogue with each other. They are not the same; they treat different realms of knowing and have their own ways of exploring these realms. Yet they are giving truth and that truth is one of the most cherished of all epistemological traditions.

Thus would the traditional answer to Prof. Orear's basic questions concerning our ability to know lie. But I also mentioned a less traditional answer. By 'traditional' here I am referring to the work of the last century and the first half of this as Christian apologists tried to answer rationalism by 'Christian rationalism'. Whatever the successes of that approach today, we are more open to discourse that uses other categories, especially those of the social sciences. So we might proceed along the following lines:

Since we say that truth is one and yet we see that it can be

approached by two so seemingly very different vehicles, can we not say that these two different modes of knowing are in fact complementary? Could we not even go further and declare that modern science and philosophy support this possibility, the first even using the term *complementarity* and the latter contributing by its ongoing discussion of the meaning of the complementary nature of dialogue partners, the I/Thou complementarity, especially when one of the partners is God? With these ideas we come to the topic of a natural theology of creation and such questions as: how is God present to the world He has made? And does God know the future of that world if men are truly free? These are but a few of the many questions answered by the tradition of the Church in the early years of its existence which are today being questioned, and new formulations which are leading theologians to talk to science. Topics such as the meaning of time, which traditionally have been exclusively in the realm of the philosopher and theologian, are today in the books and papers written by scientists and physicists.

These issues are still active areas of theological inquiry and matters of great import for the science-religion dialogue in the years to come. For my part, let me just suggest one particular area out of the many mentioned so far, *viz.*, what the human experience of and desire for intimacy can tell us about a theology of creation. By this I mean that the analogy of being in the Catholic tradition would lead us to postulate that while we cannot know the essence of God, yet truly human virtues as indicative of the root of our nature as created by God, can, in their purest state, serve as guides to their prime analogate in God. This of course is the tradition of St. Thomas Aquinas and the schools, but is still in some sense with us today in the process philosophers and their work.

The category I have mentioned for our reflection is that of *intimacy*. This is basic to our human experience and would especially be dear to an audience in Asia. An appreciation of the human experience of intimacy seems to be connatural to the Asian cultures, as their family values and interpersonal relationships make them open to an understanding of this human virtue. The word itself derives from the root — *to drive together*. In that sense it indicates two realities that are forced into the closest

contact and so, when transposed into the realm of the interpersonal, comes to mean the closeness, the bond that exists between two people when their lives move onto a deeper plane than just the casual. We treat each other necessarily at various levels of intimacy. We do not expect the ticket seller at the movie house to be intimate with us if all we want is to purchase a ticket. Such intimacy would not only not be appreciated, it would indeed get in the way of the proper relationship for such a time — namely, the purely functional one of buyer and seller. Attempts at intimacy by someone totally unknown would be repulsive. We do not expect that we should be called upon to share our inner self with a stranger. There must be first some degree of knowledge of the other and consequent trust so that some sharing at the deeper level may take place.

In applying this to our relationship to God, we can also take a less phenomenological approach in favor of what I will call the Augustinian approach, or today called psychological approach. This is to consider our interior experience of ourselves where we experience that central mystery which is ourselves — that, as St. Augustine has said, we are unknown even to ourselves and God is more intimate to ourselves than we are. Here we confront one of the central mysteries of human experience — that we do not even know ourselves. This in turn is of course the negative side of any attempt at human intimacy. How can we share and 'drive together' a self that we do not even have or understand? This mystery of the human suggests the beginnings of how a dialogue between science and religion might proceed. That the human is an enfleshed spirit and that such a finite being, spirit-enfleshed — is made in the image of God, can help us understand matter and its role in the creation made by God. Here the first chapter of the Letter to the Colossians bears pondering.

Beyond this psychological approach there is yet another. I have in mind here the interesting fact that modern physics itself has begun to experience that its own epistemological foundations are being called into question as the century which created the greatest of the physical theories — quantum mechanics — comes to an end. The work of the last thirty years and especially of the last fifteen in the quantum measurement problem have

opened the door to a new look at the meaning of 'empirical' as used in the physical sciences. But beyond the interesting possible epistemological implications of this work there lies the even more intriguing question of the very meaning of the term 'matter', something at the very heart of the physical sciences, almost by definition, and something not at all well understood in Christian theology after two millennia. As one example of this latter we might cite the ongoing attempts to formulate a coherent theology of sexuality, a theology that certainly feels the need for a more refined theology of the material. From the science side, the very categories that theology will have to use in its formulation are being laid down, as the marriage of molecular science and biology open the door to an understanding of the material human body never before possible. Then too there are the dogmatic formulations of fundamental Catholic theology where better formulation of the ancient codes will be helped by, and even necessitate, an understanding by theologians of how matter and energy are related but not the same, an area of concern to both physics and modern cosmology.

What I am suggesting here is that while the older issues of epistemology are still with us in the dialogue between science and religion, there are new possibilities of mutual concern and even ties. These lie in the traditional area of metaphysics — our very root understanding of the physical, empirical world. This new area of research where science can enrich theology interestingly enough is not so new, as theologians such as Hans Urs von Balthasar with his study of Gregory of Nyssa has shown us, not to mention the study of modern physics done by John Honner, where he goes back to the Councils of the Church.

This study of the material as aided by modern science is also, I feel, of import to theology as the world culture created by science and technology faces the inevitable backlash of resistance by modern man to the 'technologicalization' of his material existence in a world whose resources are coming to be appreciated as limited. Everywhere we hear the cry that 'natural' is better and we must preserve the natural. This desire to understand the world of nature, of matter, will, I believe, usher in future categories of analysis for our relation to the mysteries of Christ. Where now many theologians are concerned with psychological

time, the future will belong to thinkers familiar with the physical and its conceptualization so that the *time*-tested methods of analogy can proceed with new insights.