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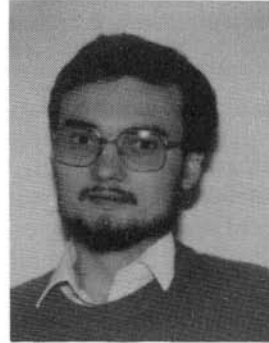
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Determining When Death Has Occurred

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1. The Question of Death

Human death is shrouded in doubt. The human condition is not only tormented by pain and by the gradual breaking-up of the body but also by the dread of forever ceasing to be. All the aids of technology, however useful they may be, cannot set our anguished minds at rest. They may prolong life-span or give comfort, but this does not satisfy the heartfelt longing for a life to come.¹

In *Gaudium et Spes*, the Second Vatican Council explained that while the mind is at a loss before the mystery of death, the Church, taught by divine revelation, declares that God has created man in view of a blessed destiny which lies beyond the limits of his state on earth:

Moreover, the Christian faith teaches that bodily death, from which man would have been immune had he not sinned, will be overcome when that wholeness which he lost through his own fault will be given once again to him by the almighty and merciful Saviour. For God has called man, and still calls him, to cleave with all his being to him in sharing for ever a life that is Divine and free from all decay. Christ won this victory when he rose to life, for by his death he freed man from death.²

The mystery surrounding death has been in some ways deepened by the advent of the new life support technologies which are able to replace the function of several vital organs and hence prevent the sudden deterioration of tissues which normally confirms that death has occurred. At the same time the questions raised by the capacity of the technology lead to the making of new distinctions, a greater understanding of the mystery of death and the refinement of traditional teachings.

The definition of death is at once a theological issue. Faith and reason demand consistency and the Christian definition of death must be

reconcilable with Christian belief in the resurrection of the body and life after death.

St. Paul refers to death of the body as a change to the person not the death of the person:

I will tell you something that has been secret: that we are not all going to die, but we shall all be changed. This will be instantaneous, in the twinkling of an eye, when the last trumpet sounds. It will sound, and the dead shall be raised imperishable and we shall be changed as well, because our present imperishable nature must put on imperishability and this mortal nature must put on immortality.³

Human death is the cessation of a human life, but a full explanation of it must explain the continuity of the identity of the person through the profound changes of death.

In this task, theology informs and then is aided by philosophy. The theological understanding of the human condition and of the resurrection of the body sets the agenda for the Christian philosopher to seek a consistent explanation and definition of events. The theologian knows the promise of resurrection, the philosopher seeks to find the truth about who he is and how it is that he can undergo the change of human death and still remain the same person.

The medical practitioner is not a casual observer to this discussion because the change wrought by death turns his patient into a corpse. The medical practitioner is required to identify with moral certainty when this process has occurred. However, his function is only to recognize the physical changes. The meaning of those changes must be explained and interpreted in the light of the developing understanding of the Church, taught by Divine revelation and guided by its own consistency.

The medical scientist brings to the theologian and the philosopher the detail of the fruits of research and observation, and thus contributes to the refinement and development of the Church's teaching. The Church analyzes technological developments in the light of the Christian concept of the human person, created by God's love to this image, sustained by the same Divine love, redeemed by Christ and called to communion with Him and to share in His happiness.

The matter of defining death is therefore not only a matter for medicine nor only for theologians and philosophers. Medicine must accurately inform the latter of the new developments and assess the latter's explanation in the light of the phenomenon of the circumstances of human death and the scientific explanation of the physical events.

The theologian and the philosopher, guided by the medical scientist, can describe various degrees of the breaking-up of the body. However, establishing with moral certainty the diagnosis of any particular state or degree of disintegration and disorganization is an entirely medical matter.

The question posed by the developments in medical science which must be answered by the Church is: At what stage of disintegration and disorganization can it be said with moral certainty that the human body is no longer identifiable as the human person.

When we have answered that theological and philosophical question,

then medical science may determine by what means of diagnosis that stage of disintegration and disorganization can be recognized with moral certainty.

The above would therefore suggest a logical sequence:

- * Who is the human person? Who is it who is created by God's love to His image, sustained by God's love, redeemed by Christ and called to communion with Him and to share in His happiness?

- * What is meant by saying that a human death has occurred?

- * How may human death be recognized as having occurred?

- * How may the bodies of the dead be used?

- * What is required to maintain respect for the dead while using the bodies of the dead for organ transplantation or medical research?

Thus the problem of defining death is resolvable in stages: the definition of the human person, the definition of the death of the human person, the medical means of determining that death has occurred, the legitimate uses of corpses and the pastoral issue of maintaining respect for the dead. Only after these problems have been resolved is it feasible to consider the issue of public policy and the legitimacy of so-called "brain-death" legislation.

2. Human Life

The definition of death must account for the change which occurs when a human life as we know it ceases but, according to Christian belief, at the same time continues with the same identity.

A simple dualist account has no difficulty in seeing the human person as soul or spirit merely inhabiting a body in the same way as a captain inhabits and directs his ship. On that view the spiritual and material worlds are separate: soul is distinct from body; mind is distinct from matter.⁴

On that simple dualist account, death occurs when the soul leaves the body, and at the beginning of life a person begins when the body is infused with a soul.

However the issue is more complex. We are embodied and it is as bodies that we experience creation, that we love, that we know ourselves. The traditional teaching of the Church is of an interrelatedness of the soul and the body.

The Church considers the human being both as a personal unity and as a duality of soul and body. the unity of soul and body is so profound that one must consider the soul as the "form" of the body (*forma corporis humani per se et essentialiter*), says the Council of Vienne, 1312...⁵

This point is clearly expressed by St. Thomas when he says,

We must assert that the intellect which is the principle of intellectual operation is the form of the human body. For that whereby primarily anything acts is a form of the thing to which the act is to be attributed: for instance, that whereby a body is primarily healed is health, and that whereby the soul knows primarily is knowledge; hence health is a form of the body, and knowledge is a form of the soul. The reason is because nothing acts except so far as it is in act; wherefore a thing acts by that whereby it is in act. Now it is clear that the first thing by which the body lives is the soul. And as life appears through various operations in different

degrees of living things, that whereby we primarily perform each of all these vital functions is the soul. For the soul is the primary principle of our nourishment, sensation, and local movement; and likewise of our understanding. Therefore this principle by which we primarily understand, whether it be called the intellect or the intellectual soul, is the form of the body....⁶

It is also as a body that we are glorified.⁷

...But the body - this is not meant for fornication; it is for the Lord, and the Lord for the body. God who raised the Lord from the dead, will by his power raise us up too.⁸

...Your body, you know, is the temple of the Holy Spirit, who is in you since you received him from God. You are not your own property; you have been bought and paid for. That is why you should use your body for the glory of God.⁹

An explanation of what it is to be a human person must therefore be consistent with the concept of a dynamic relationship between the soul and the body in which the soul is the form of the body; with the continuity of an identity of the individual through death in which the body is no longer formed by a soul; and with that same soul being the form of a glorified body at the resurrection.

That explanation must also be consistent with the constant teaching of the Church reaffirmed in the *Declaration on Procured Abortion*:

From the time the ovum is fertilized, a new life is begun which is neither that of the father nor of the mother, it is rather the life of a new human being with his own growth. It would never be made human if it were not human already. To this perpetual evidence...modern genetic science brings valuable confirmation. It has demonstrated that, from the first instant, the programme is fixed as to what this living being will be: a man, this individual-man with his characteristic aspects already well determined. Right from fertilization is begun the adventure of a human life, and each of its great capacities requires time...to find its place and to be in a position to act.¹⁰

If we understand St. Thomas then the body owes its nature to the soul. The completed capacities, the programming, the determination of development which we now know to be present at fertilization can only be so because there is a soul. It is the soul which gives the matter its human form and directs the development of a new human individual.

Yet it is not necessary for that individual to actually instantiate rationality. The embryo, the fetus, the infant do not yet appear to have rational thoughts but they have the capacity to develop to a stage of rational thought.

Upon that capacity rests the classification of a creature made in the image and likeness of God. Thus at fertilization a new individual is formed, matter is dynamically organized and integrated into a single individual with the capacity for rational thought, a being redeemed by Christ and called to communion with Him.

3. Human Death

The fruit of human generation is sometimes malformed and incapable of

demonstrate by philosophical argumentation alone. A theological ethic closes the gap between recognizing the good and the motivation to do the good. This is particularly important today when self-interest is defended and even exalted by those who encourage for-profit medicine, entrepreneurism, competition among health providers, and the commercialization of every facet of medicine. Many physicians today feel justified ethically in laying aside their moral obligations on the grounds of survival and exigency. Such a position would be difficult to justify on grounds of Christian ethics.

Christian theology is based in a Christian humanism that counterbalances the predominantly consequentialist bias of contemporary medical ethics. This is not to deny the motives of individual consequentialists, nor even the applicability in certain cases of consequentialist arguments. But, in terms of a Christian anthropology, certain acts are intrinsically wrong whatever their consequences —abortion, direct voluntary or direct involuntary euthanasia, experimentation with the human embryo, trans-species genetic experimentation involving human genes, surrogate motherhood and many of the possible permutations and combinations of modern reproductive technologies.²³

Ethics based in a Christian anthropology is the surest safeguard against the dangers inherent in the biologization of medicine discussed in the preceding section. It is inconsistent with treating a human being merely as an organism or an object for experimentation. It opposes any tendency to base ethics in biology whether behavioristic, sociobiological or psychobiological.

Theological Ethics

Finally, a theologically inspired medical ethics gives meaning to suffering — something difficult or impossible to demonstrate on philosophical grounds alone. Thus, it fills a void in modern medicine. It rescues death, dying, and suffering from the desert of “meaningless” events. Suffering on the Christian view is a means of atonement, reconciliation, sacrifice, and example. Its impact on family, friends and community is not without consequence. Suffering is the final call by Christ to the same *via crucis* He traversed for us, and we must traverse for Him and our fellows. The meanings of suffering cannot be deduced from the formal syllogisms of philosophic ethics.

Theological ethics bears directly on what it is to be a healer and helper of the sick. It converts a health career into a vocation, a special kind of life, and a way of salvation.²⁴ It is the health professional's special way to salvation. That call tempers self-interest and the normal and understandable fatigue, anger, resentment, and emotional distress which can accompany the practice of responsible medicine. It tempers, too, the hostility to the non-compliant, self-abusing, sociopathic patients who can, at times, try the patience and charity of even the most conscientious physician or nurse.

of course not conclusive evidence of that existence. When, from empirical observation and the evidence of many deaths, we can conclude that a stage is reached where there is no evidence of any unifying organization from that stage, then we can say, not with absolute certainty, but at least with moral certainty, that the body no longer lives, the body is a corpse.

The important feature of this account is that the human being is not to be taken only as a biological unit, nor can the biological phenomenon we observe as a living human body be considered in isolation from that which forms the matter of which it is composed. An essential component of being a human being is our individuality as persons, not merely as biological entities. Most human beings are genetically unique, though not all are. (Identical twins are not.) Nevertheless the human soul is not to be confused with the body's genetic programming although the genetic programming would seem to be a consequence of the existence of a human soul.

Personal individuality is much more than mere genetic identity.¹³ The latter is a biological phenomenon which does not explain the full unity of organization nor a spiritual identity, although its purposiveness, dynamism and form would seem to be indicative of a soul, that which gives form to the matter.

The human person is not a duality of soul and body, mind and matter, in the sense in which soul and body might be said to co-exist. Our individuality is such that we are a unity existing as a single concrete entity.

The soul is one with the body, forming, determining, actuating and organising the matter to be a human body, including all its tissues, organs, limbs and sexuality. The body is the subject for all our conscious activities and shares in the unique sense of dignity and value of the human being in every way.¹⁴

For a human being to exist in an embodied way, matter must take on the individuality of the soul and be organized and integrated into a single, dynamic entity. The humanity of that entity is in the particular form which is the organizing, dynamic principle of its integration as a single entity.

Evidently the matter which at one time has the form of a particular individual can be restructured by or absorbed into another form. The matter that I am today may later be in the daisies which the cow turns into milk for my grandson's breakfast!

Life has many forms, but only human life is known to be made in the image and likeness of God to be redeemed by Him. The tissues and organs which constitute the human body instantiate the particular form of the individual person they constitute. The life of each cell is integrated into the life of the whole person, not essentially by shared genetic identity, but because they are part of a complete, individual system which is so formed and activated as to be the kind of being with capacities for specifically human functions.

Many of those cells and organs are capable of an independent life. Blood cells, kidneys, liver, lungs, heart, etc., can be kept alive either in culture or in another body at least for a time. The life of a human cell or a human organ

is of moral significance in itself only insofar as it is a part of a whole. By contrast the life of a whole human body is of moral significance in itself, not because it may be a part of anything else or a member of a community. Each of us is separately and distinctly made in the image and likeness of God and individually called by Him to communion with Him.

Thus the value of cells and organs is determined only by their integration into the whole body of the human individual, even though they may live after they have been separated from the human body. The soul is instantiated by the body as a functioning unity, by the organs, tissues, cells collectively when they function as a single body, each related to the other parts of the whole and contributing to the dynamism of the whole.

Medical science, in its study of the human person, sees in the human body a variety of interrelated, mutually dependent systems (circulatory, respiratory, hormonal, skeletal, neural, digestive, etc.). At the earliest stages of existence, the human person is yet to develop these systems, but what he or she has is the capacity to develop them. From the earliest stage of embryonic development, however, the same organizing, dynamizing, integrating principle or form exists, shaping what is to come and directing the activity of what is.

The important feature of a human existence, therefore, is not the biological systems themselves which constitute the human body, but the principle or form of which the biological systems and their capacity at every stage are the instantiation.

Death occurs therefore when the biological systems which constitute the human body cease to be integrated, dynamized and organized by the life principle or form which is the human soul. The individual systems may live as live tissues, and even retain the structures given them by the human soul, long after the soul has ceased to provide them with the dynamism, organization and integration which once gave those tissues the capacity for human functions as a psychosomatic unity.

Death of the human person is thus not necessarily the death of individual cells, nor the death of particular organs and systems; rather it is the loss of the organization and integration which give a body its human capacities.

However death is defined, in observing death all we ever have evidence for is an absence of observable functions. Lack of capacity for human functions is assumed. It cannot be proven. No one has ever seen a headless corpse sign its name. It would seem to lack the capacity ever to be able to sign its name again. The lack of capacity cannot itself be observed, however. Only the lack of the function itself can be observed.

The determination of death is based upon induction. There are conditions of the human body from which state no body has ever been known to recover or attain specifically human functions.

Inductive logic has in some circumstances led to error. Historically, upon the observation of an absence of vital signs, persons have been pronounced dead only to recover. Some conditions, such as hypothermia, for instance, may have suppressed vital signs even though there still exists a capacity for

recovery. Fear of being buried alive was a common phenomenon of the 19th century. Coffins were sometimes made with bells which could be rung from the inside or spring-loaded lids which could be released from the inside.¹⁵

The soul is not a measurable observable substance. Where there are human functions we can presume that the soul exists as the life principle, but where human functions are not apparent, we cannot draw certain conclusions. However, inductive logic, ready to be corrected by experience, is sufficient for moral certainty. Where no indication of the capacity for specifically human functions has ever been known to exist we may legitimately conclude that no human individual exists. When a stage is reached at which there is a history of empirical evidence that from the stage no organization and integration necessary for specifically human functions had ever reappeared, we can conclude that death has occurred.

In an essay in which he attacks the determination of death using the brain-death criteria, Josef Seifert makes the following observation:

If we prescind from those deepest dimensions of human life which are inseparable from his transcendence, however important these may be for a comprehensive discussion of life and death, we can say that the question of human life and death, as it enters the bioethical discussion and the examination of the criterion of brain death, moves primarily on two levels. On the one hand, we may indeed, on the philosophical ground of recognising the spiritual substantiality of the human soul, define death as 'the separation of body and soul.' It could be understood as a gradual temporal process in which this separation is accomplished or as the last and definitive moment in which the spiritual subject which is necessarily presupposed, above and beyond the brain, for conscious and intellectual acts of man is no longer bound to the body, does no longer vivify the body, is no longer present in it. Some of those who recognise the existence of a soul will believe that it is annihilated in death (as the whole death-theology assumes), others that it is immortal and still continues to exist after the death of the body. (To this view corresponds the conviction of another kind of life after death - either in a non-incarnated spiritual form or in a new embodied form.) At any rate, if we can know philosophically that man must have a soul, we must also maintain as philosophers, with Plato's Phaidon and the ensuing tradition, that the human personal life on earth objectively begins when the spiritual human soul enters into, and is present in, the human body, that it continues as long as the soul is united with the body, and that our bodily early life objectively ends at the moment when the human soul leaves definitively the body.¹⁶

I find the notion of a soul entering into, being present in, the human body, and leaving it at death, to be an incoherent notion because I cannot understand how a human body can be in existence at all unless it has been formed by a soul. The soul does not "enter into" the human body; the soul is that which forms matter into a body, which vitalizes it, which gives it its capacities for development as a human body. The human body as a living entity is formed by the soul giving human life to mere matter. I concur with the Congregation for the Doctrine of the Faith when it asks (rhetorically) in relation to the first appearance of a human life in the form of an embryo "...how could a human individual not be a human person?"¹⁷

How can there be a living human body which is distinct from its soul? The

body only comes into existence when it is the instantiation of a human soul. There can be no human organization, integration and dynamism unless there is a life-principle, a soul to form, determine, actuate and organize the matter to be a human body.

Seifert's dualism is too simplistic. The relationship between matter and form which exists in the embodiment of the human individual is a unity in which the soul is the form of the body and the latter cannot be as a single dynamic, integrated organized entity without that which makes it so. The human body without a soul is not a living human individual at all for it lacks the unity, the integration and the organization that the soul provides.

A human life comes into existence when a soul gives form to matter and matter assumes the bodily identity of a being which is organized as a single individual oriented toward the development of specifically human functions such as wondering, doubting, affirming, loving, etc. That life is entirely dependent upon the continued dynamic interaction between matter and form.

A human life ends not when the soul leaves the body, for that expression is incoherent. The body is matter instantiating the soul. A human life ends when the matter, the tissues, organs, etc., which constitute the body, cease to have an organizing integrating principle, that is, when the soul ceases to give human form to the matter.

When that event occurs individual cells, organs and bodily systems may continue to have a life of their own but only in a disintegrated way for nothing actuates them as a single dynamic entity with capacities for specifically human functions. I concur with Professor Seifert when he says: "As long as the integrated dynamic structure of the biological human life of a human organism as a whole is present, we must assume, at least as highly probable, that his personal human life is present too."¹⁸

There is, however, a difference between the dynamic interactions of matter and form which is a living human individual, and the human organism whose organs keep functioning and interacting in a merely systemic way without the dynamic and ongoing integration of some form of control of the system as a whole. The essential dynamic organization and integration which constitute a living human body are far more than the bio-mechanical interaction of organs within the body.

An analogy exists between a conceptus which is so damaged that it lacks the organizing capacity to ever develop the organs necessary for human functions on the one hand, and on the other, an adult who is so damaged by disease or trauma that that which brings about organization and integration does not and never will function again. In the latter case the organs will have been formed and function and interact in a residual way, but the organizing capacity which brought about their growth and development and determined their form and function no longer exists. Such a being, like the undifferentiated cluster of cells of the malformed conceptus, is human only in the loose sense of genetic identity. It is without overall organization. The body has living cells and organs but is not a living

human body in the important sense of being human, that is, having the capacity for human functions.

Hence it would be possible for death (that is the loss of the organizing and integrating formation of matter by the soul) to have occurred even though some organs still functioned and interacted in a systemic way. Residual function of that kind might well persist even though the capacities which brought about the development and establishment of these organs and their interactive functions has ceased to inform the matter of which they are constituted. That the organs might continue for a time in this way is no more a problem for determining death than is the fact that individual cells may live long after a body has started to putrify. Many cells continue to grow and replicate such as finger nails and hair, bacteria in the gut thrive, and corneas and bone may be transplanted to another as living tissue even though circulation and respiration have ceased.

The issue at the heart of the matter is which parts of the whole are necessary for the whole to retain the ongoing capacity for organization and integration as a human individual.

This is primarily a question for medical science, but theologians and philosophers must measure the medical answers against a metaphysical explanation of the human person. It must not be the case that medicine adopts a reductionist, materialist concept of the human person, nor an overly simplistic dualism. Pope Pius XII concluded, in 1957:

Human life continues for as long as its vital functions, distinguished from the simple life (biologic) of the organs, manifest themselves spontaneously without the help of artificial processes. The task of determining the exact instant of death is that of the physician.¹⁹

Evidently the Pope accepted a distinction between the life of the organs and the life of the individual. What he meant by “vital functions”, of course, remains unclear. The state of the technology has altered dramatically since 1957. Many people are able to live for long periods with their vital functions sustained by artificial processes. People who live relatively active lives on ventilators and dialysis machines are instances of this. Whether this is what the Pope meant when he referred to *vital functions manifesting themselves spontaneously* is unclear. There is a sense in which “vital functions” may be used in which the term refers not to bodily functions such as circulation, respiration, etc., but to the specific functions which identify and express a human nature.

4. The Determination of Death

a) Heart-Lung Death

In the past there has been little question that when the heart stopped beating and breathing ceased permanently, a person was dead. However, as a matter of pastoral practice, the sacraments were sometimes administered as much as two hours after cessation of cardio-respiratory function, even

though Canon Law did not permit the sacraments to be given to those who were known to be dead.²⁰ By implication some doubt must have existed as to the certainty of death even when heart and lung function had permanently ceased.

The relevance of heart-lung death is not the cessation of the function of the organs themselves. People do continue to live with artificial hearts, or with transplanted hearts and lungs even though their own hearts and lungs have died. What is relevant is the dependence of nearly all the body's organs and systems on circulation and respiration. Irretrievable cardio-respiratory arrest clearly indicates a lack of organization and integration. Of course for a time the organs remain in place with their structure still extant, some tissues even grow and certainly many of the cells remain in some sense alive. However, no indication exists for the presence of a life principle. There is no evidence of on-going organization and integration, for the organs and tissues rapidly deteriorate and we know empirically that bodies do not recover human functions after a significant period of cardio-respiratory arrest.

The importance of irreversible cardio-respiratory arrest as a marker event for determining death is not that we have reduced our concept of human life to heart and lung function, but rather that empirically we have seen no evidence of any on-going process of organizations and integration beyond the point at which such arrests occur. We cannot prove that the soul of a person whose body is in irreversible cardio-respiratory arrest no longer forms the matter of which the body is composed. Nevertheless after that stage, the disintegration and decomposition which normally occur (that is, when nothing is done to preserve the tissues) would indicate that the soul no longer forms, actuates or dynamizes the matter into a functioning human body.

b) Complete Death of the Brain and Brain Stem

The ability to sustain ventilation, and to control blood pressure, temperature and electrolyte balances artificially has made the continued functioning of most of the body's systems possible even after the complete and irreversible cessation of all brain and brain stem functions.

The term "brain death" is inappropriate and means different things to different people. It is inappropriate because it confuses the issue. The issue is not whether the brain, as an organ, is alive or dead, but whether the human individual is dead. That the term "brain death" means different things to different people is most clearly demonstrated by Professor Seifert when he writes:

Yet does it follow that the brain dead man is dead as man? Does it follow that growth, metabolism, oxygen acceptance and transfer, most complex biological steering of pregnancies, regeneration of any part of the body, production of new reproductive cells, etc. can occur in an organ-bank? Is this brain dead man truly a "living corpse"? Hardly.

...Now as long as growth of the body as a whole is possible, as in children who are

declared brain dead, one of the fundamental traces of the life of an organism as a whole is still preserved.

The same applies to nutrition and regeneration and maintenance of the body through the circulation of oxygen, to nourishment and heart activity. As long as the process of nutrition and circulation in the "body as a whole" is preserved, even if one or another single organ is not functioning, the life of the human organism as a whole cannot be justifiably denied.

Even if the mere continued existence of human sperms, and therefore of procreative functions, is no proof that a human person is alive (which is obvious for the fact that sperms can also be preserved, under refrigeration, after the death of a person), as long as a human organism produces new procreative cells and is in principle capable of being the origin of the procreation of new human beings, a profound vital function is still intact which must not be ascribed to a corpse. A corpse cannot procreate itself. How should it be possible that a corpse still produced reproductive cells and is capable of the amazing power of giving rise to a new individual of the same species? Certainly, even if it were conceivable that an isolated sexual organ is kept alive and continues to produce gametes, it would not possess the life of a man. Yet we have to consider an extremely important factor for the determination of human biological life: its 'integrated wholeness'.

It can well be argued that brain dead persons are alive in virtue of the organ activity and the integrated wholeness of life processes which are associated with blood and oxygen circulation. As the human body as a whole is kept from disintegrating, from putrefaction, from collapsing into mere inorganic substances, as the body-temperature and the processes that are conditions of it, and a number of other signs of life are still preserved throughout the organism, it seems to be wrong to declare such a person in irreversible coma dead. There is no sound and certainly no cogent justification for this.²¹

In these assertions Professor Seifert clearly indicates that in the state he refers to as "brain death" the human individual is able:

- a) to grow (if a child)
- b) to maintain its own metabolism
- c) to maintain its own oxygen acceptance and transfer
- d) to maintain most complex biological steering of pregnancies
- e) to regenerate any part of the body
- f) to produce new reproductive cells
- g) to maintain nutrition

These are not features of a body in which all brain and brain stem activity has permanently ceased.²²

The growth of a child is hormonally controlled by the release of growth hormones from the glands located at the base of the brain. These glands do not function in a body which has no brain and no brain stem function.

The metabolism, blood pressure and body temperature in a body which has no brain and no brain stem function must be supported artificially. The vaso-motor centre, for instance, is located in the brain stem and it normally maintains tone in the blood vessels. Without a functioning brain stem the body cannot itself maintain metabolic balance, blood pressure and temperature.

Oxygen acceptance and transfer, that is respiration, is done through the means of an artificial ventilator for the respiratory centre is located in the brain stem and hence does not function in a body whose brain and brain stem have ceased to function. The tissues of the lung and the blood cells operate and accept and transfer oxygen supplied through the mechanically ventilated lungs.

Without brain and brain stem function the body cannot itself maintain the 'most complex biological steering of pregnancies'. The development of a pregnancy is not controlled by the woman's body. The control of a pregnancy in even a healthy woman comes not from her but from the fetus and its placenta. The hormones which bring about the specific changes necessary during pregnancy are produced by the fetus and its placenta. Further, the woman's own hormonal control system is located at the base of her brain and does not function if she has no brain and no brain stem function.

The production of new reproductive cells is controlled by the hormones released by the glands located at the base of the brain. Hence in a body which has no brain and no brain stem function no new reproductive cells would be produced.

Nutrition for a body without brain and brain stem function must be provided by artificial means. Digestive and renal function may still occur because these do not necessarily require brain function, although electrolyte and other metabolic imbalances occur in the absence of the brain and brain stem function.

Complete and irreversible cessation of brain and brain stem function is not a condition in which a body can persist indefinitely. Cardiac function ceases in the majority of cases within 24 hours and, in a large study involving 500 cases, all went into cardiac arrest within nine days.²³

Brain death is a state beyond coma and was first characterized "by complete unresponsivity, lack of spontaneous respiration, flaccidity, altered thermal regulation, absence of mesencephalic reflexes and circulatory collapse."²⁴

The condition which Professor Seifert describes is not what is usually meant by "brain death" in Australia and North America and many other regions. Rather, the state he describes is a living state between life and death sometimes referred to as "permanently lost consciousness" or less sensitively as a "persistent vegetative state".²⁵

Brain death, meaning the complete and irreversible cessation of all brain and brain stem function, is not a state of equilibrium. The organs and tissues are being damaged by the lack of control and the resultant systemic imbalances. The preservation of some systemic function is due to the artificial intervention provided and the functioning of organs which are not directly dependent on the brain and brain stem. The body is already in a state of disintegration; it has no signs of ongoing organization. The functions which are left are a remnant of the organizing capacity of the individual's psychosomatic unity. There is no dynamism. We see only a collection of organs still interacting and functioning but without the directedness, the actuating organizing potency which brings about the unity of matter and form we recognize as a human individual. The pathological evidence shows that the brain tissue of a body with whole brain death has necrosed. There is a cessation of blood flow to the brain. The state of the body is akin to that of a body which has been guillotined.²⁶

Like the complete and irreversible cessation of heart and lung function, the complete and irreversible cessation of brain and brain stem function is a state beyond which there is no evidence of any body ever recovering any ongoing process of organization and integration.

The partial preservation of organ and systemic function which occurs when all brain and brain stem function has ceased does not indicate any on-going organization and integration. Hence the complete and irreversible cessation of brain and brain stem function is a sufficient marker event for a diagnosis of death to be made with all the implications that death of an individual has for the family and for the society.

Hence the President's Commission for the Study of Ethical Problems in Medicine and Biomedical Research would seem to have been correct when it drew the following conclusions:

On this view, death is that moment at which the body's physiological system ceases to constitute an integrated whole.²⁷

Nor is there one single characteristic (e.g. breathing, yawning, etc.) the loss of which signifies death. Rather, what is missing in the dead is a cluster of attributes, all of which form part of an organism's responsiveness to its internal and external environment.²⁸

The death of a human being - not the "death" of cells, tissues or organs - is the matter at issue. The cessation of vital bodily systems provides the basis for broad standards by which death can be judged to have occurred. But such functional cessation is not of interest in and for itself, but for what it reveals about the status of the person. What was formerly a person is now a dead body and can be socially and legally treated as such. Although absence of breathing and heartbeat may often have been spoken of as "defining" death, review of history and of current medical and popular understanding makes clear that these were merely evidence for the disintegration of the organism as a whole.²⁹

The modern recourse to the complete and irreversible cessation of brain and brain stem function would seem to be appropriate in circumstances in which cardio-respiratory arrest is prevented by artificial means and the cessation of all brain and brain-stem function is established by appropriate testing by a physician who makes the diagnosis with reasonable certainty.

There is a variety of ways in which the diagnosis is made. These have improved and become less complex and more certain as science has developed. It is not our concern here to analyze what is a very exacting area of medicine. We do not need to be neurophysiologists to understand the moral and legal problem. Suffice it to say that we require competent physicians to make a careful diagnosis that it is a reasonable certainty that all brain and brain stem functions have permanently ceased.

At St. Vincent's Hospital in Melbourne the diagnosis of death according to the brain criteria is made by an intensive care physician and a neurologist, each acting independently. Dr. Ed Byrne, the senior neurologist at St. Vincent's writes:

The patient must be deeply comatose with no suspicion that this state is due to depressant drugs. This may require pharmacological tests with drug level screens in patients who present to Hospital in coma.

Hypothermia must be excluded. A body temperature of less than thirty-five degrees can lead to depression of brainstem reflexes and the patient's temperature must be raised above that level before any further testing is carried out. Metabolic and endocrine disturbances which can either be responsible or contribute to coma must be excluded.

The patient must be artificially ventilated because spontaneous respiration has been inadequate or ceased, and relaxant drugs should have been excluded as a cause of respiratory failure. Finally, the diagnosis of a disorder which can lead to brain death must have been fully established and must be of sufficient severity to account for the clinical findings. A diagnosis of brain death cannot be considered if the aetiology is in doubt.

The following confirmatory tests are then recommended. Firstly, all brainstem reflexes are absent. Pupillary responses, corneal responses, gag reflex, vestibulo-ocular and oculo-cephalic responses must be absent. The patient must be unresponsive to all stimuli. No respiratory movements must be visible when the patient is disconnected from the mechanical ventilator for long enough to ensure that the arterial CO₂ tension rises above the stimulatory threshold. The procedure for establishing apnoea is rigorously laid down. The patient must be prevented with one hundred percent oxygen for ten minutes and the PaCO₂ checked to ensure that it is above 40 mms before the ventilator is disconnected. One hundred percent oxygen at 6 L/min. must be supplied through a nasal tube during the period of disconnection from the ventilator to prevent hypoxia. The patient should be disconnected for approximately ten minutes and the arterial blood gases ideally checked at the end of that time to ensure the CO₂ tension has risen beyond the stimulatory threshold, arbitrarily taken as 50 mms.

The British criteria do not specify the interval between repetition of testing. If a massive cerebral haemorrhage, or severe head injury has occurred and remedial factors have been excluded, a few hours' interval suffices. In the event of a hypoxic event such as cardiac arrest with resuscitation, at least a day must elapse before tests are repeated.

The integrity or otherwise of the spinal reflexes is recognised correctly as irrelevant in these criteria. Confirmatory investigations are not necessary and an expert neurological opinion is not regarded as essential. The British criteria are now widely accepted in Australia, and form the basis of the establishment of brain death in this Hospital. Essentially similar criteria have now been recommended by the President's Committee on Ethical Problems in Medicine in the United States of America, with the exception that the role of the electro-encephalogram is left open.

The validity of these criteria was recently challenged in a widely publicised Panorama programme in the United Kingdom with the result that there was a loss of public confidence and a massive fall in the number of renal donors. The fear that a patient still alive but paralysed could be inadvertently disconnected from a ventilator is a real one in the public mind which can readily be played upon by sensationalism. None of the cases mentioned in the Panorama programme even remotely fulfilled the clinical criteria for brain death, but the public furor caused the medical profession to critically validate the criteria adopted.

Brain death criteria can be validated in two ways. The first is to demonstrate that brain death invariably leads to classical death within a short period, that is, the heart stops in spite of every possible supportive treatment. Over a thousand cases who fulfilled British Brain Death Criteria have now been ventilated until they developed cardiac asystole. In the great majority the heart stopped within a few days and in all cases spontaneous asystole followed diagnosis of brain death within a relatively short period.

It is impossible to maintain an adequate circulation indefinitely in the presence of a destroyed brainstem. The longest study followed three hundred and twenty-six patients diagnosed as being brain dead who were treated intensively after the diagnosis was made. The mean interval on the ventilator prior to spontaneous cardiac arrest was only thirty hours. The same group looked at all patients with very severe head injuries who survived, and found that none had ever met the criteria for brain death. It is worth making the point that many patients developed cardiac asystole while the determination of brain death is in progress, especially

if circumstances dictate a long interval of observation. It can be said with certainty, therefore, that in any given case, fulfilment of the rigorous clinical criteria recommended by the British Royal Colleges predicates the irreversible development of cardiac asystole in the near future.

The second route to verification of the brain death criteria is the pathological one. If it can be shown that fulfilment of a set of criteria correlates with confluent necrosis of the brain at autopsy in all cases, then the criteria are validated. Mohandes and Chriv, two Minnesota neurosurgeons, studied twenty-five patients who fulfilled a clinical brain death protocol similar to the British one, and found that all cases had confluent cerebral necrosis. A larger American collaborative study, however, concluded that no subset of clinical criteria or specific time for persistence of the totally non-functional state invariably correlates with pathological evidence of a *totally* destroyed brain. This is not unexpected as occasional islands of surviving neurones may presumably be found in a situation where the mass of the brain has been destroyed, but these have no functional significance. Furthermore, in studies where patients have been ventilated to asystole, many have developed cardiac asystole before neuropathological changes have had time to develop. It can be said with confidence, however, that all patients who have developed clinical evidence of brain death and have maintained rhythmic circulation long enough for neuropathological changes to appear, have had evidence of massive irreversible brain destruction.

The clinical criteria of brain death suggested by the Royal Colleges have, therefore, been fully validated by establishing an exact correlation with cardiac asystole in patients in whom ventilation is continued and by, as far as is possible, demonstrating neuropathological evidence of severe brain destruction.³⁰

c) Permanently Lost Consciousness

Permanently lost consciousness denotes a condition between life and death. Such individuals are not brain dead nor able to return to a cognizant life. There is severe neurologic dysfunction with only minimally persisting brain activity. These conditions must be excluded from certain medullopontine lesions causing the so-called locked-in syndrome, or cerebromedullospinal disconnection. In the latter condition some mental awareness may be preserved and significant cranial nerve dysfunction exists but voluntary muscle movements are absent.³¹

Patients in this category (permanently lost consciousness) after a few weeks become arousable but are unconscious. All higher functions are absent. They cannot speak, make voluntary movements, exhibit emotions, or have a memory. They do breathe spontaneously but their responses to stimuli are primitive only. There is a range of conditions which fall into this category including so-called persistent vegetative states, (apallic state, coma vigil, etc.) coma after brain injury or hypoxia with brain-stem function, very rare cases of end-stage degenerative brain disease (e.g., Alzheimer's disease), intra-cranial mass lesions, and anencephaly (congenital brain hypoplasia).³²

These patients apparently lack those functions which are specifically human functions even though they possess ongoing dynamic organization. In spite of that organization, they do not function in any observably human way as individuals. They appear to have no significant cortical or higher brain activity. Many have been tempted therefore to reduce the criteria for establishing death to complete cessation of cortical activity even when

some brain stem function still exists.

Loma Linda University in California approved a research protocol in December, 1987 which had the title "Modified Medical Management on Anencephalic Infants for Organ Donation."³³ The Loma Linda experiment intensified the debate in which some are calling for the use of anencephalic infants as a source of organs for transplant purposes.

From the point of view of those who would wish to utilize anencephalic infants, the problem is that anencephalic infants who are born alive with usable organs are not born brain dead; they have some brain stem function. The structural anomalies of the brain stem in infants diagnosed as anencephalic varies from severe to relatively mild and there is a corresponding level of dysfunction.³⁴ The removal of organs from anencephalic infants would, in the eyes of the law, be the removal of the organs from living persons and hence, be battery, if not murder.

The options for using anencephalics as donors include: waiting for traditional death, redefining death as cortical death, defining anencephaly as a special category or abandoning the rule that donors must be dead before organs are removed.

The Loma Linda experiment in the first instance involved keeping anencephalic infants on a ventilator until brain death occurred. However, a difficulty arose with the protocol in that anencephalic infants on ventilators actually did fairly well and their condition improved so that brain death did not eventuate within the time scale first thought. The protocol was subsequently modified on 15 April 1988 so that ventilation was not commenced until the infant went into cardiac-respiratory failure.³⁵ In that way, presumably it was hoped that brain death would be more likely to occur. That anencephalic infants proved to be so viable increased the pressure for a change to the definition of death.

It is argued that having made the step to using the whole brain death criterion, it is but a small step to using the cortical death criterion. In fact, the logic employed by the Harvard Committee³⁶ which originally canvassed the brain death criterion would seem to be that of utility which could easily be extended to anencephaly, advanced Alzheimer's disease and the other conditions of permanently lost consciousness:

The Committee was explicit as to its utilitarian motive: 'Our primary purpose,' they began, 'is to define irreversible coma as a new criterion for death,' because, they went on to say, 'obsolete criteria for the new definition of death can lead to controversy is obtaining organs for transplantation.' If resolution of a controversy that stands in the way was a valid reason for redefining death in 1968, why would it not be a sufficient reason for another definition in 1988?³⁷

The obvious point to make is that this implies that the definition of death is determined not by anything which is intrinsic to persons or their corpses, but according to the uses which may be found. To the contrary, death must be defined in metaphysical terms. Identifying the events which mark it is a matter of truth, not utility.

Another proposal is to establish a special category for anencephalics.

Michael Harrison suggests the phrase “brain absent”.³⁸ However, this would simply be a variation on the theme of altering the concept of brain death. Such infants would be treated as though brain dead and the phrase would thus have the same implications.

Finally, Norman Fost³⁹ suggests the possibility of abandoning the rule that “donors” must be dead. The idea would be to limit the removal of organs to those patients, such as anencephalics who were not capable of consciously experiencing harm and who were not capable of having the capacity for such consciousness restored. The limits could perhaps be extended to include those with advanced stages of Alzheimer’s disease, etc.

The fundamental issue in all of this is the failure to reach agreement on a definition of human life. However, that failure should not therefore simply open the way for a utilitarian assignment of a definition for no relevant reason to do with those declared to be dead, but according to the need for organs.

On the other hand, the whole brain death criteria, not as a re-defining of death, but as a more precise way of identifying the disintegration and disorganization which is the cessation of a human life, is acceptable. However, much as it may be of great advantage to be able to use organs from the persistently comatose but not brain dead, including anencephalics, they remain at least worthy of the benefit of any doubt concerning their human identity, for they clearly have a degree of integration and organization. Their bodily systems are subject to central control even though the nature of the organization present is apparently not sufficient for them to achieve higher levels of human functions. They are dying but not dead and warrant the respect we normally accord the dying.

5. Respect for the Bodies of the Dead

Pope Pius XII in 1956 gave his approval to cadaveric organ donations saying:

A person may will to dispose of his body and to destine it to ends that are useful, morally irreproachable and even noble, among them the decision to aid the sick and suffering. One may make a decision of this nature with respect to his own body with full realization of the reverence which is due to it...this decision should not be condemned but positively justified.⁴⁰

The general principles which apply to the use of cadaveric tissue are:

- a) There must be moral certainty that death has occurred.
- b) Either the donor must have ‘willed’ either verbally or in written form that the tissue might be used for this purpose, or in the absence of the donor’s ‘will’, his or her relative or close friend expresses the view that the donor would have been prepared to donate the tissue had the question been put to him or her.
- c) The donation is not opposed by the relatives.

d) The tissues are not treated in a way which is disrespectful of the dead person.

6. A Critique of Organ Transplantation

6.1 *Sentiment vs. Utility*

Most people working within health care do not object on moral grounds to the brain criteria for death and the donation and transplantation of organs from such cadavers, and approximately two thirds of the relatives are willing to consent to organ donation,⁴¹ yet assisting in organ procurement surgery remains unpopular with operating room nurses, ranking alongside induced abortion in unpopularity.⁴² Further, although nurses are, in general, critical of the medical profession, the surgeons who undertake organ procurement seem to be the objects of an unusual amount of criticism from nurses, often being described as “fast”, “aggressive”, “rude”, “insensitive”, “arrogant”, etc.

The latter may be due to the “flying squad” character of procurement teams, the depersonalizing character of a national register, the fact that the surgeon has usually been called in without prior notice to do the operation, the haste to collect organs for use in a patient who has been prepared to receive the organ, the fact that the recipient is often in another hospital and unknown to the nurses at the salvaging hospital, and so on, but it may also reflect some dehumanizing features of the work of organ salvage itself which is then manifested either in the personalities of surgeons involved in organ salvage or in the negative feelings on the part of the nurses to the work being done, in spite of the fact that organ harvesting is ultimately life-saving.

Nursing attitudes to a procedure and the relationships between nurses and surgeons are not normally proposed as the substance of a moral argument. However, in the case of cadaveric organ harvesting, moral argument has been based upon resolving conflicts between sentiment in relation to the treatment of the bodies of the dead, on the one hand, and the utility of using the bodies of the dead to save the lives of the living, on the other. The effect of organ salvage on those who undertake the procedures, the emotive symbolism involved, and whether organ salvage is dehumanizing, were matters of concern in the ethical debates which led to the adoption of current policies. The resolution of the conflicts in favor of cadaveric organ transplantation and the passing of legislation enabling it in most Australian states occurred largely on the basis of the priority of the needs of the living over sentiment and sensitivity for the bodies of the dead.

Now, several years after widespread acceptance and adoption of the practices of determining death by the brain criteria and organ salvaging, is an appropriate time to review the current situation.

6.2 *The Need for Symbolism*

In his essay “The Moral Trap of Sentimentality: The Mistreatment of

Dead Bodies”⁴³ Joel Feinberg discussed three major arguments defended by William May⁴⁴ based on sentiment or sensitivity: the argument that the offended sentiment is essential to our humanity, the argument from institutional symbolism and the argument that the threatened sensibility has great utility. Reflection on those old arguments in the light of current practices leads me to the view that there is a need for symbolism and ritual in order to direct the sensitivities offended by organ salvage and the whole brain criteria for determining death in such a way as to prevent the hardening and coarsening of the attitudes of those routinely involved in organ salvage and to assist in the grieving of relatives.

In 1972 William May argued that there is a connection between human dignity and a capacity for horror, and he re-affirmed that view in 1985.

The cadaver is a kind of shroud that masks rather than expresses the soul that once animated it. Yet while the body retains a recognizable form, even in death, it commands the respect of identity. No longer a human presence, it still reminds us of that presence that once was utterly inseparable from it.

...Proposals...for the dismemberment of the corpse, even if that dismemberment serves important social purposes such as organ transplants, awaken a deep-going reservation. This reservation grows out of an aversion, a shuddering, before the harsh treatment of a corpse.⁴⁵

May does not however argue that the sense of horror and the deep reservation one naturally has in relation to the dismemberment of a corpse should outweigh the benefits to be attained by organ transplantation. He agrees with Feinberg⁴⁶ in holding that such sentiments should be disciplined and directed.⁴⁷

The problem is not so much whether to undertake organ salvage but the manner in which it occurs and the disciplining and direction of natural sentiments such that involvement in the activity is not dehumanizing. The negative attitude of operating room nurses to organ salvage and the surgeons who undertake it rings alarm bells in relation to the manner of collecting organs and the treatment of the sensitivities of those involved.

This concern is not confined to nursing and medical staff. Being present at the moment of death and being with the body immediately after death are significant happenings in the course of a relative's grief and are of great emotional consequence in the personal acceptance of the loss.

The circumstances of beating heart organ salvage deprive relatives of the normal opportunity to see the body at rest after the battle for life is over. The final chapter when respiration is ceased and the heart stops beating happens in the secret and often bizarre realm of the operating room while or just after organs are removed. Although it is true that death has occurred when the brain completely and irreversibly ceases to function, death by brain criteria alone convinces only at a rational level. While a relative or spouse breathes and the heart beats, it is difficult to relinquish emotional hold on a body which appears so alive, however convincing the evidence of complete and irreversible cessation of brain function. The relatives of a beating heart donor make their farewells not to the still remains lying in

the curiously peaceful repose of death, but to a departing trolley with its dead but breathing offering animated, so to speak, by the technology.

Once through the opaque swinging doors of the operating room, the atmosphere is very different. For there the procurement team carries out business as usual, all action and controlled hurry against a background of the exchange of stories of the week-end away and the doings of teenage kids. Later the dissected and depleted remains will be wheeled unseen to the mortuary for disposal by the undertaker.

What is missing in all of this is the ritual and symbolism by which we normally humanize death. Death in this case is not the dramatic event of the cessation of respiration, but a doctor's diagnosis and his signing of a form. The release of the beating heart body to the procurement team is accompanied by neither ceremony nor ritual and the members of the team remain faceless, as though like scavenging ghouls hidden in the anonymity and secrecy of the operating room awaiting the rattle of the trolley and its human package of precious organs.

Organ salvage for the purposes of transplantation is of great benefit to individuals suffering from illnesses which can be treated in this way. Renal transplantation, for instance, is considered the optimal treatment for patients with end stage renal disease because it provides better levels of health and well-being and a greater likelihood of enabling successful employment. It is also the least expensive, since the cost of maintaining transplanted patients is only one-third that of the cheapest form of dialysis.⁴⁸

The lives of the living are more important than horror and revulsion, and emotion, grief and sentiment for the dead. Consequently, organ salvage should not be foregone simply because it makes grief more difficult and is contrary to sensitivities and sentiments in relation to respect for the bodies of the dead.

Rather, the problem is the tendency of current practices to dehumanize the process. There are strong feelings and emotions at stake which need to be recognized and directed.

In this respect, the churches have been extraordinarily remiss. At an official level, the churches have largely ignored the development of organ salvage from beating heart cadavers. The practice has neither been accepted nor rejected, and no ceremonies have been developed to mark the significant event which occurs when a family consents to donation. There are not special prayers, no liturgies, no rituals by which to direct the emotion energy toward recognizing and understanding the symbolism of the gift of organs so that another may have life, nor a religious event to mark the acceptance of the death of a relative.

There is, in this reality, a challenge to the churches to explore the concept of institutionalized symbolism in relation to cadaveric organ donation.

This is also a challenge to hospitals to review the practice of organ salvage in order to humanize it. Perhaps the procurement team should meet with the relatives of the donor. Perhaps a representative of the relatives of the

donor should be permitted to accompany the body to the operating room should he or she wish to do so.

It is a serious mistake for all concerned to ignore the fact that organ salvage offends natural sensitivities. Ignoring those sensitivities is at the cost of dehumanizing the process and coarsening the attitudes of those routinely involved. It should be possible to acknowledge the sensitivities and to provide opportunities to channel them by ritual and ceremony so that the emotional energy is directed in ways which are helpful to the understanding and acceptance of the reality of the events.

The development of symbolic means of directing the emotional sensitivities would be of benefit to transplant programs. Relatives would be more likely to donate in the event that the process was more humanized.

Applied to the salvaging and transplantation of human tissue, traditionally the concepts of *giving* and *receiving* have been considered better than the concepts of *taking* and *getting*.⁴⁹ In Australia, the concepts of *buying* and *selling* human tissue are culturally unacceptable and that rejection is expressed in law. It is a criminal offense in all Australian states to trade in human tissue, including regenerative tissue such as blood.⁵⁰

The concepts of giving and receiving offer the best context for directing sensitivities. The voluntary gift of the organs of a deceased relative preserves dignity and respect in contrast to routine salvaging.

Hospitals and churches could seek to develop some alternative rituals for the recognition and acceptance of death according to the whole brain criteria and the voluntary transfer of the body by the relatives from the treating team to the team responsible for organ salvage, thus marking the change in direction of treatment which occurs with the pronouncement of brain death. Ceremony and ritual could also be developed to symbolize the expression of the emotional significance of foregoing the ordinary completion of the laying out of a dead person and instead offering the organs for salvage so that others may have life.

7. Death and the State

Different states have enacted a variety of legal definitions of death. In Australia the common definition is:

For the purposes of the law in this State, a person had died where there has occurred:

- a) irreversible cessation of circulation of blood in the body of the person; or
- b) irreversible cessation of all function of the brain of the person.

There are a number of advantages in defining death in this way:

- a) The definition permits a judicial determination of the ultimate fact of death. The latter is necessary for the operation of many areas of law especially the law relating to inheritance and property and the homicide law.
- b) The definition permits a medical determination of the evidentiary fact of death. The circulation of the blood and the activity of the brain and brain stem are phenomena which can be assessed with reasonable certainty by competent medical practitioners.

c) The definition does not prescribe the medical criteria which are to be used. Thus as medical knowledge and expertise develop, it can be applied to diagnosis of the brain functions or circulation of the blood.

d) The definition would seem to avoid euthanasia. It excludes those who have permanently lost consciousness, but does seem to include all those who can be said with reasonable certainty to have died.

e) The definition can operate in both the civil and the criminal law.

The State has an obligation to intervene in this area. To quote the Congregation for the Doctrine of the Faith:

For this reason the new technological possibilities which have opened up in the field of biomedicine require the intervention of the political authorities and of the legislator, since an uncontrolled application of such techniques could lead to unforeseeable and damaging consequences for civil society. Recourse to the conscience of each individual and to the self-regulation of researchers cannot be sufficient for ensuring respect for personal rights and public order. If the legislator responsible for the common good were not watchful, he could be deprived of his prerogatives by researchers claiming to govern humanity in the name of the biological discoveries and the alleged "improvement" processes which they would draw from those discoveries. 'Eugenism' and forms of discrimination between human beings could come to be legitimized: this would constitute an act of violence and a serious offense to the equality, dignity and fundamental rights of the human person.⁵¹

This was said in relation to reproductive technology, but it would seem to apply equally to the new developments in intensive care medicine and to the development of organ transplantation from "beating heart" donors.

Of grave concern is the danger that ignorance of the medical determination of death and the absence of clear moral teaching will lead to the widespread belief that the value of human life is being compromised and that the dying but not dead are being utilized for organ donations. In a climate of acceptance of the practice of euthanasia, this is a real danger.

Governments and medical authorities have a grave obligation to explain what is happening and to ensure that new developments do not occur at such a pace that common understanding of the application of moral principles lags behind to the moral confusion of many and the creation of scandal.

References

1. Vatican II, *Pastoral Constitution on the Church in the Modern World*, (Gaudium et Spes), 7 December, 1965, n.18.
2. *Ibid.*
3. 1 Corinthians 15:50-53.
4. Descartes, Rene, *Discourse on Method*, part IV, cf. A.J. Ayer, *The Central Questions of Philosophy*, Penguin, 1973, p. 8.
5. *Catechism for the Universal Church* (provisional text), Congregation for the Doctrine of the Faith, 1989, n. 1191.
6. St. Thomas Aquinas, *Summa Theologica* Vol. I, Pt. I, Q. 76, Art. 1 English edition, (Maryland, Christian Classics) 1948.
7. 1 Corinthians 15:50-53, 1 Corinthians 15:44.
8. 1 Corinthians 6:13-15.

9. 1 Corinthians 6:19-20.
10. As quoted by Congregation for the Doctrine of the Faith, *Instruction on Respect for Human Life in its Origin and on the Dignity of Procreation: Replies to Certain Questions of the Day (Donum Vitae)* Vatican City, Feb. 22 1987, Section I, Respect for Human Embryos, Part I, para. 3.
11. *Ibid.* para. 4.
12. Daly, T.V., S.J. "The Status of Embryonic Human Life: A Crucial Issue in Genetic Counselling" in N. Tonti-Filippini *Health Care Priorities in Australia*, St. Vincent's Bioethics Centre, Melbourne, 1985, pp. 45-57.
13. Seifert, Josef, "Abortion and Euthanasia as Legal and as Moral Issues: Some Reflections on the Relationship Between Morality, Church and State" in N. A. Tonti-Filippini *Bioethics Update and the Role of Catholic Hospitals: Proceedings on the 1987 Annual Conference on Bioethics* (Melbourne: St. Vincent's Bioethics Centre), 1987, p. 164.
14. Ford, Norman M., *When Did I Begin?: Conception of the Human Individual its History, Philosophy and Science* (Melbourne: Cambridge University Press), 1988, p. 73.
15. Scott, Russell, *The Body as Property* (London, Penguin Books), 1981.
16. Seifert, Josef, *op. cit.*, p. 183.
17. *Donum Vitae*, English Edition, p. 12, Section I, Respect for Human Embryo, Part I.
18. Seifert cites a reference for this: H. Jonas "Against the Stream" *Philosophical Essays*, (1974), pp. 134-135.
19. Cf. David S. Powner, Rosa Lynn Peakes, and Ake Grenirk "Decision-making in Brain Death and Vegetative States - Multiple Considerations" in Abe Grenirk and Peter Safar *Brain Failure and Resuscitation* (Melbourne: Churchill Livingstone), 1981, p. 239.
20. Canon 1005 of the Code of Canon Law as it was revised in 1983 states: "If there is any doubt as to whether the sick person has reached the age of reason, or is dangerously ill, or is dead, this sacrament is to be administered."
21. Seifert, Josef, *ibid.*
22. Santamaria, John, Director of Intensive Care, St. Vincent's Hospital, Melbourne, who supplied me with the following information in a private conversation, 13 March, 1990.
23. Oaknine, G.E. "Cardiac and metabolic alterations in brain death" *Annals of the New York Academy of Sciences* (1978) 315:252-264.
24. Byrne, E., "The Medical Determination of Death" *Proceedings of the 1984 Conference on Bioethics* edited by J. N. Santamaria and N. Tonti-Filippini, (Melbourne: St. Vincent's Bioethics Center) 1984, p. 49.
25. Santamaria, John, Director of Intensive Care, St. Vincent's Hospital, Melbourne in private conversation, 13 March, 1990.
26. Byrne, Dr. Ed, Director, Neurology Unit, St. Vincent's Hospital, Melbourne, in private conversation, 20 March, 1990.
27. The President's Commission for the Study of Ethical Problems, *Defining Death* Washington, 1981, p. 33.
28. *Ibid.*, p. 36.
29. *Ibid.*, p. 58.
30. Byrne, E., "The Medical Determination of Death" in Santamaria and Tonti-Filippini. *Op. cit.*, 50-52.
31. Grenvik, Ake, "Brain Death and Permanently Lost Consciousness" in William C. Shoemaker, W. Leigh Thompson and Peter R. Holbrook *The Society of Critical Care Medicine: Textbook of Critical Care*, W. B. Saunders Company, 1984, pp. 968-980.
32. Grenvik, Ake, *op. cit.*, pp. 969-970.
33. Walters, James W., and Stephan Ashwal "Organ Prolongation in Anencephalic Infants: Ethical and Medical Issues" *Hastings Center Report*, Vol. 18, No. 5, October/November, 1988, pp. 19-27.
34. Shewmon, D. Alan, "Anencephaly: Selected Medical Aspects" *Hastings Center Report*, Vol. 18, No. 5, October/November, 1988, pp. 11-18.
35. Walters and Ashwal, *ibid.*

36. Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death, "A Definition of Irreversible Coma," *Journal of the American Medical Association* 205 (1968), 337-340.
 37. Fost, Norman, "Organs from Anencephalic Infants: An Idea Whose Time Has Not Yet Come," *Hastings Center Report*, Volume 18, Number 5, October/November, 1988, pp. 5-10.
 38. "The Anencephalic Newborn as Organ Donor" *Hastings Center Report*, Volume 16, Number 2, April 1986, p. 21-22.
 39. *Op. cit.*
 40. Pius XII, Pope, *Allocution to the Second World Congress on Fertility and Sterility* 14 May, 1956.
 41. This is the figure given to me by Dr. John Moran of the renal unit at St. Vincent's Hospital, Melbourne.
 42. This claim is based upon several personal reports of operating room supervisors who have the task of finding nursing staff to assist in organ procurement.
 43. *The Hastings Center Report*, Vol. 15, No. 1, February, 1985, pp. 31-37.
 44. "Attitudes Toward the Newly Dead", *The Hastings Center Studies*, I (1972): 3-13.
 45. May, William, "Religious Justifications for Donating Body Parts" *The Hastings Center Report*, Vol. 15, No. 1, February, 1985, p. 39.
 46. *Op. cit.*
 47. *Ibid.*, (1985), p. 40.
 48. *Final Report of the Ministerial Working Party on Renal Failure Services in Victoria* (Chairman: Prof. John J. McNeil) 16 May, 1989.
 49. May, *ibid.*, (1985) p. 41.
 50. See, for instance, the Victorian *Human Tissue Act*, 1981.
 51. *Donum Vitae* (1987), Section III, Moral and Civil Law.
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