The Signs of Death

Gruppo di lavoro 11-12 settembre 2006 – During the four hundred years of its existence, the Pontifical Academy of Sciences has carried on its statutory goals by employing various approaches. In the words of its 1976 reformed Statutes, it 'organizes meetings to promote the progress of sciences and the solution of important scientific problems...and promotes scientific investigations and research which can contribute, in the appropriate places, to the exploration of moral, social and spiritual problems'. Inspired by this idea, in 1985 the Pontifical Academy held a working group on *The Artificial Prolongation of Life and the Determination of the Exact Moment of Death*'1 in order to study, at a purely scientific level, the problems raised by these issues. Thus, this working group attempted to provide a definition of the exact moment of death. This latter point was particularly delicate in its repercussions not only in a theological sense but, above all, as regards the determination of the legitimacy of removing vital organs for transplants, generally before such organs have suffered damage. The group of scientists who participated in that working group were unanimous in affirming, by way of a conclusion, a series of points proposing that death has taken place when: a) spontaneous cardiac and respiratory functions have irreversibly ceased, or b) there has been an irreversible cessation of all brain function. The concluding document stresses the fact that brain death is the true criterion for death, given that the complete cessation of cardio-respiratory functions leads very quickly to brain death. The document also contains other points to indicate the means to establish the cessation of brain activity, and deontological and ethical norms for organ transplants. When meeting the Academicians on this occasion, John Paul II declared: 'We are grateful to you, Ladies and Gentlemen, for having studied in detail the scientific problems connected with attempting to define the moment of death. A knowledge of these problems is essential for deciding, with a sincere moral conscience, the choice of ordinary or extraordinary forms of treatment, and for dealing with the important moral and legal aspects of transplants'.2 The proceedings and conclusions of that working group were published in 1986 and enjoyed general agreement among doctors and scientists, as well as among those who saw the beneficial aspects of organ transplants. However, among certain moralists and philosophers, questions and even strong opposition arose. For this reason, the Academy found it opportune, following the suggestion of the Congregation for the Doctrine of the Faith, to convene a further meeting in December 1989 on *The Determination of Brain Death and its Relationship to Human Death*,3 with the participation not only of medical scientists but also of philosophers, theologians and legal experts. This meeting aimed to study more deeply the scientific principles within a wider cultural context, which would take into account the special nature of the human person. On this occasion, Pope John Paul II stressed in his address to the participants that the task and responsibility of medical scientists must be that of indicating with certainty the signs of death. This teaching was in line with that of Pius XII, who during an audience granted to anaesthetists in November 1957 stated: 'It is the task of the doctor...to give a clear and precise definition of "death" and of the "moment of death" of a patient who dies while unconscious...In case of unsolvable doubt, one can also resort to the presumptions of law and fact. In general, it will be presumed that life remains, because there is involved here a fundamental right received from the Creator and therefore it must be proved with certainty that it has been lost...The resuscitation technique that we are speaking about has nothing immoral in itself...on the other hand,

since these types of treatment go beyond ordinary means, to which one is obliged to resort, one cannot affirm that it is obligatory to employ them and, consequently, to authorise the physician to do so...Concerning the verification of the fact in particular cases, the answer cannot be deduced from any religious and moral principle and, from this point of view, does not fall within the competence of the Church'.4

At a scientific level, four years of study and research within the Pontifical Academy of Sciences confirmed the conclusions proposed in 1985 and upheld the criterion of brain death as determining the death of the human being. It was observed, however, that it is more accurate to speak of the state of death rather than of the exact moment of death. The medical scientist can clearly ascertain the state of death, while it is practically impossible to establish medically the beginning of this state or the moment of death. Certain contrary opinions which emerged in the discussion opposing the agreed medical definition of the state of death came mainly from the philosophical sector. These thinkers considered that total brain infarction is not a certain sign of death; consequently, they had great reservations concerning transplants.

In the Jubilee Year 2000, John Paul II returned to this issue by asking when a person could be considered dead with complete certainty. Being the good philosopher that he was, the Pope defined the death of a person as a single event, 'consisting in the total disintegration of that unitary and integrated whole that is the personal self. It results from the separation of the life-principle (or soul) from the corporal reality of the person. The death of the person, understood in this primary sense, is an event which no scientific technique or empirical method can identify directly'. However, John Paul II acknowledged that, based on human experience, 'certain biological signs inevitably follow', which modern medicine has learned to recognise as 'criteria' for ascertaining death with ever more precision. These criteria 'should not be understood as the technical-scientific determination of the exact moment of a person's death, but as a scientifically secure means of identifying the biological signs that a person has indeed died'. The Pope affirmed that, with regard to these criteria, 'the Church does not make technical decisions...She limits herself to the Gospel duty of comparing the data offered by medical science with the Christian understanding of the unity of the person, bringing out the similarities and the possible conflicts capable of endangering respect for human dignity'. Therefore, having established the Church's own field, he declared that the more recent criterion adopted 'for ascertaining the fact of death, namely the complete and irreversible cessation of all brain activity (in the cerebrum, cerebellum and brain stem) if rigorously applied, does not seem to conflict with the essential elements of a sound anthropology'.5

It is clear that John Paul II made this statement on the basis of the consensus of the scientific community. In response to a request made by the Pope, the Pontifical Academy of Sciences then held a preliminary meeting on 'The Signs of Death' on 3-4 February 2005 to re-study the signs of death and verify the validity of the criterion of brain death, entering into the contemporary debate of the scientific community on this issue. This preliminary meeting helped to clarify the contours of the debate, and while it was being held, and just before his death, John Paul II sent a letter to the Academicians and participants asking that the proceedings be subsequently presented to the Congregation for the Doctrine of the Faith. This was duly done. Following a wish expressed by Benedict XVI, the Pontifical Academy of Sciences has now deemed it opportune to organise a further seminar with experts of international prestige and representatives of the principal regions of the world in order to explore, at a purely scientific level, the application of the criterion of brain death since its full definition. The Pope has also requested that Academies of Neurology or related research centres in the world be asked to present statistics, if possible, on the cases of the diagnosis of recognised brain death since its full definition, its application, and the clinical histories involved. Benedict XVI has also expressed the hope that a strong technological development be encouraged in this field, and has made the observation that research on the definition of the state of death should be in conformity with respect for the dignity of the human person (who is an end in himself or herself) and with the principle of defending life at all times and, in general, should not be carried out with the finality of organ transplants.

The Pontifical Academy of Sciences is faced with the task of establishing an approach which avoids the two extreme positions of seeing death as a process which begins with an irreversible fact and ends with the death of the last cell, and of seeing death as a political decision taken at a time during this process with the aim of benefiting another person. The Academy is thus faced with the task of seeing whether the criterion of brain death (according to its full definition) indicates the biological state of death of an individual, respects the dignity of the human person, and thus avoids the imposition of death (euthanasia), even with the aim of saving another person's life through transplants, and the use of highly sophisticated systems and equipment, defined by John Paul II as 'persistent or aggressive medical treatment' (dysthanasia) which 'would only secure a precarious and burdensome prolongation of life'.6

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1 *Scripta Varia 60*, (Vatican City, 1986), pp. xxv, 114.

2 John Paul II, Address of 21 October 1985, in Papal Addresses to the Pontifical Academy of Sciences 1917-2002 and to the Pontifical Academy of Social Sciences 1994-2002. Benedict XV, Pius XI, Pius XII, John XXIII, Paul VI and John Paul II (The Pontifical Academy of Sciences, Vatican City, 2003), p. 273.

3 *Scripta Varia 83*, (Vatican City, 1992), pp. XXVII, 209.

4 AAS 49 (1957) p. 1031.

5 Address of 29 August 2000 to the 18th International Congress of the Transplantation Society.

6 Cf. *Evangelium Vitae*, 65.

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