Address to the Plenary Session and to the Study Week on the Subject 'Biological and Artificial Membranes and the Desalination of Water'

Paul VI declares that the scientist and especially the Christian scientist should defend and steward the 'earthly future of mankind', and that such activity is, in relation to future generations, a 'form of charity' within the framework of 'ecology'. He also says that the scientific inquirer must realise that nature has secret possibilities which human intelligence should discover and make use of 'in order to reach the development which is in the Creator's plan'. God, who is the 'Author of nature and the human spirit', wants this initiative and this fact should encourage the scientific researcher in his endeavours.

Your Eminences, Excellencies,

At the end of your study week, we are happy to renew to you the expression of our deep esteem and our warm encouragement to bring to scientific progress the high quality contribution of which the Pontifical Academy of Sciences is capable.

If the Holy See rejoices at this contribution, and with you is proud of it, it is on account of the considerable service you can render mankind in a more thorough knowledge of nature and the improvement of living conditions. The Church is even more directly concerned when it is a question of fields in which science, ethics and faith are involved at one and the same time, sectors in which your testimony as believers together with your scientific competence is particularly appreciated.

During the year 1974, the activities Of the Pontifical Academy of Sciences were continued, under the great drive of its President, to whom we wish to pay tribute. Work and meetings of experts,

scientific publications, cultural events, speeches in connection with the Synod of Bishops, manifested brilliantly the vitality of your institution, which will soon celebrate its fortieth anniversary. We remember particularly the Commemoration of Guglielmo Marconi, an initiative of yours.

At present you have just studied the highly specialised problem of the biological and artificial membranes capable of bringing about the desalination of water. As you can imagine, we will not go into the technical question, or into the possibilities of its application, which would probably still be premature. But we know that it is a question of a kind of important metabolism, which it is in the interest of mankind to discern, since the shortage of reserves of fresh water threatens to hinder its development.

Let us just emphasise, in the more general field of scientific research, two attitudes which, it seems to us, should characterise the scientist, and especially the scientist who is a Christian. On the one hand, he must honestly consider the question of the earthly future of mankind and, as a responsible person, help to prepare it, preserve it, and eliminate risks; we think that this solidarity with future generations is a form of charity to which a great many men are sensitive today, in the framework of ecology. But at the same time, the scientist must be animated by the confidence that nature has in store secret possibilities which it is up to intelligence to discover and make use of, in order to reach the development which is in the Creator's plan. This hope in the Author of nature and of the human spirit, rightly understood, is capable of giving new and serene energy to the researcher who is a believer.

In this spirit, we encourage you to continue with your work and to carry out, according to the financial means, alas limited, of the Academy, the happy initiatives that do it credit.

We have the joy of presenting now the Pius XI Medal to Mr. Stephen William Hawking whose studies, among others, on 'Black Holes' have rightly won him an international reputation. All our congratulations, dear Professor, and our best wishes for all of you, Gentlemen, for your activities and those of the Academy. We add our Apostolic Blessing, as a token of our solicitude for your spiritual life.