



Address to the Working Group on the Subject 'The Legal and Ethical Aspects of the Human Genome Project'

The Pope declares that research into the human genome must involve 'respect for the life and integrity of the subject'. Science cannot answer all truths; moral criteria for attaining what is good must be sought in the dignity of the human person. Application of knowledge in this field could 'represent a formidable threat to the human being'. The human embryo can never be used as a 'pure object of analysis or experimentation' and should be 'recognised as a legal subject by the laws of nations lest humanity be endangered'. In conclusion, John Paul II renews his appeal to the scientific community 'that the meaning of man and moral values remain the basis for decisions in the field of research'.

Your Excellencies,
Reverend Fathers,
Ladies and Gentlemen,

1. Your working sessions on the subject 'the legal and ethical aspects of the human genome project' are taking place at a particularly opportune moment. Recent news of experimentation in human genetics has overwhelmed the scientific community and many of our contemporaries. In the face of rapid scientific progress, ethical and legal reflection on such serious issues seems urgent as this century draws to a close.

2. I must first acknowledge *the numerous efforts of scientists, researchers and doctors who are dedicated to deciphering the human genome* and to analysing the results to gain greater knowledge of molecular biology and the genetic causes of many diseases. One cannot but encourage these studies, as long as they lead to new horizons in genetic treatment and therapy with respect for the life and integrity of the subject, and seek the individual protection or cure of patients, born or unborn, who are affected by what prove most frequently to be lethal pathologies. One must not, however, overlook the fact that these discoveries risk being used for the selection of embryos, eliminating those affected by genetic diseases or which are carriers of pathological genetic traits.

The constant improvement of our knowledge of the living being is in itself good because the search for the truth is inherent in man's primordial vocation and is the first praise addressed to the Creator 'who shapes each man's beginning as he brings about the origin of everything'.¹ *Human reason*, endowed with innumerable powers and varying activities, combines *scientific reason and ethical reason*. It is capable of perfecting experimental procedures to learn more about creation,

and at the same time reminds us of the obligations of the moral law at the service of human dignity. The desire to acquire knowledge, therefore, cannot be science's sole motive and justification, as we are sometimes tempted to think, at the risk of endangering the aim of the medical process: to seek, in an inseparable way, the good of the individual and of all humanity. Because it enables us to discover the infinitely great and the infinitely small, and achieves impressive results, *science is seductive and fascinating*. But we should remember that even though it may be able to explain biological functions and the interaction of molecules, *alone it cannot express the ultimate truth and offer the happiness* that man seeks to attain, nor dictate moral criteria for attaining the good. Indeed, the latter are not established on the basis of what is technically possible; they are not deduced from the findings of experimental sciences but must be 'sought in the dignity proper to the human person'.²

3. *The project that consists in deciphering the sequences of the human genome and in studying their macro-molecular structure in order to determine each individual's genetic map*, makes certain knowledge available to doctors and biologists. Some of the applications of this knowledge could reach beyond the medical field, and represent *a formidable threat to the human being*. It is enough to recall the many forms of eugenics or discrimination connected with the possible uses of prognostic medicine. In the light of recent research, the responsibility of the entire human community is called upon to ensure the respect due to the human person. According to their capacities, spiritual families, moralists, philosophers, lawyers and political authorities will exercise their vigilance to ensure that every scientific process respects the integrity of the human person, 'an ever urgent need'.³

4. It is therefore important to *take stock of the moral problems* that have bearing not on knowledge itself, but on *the means of acquiring knowledge as well as on its possible or predictable applications*. Indeed, we know that today we are able to acquire knowledge of the human genome without the slightest injury to the subject. Thus the first moral criterion to guide all research is respect for the human being on whom the research is being carried out. But certain discoveries, which appear to be technical achievements or scientific feats, could be at the root of a certain tension for the scientific spirit itself: on the one hand they cause admiration at the ingenuity displayed, and on the other, the frequently justifiable fear that the human person's dignity might be seriously harmed or jeopardised. This tension is all to the credit of those who reflect on the values that guide their choices as regards research, for they indicate the ethical sense that is naturally present in all consciences.

5. It is not the Church's task to establish the scientific and technical criteria of medical research, but it is up to the Church, *in the name of her mission and her centuries-old tradition*, to recall the *limits within which any process is beneficial to man*, for freedom must always be ordered to the good. In Christ, the Church contemplates the perfect Man, the model *par excellence* of all men and the way to eternal life; she wishes to offer lines of thought, to enlighten her brothers and sisters in humanity and to propose to them the moral values necessary for action, which may also

serve as indispensable reference points for researchers led to take decisions in which the dignity of man is involved. In fact, Revelation alone leads to man's integral knowledge, which philosophic wisdom and scientific disciplines can apprehend in a gradual and marvellous way, but which is always uncertain and incomplete.

6. *Each human being must be considered and 'respected as a person from the very moment of his conception',⁴ consisting of a body and a spiritual soul and possessing an intrinsic value:⁵ for the Church this is the guiding principle for the development of research. The human person is not defined according to his present or future activity nor obliged to become what is glimpsed of him in the genome, but according to the essential qualities of his being, the capacities connected with his very nature. From the moment of fertilisation, a new being cannot be reduced to its genetic inheritance, which are its biological basis and which hold the promise of life for the subject. As Tertullian says: 'he who must become a man is already a man'.⁶ In the scientific realm as in all areas, the right moral decision requires an integral view of man, in other words a conception going beyond the visible and the tangible, which recognises transcendent value and takes into account what establishes him as a spiritual being.*

Consequently, to use an embryo as a pure object of analysis or experimentation is to attack the dignity of the person and the human race. Indeed, no one has the right to determine the threshold of humanity for an individual being, which would amount to claiming for himself an inordinate power over his fellow man.

7. *Therefore at no moment in its development can the embryo be the subject of tests that are not beneficial, or of experimentation that would inevitably lead to its destruction or mutilation or irreversibly damage it, for man's nature itself would be mocked and wounded. The genetic inheritance is the treasure that belongs or could belong to a unique being who has the right to life and integral human growth. Thoughtless manipulations of gametes or embryos, which consist in transforming the specific sequences of the genome that bear the traits proper to the species and the individual, make humanity run the serious risk of genetic mutations that will necessarily alter the spiritual and physical integrity not only of the human beings on which these alterations are made but even more on individuals in future generations.*

If it is not ordered to his good, experimentation on man, which first seems an achievement in the area of knowledge, risks leading to the degradation of the authentic dignity and value of what is human. In fact, the moral criteria for research is always man in his physical and spiritual being. The ethical sense implies not being willing to engage in research that would offend his human dignity or hamper his overall growth. This is not however to condemn researchers to ignorance; they are invited to redouble their ingenuity. With a keen sense of what a man is, they will be able to find new paths of knowledge and carry out the invaluable service, expected from them by the human community.

The use of prognostic medicine, which accompanies the sequencing of the human genome, also raises other delicate problems. In particular, there is the issue of informed consent by the adult subject on whom the genetic research is performed, as well as that of respect for confidentiality

regarding the possible discovery of factors that could affect the person and his descendants. Nor should one any longer neglect the delicate issue of communicating to individuals data proving the existence, in latent form, of genetic pathologies that justify prognoses harmful to the subject's health.

8. *The Church wishes to remind legislators of their responsibility for the protection and promotion of persons*, since projects for human genome analysis are rich in promise but also imply innumerable risks. The embryo should be recognised as a legal subject by the laws of nations lest humanity be endangered. By protecting the embryo, society is protecting every man who recognises in this tiny, defenceless being what he was at the beginning of his existence. More than any other, this earliest human frailty requires the concern of *a society that prides itself on guaranteeing respect for its weakest members*. In this way it is responding to the basic requirements of justice and solidarity that unite the human family.

9. At the end of our meeting, I would like to *renew my appeal to the scientific community that the meaning of man and moral values remain the basis for decisions in the field of research*. I hope that the reflections made by your working party may offer reference points to researchers as well as to those drafting codes of professional ethics and legal documents. My gratitude goes to those who have cooperated in different ways in these study days. I thank those who have contributed during the enriching exchanges. I thank you sincerely for your participation in this research group, which I hope will bear abundant fruit and I pray to the Almighty to help you in your efforts of moral reflection as well as in your research.

1 2 *M* 7:23.

2 Cf. *Veritatis Splendor*, n. 50.

3 *Ibid.*, n. 13.

4 Congregation for the Doctrine of the Faith, *Donum Vitae* nn. 2, 8.

5 Cf. *Jr* 1:5.

6 *Apologeticum*, Bk. IX, Ch. 8.

