Łukasz Dominiak, Tomasz Jarosław Szczęsny

Brain death in Japan: A critical approach

In this essay we are going to critically assess the Japanese legal solution concerning the determination of human death. This is a staple of the literature on brain death[1] that Japanese law is exceptional on a world scale for at least two reasons: 1) that the concept of brain death was legally recognised 30 years after the redefinition of death had taken place in the Harvard Criteria of Irreversible Coma[2]; and 2) that Japan implemented a so called "bifurcated concept of death"[3], i.e. there are actually two alternative notions of death and which of them is to be valid and legally binding in a given case depends on previous subjective believes of brain dead patients and his or her family ideas about death, respectively[4].

In this paper we shall critically analyse metaphysical and ethical underpinnings of the bifurcated criterion of death that has been de-

---

[1] M. Lock, *Twice Dead. Organ Transplants and the Reinvention of Death*, Berkeley 2002.

[2] *A Definition of Irreversible Coma. Report of the Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death*, JAMA, 1968, vol. 205, no. 6, p. 337–340.

[3] A. Capron , *The Bifurcated Legal Standard of Determining Death: Does It Work?*, [in:] *The Definition of Death: Contemporary Controversies*, S.J. Youngner, R.M. Arnold, and R. Schapiro (ed.), Baltimore 1999, p. 117–136.

[4] M. Lock, *The Problem of Brain Death: Japanese Disputes about Bodies and Modernity* [in:] ibidem, p. 239–256.

ployed in Japan. Of course, there are several possible explanations why to employ a twofold criterion of human demise. Being spatially constrained and particularly keen on the issue of the blurred nature of life and death, we will focus just on one of the background theories justifying this peculiar bifurcation, namely the idea of process-like character of death. It is a no-brainer for the reader of a philosophical bent to notice that Death as a Process Account (DPA) can be conductive towards deploying twofold criterion of death. We are using two different criteria of death because there is no one clear and distinct moment in which a human being dies; quite to the contrary, dying is a dissociative phenomenon which takes place over a long and flexible time span and consists in organs, tissues and cells subsequently ceasing to function.

In the remainder of the paper we will proceed dialectically arguing respectively: ŁD against the DPA, TSz for DPA.

The case against DPA

1. To my mind, when we ask a question about *human death* we are almost always interested in the death of this or that particular person. At first glance this remark may seem trifle but when you think of my provision it makes pretty good sense because, theoretically, there could be different vantage points from which one might investigate the issue of human death. To illustrate my assertion I will mention just two of them. First is the evolutionary theory. From this angle the question of human death would be the query about death of the human species not the question about death of a particular specimen. Second is eschatology which is concerned not with death of a given person but with the ultimate destiny of humanity.

Of course, when we discuss the problem of brain death or, more general, the issue of determination of human death, we are neither preoccupied with the end of time and resurrection from the grave nor with our species gene pool, pan-genome or whatever. In other words, when a physician at the patient's bed is trying to determine

this patient's condition, when a judge in the courtroom is adjudicating a murder case or when a pathologist is investigating the cause of death during an autopsy of a car accident victim none of them is concerned with the question about our species gene pool or final destiny of humanity. On the contrary, they are interested in this very patient or victim's death. Hence, my first thesis is that in the context of *brain death* we are always concerned with the question about death of a particular human being and never with the question about death of any other entity in any other capacity (species, soul, humanity etc.).

2. My first thesis sheds some light on a background of the issue at stake; namely, there is a more rudimentary question of personal identity underlying the question of human death[5]. We cannot answer the latter without solving the former. To determine what our death consists of first we have to determine what sort of beings we are. If we are our brains then we die when our brain stops working[6]; if we are our organisms, we die when our organism ceases to function[7]; if we are embodied minds, some kind of brain damage constitutes our death[8] etc. Espousing the neurological theory of identity and at the same time maintaining that we die when irreversible cardiac arrest occurs would be, of course, logically inconsistent and we would find such a position irrational.

Hence, my second thesis is that each and every answer to the question about human death necessarily presupposes some theory of identity.

3. According to my second thesis also DPA must presuppose some theory of identity. Surely, one can argue that exactly because the lack of any reliable theory of identity we are forced to accept

---

[5] D. Parfit, *Reasons and Persons*, Oxford 1987, p. 199–379. McMahan J., *The Ethics of Killing. Problems at the Margins of Life*, New York 2002, p. 423–453.

[6] T. Nagel, *Brain Bisection and Unity of Consciousness*, "Synthese", 1971, no. 22, p. 396–413.

[7] J.L. Bernat, Ch. Culver, B. Gert, *On the Definition and Criterion of Death*, "Annals of Internal Medicine", 1981, no. 94, p. 389–394, passim.

[8] J. McMahan, op.cit., p. 66–93, passim.

DPA. A proponent of this position could hold that because we cannot say if a given patient is essentially a brain, embodied mind, human organism or whatever, we cannot say the exact moment of his death either and have to assume that it is a process with blurred lines rather than a moment in time. So far, so good. But consider this sort of rejoinder. Literally, how our imaginary proponent of a non-essentialist interpretation of DPA can know that he is considering the same patient at all? Since he dismisses any theory of identity he finds himself in a life-by-the-sword-die-by-the-sword kind of predicament. If there is no criterion of identity available for the purpose of determination of death of a given patient, how can there be such a criterion available for the purpose of determination if the doctor deals with the same patient then?

There are three possible answers to this conundrum. First, he could say that we assume that we deal with the same patient just for practical reasons. But then the same can be said about any given criterion of death. If it is practice, not theory that counts, let's then assume some criterion of death for the sake of practice and our perplexing problem where the definition of death will be solved. In other words, if we can assume that there is such a being as a patient identical with himself for the sake of practice, why could we not assume that there is a sharp criterion of death for the same reason? Or to put it in another way, if we are content with some definition (even if only a practical and tentative one) of a patient identical with himself, we should determine his death accordingly, in compliance with the maxim that similar cases should be treated similarly. Why is he assuming an uncontroversial character of the same patient to show the controversial character of the moment of this patient's death whereas those two instances are governed by the same theory of identity? Moreover, neither the concept of the same patient nor the concept of the moment of death are uncontroversial from the theoretical point of view. So, if he is content with the practical assumption of the existence of the same patient, why could he not be content with the same sort of assumption in the case of the moment of death? For sure,

from the theoretical point of view we cannot say the difference between these two. So, if he pays such an attention to practice to ignore our theory in one case, why could he not do the same in the second case which is exactly the same from the theoretical point of view?

Second, one could say the category of the same patient is intuitively uncontroversial whereas the category of the exact moment of death does not elicit this unambiguous intuition. But it goes without saying that after some moment in time there is no ambiguity in pronouncing somebody dead; for instance it is as intuitively convincing that a patient with an irreversible cessation of the heart, brain and lungs workings is dead as it is that this patient is identical with himself.

Finally, one could agree with the rejoinder and hold that there is no theoretically reliable ground for talking about the same patient the same as there is no such a ground for talking about the exact moment of death. But what then would DPA boil down to? There are two possibilities: some kind of a residual theory of identity or none whatsoever. The latter option would mean that we are not talking about death of a particular human being anymore, so it would be contradictory with my first thesis. Frankly, then we would not talk about death at all since this very concept means: the end of somebody who existed before. Taking into consideration the aforementioned reasons I posit then that we should dismiss the idea that DPA can be justified in a strong non-essentialist vocabulary.

Hence, my third thesis is that also DPA presupposes some theory of identity, even if only a residual one or expressed in non-essentialist terms.

4. What kind of theory of identity can be implied then by DPA?

The most probable and suitable option would be some sort of genetic identity, especially, a functional genetic identity account (FGIA) (we are identical with ourselves as far as there is the same functional genetic material). Consider this line of argument. When the brain is dead a patient's organs still work if on respirator. For example his heart beats autonomously, a liver, pancreas, spleen etc.

work if oxygenated; an immune system fights diseases and so on. So, you cannot unambiguously say that death has occurred. The brain is dead but other organs are alive and absolutely healthy. If functions of the brain stem are taken over by an intensive medical care unit, then those healthy organs function in concord as an integrated organism.

When in turn an irreversible cardiac arrest takes place and death of other organs subsequently occurs there is still life on a cellular level preserved. So, skin cells work for another few weeks, hair and nails grow etc. Again, you cannot say that death has taken place. Then one step further, even after life on this cellular level is lost, there is still DNA of a given person potentially functional so you cannot unequivocally say that death has occurred; as far as there is a possibility (at least physical possibility) that this DNA can give rise to genetically identical tissues, organs or the organism, there cannot be death in the proper meaning of the word. In this sense death is a process with blurred lines and FGIA is a theory of identity underlying DPA.

Hence, to effectively criticise DPA one has to demonstrate that FGIA is a unconvincing theory of identity which leads to counter-intuitive, empirically false and logically inconsistent conclusions. In order to show it I will pile up different arguments which in turn will comprise the overall case against DPA/FGIA.

To visualise the counter-intuitive character of FGIA and, what follows, DPA, consider the following thought experiments.

A car accident thought experiment CATE.
A theoretical version

Imagine that in 2012 some scientists isolated 20 skin cells from your body and placed it in a Petri dish to preserve its life in vitro for further research which they plan to conduct in 2014 when their project will be ready and granted by the government. In 2013 you have a fatal car accident. Your body is utterly burned in a car blaze. Would it mean, in your opinion, that you died in this car accident? If you think that yes, as I do, it means that you find DPA and FGIA

false. According to FGIA and DPA as far as your cells are alive, you have not died. There is no one moment of your death; to the contrary, death is a process and as far as your cells are alive you are alive too. Since there are 20 cells of your skin, genetically identical with you, in a Petri dish collected for research which will be carried out in 2014, accordingly to DPA/FGIA you are not dead until these 20 cells are not dead.

Obviously, a proponent of DPA uses the fact that skin cells live well after cardiac arrest and brain dead as an argument that death is not a moment in time but a process and as far as there is a life on a cellular level a given person is not truly dead. In compliance with the maxim that similar cases should be treated similarly he is confined then to concede that in my thought experiment the accident victim is not dead either.

CATE. A practical version

Imagine that aforementioned car accident was in fact a case of murder under the guise of an accident. Some enemy of yours had tinkered with the car so as to cause its blaze when you enter it. After your enemy's part in the car blaze had been revealed he was charged with the first degree murder. In a courtroom his barrister argues that alleged murderer ought to be absolved due to the fact that nobody was actually killed for in a laboratory there is a Petri dish containing 20 skin cells of a victim and since death is a process in this case it has not been completed and the blaze victim is not dead yet but still alive in the laboratory vessel. In compliance with the maxim no body, no murder, court is bond to issue a not guilty sentence. Obviously, in actual fact no court on earth would concur with such a DPA-kind-of-line of argument.

Transplantation thought experiment

Now consider another thought experiment. Imagine that you suffered a fatal head injury and were pronounced brain dead by physicians.

Since you had agreed on organ donation previously, surgeons grafted your heart into a body of a patient A, your liver into a body of a patient B and your kidneys into a body of a patient C. Would you be willing to say that after the organ procurement you are not actually dead but that you live simultaneously and separately in these three different bodies? If your answer is no, then you find DPA/FGIA unconvincing.

But there is much more then bare intuition in this thought experiment. What it shows is also logical inconsistency of DPA. Let's assume that DPA proponent believes that you in some sense live in those three host bodies. Since you are identical with yourself and relation of identity is transitive, it would mean that A, B and C are identical with you and with one another. This of course is a false conclusion since A, B and C are three different persons and are not identical with one another. But then it means that you are not identical with any of them and so you cannot be alive after the organ procurement.

A DPA proponent could answer that it is not the case that after transplantation you become A,B and C but that part of A, B and C become you and vice versa. In other words, what is identical with you and with itself amongst A,B and C after surgery is functioning genetic material preserved in the grafted organs of yours.

Unfortunately, that reply would not do either. It would mean that for instance person A after surgery is not really the same person A anymore but constitutes two different human beings: person A and you. It would mean that after the transplantation we have two or more human beings within one body; or to put it in another way, that transplantation consists not in grafting organs and tissues but in transplanting human beings. This of course is totally unconvincing.

To sum up my line of argument I would like to underline the following conclusions.

1. When we talk about human death in the context of organ transplantation, turning off a ventilator, brain death etc. we always talk about death of a particular human being.
2. Each and every account of human death presupposes some theory of identity.

3. DPA presupposes some sort of theory of identity which boils down to genetic identity, for instance FGIA.
4. Intellectual value of DPA depends on the strength of underlying theory of identity; showing weakness of this background theory falsify DPA.
5. DPA background theory of identity is counter-intuitive and inconsistent so cannot stand criticism.

The case for DPA

Let me give some explanations to support legal solutions concerning definition of brain death in Japan.

In the past, death of an individual human being did not have to be defined[9]. It was understood as death of a human body which meant that a person was unconscious and irreversibly unable to live (walk, talk, eat, etc.), and both death and life were understood intuitively. Apart from stories about reincarnation and resurrection, which had more to do with religious beliefs rather than with scientific or even life experience, the border between life and death was easy to observe and well understood.

Later, with the progress of medicine, which allowed to support breathing with respirators, physicians could observe human beings who did not have chance to live but were still alive. This created a doubt about the definition of death. However, the desideratum to support life as long as there is a hope for survival has always been a cornerstone of medicine. The faith that as long as heart beats there is a hope that the person can regain consciousness, at least to some extent, was also supported by few but trumpeted cases of miraculous healing.

But some bodies were ventilated for months and years, and this created costs for insurance companies, hospitals and families. More-

[9] M. Pernick, *Back from the Grave: Recurring Controversies over Defining and Diagnosing Death in History*, [in:] R.M. Zaner, *Death: Beyond Whole-Brain Criteria*, Dordrecht 1988, p. 17–40, passim.

over, few lucky people, who recovered after long-lasting coma, were usually seriously handicapped. This raised a doubt about the wisdom of aggressive medical treatment but it did not contribute to the change of the definition of death.

The need for new death definition arose with the development of organ transplantation. People have discovered that transplantation of living organs of irreversibly unconscious patients can save lives of others, or make their lives more comfortable. This gave rise to the market of donor organs, which was the real cause of creation of brain death definition. The donor had to be pronounced dead, because otherwise organ donation, especially donation of unpaired or essential to life organs, would be identical with killing the donor. For legal reasons, it was better to pronounce donor's death before organ donation, than after it.

This process was accompanied by appearance of people, who were ready to bequeath their organs to unknown recipients, if they suffered a serious accident. Let's analyse this phenomenon. These potential donors not merely wanted to avoid a persistent therapy and/or disability. They wanted their death to prolong lives of others. Such a noble act gives the feeling that the donor does not die in vain. Why so? Probably for the same reason, as when studying the era of dinosaurs we like to search for the first mammals: because we identify with them. Or what is the thing that, when listening to the prophecies about what will happen with our planet in million years, we are looking for? No one of us will live that long. The only explanation is that we do so, because we identify with our ancestors and descendants. Can it be called FGIA (functional genetic identity account)? Whatever we call it, even if we call it incomprehensible and irrational faith, it is a huge power, similar to the belief that one can overcome death.

Donation of organs is an act of love. But is it comprehensive and rational[10]? Would anybody bequeath his organs e.g. if organs could

[10] A. Bagheri, T. Tanaka, H. Takahashi, S. Shoji, *Brain Death and Organ Transplantation: Knowledge, Attitudes and Practice among Japanese Students*, "Eubios Journal of Asian and International Bioethics", 2003, no. 13. S.J. Younger, C.S.

be replaced by small, portable machines? What would happen with our experience in transplantation if such machines were developed? Would we still stand by today's definition of brain death, or rather would we try to save lives of victims of accidents?

In Japan, philosophers (not religious leaders) have decided that it is inconsistent to state donor's death and in the same time state that his organs are still alive and even quite healthy. The reason was that the first heart transplantation performed in Japan by dr. Juro Wada from Sapporo Hospital in August 1968 was a failure and sparked a criminal investigation against the surgeon (finally absolved from all charges). There was a question if the donor had been really brain dead before the transplantation and if the recipient had needed the surgery. Since that time it has been clear that determining death by employing American criteria is a risky procedure that can be motivated by pragmatic reasons which are incongruent with Japanese culture and morality. On the other hand, there was a huge hope that transplantations can save lives of many severely ill people and saving life has always been a morally noble aim.

Definition of brain death is a compromise between ethics and biology. Like most bioethics definitions, it justifies already existing solutions, not creates them. In case of unconscious body which is unable to live without respiratory and other medical support, the borderline between life and death is blurred. Even the fact that we need the definition of "brain death" means that we find it difficult to determine where the life ends and death begins. In practice, this is a kind of contract, a deal between physicians who want to save donor's life, and other physicians, who want to save lives of their organs' recipients. I deliberately use words "market" and "contract", to stress out that mercantile issues can influence decision of defining

Landefeld, C.J. Coulton, B.W. Juknialis, M. Leary, '*Brain Death' and Organ Retrieval. A Cross-sectional Survey of Knowledge and Concepts Among Health Professionals*, JAMA, 1989, vol. 216, no. 15. L.A. Siminoff, Ch. Burant, S.J. Younger, *Death and Organ Procurement: Public Beliefs and Attitudes*, Social Science & Medicine, 2004, no. 59.

the donor's death. In Japan philosophers and lawyers decided that the aim of saving recipient's life (or only improving his life quality) does not justify killing the donor.

On the other hand, in Japan, due to influence from Europe and the USA, there was a growing need for organ transplantation, and this gave rise to concept of voluntary organ donation, which was finally allowed. And again, bioethicists and philosophers had to find explanation to already existing solution. They called it "bifurcated concept of death" which was explained at the beginning of this article, and which means in practice that the donor (or his family) decides whether in his case the "Western" definition of brain death can be applied.

Conclusions

Japanese legal solutions concerning determination of human death are exceptional on a world scale. As it was mentioned, they are deeply ingrained in Japanese culture and based on painful experiences with the first heart transplantation from a brain dead patient.

In this paper we have analysed only one possible justification of Japanese law, namely the idea that death is not a moment in time but a process. Actually, Japanese legislator has not provided any justification for enacted law. This very fact can be seen as another drawback of Japanese solutions. On the other hand, as TSz pointed out in his refutation of DPA, in legal and moral issues surrounding medical and biological discoveries and inventions, rigid philosophical justification is hardly ever a thing we can expect to take place. Because of the very nature of the medical and biological development and its place in society, some kind of hotch-potch of ethical, philosophical, practical and economical reasons is all we can and should look for. Not really surprisingly TSz's case for DPA was not so much in favour of DPA as against unrealistic expectations that there can be one consistent philosophical justification in this subject-matter. As a one element of the justificatory hotch-potch, DPA can be a probable opinion of some justificatory strength that we should not dismiss only for

the reason that it does not stand a thorough philosophical criticism when considered in isolation.

The investigation conducted in our paper warrants the following conclusions:

1. DPA is just one amongst others possible ways of justifying the bifurcated concept of death which has been introduced in Japan.
2. A philosophical analysis of DPA shows that DPA as well as any theory about human death presupposes some theory of identity, in that case the genetic theory of identity, FGIA.
3. FGIA is found counter-intuitive and inconsistent and for that reason should be dismissed and cannot be the basis for any reasonable legal solution.
4. Nevertheless, DPA can be saved by pointing out that it is only a tentative explanation of our intuition that the moment of death is dependent on circumstances, particularly it is conditioned by the medical progress, availability of intensive care equipment etc.
5. Moreover, DPA is only one element of intricate structure which constitutes justification of a given law; economical, cultural, religious, ethical considerations are not less important in providing satisfactory legal solutions.
6. In Japan the bifurcated concept of death suits those economical, cultural, public, ethical, religious circumstances well enough, regardless of the question if from a philosophical vantage point this bifurcation is justifiable at all.

Summary

In our paper we examine Japanese legal solution concerning the determination of human death; our way of doing it consists in analysing metaphysical underpinnings of the bifurcated criterion of death that has been deployed in Japan. We posit that each and every account of human death presupposes some theory of identity. We analyse what theory of identity justifies Japa-

nese legal solutions concerning human death and if this theory is tenable. Answering the latter question negatively, we are searching for different justification for Japanese law. We examine the thesis that definition of brain death is a compromise between ethics and biology and like most definitions in bioethics, it justifies already existing solutions, not creates them. Presenting two opposite vantage points and confronting them with each other, we are trying to work out, in a dialectical manner, some critical assessment of Japanese law concerning brain death.

Keywords: brain death, theory of identity, organ procurement in Japan, Japanese law, bifurcated concept of death