John Paul II on the relationship between the natural sciences and religious belief: five key discourses

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From the very beginning of the papacy of John Paul II there has been a reinvigorating view on the relationship between the natural sciences and religious belief. This essay will attempt to explore the veracity of that claim.

Although the views of John Paul II on the relationship of science and faith may be derived from many of his messages, I propose five of his messages as the principal ones in this regard: [1] the discourse given to the Pontifical Academy of Sciences on 10 November 1979 to commemorate the centenary of the birth of Albert Einstein; [2] the discourse given on 28 October 1986 on the occasion of the fiftieth anniversary of the Pontifical Academy of Sciences; [3] the message addressed to the Director of the Vatican Observatory, written on the occasion of the tricentennial of Newton's *Principia Mathematica* and published as in introduction to the proceedings of the meeting sponsored in 1988 by the Vatican Observatory to commemorate that same tricentennial; [4] his message on Evolution addressed to the Plenary Session of the Pontifical Academy of Sciences on 22 October 1996; [5] the encyclical *Fides* et *Ratio*, published on 14 September 1998. For the English texts here used see the references below.

The view among many scholars: scientists, philosophers and historians of science, Church historians, etc., of the first two discourses has emphasized the statements made by the Pope concerning the Copernican-Ptolemaic controversy of the 17th century and especially the role of Galileo in those controversies. These statements of the Pope certainly set the stage for a new openness of the Church to the world of science. But they must not be seen myopically but rather against the background of the constant and unflagging efforts of the Pope throughout his papacy to establish a climate of dialogue of the Church with all aspects of modern culture. His role in the drafting of the pastoral constitution of the Second Vatican Council, *Gaudium et Spes*, well studied by historians of the Council, bears convincing testimony to this. The pastoral concerns of John Paul II dominate his desire to see that the Church is engaged with the modern world and, therefore, with the sciences which constitute an ever increasing role in the definition of modern culture. This is best explored, to my mind, by an investigation of the last three of the five Papal messages listed above. For purposes of an orderly discourse I prefer to postpone the treatment of message [3] until after the treatment of messages [4] and [5].

The message of John Paul II to the Pontifical Academy of Sciences on evolution [4] is characteristic of his openness to dialogue with the sciences. While the encyclical of Pope Pius XII in 1950, *Humani Generis*, considered the doctrine of evolution a serious hypothesis, worthy of investigation and in-depth study equal to that of the opposing hypothesis, John Paul II states in his message: "Today almost half a century after the publication of the encyclical [*Humani Generis*], new knowledge has led to the recognition that the theory of evolution is no longer a mere hypothesis" ([4], No. 4, paragraph 2; the English translation of this sentence in *Origins* is incorrect; the French original is: "nouvelles connaissances conduisent à reconnaître dans la théorie de l'évolution plus qu'une hypothèse"). The sentences which follow this statement indicate that the "new knowledge" which the Pope refers to is for the most part scientific knowledge. He had, in fact, just stated that "the exegete and the theologian must keep informed about the results achieved by the natural sciences". The context in which the message occurs strongly supports this. As the specific theme for its plenary session the Pontifical Academy of Sciences had chosen: *The Origin and Evolution of Life*, and it had assembled some of the most active researchers in the life

sciences to discuss topics which ranged from detailed molecular chemistry to sweeping analyses of life in the context of the evolving universe. Only months before the plenary session of the Academy the renowned journal, *Science*, published a research paper announcing the discovery that in the past there may have existed primitive life forms on the planet Mars. Furthermore within the previous two years a number of publications had appeared announcing the discovery of extra-solar planets. This ferment in scientific research not only made the plenary session theme very timely, but it also set the concrete scene for the Papal message.

The discussion progresses in the following way: The Church holds certain revealed truths concerning the human person. Science has discovered certain facts about the origins of the human person. Any theory based upon those facts which contradicts revealed truths cannot be correct. Note the antecedent and primary role given to revealed truths in this dialogue; and yet note the struggle to remain open to a correct theory based upon the scientific facts. The dialogue proceeds, in anguish as it were, between these two poles. In the traditional manner of Papal statements the main content of the teaching of previous Popes on the matter at hand is reevaluated. And so the teaching of Pius XII in *Humani Generis* that, if the human body takes its origins from pre-existent living matter, the spiritual soul is immediately created by God. And so, is the dialogue resolved by embracing evolutionism as to the body and creationism as to the soul? Note that the word "soul" does not reappear in the remainder of the dialogue. Rather the message moves to speak of "spirit" and "the spiritual."

If we consider the revealed, religious truth about the human being, then we have an "ontological leap", an "ontological discontinuity" in the evolutionary chain at the emergence of the human being. Is this not irreconcilable, wonders the Pope, with the continuity in the evolutionary chain seen by science? An attempt to resolve this critical issue is given by stating that: "The moment of transition to the spiritual cannot be the object of this kind of [scientific] observation, which nevertheless can discover at the experimental level a series of very valuable signs indicating what is specific to the human being" ([4], No. 6, paragraph 2). The suggestion is being made, it appears, that the "ontological discontinuity" may be explained by an epistemological discontinuity. Is this adequate or must the dialogue continue? Is a creationist, interventionist theory required to explain the origins of the spiritual dimension of the human being? Are we forced by revealed, religious truth to accept a dualistic view of the origins of the human person, evolutionist with respect to the material dimension, creationist and interventionist with respect to the spiritual dimension? The message, I believe, when it speaks in the last paragraphs about the God of life, gives strong indications that the dialogue is still open with respect to these questions.

The principal thrust of John Paul II's encyclical *Ratio et Fides* [5], which in the twilight of his papacy summarizes his thinking on the relationship of faith and reason, is a plea that we not lose the search for ultimate truth. He writes, for instance: "She [the Church] sees in philosophy the way to come to know fundamental truths about human life. … I wish to reflect upon this special activity of human reason. I judge it necessary to do so because at the present time in particular the search for ultimate truth seems often to be neglected" ([5], No. 5)

In this search there are various ways of knowing and among them he contrasts philosophy with the natural sciences: "It may help, then, to turn briefly to the different modes of truth. Most of them depend upon immediate evidence or are confirmed by experimentation. This is the mode of truth proper to everyday life and to scientific research. At another level we find philosophical truth, attained by means of the speculative powers of the human intellect" ([5], No. 30). It is clear that philosophy and

the natural sciences must each have their autonomy: “St. Albert the Great and St. Thomas were the first to recognize the autonomy which philosophy and the sciences needed if they were to perform well in their respective fields of research” ([5], No. 45).

The encyclical, while its principal focus is not upon the natural sciences, makes a serious attempt to lay the foundations for dialogue. Scientific research, especially in our day, cannot be excluded from the search for ultimate meaning. Today scientists, within their own well determined methodology, are asking such questions as: why is there anything rather than nothing?; is the universe finite or infinite in time and in space?, is the universe fine-tuned to the existence of intelligent life?; did humans come to be through necessary processes, chance processes, or some combination of the two in a universe fecund to allow both processes together to fructify?

The newness in what John Paul II has said about the relationship between science and religion consists in his having taken a position compellingly different than the one he had inherited. This statement is justified in all of the documents referred to, but principally in the third, the message on the occasion of the tricentennial of Newton’s *Principia Mathematica* [3]. John Paul II clearly states that science cannot be used in a simplistic way as a rational basis for religious belief, nor can it be judged to be by its nature atheistic, opposed to belief in God. Rather, he says: “Christianity possesses the source of its justification within itself and does not expect science to constitute its primary apologetic. Science must bear witness to its own worth. While each can and should support the other as distinct dimensions of a common human culture, neither ought to assume that it forms a necessary premise for the other. The unprecedented opportunity we have today is for a common interactive relationship in which each discipline retains its integrity and yet is radically open to the discoveries and insights of the other” ([3], p. M9). He furthermore states: “Science develops best when its concepts and conclusions are integrated into the broader human culture and its concerns for ultimate meaning and value” ([3], p. M13). Nothing could be further from many of the past reactions of the Church, for instance to the anticlericalism of the 17th and 18th centuries, than the following words of John Paul II: “By encouraging openness between the Church and the scientific communities, we are not envisioning a disciplinary unity between theology and science like that which exists within a given scientific field or within theology proper. As dialogue and common searching continue, there will be growth towards mutual understanding and gradual uncovering of common concerns which will provide the basis for further research and discussion” ([3], p. M7).

The newest element in the new view from Rome is the expressed uncertainty as to where the dialogue between science and faith will lead. Whereas the awakening of the Church to modern science in the 20th century led sometimes to a too facile appropriation of scientific results to bolster religious beliefs, Pope John II expresses the extreme caution of the Church in defining its partnership in the dialogue: “Exactly what form that (the dialogue) will take must be left to the future” ([3], p. M7).

This is clearly the newest and most important posture that the modern Church has taken in its approach to science. It is radically new and in complete contrast with previous history. It is diametrically opposed to accusations of atheism, to a posture of antagonism; it is awakened but expectant.

In his message on the occasion of the tercentenary of Newton’s *Principia* the Pope raises the question: “Can science also benefit from this interchange?” ([3], p. M7). It takes a great deal of courage and openness to ask that question and it does not have a very clear answer. In fact, it is very difficult to see what the benefits to science as such, that is as a specific way of knowing, might be. In the Papal message

it is intimated that the dialogue will help scientists to appreciate that scientific discoveries cannot be a substitute for knowledge of the truly ultimate. In what way, however, do scientific discoveries participate, together with philosophy and theology, in the quest for that ultimate? This is a serious and open question. Obviously, the new view of the interaction between science and religious belief does not have all the answers, but it is an invitation to a common quest.

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[1] Discourse to the Pontifical Academy of Sciences, 10 November 1979, in Benedict XV – John Paul II, *Papal Addresses to the Pontifical Academy of Sciences (1917-2002) and to the Pontifical Academy of Social Sciences (1994-2002)*, "Pontificiae Academiae Scientiarum Scripta Varia", n. 100 (Vatican City State: Pontificia Accademia Scientiarum, 2003), pp. 239-244.

[2] Discourse to the Pontifical Academy of Sciences on the occasion of the Fiftieth Anniversary of the Academy, 28 October 1986 (*ibidem*, pp. 280-288)

[3] Message on the occasion of the tricentennial of Newton's *Principia Mathematica*, 1 June 1988 (*ibidem*, pp. 292-300); also published in Russell, R.J., Stoeger, W.R. and Coyne, G.V. (eds.), *Physics, Philosophy and Theology, A Common Quest for Understanding* (Vatican City State: Vatican Observatory Publications, Second Revised Edition 1995), pp. M3 – M14;

[4] Message to the Plenary Session of the Pontifical Academy of Sciences, 22 October 1996 (the original message in French was published in *L'Osservatore Romano* for 23 October 1996 and an English translation is found in *Origins* [Washington: Catholic News Service, 14 November 1996] Vol. 26, No. 2). Also published in Benedict XV – John Paul II, *Papal Addresses to the Pontifical Academy of Sciences (1917-2002)*, op. cit., pp. 370-374.

[5] Encyclical *Fides et Ratio*, 14 September 1998 (English edition in *Origins* [Washington: Catholic News Service, 22 October 1998] Vol. 28, No. 19).