

Western medicine as contested knowledge

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CHAPTER NINE

The reduction of personhood to brain and rationality? Japanese contestation of medical high technology

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That science is not culture-free but embedded in its cultural tradition has been accepted in some scholarly circles but not in others. Before Kuhn articulated that science and its paradigms are constructs of culture at a particular historical period, Marx observed that Darwin saw a representation of English society in the behaviour of beasts and plants, that is, *nature*. Darwin's *science*, therefore, embodied *culture*, i.e. English society. Sahlins, too, has chided sociobiology as 'scientific totemism'.¹ Medical science is no exception. In fact medicine, which involves humans – with their body, birth and death, and health and illness – in a more direct way than other sciences, is deeply embedded in the Western cultural tradition. Yet this so-called biomedicine has been introduced to every corner of the world as a culture-free objective medical *science*. Even more important, it has been willingly accepted by the people themselves as science and as a mark of progress of human wisdom. In order to understand this process, we must first understand medicine as an expression of Western culture, or, more specifically, of the Enlightenment tradition of the high culture of the West. We must also be aware of what I have called 'cultural imperialism', by which I refer to the 'non-Western' peoples' *willing* acceptance of the Western premise that Western civilisation, with science and technology at its core, is more advanced and higher than other civilisations.² Cultural colonisation is far more widespread and has become part of the attitude and view of the 'non-Western' peoples, including those who have never been politically colonised. This is so even though most peoples have consciously or unconsciously 'contested' Western medicine, or even Western civilisation in general. In order to understand the power inequality – political, economic and cultural – involved in the global flow of knowledge, 'contested knowledge' must be examined within a broader context of both contestation of knowledge and its absence.

The major part of this chapter deals with the new medical high technology of organ transplantation. Despite the mounting pressure from outside and some from within the medical profession, the Japanese have shown remarkable resistance to the notions of brain death and organ transplantation. I argue that the new medical technology is an outgrowth of Enlightenment philosophy and thus it is based on the assumption that rationality is the defining feature of humans – a definition not shared by other peoples who contest brain death as a person's death and organ transplantation as a new medical miracle. The specific cultural context of the Japanese reluctance to accept the new technology is discussed. The chapter also points to serious political and ethical implications of the world-wide delivery of this technology in the context of apparent power inequality among the nations.

The reluctance of the Japanese to accept the notion of brain death as a person's death, and subsequent organ transplantation, is then placed in the broader context of other types of contestation of Western medicine, especially their retention of *kampō*, their own medical system with its Chinese origin, whose theoretical premisses depart radically from those of Western medicine.

For the purposes of this chapter, I engage in bold interpretations and make global comparisons. I use terms such as 'the Japanese', 'the West/Western' and even 'non-Western', realising that there are serious problems with such blanket terms. Augé and Cohn pointed out long ago the basic issues involved in lumping 'the rest' of the world into a residual category of 'the non-West'.³ By the term 'Western culture' I refer primarily to the 'high culture' of the intellectuals of France, Germany, the United Kingdom, a few other countries, primarily in western Europe, and the United States. I commit all the grave sins of totalising and essentialising, as postmodernists would say, but anthropologists interested in larger socio-cultural themes cannot avoid generalisations altogether.

*The new high technology:
organ transplants and brain death*

In the United States and a few other Western countries, multiple transplants of human organs and experimental transplants using non-human primate organs are receiving much media attention, while implants have been so 'naturalised', as Foucault, Bourdieu and Barthes would say, that they are taken for granted and are thus no longer newsworthy.⁴ However, Israel, Denmark (until 1991) and Japan remain resistant to this new medical 'high technology'. Note that Denmark, a Western country, parted company with the West until 1991 in this

regard, while Israel, if it may be called 'Western', and Orthodox Jews in the United States continue to reject this medical technology. Furthermore, there are many individuals who do not subscribe to the tradition of acceptance even in the countries where organ transplantation is most developed. Conversely, there are many individuals in 'non-Western' countries and cultural traditions who advocate the new technology. The refusal or reluctance to pursue this new medical technology in these so-called advanced countries, which possess both the financial and the technical capacity to adopt it, invites anthropological enquiry as to the reasons.

Under influence from abroad, the Japanese Medical Association and Japanese physicians and lawyers have pressed the Japanese government to pass legislation accepting brain death as the death of a person. The government created a special task force, chaired by Takeuchi Kazuo, to present the standards for brain death, known as 'the Takeuchi standards'. Following the United States and Canada (but not the United Kingdom), this 1985 report advocated defining brain death as the non-functioning of the entire brain and specified six conditions.⁵ It was signed by thirteen members of the committee and three participants.⁶ However, the report included a minority opinion signed by two committee members and two participants who opposed the legal sanctioning of brain death. Umehara Takeshi, one of the opponents, subsequently edited a book in which fifteen authors explained their reasons for opposition.⁷ Six opposed such legislation from a medical perspective, five opposed it from a legal perspective, and four offered philosophical or religious reasons. While the passage of legislation to equate brain death with the death of an individual is likely to occur, and public opinion is increasingly in support of the idea of brain death as death and that of organ transplantation (see Appendix 9.1), in 1995 it remains uncertain whether the public will in fact adopt it fully. At any rate, the situation with Japan indeed contrasts with that in some Western countries (see Appendix 9.2). Not only the Japanese remain reluctant to transplant organs from the brain-dead. The figures in Table 9.1 demonstrate the Japanese situation in contrast to that in the United States. Japanese are also reticent about using organs from cadavers. Thus, while 80 per cent of kidney transplants in the United States are from cadavers, only 30.8 per cent of kidney transplants and only 22 per cent of liver transplants in Japan are from cadavers.

Needless to say, the issue of brain death and organ transplantation is enormously complex, involving economic, political, legal and other dimensions. The purpose of this chapter excludes more subtle and complex arguments about the entire issue of organ transplantation and brain death, including: benefits from this new technology in many

cases; the legal implications; the cost of keeping the brain-dead alive; the negative impact of the media on medical professionals to choose ethically and financially questionable cases of transplants that are nonetheless 'dramatic' and hence newsworthy; and inequality of access to the new technology both within a society and across societies whereby the more powerful and the rich in the wealthier countries are more likely to receive its benefits.⁸

Table 9.1 *Transplants in the United States and Japan*

Organ	United States		Japan
	1983	1991	
Kidney ^a	6,112	10,051	6,951 ^b
Heart	172	2,126	1 ^c
Heart-lung	20	51	0 ^c
Liver	164	2,953	50 ^d
Pancreas	61	533	12 ^d
Lung	-	403	0 ^c

Note

^a Approximately 20 per cent from living relatives.

^b By 1989.

^c By 1994.

^d By 1992.

Sources The US figures are from Myron Genel, 'Regulation of Organ and Tissue Transplantation.' Paper read at a conference on *Organ Transplantation and Human Rights: Cross-Cultural Perspectives* (The Orville H. Schell, Jr. Center for International Human Rights, Yale Law School, April 15-17, 1993): n.p.; Further statistical information is presented in Ohnuki-Tierney, 'Brain death'.

My focus here is on conceptual issues. Let me first briefly discuss how the new technology represents the concepts of life and death, the body, personhood, etc., that are deeply embedded in a dominant Western intellectual tradition, the Enlightenment tradition.

Brain death as a new cultural institution

Although it is framed as if it were the most scientific and thus most culture-free notion, the notion of brain death is as much a cultural construct as a religion. As each society now struggles to define this new concept of death, it faces the choice of part(s) of brain. Today there are two types of brain death: (1) 'death' or non-function of the cerebrum - brain death in the United Kingdom; (2) non-function of the

entire brain, including the cerebrum and the brain stem - brain death in the United States and Japan. The non-functioning of the cerebrum leads to a 'persistent vegetative state'. In other words, brain death is a new phenomenon determined by social agents in each culture; culture, instead of nature, plays the dominant role in its construction.

For the Japanese and for many other peoples, before the notion of 'brain death' emerged, the inactive 'brain' represented a prolongation of life rather than a prolongation of the process of dying, as people in some Western countries have come to view it. Previously, even medical doctors did not equate brain death with biological death. Brain death is therefore an entirely new concept of death.⁹

The notion of brain death constitutes a radical transgression of traditional notions of death in most societies in that it represents an altogether different death. While the culturally defined person is not dead, i.e. the body is still warm and the heart is still beating, the person may be 'killed', in the traditional sense, through the removal of organs for transplantation.

The brain and rationality in Western tradition

The conceptual bedrock of brain death is the cherished principle of Western high culture, especially the Enlightenment philosophy espoused by intellectuals since the seventeenth century primarily in France, England, Germany and the United States, in which rationality is the most important criterion of what constitutes humans. As a corollary, the brain - the seat of rational thought - occupies the most prominent place among the body parts. In this dominant 'Western' philosophical perspective - *Cogito ergo sum* - a 'person' ceases to exist when the functions located in the cerebrum are 'irreversibly' lost. The brain-dead are, naturally, dead persons.

In spite of this logic, Fox and Swazey emphasise that medical professionals continue to find it difficult to identify the brain-dead as a 'corpse', and are bewildered by having to treat 'dead' patients during and after the removal of organs.¹⁰ Younger *et al.* similarly point to this ambivalence, referring to labels for brain-dead organ donors, such as 'beating-heart cadaver' or 'neomort', which have yet to become either emotionally or culturally acceptable even in the United States. Yet they report, 'Most would agree that these donors are no longer "persons".'¹¹

The heart too is an important organ in Western cultures. Its significance is expressed in the enormous importance placed on love, which has occupied a central place in many Western cultures since the time of chivalry. Today, in the United States, commercial establishments rampantly exploit the notion of love with iconographic representa-

tions of the heart to promote gift-giving on Valentine's Day, Mothers' Day, etc.

Note, however, that while in Western culture the heart is associated with emotions, the brain is associated with rationality and consciousness. To push the symbolic association further: at least in the past, males represented rationality, while women represented emotionality, as is evident in the familiar Freudian schema. The brain, then, represented the essence of humans, as *Man* represented Humans. In this symbolic construct the brain is arguably the most important part of the human anatomy. It is the seat of 'the mind', while the heart indicates the presence of mere biological life.

Since classical times, through Descartes, Kant, Rousseau and others, and even more vigorously since the rise of modern science, rationality as the essence of humanity in the Western intellectual tradition has been expressed in numerous ways. For example, ethology in the West has focused on the question of whether non-human primates possess language – the tool of rationality – or whether it is unique to humans. In anthropology itself, the question of rationality has occupied a central stage of enquiry, whether in its relationship to magic and religion, or 'the primitive mentality', since the time of Lévy-Bruhl, and has been discussed by almost all major figures in anthropology since then. On the other hand, equation of the rationalist tradition with the entirety of Western intellectual tradition is an enormous oversimplification. Even within the high culture of the 'West', a far more complex picture of the notion of rationality must be recognised. The relationships between rationality and empiricism, and between rationality and discursive logic, are but two of many complex dimensions of the question of rationality.¹²

As Keith Thomas points out, 'a "rationalist" attitude had existed long before the work of Galileo or Newton', and Aristotle and Cicero are but two examples of the rationalist authors of classical antiquity. In his explanation of the decline of 'magic', Thomas argues that 'What the scientific revolution did was to supersede this type of reasoning and to buttress up the old rationalist attitude with a more stable intellectual foundation, based on the mechanical philosophy.'¹³ I am arguing that the new medical technology and its widespread acceptance in certain Western societies is evidence not only of the success of the scientific revolution but, more important, that the rationalist tradition has deep roots in the thoughts of ordinary people, and not just intellectuals, in these Western societies.

It is no accident that biomedicine has focused on the brain as the crucial organ in determining whether 'the person' is alive or dead. The readiness with which brain death is recognised as signalling the death

of and as a human is simply a corollary. Without a functioning cerebrum, the human becomes a thing: a non-person and non-human. Brain death is the opposite of the ideal model – 'an independent individual making rational decisions'.

Hybrid monster as human

If the new culturalised nature, i.e. the human body, represents the pre-eminence of the brain, with the heart as a replaceable organ, then it reinforces the argument that rationality, located in the brain, rather than emotionality, located in the heart, is the only critical part of the anatomy for defining the self. If so, the new medical technology signals the ultimate triumph of rationality and represents a new solution to the Cartesian dualism – this technological revolution will accomplish what the Enlightenment strove for with only partial success.

The triumph is so revolutionary that it overturns most received wisdom and poses a threat to human culture and most cultures. Thus transplant technology implies the alarming possibility of creating a new human, if it takes the 'rationality' model to its logical conclusion. The new human would have a number of organs – some artificial, others from non-human animals, and still others from other humans – with only the cerebrum remaining from the original body. In short, a hybrid monster.

Transgression of the animate-inanimate distinction

Artificial organs and tissues, or 'implants', have become so common that most Americans do not give much thought to this curious combination of the inanimate (implants) with the animate (the human body). Note that the artificial heart has been arguably the most important type of implant. Transgression of the boundary line between the animal and the inanimate, then, is no longer consciously recognised.

Transgression of the human-non-human distinction

Transplant surgeons have long experimented with organs from various animals, including such 'lowly' animals as pigs. For a long time they have regularly replaced diseased heart valves with heart valves taken from pigs.¹⁴ At present, the mass media eagerly await another 'break-through' in organ transplantation – successful transplantation of organs from baboons and other non-human primates into humans.

The enthusiastic welcoming of the new ape man sheds light on the relationship between religion and science in the West. In the biblical tradition the ape man would be the most blasphemous transgression. In Genesis, God created the binary division of humans and non-human animals, just as He created night and day, land and water, etc. The line

dividing humans from non-human animals is therefore not just important but sacred. Its transgression is a sacred taboo. In western fairy tales, such as those of Aesop, a true metamorphosis between humans and non-human animals does not take place – animals simply don human attire.

On the other hand, this tradition has been challenged since the nineteenth century by Darwinian evolutionism, which has been a powerful force not only among the intellectual elites but also among the folk. Through Darwinism the evolutionary proximity of an affinity between humans and apes became a scientific 'truth'. The current welcoming attitude to the new, literal ape man, then, signals the ultimate triumph of Darwinism and scientific rationality in general over religion in the West.

In the cosmologies of many peoples, including the Japanese, many deities are animals. Thus, human metamorphosis into animals is transcendental. The notion of transmigration in East Asian religions also denies a hard-and-fast line between humans and non-human animals. Despite the continuum which the Japanese and many other peoples see between humans and non-animals, these people nevertheless establish a delicate demarcation line between the two categories of beings. It is for this reason, as I have explicated elsewhere,¹⁵ that the monkey in Japanese culture poses a threat to humans, who must ensure human superiority over the monkey by not allowing the monkey to transgress the demarcation line. The cosmologies of peoples to whom scientific rationality has not yet become hegemonic may insist on a sensitive line between humans and non-human animals.

Transgression of self and other

For the self-identify of individuals in all cultures, the body holds intense emotional power. The existential seat of the personhood is the body. 'I' is experienced through 'my body', in relationship to the other and his/her body. Organ or tissue transplantation creates a human body in which 'my brain' co-exists with 'his, her, or even its heart'. Self/other distinction is transgressed in a most immediate and psychologically powerful way.

If body parts are freely replaceable, then 'I' or 'me', which is existentially represented in every culture by the body, loses its identity and permanency. 'I' with a part of his/her/its body no longer represents the unique person. Given that the self is unique from the perspective of the person in every culture, the new potential hybrid self offered by Western biomedicine threatens the personhood experienced through the body by each individual.

This translates in actual cases into how the gift of self – the most inalienable gift of all – may in fact be rejected. Hosaka describes a Japanese man who received a kidney from a living donor. He regained bodily 'health' but lost his mind – he was ready to knife his doctor because 'my body is no longer mine'.¹⁶ An additional factor involved in such rejection is the notion of impurity, which is almost universally assigned to the dead body. The transplanted organ in one's body is not only 'not mine' but also impure, a defiling body part of a dead person.

Transgression of nature and culture

In the Western tradition the human body has occupied an ambivalent position in the symbolic dyad of nature and culture. It represents human-ness and human culture, on the one hand, but it is also the seat of the 'Beast in Every Body' – the uncontrollable sexuality and animality of humans – representing 'nature', on the other hand.

The new technology – the epitome of culture – has created a new vision of personhood, which is located in the brain, thereby eliminating the ambivalent or dual nature of humans expressed through the body. The new body, synthesised by the new technology, has become the natural body which has been purged and become, I am tempted to add, 'pure reason'. It has eliminated the beast, although, ironically, allowing parts of literal beasts, e.g. baboon hearts, to enter the human body. The new human body represents another round of cultural construction of nature.

The idea of rationality as the hallmark of humanity and the pre-eminence of brain is not universally shared. A cursory review of cultural valuations of body parts reveals that the brain, and the heart, for that matter, do not enjoy similar pre-eminence in other cultures. Even in the so-called West we find variations. For example, in the Orthodox Jewish tradition the heart, not the brain, is considered to be the seat of life, leading to Orthodox Jewish opposition to the notion of brain death.¹⁷

Japanese resistance to medical high technology

In the Japanese folk concepts of *ningen* (human beings) and personhood, rationality, as defined above, does not always occupy an important place. Nor does the brain claim pre-eminence as a body part. It is not that the Japanese are non-rational. Japanese folk religiosity has an enormously pragmatic side, and its practices and beliefs are 'logical'.¹⁸ If we take the minimal definition of rationality as 'logical consistency', the Japanese too espouse rationality, but of an altogether different kind.¹⁹

THE REDUCTION OF PERSONHOOD?

With regard to the high culture of Japan, many sophisticated debates have taken place on the emphasis on the reason and reasoning. Scholarly debates have focused on metaphysical *v.* phenomenological, discursive *v.* non-discursive logic, dualistic *v.* non-dualistic cosmology and a host of other finely tuned considerations to understand the Japanese intellectual tradition.²⁰ None, however, ever claimed that there is a 'rationalist' tradition in the Western sense, until some intellectuals started to adopt the latter. The debate over the intellectual tradition on this issue is succinctly summarised by Eisenstadt:

This rationality was characterized by a continuous extension of the arenas in which instrumental rationality, *Zweckrationalitaet*, could develop without the development of a discourse of *Wertrationalitaet*, of critical reflexivity about the sphere of ultimate values rooted in some type of transcendent orientation. Accordingly, the development of instrumental rationality did not become interwoven with such reflexivity.²¹

The soul (tamashii) as the hallmark of the beings of the universe
Instead of rationality, the ownership of the *tamashii* is of crucial importance to personhood. Note, however, that its ownership is not unique to humans. Deities, ancestors, animals and other beings of the universe all own the soul. Thus ownership of the soul contrasts with the Western notion of rationality whose distinctive role is to distinguish humans from animals. For the Japanese, that the soul is of paramount importance for defining humanity and personhood is not in contradiction with the notion that all other beings too own the soul.

Sharing the soul with non-humans, the Japanese reserve for humans a special capacity which is not exactly affectivity or emotionality, as expressed in these English terms, which are thoroughly embedded in the dualism of rationality and emotionality.²²

Given the importance of the soul, the Japanese have chosen it as a distinguishing characteristic in relation to other peoples, as seen in such expressions as *wakon kansai* (Japanese soul and Chinese brilliance) or *wakon yōsai* (Japanese soul and Western brilliance) – two phrases used to identify the Japanese self in its encounter with the other. When the Japanese encountered a highly developed Chinese civilisation during the fifth and sixth centuries, and when the Japanese encountered Western civilisation at the end of the nineteenth century, they eagerly embraced these foreign civilisations. But, in an effort to protect Japanese identity and pride, they identified themselves with the Japanese soul, and credited the Chinese and the Westerners with *sai*, i.e. brilliance, rationality, etc. In this way they achieved 'the best of both worlds'.²³

The soul and the body parts

In the well known interpretation by Orikuchi of the belief in the soul in ancient Japan, there is no mention of the precise location within the body where the soul was believed to reside.²⁴ Since the late medieval period the soul has been thought to be located in the general and broadly defined area called *hara*, the stomach, which is the most important part of the body. The *seppuku* suicide of warriors derives from the hunter's tradition of taking the slain animal's intestines.²⁵ Medieval warriors threw their intestines at the enemy when they committed *seppuku*, thereby releasing their soul from the body. Elsewhere I have extensively discussed the importance of the stomach in the past as well as at present when no Japanese believes that the soul is located in the stomach.²⁶

In the past, upon death the soul was thought to leave the stomach via the neck through the nostrils or the ears, establishing the custom of covering one's ears to prevent one's soul from being lured away at the time of the death of someone close (called *mimifusagi* or *tomobiki*). Note also that *onryō*, the soul of the deceased who has remorse or vengeance, was believed to stay at the neck. The neck, then, is an enormously important part of the body, next to or equal to the stomach.²⁷

A crucial piece of ethnographic evidence for the importance of the neck comes from a funeral practice, which continues to the present day, of saving the last vertebra and placing it in an urn after cremation. Although it is part of the *kubi* (neck), because of its visual resemblance to the adam's apple, which the Japanese think of as resembling the praying Buddha in his sitting position, the bone is referred to as *nodo botoke* (adam's apple; 'buddha in the throat'). In other words, it is the 'neck' that represents the body of the deceased. I think it is for this reason that the enemy's 'head' is always referred to as the neck, *kubi*.

With the neck and the stomach claiming crucial importance as the abode of the soul, we see little evidence for either the head or the brain, which became important only among intellectuals after the introduction of the Western rationalist tradition.

The relation of the body to the soul

That the welfare of the body is essential to the welfare of the soul is clearly expressed in the two most important and interrelated characteristics of the Japanese concept of the body: the intactness of the body (*gotai*) and non-violence to the body. Together these notions lead to the Japanese emphasis on the 'natural' state of the body or the 'natural' course of life.

At birth one receives a body with all its weaknesses, including one's *taishitsu* – inborn constitution – and *jibyô* – a chronic illness one is born with and which one 'nurses' throughout life. One nurtures this body given at birth, rather than drastically conquering or altering it, while constantly monitoring minute fluctuations of the body. Even with the spread of jogging and other health care practices from the United States, perfect health is seen as ephemeral and ordinary health is a condition that fluctuates.

Above all, the Japanese emphasise the intactness of the body, expressed as *gotai* – 'the five body parts' – meaning the entire body, which they attempt to keep intact not only throughout life but also at death. The number five is a basic number in Japanese numerology. The concept of *gotai* derives from Confucianism, although most contemporary Japanese would not recognise its origin in Confucianism (which may have simply institutionalised a folk concept). It held that if a person dies with his/her body intact, then his/her soul will be transmitted to a descendant and live in his/her body.²⁸

When a baby is born the parents are anxious to ascertain that the baby's *gotai* is intact. Conversely, those whose *gotai* is missing or deformed, termed *gotai fugu*, encounter considerable cultural and social discrimination. This was especially so in the past. For example, the crippled were thought to embody religious impurity.²⁹

The *gotai* notion lies also at the basis of Japanese repugnance towards implants. To date, no pacemaker implant has been manufactured in Japan, although a model was once presented at an international conference by a large watch and clock manufacturer, which chose not to market it for fear that a malfunction might lead to deaths of patients.³⁰ The technology of enteroproctia (artificial anus) is also most highly developed in the United States and Japanese patients use products made in the United States. The patients who use it are extremely conscious of it, and Watari, a popular actor, dreaded its use more than the colon cancer which had been removed.³¹ In the view of these Japanese, implants are not absorbed by one's body but remain permanently foreign elements, and the body therefore ceases to be intact.

The *gotai* notion is closely related to the Japanese taboo against any violence to the body which might cause imbalance in it. When the Japanese adopted religions, technology, town planning, a legal system, imperial accession rituals and many other socio-cultural institutions from China during the fifth and sixth centuries, they did not adopt ear-piercing, foot binding for women or castration to produce eunuchs. It is only recently that young Japanese have started to pierce their ears and undergo plastic surgery to make their eyes more Western-looking – a conspicuous case of symbolic violence in Bourdieu's sense.

The Japanese have long been aware that the Chinese practise ear-piercing and yet they did not adopt it from them. Some Japanese even used it as a point of distinction between us, the Japanese, and them, the Chinese. Even today older Japanese still regard it as 'impurity'. When they pierce their ears, however, the young often do so against their parents' wishes or purposely do not consult them beforehand. Newspapers reported that one of the qualifications of a prospective bride for Crown Prince Naruhito was that she should not have pierced ears – a qualification met by Owada Masako, who married the prince on 6 June 1993. Many other types of body mutilation for aesthetic purposes are practised in other cultures of the world but, except ear-piercing and plastic surgery today, virtually none has been performed by the Japanese. Traditionally, bodily transformations for aesthetic purposes are confined to tattooing, which is confined to some members of marginalised social groups. Note also the almost complete absence of the ritual sacrifice of animals, which is widely practised in many cultures.

By the same token, and despite eager adoption of Western medical technology, the Japanese have been cautious about surgery. Arguably surgery is the most important 'healing' technique in biomedicine. Organ transplantation is predicated upon the notion of surgery, and both share the basic premiss of modern Western medicine – the notion of causation, which defines disease as located in an organ attacked by pathogenic agents.³² Surgery that removes a diseased organ and replaces it is a logical solution. This view of disease in biomedicine has been quite powerful in recent times but is relatively new in Western medicine, arising around 1800 in Paris and accepted in the United States some fifty years later.³³

Although surgery as a medical technique is so naturalised in the contemporary world, it is by no means a universal means of restoring health. Anthropological studies of humoral medicines in various parts of the world have introduced us to the notion of the equation of the bodily balance with health and of imbalance with illness.³⁴ Similarly, traditional Chinese medicine is based on what Porkert has called 'a system of correspondence', rather than on 'a system of causation'.³⁵ For the Japanese traditional medicine of *kampô*, derived from Chinese medicine, the basic premiss of medical treatment is the restoration of the balance of the body, which will then remove aetiological conditions and therefore pathogens as well. Thus treatment is not aimed directly at removing the pathogen. In this system of medical thought, surgery is the polar opposite of the notion of treatment and is actually seen to aggravate the body's imbalance. Therefore, despite the prestige accorded to biomedicine in Japan, the Japanese have been quite cau-

tious and selective about adopting surgery.³⁶ Although Japanese surgeons too enjoy considerable prestige and power, in this respect they are a pale shadow of US surgeons, who, especially the brain and heart specialists, are at the apex of both professional and popular acclaim.³⁷ Note, however, that in the United States the large number of unnecessary surgical operations has attracted sharp criticisms in recent years.

For the Japanese, who avoid going outside after taking a bath in order not to give the body a shock from the cold air, and who have never practised bodily mutilation for aesthetic purposes, surgery is an extreme form of violence to the body, although its popularity has rapidly increased in the last couple of decades.

The body and the soul of the deceased

Death in the Japanese view is marked by the departure of the soul, which is signalled by the cessation of breathing. The word *iki* means both breath and life. Expressions such as *iki o hikitoru* (to withdraw one's breath) or *iki ga kireta* (the breathing stopped) are common expressions for death. They do not take loss of consciousness (*ishiki ga nakunaru*, one loses consciousness) as the criterion for death, since the same happens when one faints.

But the relationship between the body and the soul continues to be of crucial importance after death. The body must be treated properly for the welfare of the departing and departed soul. For the Japanese, the *gotai manzoku* (intactness of the five body parts) is important not only to the living but also to the dead. A dignified death requires the body to be intact. The ideal death is *daiôjô*, the grand way of dying, in which a person fulfils his/her life given at birth and dies without pain after a natural life course. This belief, I think, is fairly consistent throughout history.

Yanagita suggests that the custom of barring dogs from some islands used as cemeteries is based on dogs' 'abominable habit' of digging up the bones of the dead, thereby depriving the dead of *gotai*. He also calls attention to the frequency in the records left by court officials in Kyoto to references to a crow dropping a baby's hand and a *tengu* (mythical creature) carrying a bone. The references reveal an extreme fear of missing body parts of the dead.³⁸

Although I have emphasised the Japanese aversion to violence to the body, 'cultural explanations' are not always 'logical' from a cross-cultural perspective. For example, *seppuku* or *harakiri* (suicide by cutting the abdomen open to release one's soul) involves 'violence'.³⁹ Conversely, Japanese warriors took the enemy's neck (*kubi*), that is, 'head'

in English. This act, in my view, constituted the ultimate killing because it prevented the enemy's *gotai* from remaining intact, thus preventing the enemy's rebirth.

While the official explanation of cremation in Buddhism proclaims that cremation establishes the abandonment of the attachment to the body, Buddhism preached the *mujô* (impermanence) of this world and detachment from one's body, which epitomised humans' earthly desires. In their preaching, Buddhists visualised the dead as *hakkotsu* (bleached bones) and endorsed cremation to express the abandonment of the attachment to one's body. Cremation was in practice before the eighth century and became common among the elites during the Nara (646–794) and the Heian (794–1185) periods. The cremation and subsequent scattering of the ashes of the Junna emperor in 840 (Jôwa 7) are well known, although at that time the prototypical burial was still *dosô* (interment in the ground). When the government began to collect statistics on cremation in 1925 (Taishô 14) cremation constituted only 43.2 per cent of funerals. Between 1935 and 1945 cremation became more common than interment. Although the rate of cremation dropped just after World War Two, in 1990, 97.5 per cent of all burials were cremation.⁴⁰ Some consider that cremation became the prevalent mode of burial among the people in part because it guaranteed the intactness of the dead body until the moment of cremation, thus eliminating the precarious stage of deterioration during which the body may lose its intactness.

A series of mortuary rituals is testimony to the Japanese belief in the soul after death. Nowhere is the belief more explicitly expressed than in the custom of the *shijû-ku-nichi*, forty-nine days after the death of a person (counting from the day before the death), during which the soul of the dead is considered to hover around the house, especially the rooftop, and during which survivors make sure the dead will accomplish *jôbutsu*, that is, the achievement of the status of a *hotoke*, a Buddha, or, more accurately from the folk perspective, the status of an ancestor. This is done through the continuous burning of incense, candle light, and the offering of tea, water and rice. The food offering is made because during this process the deceased is considered to breathe and eat, like a living person, while gradually abandoning such worldly behaviour and achieving the status of a pure soul. The organs, then, are vital during this period.

A human being is gradually created in the womb, where the soul becomes united with the body. At death the soul becomes gradually detached from the body during the *shijû-ku-nichi*. Again, this is the natural course. To shorten the length of the mourning period is considered to shorten the life cycle of the dead. The removal of organs

from the brain-dead is tantamount to depriving the deceased of a cultural and social death.

The following story, therefore, does not have persuasive power for everyone. The story, entitled 'The Story of Brian,' is part of a package provided by the Elliot Hospital in Manchester, New Hampshire, and by University Hospitals and Clinics in Madison, Wisconsin, to patients before they undergo any surgery so that they may will their organs for donation in the event that they die. In the story, the enormous altruism of 'The Gift of Life,' consented to by Brian's parents, is praised in terms of the use of his organs and tissues for others:

Brian's heart went to a 35-year-old father of two. The liver forestalled death in a 20-year-old college student. One of Brian's kidneys went to a teacher who had been on dialysis for five years; the other kidney went to a young wife and mother of three youngsters. Brian's eyes were removed so that his corneas could restore sight to two blind people. His donated skin helped save the life of a severely burned baby. Bone from Brian's legs and hips were removed so that a 14-year-old boy would not have to undergo amputation of a leg due to bone cancer and so that another child's severely deformed face could be reconstructed by a plastic surgeon. From this single tragedy sprung new life, new health, and new hope for nine of Brian's fellow humans and nine American families.

In other words, virtually nothing is left of Brian, whose body is hollow inside. But note also that in 'Renewing Life through Organ and Tissue Donation', a brochure for potential donors provided by the University of Wisconsin Hospitals and Clinics, they add: 'The funeral will not be delayed, the body will not be disfigured, and they can hold a viewing.' This statement unwittingly acknowledges the importance of the body of the deceased to a 'proper' death.

From the perspective of many Japanese facing death, foremost in their minds is often the care of their soul and the family ancestral alcove after their death, even though most contemporary Japanese have practically no vision of what the after-life is about. For this reason, sometimes the will has a special provision for the offspring who is responsible for the care of the family tombs and the ancestral alcove.

The modern Japanese, who only visit a shrine at New Year, if at all, and who proclaim 'deities exist only when you need them' (*kommata toki no kamidayori*), offer tea, water and rice every day to the ancestral alcove and pay homage to the family grave on *obon* and at other prescribed times. Note also that when a guest comes to the house, he/she often first prays at the ancestral alcove, offering fruit or whatever gift he/she may have brought. In fact mortuary ritual and so-called 'ancestor worship' are at the symbolic core of Japanese culture even today.

There are signs that the Japanese will come to accept the notion of brain death, and that organ transplantation may also become more accepted in the near future. But, even so, the medical technology introduced and practised in Japan will be transformed on Japanese soil, just as biomedical delivery in general has undergone profound changes since its introduction to Japan.⁴¹

Plural system of medicine in contemporary Japan

The Japanese attitude to medical high technology, discussed above, follows the pattern of Japanese selective adoption of biomedicine and the retention of traditional medical systems. In contemporary Japan there is more than one system of health care, and most Japanese use more than one simultaneously or sequentially. The most powerful is biomedicine, developed in the West since the late nineteenth century, when it was also imported into Japan, replacing the earlier form of Western medicine introduced to Japan by the Dutch in the late eighteenth century. Other important medical systems include: *kampō*, a medical system originated in China but which had been introduced to Japan by the sixth century; religious institutions, such as Buddhist temples and Shinto shrines, which continue to play an important role in the health care of contemporary Japanese; a number of powerful new religious sects whose major focus is on health care; shamanistic medical practices, which declined significantly after World War Two; and home care, usually administered by women.

Unlike in other spheres of activity, in which the Japanese have shown extraordinary eagerness to copy and emulate aspects of Western civilisation, they have domesticated biomedical delivery by remoulding it as a Japanese medical system.⁴² Furthermore, they have kept other systems of medicine quite actively. Here I briefly introduce the *kampō* practice.

In contemporary Japan *kampō* comes in all shades, from orthodox practice to mass-produced and pre-packaged extracts of herbs, to a street-corner computer diagnosis. The orthodox *kampō* practice today is a medicinal system developed in Japan which therefore differs considerably from the Chinese medicine originally introduced from China and the medicine practised in contemporary China. Its treatment consists of moxibustion, acupuncture, and herbal and animal medicine. In a radical departure from biomedicine, *kampō* does not recognise categories of illness. Each departure from health is diagnosed on the basis of the combined total of symptoms which the patient experiences and those which the *kampō* doctor detects. The sum total, called *shōkōgun*, is carefully evaluated against the sex, age

and constitution of the patient, and the climate in which the patient resides, in order to reach a proper prescription for treatment. A *kampō* doctor, using the auditory, tactile, olfactory and visual faculties in reading the patient's conditions, prescribes a specific treatment. In the case of herbs, it is a mixture consisting of a dozen or so herbs, which the patient brews in an earthen kettle for a long time and then drinks. Every patient therefore has a unique illness and therefore requires a unique set of treatments. Diagnosis does not consist of labelling the illness. In fact the whole effort is focused on cure – the prescription of a certain combination of herbs, and/or moxibustion or acupuncture on certain points of the body, depending upon the nature of the affliction.

The conceptual basis of *kampō* is that an illness is caused by a bodily imbalance and thus the restoration of bodily balance is the basic premiss of the cure. It emphatically denies the merit of surgery, even in the case of cancer.

This premiss contrasts sharply with biomedicine, which defines 'disease' in terms of a particular set of symptoms or syndrome; its usual practice is to identify the patient's problem within the biomedical classificatory schema so that a proper treatment for that disease category can be prescribed. Any symptoms which do not constitute a part of the defining symptoms are often not considered important enough for treatment. Thus there is often a situation whereby a patient feels an 'illness,' but a doctor tells her/him that she/he does not have a 'disease', a term I use referring to the departures from health as defined in biomedicine.

While the contrast has been put here in an overly simplistic way, it is reasonable to conclude that the premiss of *kampō* is closer to the way lay people understand and experience their departures from health. It is perhaps for this reason that Japanese lay people have supported *kampō* practice even though it has twice been suppressed by the government. First, during the late nineteenth century the Japanese government instituted a rule that one must receive biomedical training in order to practise *kampō*. It did so in order to 'modernise' Japanese medicine. Second, the US occupation forces prohibited moxibustion and acupuncture after the end of the World War Two. In contemporary Japan, *kampō* has become enormously popular, not only among lay people but also with the government, which has rendered aid to this system of medicine by financially supporting research in *kampō* and gradually adding *kampō* treatments to health insurance. *Kampō* now exists in a symbiotic mode with biomedicine in that it specialises in chronic illnesses, especially those accompanied by chronic pain, and new types of illness, including those caused by envi-

ronmental pollution and traffic accidents, for none of which biomedicine has been successful.

There are other reasons for the increased popularity of *kampō*. Reaction to the negative sides of biomedicine is in part responsible for the phenomenal come-back of *kampō*. Biomedicine has demonstrated its devastatingly negative effects, tarnishing its almighty image. Nor has it been able to cope with changes in the epidemiological pattern. It has not been effective in treating chronic illnesses or various kinds of pain.

The increased popularity both of *kampō* and religious healing may also have something to do with the changing self image of the Japanese *vis-à-vis* the Other, which in the recent past has been represented by the West. To the Japanese, Westerners have represented the Other with dual power, both positive and negative – as the source and model of scientific and technological achievements and as the destructive power epitomised in the atomic bombs at Hiroshima and Nagasaki. With the country's 'conquest' of world markets in high technology, the motor industry and other fields, however, the image the Japanese have of the Other has changed, and this change has in turn transformed their self-image. It is less their economic success as such that has affected the Japanese concept of the collective self; it is more its symbolic nature. By overtaking the science and technology of the West, many Japanese no longer feel inferior to the Other. The Japanese no longer have to hold biomedicine in awe, but are comfortable in using their own medicine, be it religious healing or *kampō*. If so, Japan's case also illustrates how cultural imperialism plays a significant role in the acceptance of biomedicine in various countries of the world.

Discussion: medical high technology in cross-cultural perspective – organs as 'the gift of life'?

'The gift of life' has become virtually the definition of organ and tissue donations in the United States.⁴³ Yet organs are not and cannot be the gift of self, because organ donation lacks the most critical elements of gift giving and exchange. Not only are organs given without return – the essential feature of gift giving as a means of establishing social relations⁴⁴ – but current practice, understandably in many ways, conceals the identity of the donor; it seals off any of the human relationships involved in most social transactions. It is for this reason that 'the gift of life' has not been widely accepted in Japanese society, where gift giving is a central social, economic and political institution.

Although, in practice, social transactions are never quite clear-cut, I present the following schematic distinctions between gift, commodity and charity as three modes of exchange:

- 1 *Gift exchange*
Inalienable objects (gifts).
Interdependent transactors.
Creation of social bonds.
- 2 *Commodity exchange*
Alienable objects.
Independent transactors.
Absence of social relations.
- 3 *Charity*
Quasi-alienable objects.
Quasi-independent transactors.
Quasi-absence of social relations.

Gift-giving practice is an exchange of quasi-inalienable objects ('part of the self') to maintain or establish interdependence; commodity transactions involve alienable objects between independent actors, and charity involves alienable objects between actors whose are only indirectly interdependent.

Organ donation, then, is none of these, since the object, which is as inalienable as an object can be, is given to a total stranger with whom no social relationship is established. The absence of a social relationship between donor and receiver is the very reason that leads organ donation to commercialisation. Without the social context in which real social agents engage in transaction, the organ – or any object, for that matter – becomes a candidate for commodification. That is, without a social agent an object in itself has no meaning. No restriction is placed upon the way in which the 'meaning' or the value of the organ is interpreted by the recipient. The most inalienable of all inalienable gifts thus easily turns into a commodity.

Ethical issues in technology delivery

This commodification is what is happening in the 'organ market'. Terms such as 'organ farms' and 'harvesting of organs' are commonly used, signalling the increasing impersonalisation of the organ donation process and decreasing resistance to commodification on the part of donors and recipients. Thus the *gift of self* is in imminent danger of being transformed into the *sale of self*.

In cross-cultural perspective, we are witnessing a rapid development of the black market in human organs, possibly involving children.⁴⁵ For example, in India, Bombay has become the international centre for the black market in organs, one in ten of which is HIV-infected.⁴⁶ Even

'donors' themselves are willing to sell organs. The cover story of the July 1990 issue of *India Today*, by Raj Chengappa, is replete with stories of Indians selling their organs in order to build a brick house, etc. The magazine cover graphically portrays the sale prices of various body parts: a 'live' eye for Rs80,000, a kidney for Rs27,000 and skin for Rs300 per square inch. The author concludes by warning that 'the nightmare of "human organ farms" may soon become reality'. A similar dehumanisation of the human body is involved in the removal of organs from executed criminals in the People's Republic of China.⁴⁷

The present state of the world-wide supply of organs suggests that this medical technology may ultimately victimise the poor in poor countries where people sell their organs to rich individuals, usually from rich countries, including Japan. Yet the 'gift of life' is the moral framework within which this practice is introduced to other peoples. Organ and tissue donation is the ultimate expression of Judaeo-Christian values or, in less religious terms, an expression of the ultimate virtue of altruism. When the Japanese and other peoples are presented with this new medical technology, their acceptance or refusal often involves this broader context of symbolic inequality. Japanese who advocate its adoption, thus, put the argument in such a way as to suggest that if their compatriots do not adopt the transplant technology they are 'backward' – that Japan lags behind other industrial countries not only in advanced medical technology but in morality, which prevents them from embracing rationality and a more advanced Western ethics of altruism. Those Japanese who refuse the technology often counter the charge by stressing their own cultural and moral superiority.

It is, then, in fact, too dangerous to cloak organ donation in the guise of gift giving, not only because it misrepresents the practice, as indeed it does, but also because the morality of this gift giving further restricts the freedom of choice of people to whom the technology is introduced. To put it another way, when the new medical technology is introduced to other countries, it is not a neutral item – it represents for recipient peoples not only the technical expertise but the morality of Western civilisation. Because biomedicine previously wrought miracles such as the eradication of epidemics and dreaded diseases, the new technology is seen as yet another miracle epitomising the superiority of Western civilization. Furthermore, it is presented as an altruistic practice, an expression of Christian love – the superior morality of the West. One must be quite cautious, lest Western 'science' be allowed a free rein in symbolic violence (in Bourdieu's sense) – the gentle force exercising its power before people realise its hegemony.

THE REDUCTION OF PERSONHOOD?

Personhood in cross-cultural perspective

The question of when life ends and when death starts is enormously complex. Anthropologists have long emphasised that 'death' is always a cultural phenomenon, that is, it is culturally defined, although it may be expressed in biological terms. Culturally identified signs of death – such as the cessation of the heartbeat and the gradual decrease of the body temperature – allow survivors to observe the 'process', and not the instant happening, of death, so that they can feel the passing of the deceased. The concept of brain death has created an altogether different sort of death. Death is executed by medical professionals who alone make death happen, not allowing survivors to experience it as a gradual process of 'dying'. The important process of passing is surrendered to the professionals.

In all cultures the welfare of the soul of the departed depends upon the proper treatment of the body, and not just its parts but the entire body. Universally, the body is essential to life and death of a person and personhood.⁴⁸ It is for this reason that the symbolic construction and destruction of a person are both predicated upon a ritual enactment, positive and negative, on the body. Therefore, for many cultures of the world today, the removal of organs from the brain-dead person constitutes an act of transgression – it deprives the deceased of the final process that enables them to leave this world with dignity and as a person. It deprives them of a social and cultural death. From this perspective, the removal of organs from the brain-dead is analogous to what happens in the scene in the film *Zorba the Greek* where the islanders begin to grab a prostitute's possessions while she is dying.

Personhood in Japanese culture, as in many cultures, should not and cannot be reduced to 'rationality' and the rest of the body to an afterthought of the brain. The basic premiss of the new technology, which is a product of the rationalist tradition in the West, remains alien to the concepts of life and death, the human, personhood and the body as felt and experienced by many individuals both in 'Western' and in 'non-Western' societies.

Appendix 9.1 Public opinion poll on brain death and organ transplantation

Opinion polls, published in the *Yomiuri* newspaper on 11 December 1992 and summarised below, show a steady increase among the general public in support for the brain-death criteria and organ transplantation. The figures represent percentages.

WESTERN MEDICINE AS CONTESTED KNOWLEDGE

Question 1. At present in Japan some believe that when the brain is dead the person is dead, while others hold that, even if the brain is dead, the person should not be pronounced dead until the heart stops. What is your opinion?

	October 1982	November 1992
Brain death should be judged as death	15.2	32.4
Brain death is death, if we must decide	13.4	19.8
Hard to say	23.4	22.4
Inclined not to equate brain death with death	14.7	10.7
Brain death should not be judged as death	24.8	11.9
No answer	8.5	2.8

Question 2. When a person is pronounced brain-dead, some doctors ask surviving relatives for the deceased's organs. Choose one of the following choices that most clearly represents your feelings:

	October 1982	November 1992
Would agree to give organs	13.2	21.8
Would agree if the recipients are close relatives or friends	12.8	7.0
Would agree only if the deceased had agreed	15.1	28.2
Would continue care until the heart stops	–	4.6
Would reject the request	8.7	11.2
Cannot tell until one faces it	47.0	25.7
No answer	3.2	1.5

Question 3. If you were told that your life might be saved by transplanting someone's organ, would you request the transplant? Choose one of the following responses that most closely represents your feelings:

	October 1982	November 1992
Would accept anybody's organ	13.3	23.9
Would accept organs only from parents, siblings, friends, or others close to me	25.9	12.3
Would absolutely refuse	19.9	19.3
Cannot tell until the time comes	37.9	43.0
No answer	30	1.5

Question 4. Unlike the kidney, the heart and the liver must be transplanted from the brain-dead. Do you think Japan should continue to move towards performing heart transplantation?

	November 1985	November 1992
Yes	63.1	73.8
No	16.4	14.0
No answer	20.5	12.2

THE REDUCTION OF PERSONHOOD?

Question 5. Should Japan move towards liver transplantation?

	November 1987	November 1992
Yes	72.4	76.4
No	13.0	11.7
No answer	14.6	11.9

Question 6. Opinion among scholars and specialists on the definition of death is divided. The standards for brain death vary among medical institutions. Do you favour legislation of the brain-death criteria?

	November 1992
Agree	64.5
Oppose	18.6
Other	1.1
No answer	15.7

Although nearly two-thirds (64.5 per cent) of respondents supported legalisation of the criteria, there was considerable regional variation, ranging from 59.9 per cent in Kyūshū to 69.0 per cent in Chūbu.⁴⁹

As of July 1993, legislation establishing brain death as the death of a person had not been passed. A survey of 116 hospitals and other medical institutions during January 1993 revealed the following reasons for not performing organ transplantation from the brain-dead:⁵⁰

Reason	No. of hospitals
No legislation	89
No consensus of public opinion	82
Police investigation	45
Poor development of network	27
Underdevelopment of network	10
Lack of government effort	10
Lack of interest by emergency doctors	9
Effect of the Wada incident	6
Lack of effort by transplant surgeons	5
Other (lack of trust in doctors, etc.)	27

The responses point to the absence of consensus of public opinion being almost as important as the absence of legislation as the reason for not performing organ transplantation from the brain-dead. This is important in revealing the split in public opinion, as perceived by the medical institutions, while the answers to the previous questions show an increasingly positive attitude towards transplantation from the brain-dead.

The 'Police investigation' column refers to the rule requiring an autopsy on traffic accident victims in order to certify that the victim was not the victim of a crime.⁵¹

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Not covered in the survey but important is the present insurance system (*shakai hoshō*), which covers the cost of life support for the brain-dead until the heart stops, making it easy not to declare brain death as the death of a human.⁵²

Interpretation of the surveys

The answers to the survey clearly indicate that, during the past decade, the Japanese, as represented in this survey, have become more accepting of brain death as the criterion of human death and of organ transplantation from the brain-dead.

The answers to question 2 in 1982 and 1992 indicate that by 1992 survivors were more willing to offer organs from the deceased relative to non-relatives, people were more willing to honour the wishes of the deceased, and people were more willing to confront the issue rather than postponing their decision until they face the problem.

The general trend towards approval of these specific issues is probably a result of public debates over the issue in newspapers, television and other mass media. The media also provide information about the situation in the United States and other countries where organ transplantation is far more frequent.

Some recent episodes in Japan have also helped to create a more positive attitude towards organ transplantations involving the brain-dead. For example, a fifty-three-year-old woman potter, Akiko Ogawa, had a living will to donate her eyes and kidneys. On 16 October 1992 she went into a coma after being stung by a bee, and her kidneys were transplanted to two individuals.⁵³ Her case was widely reported by the mass media and she was heralded as an unselfish individual by supporters of euthanasia and of organ transplantation involving brain death.

Japanese attitudes may eventually change to accommodate this new medical technology, just as they did with regard to blood donation. From stubborn resistance to blood donation, Japan now has one of the highest rates of blood donation in the world,⁵⁴ and cornea transplantation has made significant inroads, with 24,784 transplants between 1963 and 1992.⁵⁵ On the other hand, it should be noted that in 1992 only 32.4 per cent of respondents were decisive in equating brain death with death (question 1); only 21.8 per cent would unconditionally donate organs of a deceased relative; only 23.9 per cent would accept anybody's organ.

Appendix 9.2 A brief history of organ transplantation

Kidney transplantation. Kidney transplants were the first transplants in Japan and are the most common kind. The first kidney transplant, which used a pig's kidney, took place in 1956. The first successful transplantation of a kidney from a live human donor occurred in 1964, and the first successful *cadaveric* transplant was in 1969.⁵⁶

In 1979 the Diet passed an Act concerning the Transplantation of Cornea and Kidney, which led to an increase in the number of kidney transplants.

During 1989, 757 were performed, of which 233 (30.8 per cent) involved kidneys from cadavers. By 1989 a total of 6,951 kidney transplants had been performed in Japan. In 1992, 187,000 persons were registered with the kidney bank to donate their kidneys after death.⁵⁷

Liver transplantation. The first liver transplant which involved a father and his son, was performed in 1989.⁵⁸ By 1992, fifty liver transplants had been performed, and, of these fifty livers, thirty-nine were from living donors.⁵⁹ Some Japanese seek transplants abroad. For example, parents sometimes take an infant with congenital biliary atresia to another country for liver transplantation. In the meantime Japan carries out more kidney dialyses than any other industrial country.⁶⁰

Pancreas transplantation. The first pancreas transplantation was a pancreas-kidney double transplant in 1984. This operation involved a brain-dead person and raised considerable controversy, including a murder charge. No more pancreas transplants were performed until 1990, but between 1990 and 1992 eleven cadaveric transplants were done. Only five cases – all performed at the Medical School of Tokyo Women's College – were successful.⁶¹

Heart transplantation. Heart transplantation in Japan began in 1968 with an unfortunate incident. Toshiro Wada, a professor at Sapporo Medical School, transplanted the heart of a victim of drowning, Yoshimasa Yamaguchi, to Nobuo Miyazaki, who had a chronic cardiac problem. Initially the transplant was celebrated in the media and applauded by the people. Wada and the transplant team became celebrities. However, Miyazaki died after eighty-three days and questions about the procedure surfaced in newspapers. Critics became convinced that the donor was not really brain-dead at the time his heart was removed, and that the recipient's heart condition was not serious enough to warrant a heart transplant. Critics claimed that Wada had committed a double murder in order to perform his 'medical miracle'. Owing to 'lack of evidence', however, Wada was never convicted in court.⁶² This incident became a deterrent for the Japanese, who were already sceptical of organ transplants. No other transplantation has been performed in Japan, but by 1992 about twenty Japanese had received hearts overseas, usually in Canada, England or the United States.⁶³ In contrast to Americans and other Western peoples the rate of heart problems among the Japanese is quite low, although the complete absence of heart transplantation is still remarkable.

Cross-cultural comparison. The history of organ transplantation in Japan contrasts sharply with that in the United Kingdom, France, and the United States. The figures for heart transplants in 1986 were: 176 heart transplants in the United Kingdom (127 liver, 149 kidney); 300 heart transplants in France; and 1,368 heart transplants in the United States.⁶⁴ The United States is the leading country not only in heart but also in other organ transplants. The following are the number of transplants of different organs in two different years, 1983 and 1991, in the United States:⁶⁵

	1983	1991
Kidney	6,112	10,051
Heart	172	2,126
Heart-lung	20	51
Liver	164	2,953
Pancreas	61	533
Lung	–	403

Although more kidneys are transplanted in Japan than other organs, Japan and the United States differ dramatically as regards the number and types of organ transplants. The use of the organs of brain-dead persons in the United States is the most important factor giving rise to these differences. Kidney transplantation is relatively easy because it involves taking only one of a live donor's two kidneys, and only part of a liver can be used for transplant purposes. The success rate for transplants of other organs is low if the organ is removed only after cardiac death. It is for this reason that brain death became a crucial issue – the heart and other organs of brain death are kept 'alive' until their transplantation, increasing the success rate dramatically.

Notes

- 1 Thomas S. Kuhn, *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press, 1962; Karl Marx and F. Engels, *Selected Correspondence*. Moscow: Foreign Languages Publishing House [Follows the Russian edition (Gospolitizdat, 1953)], n.d.: 156–7; *id.*, *The German Ideology*. London: Lawrence & Wishart, 1965: 531; Marshall Sahlins, *The Use and Abuse of Biology: an Anthropological Critique of Sociobiology*. Ann Arbor, Mich.: University of Michigan Press, 1976: 106.
- 2 Compare Emiko Ohnuki-Tierney, 'The ambivalent self of the contemporary Japanese', *Cultural Anthropology* 5, 1990: 196–215.
- 3 Marc Augé, *The Anthropological Circle: Symbol, Function, History*. Cambridge University Press, 1982 [1979]: 10–11; Bernard S. Cohn, 'History and anthropology: the state of play', *Comparative Studies in Society and History* 12, 1980: 198–221 at 211.
- 4 See, for example, Pierre Bourdieu, *Outline of a Theory of Practice*. Cambridge University Press, 1977 (1972): 164.
- 5 Yasamasu Hosaka, *Zōki Ishoku to Nihonjin* (Organ transplantation and the Japanese). Tokyo: Asahi Sonorama, 1992: 6–8.
- 6 Nihon Ishokugakkai Shakai Mondai Kentō Tokubetsu Iinkai, ed., *Zōki Ishoku eno Apurōchi* (An approach to organ transplantation). No. V. Osaka: Medika Publisher, 1991: 4.
- 7 Takeshi Umehara, ed., '*Nōshi*' to *Zōki Ishoku* (Brain death and organ transplantation). Tokyo: Asahi Shinbunsha, 1992.
- 8 For a fine exposition of the problem in the United States see David Rothman, *Strangers at the Bedside: a History of How Law and Bioethics Transformed Medical Decision Making*. New York: Basic Books, 1991.
- 9 There are other important factors, such as the technology that allows the maintenance of other 'vital functions' after the death of the brain, that are responsible for the creation of the notion of brain death (Robert Levine, personal communication).
- 10 René C. Fox and Judith P. Swazey, *Spare Parts: Organ Replacement in American Society*. Oxford University Press, 1992: 62–3. See also Takao Saitō, '*Nōshi* no hito no shi to shite yoika' (Should brain death be equated with the death of a human?), in T. Umehara, ed., '*Nōshi*' to *Zōki Ishoku* (Brain death and organ transplantation),

- 15–29. Tokyo: Asahi Shinbunsha, 1992: 15.
- 11 S. J. Younger, M. Allen, E. T. Barlett *et al.*, 'Psychological and ethical implications of organ retrieval', *New England Journal of Medicine* 313 1985: 321–4 at 323.
- 12 See, for example, Ernest Gellner, *Reason and Culture*. Oxford: Blackwell, 1992; S. J. Tambiah, *Magic, Science, Religion, and the Scope of Rationality*. Cambridge University Press, 1990; Bryan R. Wilson, ed. *Rationality*. Oxford: Blackwell, 1970.
- 13 Thomas, Keith. *Religion and the Decline of Magic*. New York: Scribner, 1971: 646.
- 14 Levine, personal communication.
- 15 For details see Emiko Ohnuki-Tierney, *The Monkey as Mirror: Symbolic Transformations in Japanese History and Ritual*. Princeton University Press, 1987.
- 16 Hosaka, *Zōki Ishoku to Nihonjin*: 28.
- 17 Rothman, 'Strangers': 164.
- 18 Emiko Ohnuki-Tierney, 'Brain death and organ transplantation: cultural bases of medical technology', *Current Anthropology* 35 (3), 1994: 233–54.
- 19 Tambiah, *Scope of Rationality*: 117.
- 20 Ohnuki-Tierney, 'Brain death'.
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