



23 April 1966

**Address to the Plenary Session and to the Study Week on the Subject 'Molecular Forces'**

*The Pope observes that the Second Vatican Council's 'Pastoral Constitution on the Church in the Modern World' calls for a necessary synthesis of specialised knowledge. He emphasises that such specialisation can impede a spiritual perspective. Asserting that the Church 'rejoices at every true acquisition of the human spirit', the Pope makes clear that science should not only 'not injure morality or the profound welfare of the human being' but should also provide a service, 'what might be termed "the charity of knowledge"'. In such an endeavour, science cannot turn to science alone: Holy Scripture provides the 'decisive answers that science cannot give'.*

Dear Gentlemen,

In welcoming you, Gentlemen, at the close of your study week on 'Molecular Forces', it is not our intention – as you may imagine – to venture into the scientific field which is yours. We prefer to speak to you of the Church's esteem for you, of the interest with which she follows your activities, the desire which animates her to do all in her power to encourage the happy development and constant progress of your researches within the Pontifical Academy of Sciences.

The eminent founder of this Academy, the great Pope Pius XI, as you are aware, was deeply interested in this activity. So also were his two successors, and it is unnecessary to remind you here of the masterly addresses by which, in the course of his long and glorious pontificate, our predecessor, Pius XII, desired to honour each of your sessions.

With the accession of Pope John XXIII, from whom we inherited the heavy burden of office, it may be said that quite a new element entered into relations between ecclesiastical authority and the scientific world.

It is no longer merely the visible head of the Church in isolated addresses, but the bishops of the whole world assembled in Council who have been obliged to express their opinion as to the Church's attitude in the modern world, more particularly in view of modern cultural developments and in regard to the object of those labours to which your lives are so nobly devoted, namely, scientific research.

The results of this vast 'examination of conscience' on the part of the Church in this field have been recorded in a document which, we believe, is worthy of your attention and with which many of you are no doubt already familiar, namely, the 'Pastoral Constitution on the Church in the Modern World'.

Contemplating in its second section a certain number of real problems with which the Church is faced in our day, this important document deals with the domain of culture. It hails the progress of culture, in the first place, and the advent of what may be called a 'new humanism'. But it points out immediately the complexity of the consequent problems, more particularly the one which seems to us to be of special interest to you: 'As special branches of knowledge continue to shoot out so rapidly', it states, 'how can the necessary synthesis of them be worked out, and how can men preserve the ability to contemplate and to wonder from which wisdom comes?'.<sup>1</sup>

It can be said that this brief paragraph places perfectly face to face the point of view of the specialised scientist – your own – and that of the Church. You are concerned – and this does you honour – before all else about the progress of human knowledge, to ensure fresh acquisitions continually in each of its branches. There follows, by force of circumstances, this continued 'shooting out so rapidly' of which the conciliar document speaks. The Church herself is before all else solicitous for synthesis, for her mission is to safeguard the harmony and balance of the rational creature, to aid him to ascend to this higher 'wisdom' stemming from the divine revelation of which she is the depositary.

The Church is aware of the dangers involved in excessive specialisation and of the obstacles which the latter can place in the way of the soul's impulse towards what is spiritual.

In man's own interests, the Church desires at all costs to save that 'ability to contemplate and to wonder' to which a purely technical civilisation would be in danger of attaching little value. Above all does she fear, like a mother solicitous for the true good of her children, 'that man, confiding too much in modern discoveries, may even think that he is sufficient unto himself and no longer seek any higher realities'.<sup>2</sup> These are again the very words of the 'Constitution on the Church in the Modern World' and they introduce us into the heart of the debate between the Church and science. The Church asks: what exactly is the value of scientific research? Just how

far does it go? Does it exhaust the whole of reality, or is it not rather a mere segment, the one pertaining to the truths that can be reached by scientific processes? And these truths themselves, so justifiably dear to the man of science, are they at least final, or are they not to be dethroned tomorrow by some new discovery? How many lessons do we receive on this point from the history of the sciences!

Besides, this study of the specialised researchers, however admirable and profound it may be, does it in the end supply the reason for the things it discovers? How many stars there are in the sky! Certainly, but how and why? How many marvels there are in the anatomy and physiology of the human body! Undoubtedly, but why does the human body exist? Why does man exist? Science is mute at this stage, and must be so, under pain of departing from its own domain. It stops on the threshold of the decisive questions: who are we? Whence have we come? Where are we going?

Do not think, Gentlemen, that in bringing up these questions we have even the slightest intention of calling in question the value of the scientific method. More than anyone else the Church rejoices at every true acquisition of the human spirit, in any field whatsoever. She recognises and keenly appreciates the importance of scientific discoveries. The effort of intelligence and organisation necessary to reach new results in this domain is, as far as she is concerned, the object of encouragement and admiration. For she does not see here merely the magnificent use of the intellect. She discovers also the exercise of high moral values which confer on the scientist the aspect and the merit of an ascetic, at times of a hero, to whom mankind must pay an ample tribute of praise and gratitude.

In her dialogue with the world of science, the Church does not limit herself to assigning to scientific research its exact place in the universe of knowledge, to stating precisely its limits and recognising its results. She has a further word to say to the man of science concerning his mission in the universe created by God.

It is only too evident that science does not suffice in itself, is unable of itself to be its own end. Science does not exist except through and for man; it must leave the circle of research and pour itself out on man, and hence on society and history as a whole.

Science is a queen in her own domain. Who would dream of denying it? But it is a servant in relation to man, who is king of creation. If it were to refuse to serve, if it no longer aimed at the good and the progress of humanity, it would become sterile, useless and, let us say so, harmful.

The consequences of this mission of service are incalculable, and here we ought to face – but the too brief moments at our disposal do not allow of this – the immense problem of the morality of the applications of science. Whether it is a question of genetics, of biology, of the employment of atomic energy, of many other fields which affect what is essential in man, the upright scientist cannot but question himself as to the bearing of his discoveries on this psycho-physiological complex which is, in a word, a human person. Is everything permissible? Can applied science dispense with a norm of morality, can it proceed unchecked 'beyond good and evil'? Who can fail to see the aberrations in which some could indulge in the name of science?

But the Church expects from science not merely that it may not injure morality or the profound welfare of the human being. She expects from it a positive service, what might be termed the 'charity of knowledge'. You, Gentlemen, are the ones who hold the keys of highest learning. We venture to assume towards you at this moment the office of advocate on behalf of the innumerable masses who receive only from a distance and rarely, a few drops, a few morsels of this vast human knowledge.

Allow us to ask you on their behalf to cultivate research, but in order that it may be of use to others, that the light of discovered truth may be spread abroad, that the human race may be enlightened by it, improved and perfected; so that the political economy of the nations may draw from it directives which will lead more surely to the true welfare of mankind. This is the immense panorama which is unfolded before the scientist when, coming forth from his laboratory to look around him, he perceives something of man's expectation; an expectation which stirs men's hearts and opens them up to hope and joy, although leaving room at times it must indeed be said, for a feeling of uneasiness and anxiety.

This uneasiness and anxiety will be dissipated on the day on which men will become aware and will feel that the scientist is animated by a sincere spirit of service towards humanity, that he desires nothing so much as to enlighten men, to assist them, to ensure their progress and happiness.

You will no doubt recall, Gentlemen, that 'message to men of thought and science' which was proclaimed on the closing day of the Council. Before dispersing, the imposing assembly turned to you to leave you with this urgent exhortation: 'Continue your search without tiring and without ever despairing of the truth ... Seek the light of tomorrow with the light of today until you reach the fullness of light!' And the Council Fathers added: 'We are the friends of your vocation as searchers, companions in your fatigue, admirers of your successes, and, if necessary, consolers in your discouragement and your failures'.

This latter phrase may have astonished you. Does not scientific research bring its own reward? Is the scientist not repaid for his trouble by the deep intellectual satisfactions attached to his work?

The Church nevertheless brings a higher wisdom, the source of incomparably greater joys. It may be said that your life as scientists is spent in reading from the great book of nature. We have another book, one which communicates to us the thoughts of God concerning the world, the inspired book, the holy book. This book gives us the decisive answers that science cannot give.

Allow us, Gentlemen, in concluding, to open before you a page of this book, the page in which the inspired author describes the rapture of his soul when he is given access to this wisdom, higher than all human knowledge, which you have heard the Council evoke just now.

'I prayed and prudence was given me; to God I prayed and the spirit of wisdom came upon me. This I valued more than kingdom or throne; I thought nothing of my riches in comparison ... All my treasures of gold were a handful of dust beside it, my silver seemed but base clay in presence of it. I treasured wisdom more than health or beauty, preferred her to the light of day, for hers is a flame which never dies down. Together with her all blessings came to me ... The lessons she taught me are riches honestly won, shared without stint, openly proclaimed ... She is a treasure men will find incorruptible; those who acquire it win God's friendship'.<sup>3</sup>

May this wisdom be the faithful companion of your arduous labours, Gentlemen. This is our wish and our hope, as we invoke from God upon yourselves, your families and your activities, most abundant blessings.

<sup>1</sup> N. 56, § 4.

<sup>2</sup> *Ibid.*, n. 57, § 5.

<sup>3</sup> *Ws* 7:7-14.