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## Address to the Plenary Session on 'The Cultural Values of Science'

*The Pope stresses that science in itself represents a 'value for human knowledge and the human community', and observes that thanks to science we are able to appreciate the 'wonder of being human'. At the same time, scientists are called upon to use their knowledge 'for the benefit of the entire human family' and so science must not be without ethics and should be applied to beneficial and positive effect. Indeed, the scientific community can help and serve the peoples of the world 'in ways no other structures can'. His Holiness wonders whether at a time of globalisation scientists could not do more in this direction, and declares that they can, adding that the Pontifical Academy of Sciences, as it prepares to celebrate its fourth centenary, can be a part of this endeavour. In this way, declares John Paul II, science can make 'a priceless contribution to peace and harmony among peoples'.*

Dear Members of the Pontifical Academy of Sciences,

It gives me great pleasure to greet you on the occasion of your plenary meeting, and I offer a particularly warm welcome to the new members among you. Your discussion and reflection this year focuses on 'The Cultural Values of Science'. This theme allows you to consider scientific developments in their relation to other general aspects of human experience.

In fact, even before speaking of the cultural values of science, we could say that science itself represents a value for human knowledge and the human community. For it is thanks to science that we have a greater understanding today of man's place in the universe, of the connections between human history and the history of the cosmos, of the structural cohesion and symmetry of the elements of which matter is composed, of the remarkable complexity and at the same time the astonishing coordination of the life processes themselves. It is thanks to science that we are able to appreciate ever more what one member of this Academy has called 'the wonder of being human': this is the title that John Eccles, recipient of the 1963 Nobel Prize for Neurophysiology and member of the Pontifical Academy of Sciences, gave to his book on the human brain and mind (J.C. Eccles, D.N. Robinson, *The Wonder of Being Human: Our Brain and Our Mind*, Free Press, New York, 1984).

This knowledge represents an extraordinary and profound value for the entire human family, and it is also of immeasurable significance for the disciplines of philosophy and theology as they continue along the path of *intellectus quaerens fidem* and of *fides quaerens intellectum*, as they seek an ever more complete understanding of the wealth of human knowledge and of Biblical revelation. If philosophy and theology today grasp better than in the past what it means to be a human being in the world, they owe this in no small part to science, because it is science that has shown us how numerous and complex the works of creation are and how seemingly limitless the created cosmos is. The utter marvel that inspired the first philosophical reflections on nature does not diminish as new scientific discoveries are made. Rather, it increases with each fresh insight that is gained. The species capable of 'creaturely amazement' is transformed as our grasp of truth and reality

becomes more comprehensive, as we are led to search ever more deeply within the realm of human experience and existence.

But the cultural and human value of science is also seen in its moving from the level of research and reflection to actual practice. In fact, the Lord Jesus warned his followers: 'everyone to whom much is given, of him will much be required' (*Lk* 12:48). Scientists, therefore, precisely because they 'know more', are called to 'serve more'. Since the freedom they enjoy in research gives them access to specialized knowledge, they have the responsibility of using it wisely for the benefit of the entire human family. I am thinking here not only of the dangers involved in a science devoid of an ethic firmly grounded in the nature of the human person and in respect of the environment, themes which I have dwelt on many times in the past (cf. *Addresses to the Pontifical Academy of Sciences*, 28 October 1994, 27 October 1998 and 12 March 1999; Address to the Pontifical Academy for Life, 24 February 1998).

I am also thinking of the enormous benefits that science can bring to the peoples of the world through basic research and technological applications. By protecting its legitimate autonomy from economic and political pressures, by not giving in to the forces of consensus or to the quest for profit, by committing itself to selfless research aimed at truth and the common good, the scientific community can help the world's peoples and serve them in ways no other structures can.

At the beginning of this new century, scientists need to ask themselves if there is not more that they can do in this regard. In an ever more globalized world, can they not do more to increase levels of instruction and improve health conditions, to study strategies for a more equitable distribution of resources, to facilitate the free circulation of information and the access of all to that knowledge that improves the quality of life and raises standards of living? Can they not make their voices heard more clearly and with greater authority in the cause of world peace? I know that they can, and I know that you can, dear members of the Pontifical Academy of Sciences! As you prepare to celebrate the Academy's Fourth Centenary next year, bring these common concerns and aspirations to the international agencies that make use of your work, bring them to your colleagues, bring them to the places where you engage in research and where you teach. In this way, science will help to unite minds and hearts, promoting dialogue not only between individual researchers in different parts of the world but also between nations and cultures, making a priceless contribution to peace and harmony among peoples.

In renewing my warm wishes for the success of your work during these days, I raise my voice to the Lord of heaven and earth, praying that your activity will be more and more an instrument of truth and love in the world. Upon you, your families and your colleagues I cordially invoke an abundance of divine grace and blessings.