The Holy See

ADDRESS OF POPE JOHN PAUL II TO THE SCIENTISTS ON THE OCCASION OF THE STUDY WEEK ORGANIZED BY THE PONTIFICAL ACADEMY OF SCIENCES

Tuesday, 2 October 1984

Dear Friends,

1. I am very grateful to the Pontifical Academy of Sciences and to its President, Professor Carlos Chagas, for having arranged this interesting Study Week on the subject of "The Impact of Space Exploration on Mankind" being held in the Casina of Pius IV.

For me it is a source of great satisfaction to meet you, the members of the Pontifical Academy and scientists from all over the world. The present assembly gives me an opportunity to express my admiration at the exceptional developments which have taken place in space technology. At the same time it enables me to expound the guidelines of a moral, social and spiritual order which belong to the mission entrusted to the Successor of Peter by Christ.

2. Centuries have passed since Galileo's telescope penetrated the heavens and gave mankind a new vision of the universe. In his brief but fundamental work entitled *Sidereus Nuncius*, published in Venice in 1610, he spoke of the discoveries made by means of his telescope, but he added, being both a scientist and a believer, that he had made them *divina prius illuminante gratia*, preceded by the enlightenment of divine grace.

Other great scientists such as Kepler and Newton likewise searched the heavens with the spirit of believers. Poets and philosophers such as Pascal contemplated with awe the mysterious silence of outer space.

3. Today, your gaze is directed at the heavens not only in order to study and contemplate the stars

created by God, as was done by the great figures I have just mentioned, but in order to speak of the space probes, space stations and satellites made by man. I am with you in your work, for I regard the presence in space of man and of his machines with the same admiration as that of Paul VI at the time of the Apollo 13 undertaking when the invited those taking part in the Study Week on "The Nuclei of the Galaxies" to "pay homage to those who, by their study, action and authority have once more shown the world the unlimited powers of the sciences and of modern technology. With us also you will raise an ardent hymn of gratitude to God, the Creator of the universe and Father of humanity, who in these ways also wishes to be sought and found by man, adored and loved by him".

4. Today, years after those first events, we can see the immense path covered by man's intelligence in knowing the universe, and we rejoice in this by reason of our very faith, for the perfection of man is the glory of God. The researches of science on the nature of our universe have progressed and will progress still more, with the use of highly sophisticated systems such as those perfected by the late member of the Pontifical Academy, Professor Giuseppe Colombo. Instruments are capable of going into space and avoiding the disturbances connected with the earth's surface and the lower layers of the atmosphere. Space probes, a new challenge by man to the distances of space and a symbol of his ever restless desire for knowledge, are coming ever closer to the heavenly bodies, in order to reveal their inmost secrets. Permanent space stations will in their turn be centres of observation making possible experiments never before attempted and the study of new techniques. All these new space instruments have been achieved thanks to the great progress of fundamental scientific research in mathematics, physics and chemistry, and through the development of the telecommunications techniques discovered by a great member of the Academy, Guglielmo Marconi.

5. These various modes of man's presence in space lead us to ask a question: to whom does space belong? While space was something merely observed and studied by the human eye, though with the aid of powerful astronomical instruments, this question was not yet asked. But now that space is visited by man and his machines, the question is unavoidable: to whom does space belong? I do not hesitate to answer that space belongs to the whole of humanity, that it is something for the benefit of all. Just as the earth is for the benefit of all, and private property must be distributed in such a way that every human being is given a proper share in the goods of the earth, in the same way the occupation of space by satellites and other instruments must be regulated by just agreements and international pacts that will enable the whole human family to enjoy and use it. Just as earthly goods are not merely for private use but must also be employed for the good of neighbour, so space must never be for the exclusive benefit of one nation or social group. The questions of the proper use of space must be studied by jurists and given a correct solution by governments.

The presence of man in space with his satellites and other instruments also involves other matters of a cultural, moral and political nature which I would bring to your attention.

6. One of the biggest tasks that can be carried out by the use of satellites is the elimination of illiteracy. About one billion people are still illiterate. Again, satellites can be used for a wider spreading of culture in all the countries of the world, not only in those where illiteracy has already been eliminated but also in those where many can still not yet read or write, for culture can be spread with the use of pictures alone. I hope that the scientific and technological progress which you are now discussing will cooperate in the spreading of a culture that will truly promote the all-round development of man.

But the transmission of culture must not be identified with the imposition of the cultures of the technologically advanced countries on those still developing. Peoples with ancient cultures, though sometimes still partly illiterate but endowed with an oral and symbolic tradition capable of passing on and preserving their own cultures, must not fall victim to a cultural or ideological colonialism that will destroy those traditions. The rich countries must not attempt, through the use of the instruments at their disposal and in particular modern space technology, to impose their own culture on poorer nations.

7. Satellites will carry out a beneficial task when instead of imposing the culture of the rich countries they favour a dialogue between cultures, which means a dialogue between the nations, essential for the peace of the world. Nations have cultural frontiers that are more deeply rooted than geographical and political ones: it must be possible to cross these latter, for every human being is a citizen of the world, a member of the human family. These barriers must not however be altered in a violent way. Similarly, cultural frontiers must not impede a fruitful dialogue between cultures, nor must they be violated by forms of cultural or ideological dictatorship. Modern space technology must not be used by any form of cultural imperialism, to the detriment of the authentic culture of human beings in the legitimate differences that have developed in the history of the individual peoples.

8. Modern space technology properly understood also provides observations useful for the cultivation of the earth, far beyond anything that can be done by any system working on the earth’s surface. Through the use of satellites it is possible to obtain exact data regarding the condition of tracts of land, the flow of water and weather conditions. These data can be used for the purpose of improving agriculture, checking the state of woodlands and forests, evaluating the condition of individual zones or of the whole earth, thus making it possible to draw up particular or global programmes in order to meet concrete situations.

This so-called "remote sensing" is of fundamental importance in the fight against hunger, provided that the economic and political powers that possess these special means of observing the world situation help the poorer countries to draw up programmes of economic development and help them in a practical way to carry out these programmes.

9. With your knowledge and practice of modern space technology, you are well aware of how it

would be possible to work out adequate programmes for helping the world to overcome the imbalance of agricultural practices, the advance of deserts, ecological disasters caused by human rapacity against the earth, in the waters and in the atmosphere, with the ever more alarming destruction of animal and plant life, and with grave and mortal illnesses affecting human life itself.

Order and justice must be re-established, harmony between man and nature must be restored. We must strive for a technology that will free the poor peoples and relieve oppressed nature, that will promote projects and agreements. Space technology can make a highly effective contribution to this cause.

10. Ladies and Gentlemen, true peace is born from the heart of those who are open to the gift of God, that God who at the coming of Christ promised peace to people of good will. In your scientific researches and technological inventions I invite you to seek the God of peace, the Invisible One who is the source of everything that is visible. I exhort you to seek him by listening to the silence of space. Heaven and earth proclaim that they are only creatures, and they urge you to rise into the supreme heaven of transcendence, in order to open your minds and hearts to the love that moves the sun and the other stars. Thus you will be the creators not only of ever more perfect instruments but also of that civilization which is the only one desired by God and by men and women of good will: the civilization of truth and love, so necessary to guarantee peace between the nations of the world.