



29 October 1990

Address to the Plenary Session and to the Study Week on the Subject 'Science in the Context of Human Culture I'

John Paul II refers to Pius XI's idea that the Academy was 'the Holy See's scientific senate' and lays stress on the 'fruitfulness of a trusting dialogue between the Church and science'. He adds that scientific advance has contributed to the common cultural heritage of mankind and maintains that the defence of reason is a priority requirement for every culture: 'scholars will find no better ally than the Church in this struggle'. Science now has a central role to play in aiding contemporary culture and in making the 'earth more habitable, more fertile, and more fraternal'. The active forces of science and religion should combine to help contemporaries meet the challenges of 'integral development'.

Mr. President,
Your Eminences,
Distinguished Members,

1. With great joy I welcome you today, the Pontifical Academy of Sciences, gathered in plenary session to study the topic of 'science in the context of human culture'. I have the pleasure of welcoming twelve new members to this Academy, so dear to the Sovereign Pontiffs, which my predecessor Pius XI once called 'the Holy See's scientific senate'. In bidding you each a personal welcome, I cordially congratulate you and thank you in advance for the valuable collaboration that you will offer the Academy and your contribution to its importance.

As you well know, Pius XI truly refounded the Pontifical Academy of Sciences in 1936, giving it noteworthy encouragement; successive Popes constantly desired to encourage it. My own sentiments echo their deep convictions about the decisive role which culture and science are called to play in our day and on the fruitfulness of a trusting dialogue between the Church and science. It is my great desire that the Academy may continue to develop according to its own nature and the demands of today's culture, which greatly shows humanity's desire for fraternity and a greater practice of solidarity.

The subject of your current session, 'science in the context of human culture', confirms your intention to combine scientific precision with interdisciplinary research, in order to improve still more the services which the Academy offers. This goal corresponds to the hopes of the Second Vatican Council which paid very special attention to science, research and all the dimensions of culture. Let us recall that the Council adopted an illuminating viewpoint on culture, as is witnessed to by the Pastoral Constitution *Gaudium et Spes*.¹ This perspective has proven very useful for analysing your topic. Indeed, the anthropological dimensions of culture which the Council shed greater light on directly concern your research.

2. Culture involves the growth of the human person through the development of his or her talents and intellectual, moral and spiritual capacity. Who can fail to see science's great contribution to the growth of intellectual learning? Not only scholars but all our contemporaries have been raised in the light of science's wonderful progress. It has greatly affected the minds and mentalities of our contemporaries. Of course, besides the mathematical, physical and natural sciences and their technological application, we must acknowledge the considerable contribution of the human sciences, as well as that of moral and religious sciences. All these disciplines together progressively form our common cultural heritage. We must acknowledge with great admiration that the progress of science does not come about without hard work and a thorough application, which are the fruit of an asceticism and honesty which do honour to a true scholar. Every researcher methodically concentrates on that portion of reality which he or she studies according to his or her field of specialisation. In your separate disciplines and precise research, your work as acknowledged specialists contributes greatly to the enrichment of modern culture by the thoroughness of your analyses as well as by your attempts at synthesis. In looking over the list of the Academy's members I note with satisfaction that almost all the scientific disciplines are honourably represented there. For the first time specialists in epistemology are added to your number. We hope that their contribution may enrich even more the epistemological studies which your statutes propose as one of the Academy's goals.²

3. In practice epistemological research is becoming more and more a necessary part of scientific culture. Fundamental questions are raised about the *how* and *why* of scientific knowledge. Even though the disciplines

are becoming more and more specialised, at the same time they call into question the meaning of the knowledge which they gather, and the connection between scientific knowledge and the almost unlimited capacity of the human intellect. At first scientific culture grows most of all by the accumulation of many scattered studies. Little by little a mosaic of knowledge in a given field is created. This mosaic needs to be interpreted and analysed in a way that responds to the new demands of rational legitimacy made by each discipline. Is it not a sign of a science's maturity when it questions itself and its relationship to the more general order of knowledge?

Please allow me to repeat that the Church highly values your specialised research, which includes epistemological reflection on the meaning of science. Your studies bear witness to the efforts of human reason to explore reality more fully and to discover the truth in all its dimensions. This is a necessary and urgent service. Scholars themselves must show the validity of scientific research and its ethical and social legitimacy in the face of the anti-scientific and irrational currents which threaten our present culture. Defending reason is a priority demand of every culture. Scholars will find no better ally than the Church in this struggle.

Indeed, for the Church nothing is more fundamental than knowing the truth and proclaiming it. Culture's future depends on it. This is what I recently reminded the Catholic universities of in the Apostolic Constitution *Ex Corde Ecclesiae* (1990): 'The present age is in urgent need of this kind of disinterested service, namely of *proclaiming the meaning of truth*, that fundamental value without which freedom, justice and human dignity are extinguished'.³ This is the Church's first mission, because she is the servant of Him who proclaimed Himself the Way, the Truth and the Life. The Church constantly makes herself the advocate of mankind which is capable of accepting truth in its entirety. Thus she encourages research which explores all orders of truth, convinced that they all converge to the glory of the one Creator, Himself the supreme Truth and Light of all people, those of yesterday, today and tomorrow.

4. This leads us to another aspect of culture which Vatican II considered: our contemporaries see culture as a social and historical reality. The scientific world as a whole is keenly aware that it must place itself critically at the centre of the changes in contemporary cultures; henceforth, the people of our day are going to be strongly challenging the representatives of science about their responsibilities concerning the need for peace, development of all peoples, and the safeguarding of human life and the environment. This new awareness by the general public of the scholars' responsibility is a characteristic of modern culture. It is a clear sign for the Pontifical Academy of Sciences.

To my satisfaction I can see that you have already clearly aimed your work in that direction. Without neglecting in any way your own disciplines, you have recently organised several projects which highlight the mutual relationship between science and our contemporary culture. You have methodically studied complex scientific and ethical problems such as development, peace, the consequences of nuclear war, the environment, nutrition, bioethics, the quality of life, health, the meaning of death, the relationship between science and the modern world, and the responsibility of science. You have courageously undertaken studies on the scientific experiences of the past, particularly on the case of Galileo, a problem which I asked you to examine in all its aspects without any reservations. All of this research presupposes a very great understanding of the problem under study, the empirical, historical and epistemological aspects of which often have a philosophical and theological dimension. In doing so, you are responding to one of the objectives expressed in your statutes,⁴ when they call for the study of the scientific and technological problems involved in human development and a deeper study of moral, social and spiritual questions, thanks to your own contribution.

As I encouraged you at the time of the celebration of your fiftieth anniversary, you have been able to broaden the scope of your research by joining together with other bodies of the Holy See, such as the Curia departments, universities and cultural institutions. I encourage you to continue this fruitful collaboration.

5. With all my heart, I encourage the Pontifical Academy of Sciences to develop its activity in the two directions already mapped out, that is the pursuit of quality specialised studies and the interdisciplinary opening of research. These two ways should lead the Academy to a constant re-examination of its own activity, keeping in mind the profound changes affecting today's world. In particular I once again draw your attention to the urgent problems of the integral development of the person and fraternal solidarity among peoples.

Everyone believes that humanity has reached a new turning point. Thanks to science and modern technology instant communication to all parts of the world has allowed the community of peoples to know one another better and has aroused everywhere a great desire for freedom and dignity. Men and women of science will have a leading role to play in the joint effort demanded of our generations to make the earth more habitable, more fertile and more fraternal. The job to be done can seem utopian and engender a certain fatalism. We must strongly react against this error and temptation. Rather, the time has come to create a new bond between all people and groups of good will.

We must combine the active forces of science and religion in order to prepare our contemporaries to meet the great challenge of integral development, which demands skill and qualities which are both intellectual and

technical, moral as well as spiritual. Your contribution, men and women of science, is indispensable and urgent. I invite you to examine this problem with all your talent and energy. The Pontifical Academy of Sciences could thus, I am sure, give exemplary witness to the entire scientific community.

6. What is ultimately at stake is the profound meaning of your vocation as scholars in today's culture. Of what use is your science? How does it contribute to human development, to culture understood in its highest sense? In asking this question, I am not ignoring the indispensable value of basic research. Before modern science, which evokes so much admiration but which also arouses so many fears, the Church wonders with you about the questions involving the future of culture and of mankind itself and invites the best spirits to reply. I say to you what I recently said to the Catholic universities: 'What is at stake is the *very meaning of scientific and technological research*, of social life and of culture, but, on an even more profound level, what is at stake is *the very meaning of the human person*'.⁵

Therefore, Ladies and Gentlemen, it seems to me that the topic which you are dealing with this year, 'science in the context of human culture', is a judicious and promising one. It is not only an appropriate choice, but a project which should continue to be methodically explored. You also plan to collaborate further with the Pontifical Council for Culture, and I heartily encourage you.

7. At the beginning of my pontificate I stated that the Church's dialogue with culture has a decisive role for the future of humanity. More than once I repeated this with conviction and I appealed to all the Church's institutions to see to it that their activity in regard to culture may always be more enlightened, lively and fruitful.

I know that the Pontifical Academy of Sciences constantly re-evaluates its mission in the light of its constitutive nature and specific intent. Your efforts and work in this regard have my full support. You are looking at how your methods and objectives can be revised so that the Academy can better respond to the needs and aspirations of today's culture, as well as to the Holy See's wishes. May this revision be done in conjunction with a similar renewal which should also be undertaken by all the Pontifical Academies in a spirit of scientific precision and interdisciplinary collaboration.

After fifty years of distinguished service given to the scientific community and the Holy See, the Pontifical Academy of Sciences can look to the future with a renewed determination to respond to the cultural challenges of a new era.

This is the wish which I express for the Academy and each of you, once again telling you of my gratitude and invoking upon you the blessing of Almighty God, who is Truth and Love.

1 N. 53.

2 Cf. art. 2.

3 N. 4.

4 Art. 3.

5 John Paul II, *Ex Corde Ecclesiae*, n. 7.