



The Holy See

ADDRESS OF JOHN PAUL II TO A GROUP OF NOBEL PRIZE-WINNERS

Monday, 22 December 1980

Esteemed Nobel Prize-winners,

1. I am sincerely happy and honoured at being able to greet in you a number of illustrious personalities of science who, although you come from different countries, are linked in brotherhood by the ideal you share: the ideal of disinterested seeking for truth in the various fields of human experience. The high honour that has been granted to you as a reward for your long labours is a significant recognition of your contribution to advancing man's knowledge of himself and of the world about him.

As I look at you, my thoughts go to all who have been given the same award and also to those who, with less success but with no less generosity, have dedicated and are still dedicating their lives to patient investigation of the complex aspects of reality with the hope of discovering a new secret which has remained hidden in some page of the marvellous book of nature.

In greeting you, gentlemen, I wish to honour this vast array of scientists and express my deep appreciation and gratitude for their labours. Even if their efforts are not always crowned with success, their passionate dedication to truth enriches the spiritual heritage of mankind.

2. During the colloquium organized by the "Nova Spes" association you have reflected on a theme that is highly relevant to the present time: Man amid hopes and threats. I am anxious to hear from you the conclusions that you have reached on a topic which is becoming of keener interest day by day in view of the development of scientific research.

On many occasions I have felt obliged to call the attention of people in positions of responsibility to the dangers for humanity that can derive from a distorted use of scientific discoveries. The future

of the world is threatened at its roots by those very advances that bear the clearest imprint of man's genius. This is the result of utilizing scientific progress for ends that have nothing to do with science. Science is for truth and truth for man, and man reflects as an image^[1] the eternal transcendent Truth that is God. The experience of history, however, in particular recent history, shows scientific advances being used frequently against man, at times in terrifying ways. During the journey I am soon to make to the Far East I intend to go to Hiroshima, in order to pray in the place that was the first to know the dreadful destructive power of atomic energy.

Each one of you could speak at length on the prospects for the development of research in his own field. He could also elaborate on the dangers of distorted applications of the expected developments. Today there are extensive possibilities for manipulating man. Tomorrow those possibilities will be even more extensive. Is there any need for me to emphasize the danger of radical dehumanisation that man is running if he advances madly along this road?

3. The question that has today become dramatically urgent is what criterion is to be followed in order not to suffer such disastrous consequences. When speaking to scientists and students in the Cologne cathedral on 15 November last, I said: "Technical science, aimed at transforming the world, is justified on the basis of the service it renders to man and humanity"^[2]. This, gentlemen, is the decisive criterion: the criterion of serving man, the whole man, in the whole of his spiritual and bodily subjectivity.

Our culture is permeated in all fields by a largely functional notion of science, namely, that what is decisive is technical success. The fact of being technically able to produce a certain result is held by many to be sufficient motive for not having to ask further questions about the legitimacy of the process leading to the result, or even about the legitimacy of the result in itself. Clearly, such a view leaves no room for a supreme ethical value or even for the very notion of truth.

The consequences of such a minimal view of science have not been slow in appearing: scientific progress is not always accompanied by a similar improvement in man's living conditions.

Unwished-for and unforeseen effects have been brought about, causing serious concern in ever wider sectors of the population. It is enough to think of the problem of the environment as a result of the progress of industrialization. Serious doubts have thus arisen about the capability of progress as a whole to serve man.

Is it any surprise that people are beginning today to speak of a legitimacy crisis for science, and indeed of a crisis regarding the course to be set for the whole of our scientific culture? Science alone is incapable of giving a complete answer to the issue of the basic significance of human life and activity. Their significance is revealed when reason, going beyond the physical datum, uses metaphysical methods to attain to the contemplation of the "final causes" and there discovers the supreme explanations that can throw light on human events and give them meaning.

The search for final significance is complex by nature and exposed to the danger of error, and man would often remain groping in the dark if he were not aided by the light of faith. The Christian revelation has made an inestimable contribution to the awareness that modern man has been able to attain of his own dignity and his own rights. I have no hesitation in repeating here what I said to the members of UNESCO: "The whole of the affirmations concerning man belongs to the very substance of Christ's message and of the mission of the Church, in spite of all that critics may have declared about this matter"[3].

4. There is no intention of ignoring or underestimating the tensions that have arisen in the course of history between the Church and the modern natural sciences. The remembrance of those conflicts cannot fail to grieve the believer of today, who is better aware of the mistaken appraisals and the defective methods that gave rise to that opposition. Faith and science belong to two different orders of knowledge which cannot be superimposed on each other.

If the distinction between the orders of knowledge is respected and if both science and theology proceed with their investigations without being unmindful of the methodological principles proper to each, there is no fear that they will reach contradictory results. We can indeed be confident that, in that case, the two orders of knowledge will establish a beneficial dialogue through which man will be able to investigate more and more penetratingly the truth in all its aspects. For both reason and faith derive from the same divine source of all truth.

The believer knows well that all that exists springs from a word uttered by the Creator, from an initial fiat, which already contained all things and their universal order. Consequently, the believer holds that the world has an explanation and that, as science advances arduously and tiresomely, even if at times it hesitates or loses its way, it must reach an understanding that the universe constitutes - as the very etymology of the word "universe" indicates - a complex order in which the various elements are harmoniously related with one another.

In the same way, the great scientists are convinced that the final aim of natural science is the discovery of a fundamental law - the simplest possible, but because of its very simplicity the most difficult to grasp - to explain the constitution of the universe. The scientist thinks that a single principle governs all things and their basic interactions[4].

And so the issue today is no longer that of opposition between science and faith. A new period has begun: the efforts of scientists and theologians must now be directed to developing a constructive dialogue, making it possible to examine more and more deeply the fascinating mystery of man and also to foil the threats to man that are unfortunately growing daily more grave.

5. Gentlemen, the part that you can play in this regard is of extraordinary importance. The high award through which recognition has been given not only to the results of your studies but also to your generous dedication for many years to the noble task of scientific research gives you

particular competence as partners in this dialogue with the representatives of theological knowledge.

The efforts you will devote to this inter-disciplinary exchange, together with the corresponding efforts of the experts in “the science of God”, will encourage significant progress in the comprehension of truth, which is a complex unity that can be grasped only if viewed from many sides, only if it is the meeting point of different forms of open-ended and complementary knowledge.

In particular, it will encourage more complete knowledge of man, of the components of his being, and of the historical and yet transcendental dimension of his existence.

Man will then be seen ever more clearly for what he is: an end, never a means; a subject, never an object; a goal, never merely a stage on the way to a goal. In a word, man will be seen as a person, the only legitimate attitude to whom is that of unconditional respect. Respect for man will therefore become the supreme test for judging every employment of science and every concrete planning of new experiments that could be made possible by technology.

The future of mankind depends on these basic ethical values. To ignore them would mean becoming responsible before posterity - if there is posterity - for the extremely serious crime of “offence against mankind”. You are the pioneers of science and you must act as watchful sentinels on the paths of progress, denouncing any form of intervention on man or his life environment that would be seen to be an attack on his dignity or his inalienable rights. This is a responsibility that falls to you. May it also be the reason for which you will truly deserve to be held up tomorrow for the admiration and gratitude of those who will have been saved by your courageous foresight from the risks of dreadful catastrophes.

We are approaching the day on which the Church recalls with joyful emotion the birth at Bethlehem of a Man who was also God. I would like to express the wish that the celebration of this Christmas will newly inspire every believer to devote all his energies to defending the unique and unrepeatable dignity of each human being. This wish of mine is also my heart’s prayer to the Word of God who became man for love of man.

[1] Cfr. *Gen.* 1, 27.

[2] Ioannis Pauli PP. II *Allocutio in Templo Coloniae habita*, die 15 nov. 1980: vide *supra*, pp. 1200-1211.

[3] Eiusdem *Allocutio ad UNESCO habita*, 10, die 2 iun. 1980: *Insegnamenti di Giovanni Paolo II*, III, 1 (1980) 1643.

[4] Cfr. Victor Weisskopf, *The significance of Einstein's thought*, Pontificia Academia Scientiarum, Einstein, Galileo, Libreria Editrice Vaticana, 1980, p. 31.

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