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**ADDRESS OF HIS HOLINESS JOHN PAUL II
TO SCIENTISTS AND REPRESENTATIVES
OF THE UNITED NATIONS UNIVERSITY***

Hiroshima

Wednesday, 25 February 1981

Ladies and Gentlemen,

1. How can I express my feelings at this unique meeting, in Hiroshima, with the distinguished representatives of science, culture and higher learning? First of all, I would like to say that I feel very honored to be among a group of such highly qualified men and women, who devote their energies to the business of government and to research, intellectual reflection and teaching. I am very grateful to the City and Prefecture of Hiroshima for welcoming me here today. I thank you sincerely for your cordial and benevolent welcome.

I would like to offer a particular greeting to the representatives of the *University of the United Nations*, represented here by its Rector, Mr Soedjatmoko, the Vice-Rectors, members of the Council, and the principal collaborators of the University. Your institution, which by its statutes is linked to the United Nations Organization and to UNESCO, is a completely original creation, founded to promote the lofty aims of the United Nations at the levels of research, advanced training and the dissemination of knowledge ; it was deliberately established as a global and worldwide institution. My predecessor Paul VI and I have on more than one occasion expressed our esteem for this noble enterprise and our hopes for its future. It seeks to place science and research at the service of the great humanitarian ideals of peace, development, the improvement of food resources, the proper use of natural resources and cooperation between the nations.

2. Ladies and gentlemen, we have gathered here today at Hiroshima : and I would like you to know that I am deeply convinced that we have been given an historic occasion for reflecting together on *the responsibility of science and technology* at this period, marked as it is by so much hope and so many anxieties. At Hiroshima, the facts speak for themselves, in a way that is dramatic, unforgettable and unique. In the face of an unforgettable tragedy, which touches us all as human beings, how can we fail to express our brotherhood and our deep sympathy at the frightful wound inflicted on the cities of Japan that bear the names of Hiroshima and Nagasaki?

That wound affected the whole of the human family. Hiroshima and Nagasaki : few events in history have had *such an effect on man's conscience*. The representatives of the world of science were not the ones least affected by the *moral crisis* caused throughout the world by the explosion of the first atomic bomb. The human mind had in fact made a *terrible discovery*. We realized with horror that nuclear energy would henceforth be available as a weapon of devastation ; then we learned that this terrible weapon had in fact been used, for the first time, for military purposes. And then there arose the *question that will never leave us again*: Will this weapon, perfected and multiplied beyond measure, be used tomorrow? If so, would it not probably destroy the human family, its members and all the achievements of civilization?

3. Ladies and gentlemen, you who devote your lives to the modern sciences, you are the first to be able to evaluate the disaster that a nuclear war would inflict on the human family. And I know that, ever since the explosion of the first atomic bomb, *many of you have been anxiously wondering about the responsibility of modern science and of the technology that is the fruit of that science*.

In a number of countries, associations of scholars and research-workers express the anxiety of the scientific world in the face of an irresponsible use of science, which too often does grievous damage to the balance of nature, or brings with it the ruin and oppression of man by man. One thinks in the first place of physics, chemistry, biology and the genetical sciences, of which you rightly condemn those applications or experimentations which are detrimental to humanity. But one also has in mind the social sciences and the human behavioral sciences when they are utilized to manipulate people, to crush their minds, souls, dignity and freedom.

Criticism of science and technology is sometimes so severe that it comes close to condemning science itself. On the contrary, science and technology are a wonderful product of a God-given human creativity, since they have provided us with wonderful possibilities, and we all gratefully benefit from them. But we know that this potential is not a neutral one : it can be used either for man's progress or for his degradation. Like you, I have lived through this period, which I would call the "post-Hiroshima period", and I share your anxieties. And today I feel inspired to say this to you : surely the time has come for our society, and especially for the world of science, to realize that *the future of humanity depends, as never before, on our collective moral choices*.

4. In the past, it was possible to destroy a village, a town, a region, even a country. Now, it is the

whole planet that has come under threat. This fact should finally compel everyone to face *a basic moral consideration: from now on, it is only through a conscious choice and through a deliberate policy that humanity can survive.*

The moral and political choice that faces us is that of putting all the resources of mind, science and culture at the service of peace and of the building up of a new society, a society that will succeed in *eliminating the causes of fratricidal wars* by generously pursuing the total progress of each individual and of all humanity. Of course individuals and societies are always exposed to the passions of greed and hate ; but, as far as within us lies, let us try effectively to correct the social situations and structures that cause injustice and conflict. We shall build peace by building a more humane world. In the light of this hope, the scientific, cultural and university world has an eminent part to play. Peace is one of the loftiest achievements of culture, and for this reason it deserves all our intellectual and spiritual energy.

5. As scholars and researchers, you represent *an international community, with a task that can be decisive* for the future of humanity. But on one condition : that you succeed in defending and serving man's true culture as a precious possession. Your role is a noble one, when you work towards man's growth in his being and not just in his possessions or his knowledge or his power. It is in the depths of his being that man's true culture lies.

I tried to express *this fundamental aspect of our civilization* in an address that I gave to UNESCO on June 2, 1980: "culture is a specific way of man's 'existing' and 'being'... Culture is that through which man, as man, becomes more man, 'is' more, has more access to 'being'. The fundamental distinction between what man is and what he has, between being and having, has its foundation there too ... All man's 'having' is important for culture, is a factor creative of culture, only to the extent to which man, through his 'having', can at the same time 'be' more fully as a man, become more fully a man in all the dimensions of his existence, in everything that characterizes his humanity".

This concept of culture is based upon *a total view of man*, body and spirit, person and community, a rational being and one ennobled by love : "Yes ! the future of man depends on culture ! Yes ! the peace of the world depends on *the primacy of the Spirit!* Yes ! the peaceful future of mankind depends on love!"^[1]. In truth, our future, our very survival are linked to the image that we will make of man.

6. Our future on this planet, exposed as it is to nuclear annihilation, depends upon one single factor: *humanity must make a moral about-face.* At the present moment of history, there must be a general mobilization of all men and women of good will. Humanity is being called upon to take *a major step forward, a step forward in civilization and wisdom.*

A lack of civilization, an ignorance of man's true values, brings the risk that humanity will be

destroyed. We must become wiser. Pope Paul VI, in his Encyclical entitled "[The Development of Peoples](#)"[2], several times stressed the urgent need to have recourse to the wise in order to guide the new society in its development. In particular, he said that "if further development calls for the work of more and more technicians, even more necessary is the deep thought and reflection of wise men in search of a new humanism which will enable modern man to find himself anew by embracing the higher values of love and friendship, of prayer and contemplation".

Above all, in this country of Japan, renowned for its creativity, both cultural and technological, a country with so many scientists, scholars, writers and religious thinkers, I take the liberty of making a very special appeal. I wish to address myself to the wise men and women of Japan, and through them to the wise men and women of the whole world, in order to encourage them to pursue ever more effectively the task of social and moral reconstruction, which our world so ardently awaits. Work together to defend and promote, among all the people of your nation and of the world the idea of a just world, a world made to man's scale, a world that enables human beings to fulfill their capacities, a world that sustains them in their material, moral and spiritual needs.

7. Men and women dedicated to research and culture : your work has taken on a completely new importance in this age marked by the rise of science and technology. What an achievement for our time, what *intellectual and moral power, what a responsibility towards society and humanity!* Shall we be able to join in placing this scientific and cultural heritage at the service of the true progress of humanity, for the building of a world of justice and dignity for all?

The task is enormous; some will call it an utopian one. But how can we fail *to sustain the trust of modern men*, against all the temptations to fatalism, to paralyzing passivity and to moral dejection? We must say to the people of today : do not doubt, your future is in your own hands. The building of a more just humanity or a more united international community is not just a dream or a vain ideal. It is a moral imperative, a sacred duty, one that the intellectual and spiritual genius of man can face, through a fresh mobilization of everybody's talents and energies, through putting to work *all the technical and cultural resources of man*.

8. The people of our time possess, in the first place, tremendous *scientific and technological resources*. And we are convinced that these resources could be far more effectively used for the development and growth of peoples ; let us envisage the progress made in agriculture, biology, medicine, the social communications media applied to education ; then there are the social and economic sciences, and the science of planning, all of which could combine to direct in a more humane and effective way the process of industrialization and urbanization, and promote the new models of international cooperation.

If all the rich nations of the world wanted to, they could call in an impressive number of specialists for the tasks of development. All of this obviously presupposes political choices, and, more fundamentally, moral options. The moment is approaching when *priorities will have to be*

redefined. For example, it has been estimated that about a half of the world's research-workers are at present employed for military purposes. Can the human family morally go on much longer in this direction?

There is also the question of the *economic resources needed* for giving a decisive impulse to the integral advancement of the human family.

Here too we are faced with choices. Can we remain passive when we are told that humanity spends immensely more money on arms than on development, and when we learn that one soldier's equipment costs many times more than a child's education?

9. Science and technology have always formed part of man's culture, but today we are witnessing the speedily increasing growth of a technology which seems to *have destroyed its equilibrium with the dimensions of culture* by acting as an element of division. Such is the great problem facing modern society.

Science and technology are the most dynamic factors of the development of society today, but their intrinsic limitations do not make them capable, by themselves, of providing a power that will bind culture together. How then can a culture absorb science and technology, with their dynamism, without losing its own identity?

There are *three temptations* to be avoided in this regard. The first is the temptation to pursue technological development for its own sake, the sort of development that has for its only norm that of its own growth and affirmation, as if it were a matter of an independent reality in between nature and a reality that is properly human, imposing on man the inevitable realization of his ever new possibilities, as if one should always do what is technically possible.

The second temptation is that of subjecting technological development to economic usefulness in accordance with the logic of profit or nonstop economic expansion, thus creating advantages for some while leaving others in poverty, with no care for the true common good of humanity, making technology into an instrument at the service of the ideology of "having".

Thirdly, there is also the temptation to subject technological development to the pursuit or maintenance of power, as happens when it is used for military purposes, and whenever people are manipulated in order that they may be dominated.

10. As men and women dedicated to culture, you enjoy *immense moral credibility* for acting upon all the centers of decision-making, whether private or public, that are capable of influencing the politics of tomorrow.

Using all honest and effective means, make sure that a total vision of man and a generous idea of

culture prevail. Work out persuasive arguments, so that everyone will be brought to understand that *peace or the survival of the human race is henceforth linked indissolubly with progress, development and dignity for all people*. You will succeed in your task if you restate with conviction that "science and technology find their justification in the service that they render to man and to humanity" ; and that rational science must be linked with a series of spheres of knowledge open wide to spiritual values.

I urge all scientists, centers of research and universities to study more deeply *the ethical problems of the technological society*, a subject which is already engaging the attention of a number of modern thinkers. It is a question that is closely connected with the problems of the just sharing of resources, the use of techniques for peaceful purposes, the development of nations.

11. The construction of a new social order presupposes, over and above the essential technological skills, a lofty inspiration, a courageous motivation, belief in man's future, in his dignity, in his destiny. It is man's heart and spirit that must be reached, beyond the divisions spawned by individual interests, selfishness and ideologies.

In a word, *man must be loved for his own sake*. This is the *supreme value* that all sincere humanists, generous thinkers and all the great religions want to promote. Love for man as such is at the center of the message of Jesus Christ and his Church : this relationship is indissoluble.

In my speech to UNESCO, I stressed the fundamental link between the Gospel and man in his very humanity : "This link is in fact a creator of culture in its very foundation ... Man must be affirmed for himself ... What is more, man must be loved because he is man ; love must be claimed for man by reason of the particular dignity he possesses. The whole of the affirmations concerning man belongs to the very substance of Christ's message and of the mission of the Church"[3].

All those who desire the defense and progress of man must therefore love man for his own sake; and for this it is essential to count upon the values of the spirit, which are alone capable of transforming hearts and deeply-rooted attitudes. All of us who bear in our hearts the treasure of a religious faith must share in the common work of man's development, and we must do it with clear-sightedness and courage. All Christians, all those who call upon God, all spiritual families should be invited to join in a common effort to sustain, spiritually and culturally, all those men and women who devote themselves to the total growth of man.

12. In this country, one could not fail to evoke the great spiritual and religious traditions of Asia, traditions that have so enriched the worldwide heritage of man. Nor could one fail to wish for *closer dialogue and effective collaboration* between all those who believe in man's spiritual calling, his search for the Absolute, for justice, for fraternity, and, as we express it in our own faith, his thirst for redemption and immortality.

Rational science and man's religious knowledge need to be linked together. You who devote yourselves to the sciences, are you not invited to study the link which must be established between scientific and technological knowledge and man's moral knowledge? Knowledge and virtue were cultivated together by the ancients, in the East as well as in the West. Even today, I know well, many scholars, even though they do not all profess one particular religion, are searching for an integration between their science and their desire to serve the whole man.

Through their intellectual honesty, their quest for what is true, their self-discipline as scholars, and through their objectivity and respect before the mysteries of the universe, these people make up a great spiritual family. All those who generously dedicate their knowledge to the progress of the people and all those who have faith in man's spiritual calling are invited to a common task to constitute a *real science of the total advancement of man*.

13. In a word, I believe that our generation is faced by a great moral challenge, one which consists in harmonizing the values of science with the values of conscience. Speaking to UNESCO on June 2, 1980, I made an appeal that I put before you again today conviction, which is at the same time a *moral imperative*, forces itself upon anyone who has become aware of the situation ... consciences must be mobilized !

The efforts of human consciences must be increased in proportion to the tension between good and evil to which people at the end of the twentieth century are subjected. We must convince ourselves of the priority of ethics over technology, of the primacy of the person over things, of the superiority of the spirit over matter^[4]. The cause of man will be served if science forms an alliance with conscience. The man of science will really help humanity if he keeps 'the sense of man's transcendence over the world and of God's transcendence over man'^[5].

Ladies and gentlemen, it is for you to take up this noble challenge.

[1] AAS 72 (1980) pp. 738, 751.

[2] 26 March 1967, no. 20.

[3] No. 10.

[4] Cf. *Redemptor Hominis*, 16.

[5] Speech to the Pontifical Academy of Sciences, 10 November 1979, no.4.

*AAS 73 (1981), p. 420-428.

L'Osservatore Romano 26.2.1981 p.1, 2.

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