

CHAPTER 2

THE DEFINITION OF DEATH

Researching the question of whether death is ever preferable to life necessitates first exploring the definition of death. It is helpful here to separate the philosophical concept of death from its social and moral consequences and the criteria used to diagnose it. The debate over the definition of death centres upon the difference between a traditional definition based on the cessation of heart and lung function and a more current concept of whole brain, or even just upper brain death. This has developed following technological progress in resuscitation that has enabled re-starting of a heart that has stopped beating and prolonged support of lung function by mechanical ventilation.

At the same time, the techniques for transplanting human organs were being developed and as the success rate, first with kidney and later with heart transplants, became higher the procedures moved from being investigational to being considered standard treatments for conditions such as chronic renal failure or end stage cardiomyopathy. This has increased the demand for perfused donor organs for transplantation. In turn, it has created a pressure for not only a more precise definition of death but for a redefinition of death, which is brain rather than heart-lung centred. If traditional heart centred views of death were to be maintained, and the circulation had to cease completely before an organ could be removed or artificially perfused, successful heart transplantation would be very difficult. Although it is possible to consider non-heart-beating organ donation, there would at least be a greater risk of irreversible damage to other donor organs¹. A solution would be the acceptance that organ harvest was allowable from a "living" donor who was brain dead even though the procedure would end the donor's life. If the concept of brain death being the death of the donor became accepted, this moral dilemma is avoided since the circulation could be being maintained after the individual was dead.

Death is a process of progressive organ failure rather than an event at a single point in time. Indeed, technological advances have allowed us to consider the body organ by organ. Morison uses this biological viewpoint to criticise those who seek to "introduce artificial discontinuities into what are essentially continuous processes"². However, there is a need for a physician to employ certain criteria to be able to certify death at some point because there is also a need to establish a point

when the moral, legal and social obligations demanded of a living person and the similar obligations of others towards that person can change to those appropriate after death.

Society has traditionally accepted that an individual is dead when a medical practitioner pronounces him as dead¹. This possibly explains why discussions of death are often placed in the medical arena. Certainly the criteria on which the physician will make a decision are a matter for medical debate and require refinement if the definition of death changes from a heart-lung centred definition to a brain centred definition. Technological advances will be required to make the accuracy of the assessment greater in a brain centred definition since it is less accessible to physical examination.

David Lamb states, "The only satisfactory concept of death is that which trumps other concepts of death in so far as it yields a diagnosis of death which is beyond dispute"³. Is there a common feature of the definitions of death? Irreversibility is essential. There is no sense in which a human being can be declared dead and then become alive again. This is despite the confusion caused by common usage, in colloquial language, of expressions such as being 'brought back to life' after being clinically dead or a dead patient being 'kept alive' by a ventilator. The concept of the irreversibility of human death is assumed even in Christian teaching in that the Resurrection of Christ is regarded as miraculous.

However diverse the criteria used to define death, irreversibility has been common. The Harvard committee set out to "define irreversible coma as a new criterion for death"^{4, 5}. The Law and Medicine Committee of the American Bar Association stated that, "For all legal purposes, a human body with irreversible cessation of total brain function, according to usual and customary standards of medical practice, shall be considered dead"⁶. Julius Korien talks of brain death as "irreversible destruction of the neuronal contents of the intracranial cavity"⁷. David Lamb defends a concept of death as the "irreversible loss of function of the organism as a whole"⁸. Capron and Kass and later the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioural Research suggested dual criteria but both encompass irreversibility, that is, irreversible cessation of circulatory and respiratory functions or irreversible cessation of all functions of the entire brain^{9,10}.

Because of technological advances in organ support, the concept of irreversibility must also embody the notion of irreplaceability. For example, dialysis can replace kidney function and so that loss of this organ is no threat to the rest of the organism. Korien argues that it is the irreplaceability of the brain that makes it the critical system¹¹. The brain is the site where personal identity resides and this is irreplaceable. If we could transplant the brain into another body, the fact that we would consider the person whose brain was transplanted as the individual who is still alive underlines why we consider the brain as crucial. It is more problematic whether one can replace or foresee the replacement of the functions of parts of the

¹ I am indebted to Renee Fox for a discussion of this point (1984)

brain, especially the brainstem, in determining whether this organ has a central role in regulating functions essential to life.

If the functions of the heart and lungs are considered replaceable, this could shift the focus of the definition of death to the brain, unless a distinction is to be made between spontaneous and non-spontaneous function. Schwager, in arguing that the brain death criterion does not alter a heart centred concept of death, maintains that a brain-dead patient on a ventilator does not have a spontaneously beating heart because it is indirectly being supported by the respirator¹². The difficulty in insisting that there is a difference between spontaneous and non-spontaneous cardiac function is that it implies that patients with artificial hearts are dead. I suggest also that this distinction would be invalid if applied to the brain. If, in future, some of the 'switching' or coordinating functions of the lower brain could be replaced, this should not necessitate an alteration in our concept of death. I see replaceability as just a subset of reversibility.

BIOLOGICAL APPROACH TO DEATH

Let me first consider a biological approach to death, since this will relate to the observable criteria for determining death. This is based on considering the human as an organism. The appeal of this approach, at least superficially, is to attempt to define death by objective parameters and avoid, as Becker puts it "rigging the definition of death" to evade moral dilemmas¹³. Becker attempted a biological definition based on irreversible loss of integrated function, as he argued against a brain death definition. Lamb's 'biological definition' is consistent with using brain death criteria¹⁴. This demonstrates the futility of believing that an approach to death which is based on the biological loss of function of the organism can yield an unarguable position.

If death is a biological process of progressive loss of organ structure or function then the safest and most uncontroversial concept of death would be the end of the process; total putrefaction of the body. Now to insist on this is absurd, but to establish a point at which death can be declared prior to this means the introduction of external factors such as moral or philosophical considerations of the concept of death.

One further difficulty in a biological concept of death is whether organ destruction and loss of function should be considered synonymous. Byrne argues that the irreversibility of loss of function must be a presumption based on current medical knowledge and availability of life support systems, whereas complete destruction is objective and observable¹⁵.

Heart-lung Death

What was the significance of the heart-lung criteria for diagnosing death? Firstly it was an easily observed event. Secondly, until recently, its inevitable consequence was the progressive death of all of the other organs of the body, including the brain.

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