

Buddhism, Death and Organ Transplantation¹

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Introduction

For my contribution to this first IABU Conference, the organisers asked me to speak about a book I wrote on this subject that was first published some thirteen years ago in 1995. The title of the book was *Buddhism and Bioethics*,³ and my objective in this work was to grapple with some of the major issues that were—and still are—being debated around the world in the field of medical ethics. I divided the book into three parts. The first set out the theoretical basis of my approach to medical ethics. This was an attempt to construct a foundation from which Buddhism could address a range of issues consistently and engage in dialogue with medical ethicists from both secular and religious backgrounds.

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³ Damien, Keown, *Buddhism and Bioethics*, (1995 (reissued 2001)).

The second dealt with the beginning of life and issues which arise there (notably abortion, assisted reproduction and contraception), and the third with issues arising at the end of life (for example euthanasia, brain death, and organ transplantation).

Since the publication of this book the pace of scientific development seems to have accelerated. The birth of Dolly the sheep, the first cloned adult mammal, was announced shortly afterwards in 1997 and a few years later the development of stem cell research caused controversy when American President George W. Bush placed restrictions on the use of federal funds to support research on human embryonic stem cells in 2001. Since then, further—and some would say more fruitful—work has been done on adult stem cells which do not give rise to the same moral problems as the use of embryonic ones. By this time the thirteen-year Human Genome Project was well under way and was finally completed in 2003. During the same period, in contrast to scientific research aimed at curing disease, other work was being undertaken with the goal of enhancing human potential through the use of genetic modification, drugs, nano-technology and neurobiology to give our brains a boost and make us all smarter. Whether this will also make us happier, or help us find a shorter path to enlightenment, it is too soon to tell, but I am sure if the popularity of cosmetic surgery is anything to judge by there will be no shortage of candidates for the many forms of artificial enhancement that will soon be available.

These developments have been discussed extensively, and there is an abundant literature by scientists, futurologists, journalists, and social commentators of all stripes offering their viewpoints. Medical ethics, too, has spawned an enormous literature offering a spectrum of distinct ideological perspectives to the point where one wonders whether there is anything new left to be said. However, amidst all this clamour the voice of Buddhism has been little heard. I think I am right in stating that with one very recent exception my book *Buddhism and Bioethics* is still the only monograph on the subject of medical ethics from a Buddhist perspective. The one exception is a recent book by the Tibetan nun Karma Lekshe Tsomo entitled *Into the Jaws of Yama, Lord of Death: Buddhism, Bioethics,*



*and Death*⁴. The book draws heavily on traditional Tibetan customs and practices surrounding death and the journey through the *bardo* and around half of it is taken up with an exposition of these teachings, which unfortunately reduces the space devoted to bioethics. However, I was pleased to have the chance to review the volume recently for the *Journal of Buddhist-Christian Studies*⁵ and took the opportunity to revisit and update some of my own earlier thoughts on the question of death which I will set out in this paper.

An anecdote recounted on p.160 of Tsomo's book gives some cause for concern regarding the present state of the subject at least from a Tibetan Buddhist perspective. The author relates how she asked the spiritual director of a Tibetan centre in Honolulu whether he thought it was a good idea to donate one's organs at the time of death. He immediately replied in the affirmative. When asked if the removal of the organs would disturb the dying process, he responded that it would be 'OK' since the doctors could 'wait for a few days'. On being informed that the organs had to be removed immediately to save the life of the recipient he 'expressed alarm' and changed his mind, advising that for an ordinary Buddhist practitioner organ donation might not be advisable after all.

I'm not sure how typical this would be, but it suggests that there is a worrying lack of knowledge on the part of at least some Buddhist teachers about the basic facts of what is involved in the practice of modern medicine. To some extent this is understandable, since these matters are not part of the formal monastic education, but at the same time they are subjects of common interest which are discussed in many public forums, and which affect Buddhists as much as anyone else. Death is an important subject and has scientific, social, ritual, religious, legal and other dimensions. However, for the moment I plan to focus on just two interrelated issues: i) the problem of defining and declaring death, and ii) the ethics of organ transplantation. Although relatively few people will ever need an organ transplant, the subject may be of interest to ordinary Buddhists who wonder whether or not they should carry donor cards so their organs can be used after their death.

⁴ Albany, NY: SUNY, 2006.

⁵ Forthcoming.

The concept of death

First of all we must be clear about our concept of death. In order to explore this question systematically with the aim of reaching practical and workable conclusions in harmony with Buddhist teachings and modern medical science I think, in common with other contemporary discussions of the subject, we need to be able to do three things. The first is to provide a Buddhist definition of death; the second is to establish the criteria for declaring death; and the third is to specify the empirical tests for death that will enable physicians to know when the criteria for death have been fulfilled. Tsomo does not approach the task quite so methodically and in her book no explicit definition of death or a defence of one is offered. In fact she seems to have little hope of reconciling Buddhist and scientific viewpoints on questions of the kind I have just identified. Tsomo seems to regard the main obstacle to determining when death has occurred as the absence of any scientific means of detecting the presence of what she calls the ‘subtle consciousness. According to traditional Tibetan teachings death is believed to occur when this consciousness leaves the body to embark on its journey through the *bardo*, or intermediate realm. Tsomo seems to regard this as a point at which Buddhism and science must part company. However, I think this is unduly pessimistic, especially when we consider that religions such as Christianity have faced substantially the same predicament in terms of reconciling theological viewpoints on the relationship between soul and body with scientific beliefs about life and death, and have managed to evolve solutions that are consistent both with Christian doctrine and science. I could add in passing that the discipline of bioethics largely grew out of such efforts by Christian theologians in the 1960s to come to terms with the challenges that medical science presented to their beliefs on these and other subjects. The way forward, I suggest, is to do what Christian theologians have done and interpret the scriptures in the light of both reason and modern scientific knowledge in order to derive conclusions that are compatible with traditional beliefs and values.



Traditional teachings

Although Tibetan traditions surrounding death are rich and complex, there is an underlying continuity with their Indian counterparts in terms of what marks the difference between a living body and a dead one. The traditional Buddhist criteria are well known and are found in the *Majjhima-* and *Samyutta- nikāyas*. Here, reference is made to three criteria that distinguish a living body from a dead body. The three are vitality (*āyu*), heat (*usmā*), and consciousness (*viññāṇa*)⁶. The first two, vitality and heat, are said to be interrelated and compared to a lamp and its light⁷. For this reason I prefer to see them as representing a single phenomenon namely the process of vitality and the accompanying heat which that process generates. In modern terms, perhaps vitality would correspond to the metabolic processes that take place in the body, and heat to the energy that these processes liberate. The absence of vitality, then, can be detected by the absence of heat. Bodily cooling is a widely recognised concomitant of death and is known as *algor mortis*, the process by which the temperature of a body drops from its normal 37 degrees centigrade, assuming normal conditions, until it reaches the ambient environmental temperature. Further observable signs include skin pallor, changes in the eyes such as loss of pressure and marking of red blood cells, flaccidity in the primary muscles, lividity or *livor mortis* (the process of blood flowing downwards and causing a reddish-purple colour on the skin), *rigor mortis* which sets in 3-4 hours after death and lasts between 36-48 hours, and also, sometimes, spontaneous movements in the feet and legs caused by biochemical reactions which may have given rise to belief in spirit possession in some quarters.

Given the practice of the ‘cemetery meditations’, Buddhist monks must have observed many of these signs themselves, so it is interesting that the compilers of the Pali canon came up with such a restricted checklist—basically just the absence of heat—when determining death. I suggest that this has much to do with Buddhist meditational practice and the knowledge that individuals could enter trance-like states resembling death and remain there for some considerable length of time without respiration or heartbeat.

⁶ S.iii.143.

⁷ M.i.295

Examples of stories such as that of the elder Mahanaga who according to Buddhaghosa remained seated in trance while the meditation hall burnt down around him bear witness to this⁸. The *Mahavedallasutta* of the *Majjhima-nikāya* specifically addresses the question of the difference between a person who is dead (*mato kālakato*) and one who is in the state of cessation (*saññā vedayitanirodho*)⁹, so this was clearly a point of concern.

Indeed we have an interesting canonical example of a wrong declaration of death being made in connection with the Buddha himself. Those familiar with the *Mahāparinibbāna-sutta* may recall that Ananda mistakenly pronounced the Buddha dead and had to be corrected by the Venerable Anuruddha. The text reports how the Buddha ascended through the eight *jhanas* and attained the state of *saññāvedayitanirodha* at which point the following brief exchange takes place:

Then the Venerable Ananda said to the Venerable Anuruddha; ‘Venerable Anuruddha, the Lord has passed away.’
‘No, friend Ananda, the Lord has not passed away, he has attained the Cessation of Feeling and Perception’¹⁰.

The Buddha then passed down through the *jhānas* to the first and again to the fourth at which point he expired. The text does not tell us how those present were sure the Buddha had actually died at this point. Perhaps clairvoyant powers came into play, or his body in due course became cold. Fortunately, in his case some rather dramatic confirmation was provided in the form of an earthquake and thunder, and it would be very convenient if such clear signs were given in every case. Unfortunately, they are not, and we are left instead only with the two criteria the texts provide to help us distinguish between life and death: one biological (vitality manifested in the form of heat) and the other metaphysical (the presence of *viññāṇa* or consciousness).

In fact what these early sources provide us with, in terms of my earlier distinction, is actually a *definition* of death, and an empirical test for death rolled up into one. The *Mahāvedalla-sutta*

⁸ Buddhism and Bioethics, p.146.

⁹ M.i.296.

¹⁰ D.ii.156.



tells us that a body without vitality, heat and consciousness is like an unconscious piece of wood (*yathā kaṭṭhaṃ acetanaṃ*). In other words, it is a corpse. Accordingly we might *define* death in *religious* terms, as the permanent separation of the soul (or spirit) from the body. Buddhists might prefer a different form of words such as the separation of the immaterial (*nāma*) from the material (*rūpa*) components of the composite human individual. The *test* for death we are given to help determine when this separation has come about is the absence of heat in the body. So, the early sources have given us a start, but I think we can build further on these foundations. In particular, it would be good to evolve a definition which was less esoteric and could be accepted both by Buddhists and non-Buddhists. Let us see if we can make any progress towards such a definition.

The Buddhist definition of death

An important preliminary point to clarify here is whether our concept of death is one of the *death of the whole body*, or of the *death of the body as a whole*. The strictest definition of death would be the destruction of every single cell in the body, as happens in an atomic blast. But this is surely too strict a requirement and in general we are happy to accept that people are dead long before their bodies are destroyed or reduced to ashes in the crematorium. The same might be said of putrefaction. Buddhist monks have often contemplated decaying corpses in the charnel ground and know that this is a process that takes some time, and that individuals are dead long before the flesh and bones have turned to dust. I suggest, then, that the Buddhist definition of death is that of the *death of the body as a whole* rather than the death of the whole of its parts, since as already suggested death is equated with the disintegration of the unity of the five aggregates, not of their complete destruction.

I think the idea of disintegration must be a key element in any Buddhist definition of death. According to Buddhist teachings, the death of a human being occurs when the constitutive elements of the psycho-physical individual lose their integrity. In traditional terminology this is thought to be when the mind-body composite made up of the five ‘aggregates’ (*khandhas*) dis-integrates. Another traditional way of speaking about this is by reference to the dissolution of the elements of earth, water, fire, wind, and

consciousness. In this sense perhaps we could say that death marks the point of transition from unity to multiplicity, or from a functioning whole organism to a collection of body parts.

In its description of a dead body, the *Mahāvedalla-sutta* refers to the sense-faculties (*indriya*) as ‘completely broken up’ (*viparibhinna*). In other words, the senses of taste, touch, and smell etc have become disintegrated and their operation is no longer coordinated as they would be in a living self-regulating organism. It is this lack of integration that characterises death and distinguishes it from life. Frequent reference is made elsewhere in Buddhist texts to death the ‘break up of the body’ (*kāyassa bheda*), and I suggest this concept of breakup and disintegration is at the heart of Buddhist thinking about death. Once the breakup of the body takes place, the five aggregates are sundered, and the individual is dead. Since physical disintegration is a fundamental part of this process, and since there cannot be human life if there is no functioning organic basis for it, it seems we can define death not just in spiritual but also in biological terms. If as a result of physical disintegration the biological conditions necessary to support life are not present, there can be no living being. Or to put it another way, if there is no body, there can be no mind-body aggregate. A definition of death in these terms might be (as I proposed in 1995): ‘death is the end of the integrated functioning of an organism.’

It seems then, that we can have two definitions of death: an esoteric and an exoteric one, and I believe they are not incompatible. Perhaps we can think of them as two sides of the same coin. If *viññāṇa*, or what Tsomo call the ‘subtle consciousness’ is indeed an integrated part of the functioning human being as Buddhist teachings suggest, then the definition of death as the loss of integrated functioning will also include the disintegration of the elements which compose a human being, of which the ‘subtle consciousness’ is one. In fact we learn from Tsomo’s book that just like modern doctors, traditional Tibetan physicians make use of tests which are purely physiological in nature, such as bodily heat, secretions, analysing the urine of critically ill patients, taking the ‘death pulse’, and ultimately bodily putrefaction. Although Tibetans may regard these as testing for the presence of the subtle



consciousness, it becomes clear on reflection that this is really only a corollary of what the tests show. Because death also occurs to entities such as vegetables (which according to mainstream Buddhist teachings do not possess consciousness and do not transmigrate) it is clear that life and death can be defined purely in biological terms independently of any reference to metaphysical entities.

My reason for providing an alternative exoteric definition of death based on physiological criteria is that it allows Buddhist to build a bridge with medical science and other religions. This alternative definition makes no reference to a subtle consciousness or other metaphysical phenomena. Accounts of the death process in terms of ‘winds’, ‘humours’ and the ‘clear light of death’ may well retain a place for insiders, as in the case of those who undergo near-death experiences (NDE), or of Christians who believe the soul separates from the body on death. Reflective believers, however, will generally accept that such accounts must dovetail with the biological phenomena which accompany death.

The criteria for death

Turning now to the criteria for declaring death, the problem is essentially one of specifying the physiological conditions that are a *sine qua non* for supporting the continuing relationship between the spiritual and material components (let us call them *nāma* and *rūpa*) of the unitary human individual. Or, to put it the other way round, in the absence of what conditions can we be sure that there is no subsisting relationship between the two?

The early sources provide us with a test for death, namely the loss of bodily heat, but we now need to ask what that test is telling us. In other words, what set of conditions or criteria are fulfilled when a human body loses heat, and why are these conditions of importance? Is it the case, for instance, that a body loses heat at death because *viññāṇa* is hot, and when it goes the body cools? I would think not, so what we need is some further elucidation of the significance of this test in relation to our definition of death so that we can make the criteria for death more explicit. Given our earlier definition, our criteria for death should make reference to the point at which the basic life-support systems of an organism

have broken down and irreversibly ceased to function. This is the point at which the biological integrity of the individual has been lost, and the *rūpa* or material form of the human body will begin to deteriorate and not be renewed at the cellular level.

The criterion which is today almost universally accepted in modern medicine is that of brain death, either the death of the whole brain (as in the USA) or of the brain stem (as in the UK). This criterion was first proposed in 1978 and subsequently became established in the early 1980s. Tsomo is clearly unhappy with the criterion of brain death, and seems to assume that it once again leaves Buddhism out on a limb and in some way implacably opposed to science. I share her unease about brain death, as do others¹¹, a fact about which she herself seems unaware. In fact, a number of people, including doctors and philosophers, are sceptical about the brain death criterion, and there is a growing body of dissident literature which believes that the criterion is conceptually and scientifically flawed. The problem, then, is not that Buddhist metaphysical beliefs are irreconcilable with science, but that Buddhism simply disagrees with a particular criterion for death that has become established in modern medical practice largely, as many believe, in order to facilitate organ transplantation. My earlier reasons for accepting the standard of brain death in 1996 were that the death of the brain, including the brain stem, seemed to mark the point at which the human organism loses the capacity for self-regulation. However, in the intervening years I have had increasing doubts about the reliability of this criterion for several reasons. The first is that it places too much emphasis on a single bodily organ, namely the brain. There is clearly a tendency in the West to identify the self with the brain, and to reduce personal identity to the various states of consciousness which this organ generates in its twin hemispheres. Following a Cartesian or Lockean view of personal identity, some advocates of brain death would even equate the death of the individual with cognitive death, or the irreversible loss of consciousness in the upper regions of the brain. Thus even though the brain stem may be functioning, the heart beating, and the lungs breathing air, proponents of this dualistic view of human nature

¹¹ E.g. M. Potts, P. A. Byrne and R. G. Nilges, *Beyond brain death : the case against brain based criteria for human death*, (Dordrecht; Boston, 2000).



would be prepared to declare a permanently unconscious patient dead. Vital though the brain is to the exercise of the higher cognitive capacities and the regulation of important bodily systems, it seems to be going too far to equate the life of a human being with the functioning of a single bodily organ. When all said and done we do not have two lives— a mental life and a physical life—as this dualistic view of human nature would pretend. One and the same life manifests itself in our thoughts and in our heartbeat, and throughout the psycho-physical unity which is a human being.

Moreover, we know that the brain is absent in the development of an early fetus. Because an early fetus has no brain, does this mean that it is not alive? Clearly not, for we have all passed through this stage of development and lived to tell the tale. Another problematic example concerns the case of brain dead mothers who have subsequently gone on to give birth, in one case 197 days after brain death was diagnosed. It seems strange to describe a body functioning as an organic whole in this way as ‘dead’, and if medical opinion is telling us that patients who are dead later go on to give birth it would seem to be out of step with the ordinary common sense understanding of what life and death involve. Finally, one might ask what would be the case if at a future time brain tissue transplants could be used to restore damaged brains. Would the recipient a successful transplant be described as having come back from the dead? For various reasons it seems too narrow to focus on the brain alone, and I suggest we need to take a more holistic, organic view of the human individual in life if we are to understand what is lost in death.

The tests for death

Turning now to the empirical tests for death, I have suggested that death is essentially a major systems breakdown. If so, how should we test for this condition? The classical Buddhist definition of death in terms of the loss of heat, of course, makes no reference to the brain at all, or to any other bodily organ. In other words it seems Buddhism is telling us that death is not to be equated simply with the absence of electrical activity in the brain or the absence of a functioning brain stem. However, this traditional Buddhist test for death can, I think, be associated quite successfully with the definition

of death I offered earlier, namely that death is the permanent loss of integrated organic functioning. The absence of heat (and I think we must assume that this condition prevails over a period of time) is simply one way of telling us that the internal self-regulation of the organism has been irreversibly lost and that the body's metabolic processes have ceased.

A problem with the Buddhist test of heat loss is that it takes rather a long time before death can be declared. Loss of heat on the skin takes from 8-12 hours, but the centre of the body takes about three times as long to cool down to the ambient temperature. If one wanted to wait for confirmation of death following the total loss of bodily heat, there would seem no

strong reason not to do so, subject to demands on hospital resources. After all, the dead are in no hurry. However, in practice I think doctors would not want to confine themselves simply to testing for bodily heat. There are traditional tests for death which have served them well long before the advent of the brain death criterion. Before then, the loss of heartbeat and respiration were the main tests used. Tests developed for brain death can provide additional confirmation and are relatively simple to carry out at the bedside (opinions differ on whether an EEG machine is required). Using a combination of these traditional tests one would know very soon and with a high degree of confidence that death had taken place. If we want to be more specific, a robust set of tests would seem to be one that referenced the cardiovascular, respiratory and nervous systems. The breakdown of these three major bodily systems appears to confirm the irreversible loss of structural integrity.

Organ transplantation

Normally, there is no problem about deciding if a person is alive or dead, and while doctors may occasionally make a mistake this happens very rarely. The problem of determining a precise time of death has arisen largely in the context of cadaver organ transplantation. For a successful transplant the organs must be harvested while they are freshly oxygenated, and this usually takes place between six and twenty-four hours after brain death has been diagnosed. In the interim, artificial ventilation is maintained and



respiration and heartbeat continue. The body retains its normal vital signs which include the presence of heat. If ventilation is discontinued and the body allowed to cool the internal organs would rapidly deteriorate and the prospects for a successful transplant would be greatly reduced.

Supporters of brain death claim that the loss of function in the brain stem is diagnostic of death, and prognostic of asystole (the stopping of the heart), an event conventionally accepted as evidence of death. However, between these two events, several bodily systems still function, including the circulatory and the respiratory: the ventilator simply introduces oxygenated air while respiration continues at the cellular level. The neural regulation of body temperature continues, and the spinal cord and peripheral nervous system still function, implying some level of continuing organic integration. To declare the patient dead at this point would seem premature, and to practise solid organ explantation—such as the removal of the heart, liver, kidney or pancreas from a beating-heart donor—would result in the somatic death of the patient. The fact that this is done with the intention of saving life may be a mitigating factor, but in Buddhist terms it still constitutes the killing of a living being and is a breach of the first precept. From a moral point of view, the fact that none of this is done in the patient's own interest gives further grounds for caution.

So where does all this leave us on the ethics of organ transplants? I think it all but rules out the possibility of cadaver solid organ transplants for those who hold to orthodox Buddhist teachings. For Buddhists to accept the practice, some early warning signal confirming the disintegration and irreversible breakup of the organic basis of the five aggregates (*khandhas*), would be needed, but it is hard to see what this could be. Loss of function in parts or even all of the brain would seem too uncertain an indicator on which to base judgements which could potentially involve the destruction of human life. There is no 'magic moment' at which life ends, and in the absence of earthquakes, thunder, or the appearance of Mara hovering nearby it seems safest to wait until events have conclusively taken their course. The caution of the early sources—which do not even accept cessation of respiration or pulse as proof

of death— needs to be taken seriously. The alternative criteria I have proposed, namely the breakdown of the three main systems—cardio-vascular, respiratory and nervous—would allow an earlier diagnosis of death but would also make organ transplantation impractical. The only acceptable form of transplantation would seem to be that of paired organs between living donors.

When all is said and done death remains a mystery and it would be unwise to assume certainty about the nature of the last moments we will have on earth. In such matters it is wise to proceed with caution, not from superstition or irrationality but out of respect for the dying as they prepare themselves for their transition to the next life. If there is doubt about precisely when death occurs, as I believe there always will be, the benefit of the doubt must be given to the dying patient. Inevitably this will lead to a loss of donor organs for transplantation, as a result of which lives will be lost. To compensate for this, efforts must be directed into the development of new drugs and alternative techniques that will avoid the need to gamble in an area in which there can never be certainty.

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