

Head Transplants and Personal Identity: A Philosophical and Literary Survey

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Introduction

Aim of this article is to provide a tentative explanation for the sense of uneasiness which has spread throughout the most diverse cultural and professional milieux following the announcement of an upcoming human head transplant. The idea of a person being able to exchange his/her body for somebody else's has been perceived by the large majority of people as rather uncanny, or, in Freud's terms, *unheimlich*. However, much as this reaction has been produced more or less universally, its rationale seems to be cultural (depending on external factors and influences) rather than natural (depending on the inner qualities of an individual). In other words, such a response does not ensue from our nature of human beings, but from our cultural mindset, and, accordingly, it could have been different had it been elicited in a different cultural environment.

Transmogrification In Literary Works

One of the many ways to gain an insight into different mindsets and world pictures is to look at dreams in different historical and geographical contexts. The domain of dreams stands at the crossing between the natural and the cultural inasmuch as, although dreams obey universal psychological laws, the images conjured by dreamers are always dependent on their culture of provenance [1]. The case of Artemidorus of Daldis, a professional interpreter of dreams of the 2nd century AD, is particularly eloquent. Working in a time when oneiromancy was an extremely common

SUMMARY

The criterion of personal identity is clearly called into question by the project to perform a human head transplant. Is identity provided by psychological continuity alone, or does it depend on bodily continuity as well? And how do these different perspectives interface with our notion of mind and mind–body relationship? The reader will be provided with a discussion concerning these problems, together with a philosophical and literary survey about the conception of body–mind relationship from the Greek thought to contemporary philosophy. The analysis will conclude with a discussion concerning the possibility to consider the issue of personal identity from a statistic point of view, which privileges the general perception of identity, so as it has been shaped by the cultural trends of the last four centuries. It could hence be argued that personal identity is not something which can be defined once and for all. On the contrary, the general perception of identity is subject to significant alterations resulting from one's cultural environment. However, the cultural environment itself can be changed by particularly notable events, such as, hypothetically, the successful outcome of a human head transplant.

practice in the Greek society, Artemidorus' *Oneirocritica* provide us with an array of typical Greek dreams, which he had been told by his clients. Some of these present characteristic features which are still common nowadays; others would be instead extremely unusual for the present-day dreamer [2]. This is the case with dreams involving bodily metamorphoses, to which Artemidorus devoted a whole chapter of his book (I,50).

Thirteen out of the ninety-five exemplar dreams listed in the fifth book of the *Oneirocritica* involve some transformation of one's own body [3]. Arms becoming bear's paws (V,49), crops growing upon living chests (V,63), entire bodies being turned into the shape of a tree (V,74) are not only instances of a dream pattern which Artemidorus holds typical, but also of a certain ease which apparently characterized the Greek mentality in imagining one's own body being metamorphosed. Such ease is something we have probably lost. Indeed, we have no reason to doubt George Devereux as he states that "[b]oth my clinical experience and that of the colleagues I consulted, indicate that so radical a disruption of one's own 'body image' in dream is found only amongst psychotics—and rarely even amongst them" [2,4].

If the honesty and accuracy of the clinical experience of the Hungarian–French psychoanalyst and anthropologist is beyond question, some doubts may be raised concerning his conclusions, namely that Artemidorus over-interpreted the dreams he was told in order to make them meaningful [4]. Excluding that Artemidorus' clients might have all been psychotics, Devereux's assumption is not the most probable. As Dodds well understood, it is "plainly hazardous" to apply the principles of modern

psychoanalysis to ancient dreams inasmuch as we cannot prove “the universality of dream-symbols” [5]. These symbols are dependent on the dreamer’s culture, and what is found only among psychotics nowadays might have been perfectly normal in Artemidorus’ time.

This is clearly due to the cultural differences which set us apart from an ancient world in which the notion of bodily metamorphosis did not seem to impinge too much on one’s notion of identity, therefore remaining psychologically “controllable.” This is not only proved by Hellenistic dreamers, but also by Latin authors such as Ovid and Apuleius. Ovid’s *Metamorphoseon libri*, influenced by the same Alexandrian culture which would have provided Artemidorus with his interpretative tools, is mostly devoted to the description of mythological transformations.

Spahlinger’s and Galinsky’s observations according to which Ovid distinguished in the incipit of his work (I,1-2) between *corpore* (material bodies), being changed through the metamorphic process, and *formas* which remain the same, alluding to the psychological essence of the metamorphosed individuals, may be mooted [6–8]. Anyway, this notion is clearly illustrated by many of the metamorphoses described by Ovid. The metamorphosed subjects do not properly die: They survive instead in a different animal, vegetal, or even mineral body which never lacks to preserve the essence of their *mens antiqua* or *mens pristina* (original mind) [9,10]. Io, turned into a heifer by Zeus, passes her tongue over her father’s hands and weeps [10]; Callisto, although metamorphosed into a bear, is still afraid of the wild mountain animals [10]; Cadmus and Harmonia, turned into serpents, do not shun nor harm men as they “remember what they were in the past” [10]; and Acteon, turned into a stag and hounded by his dogs, tries to shout at them only to discover that his voice is lost, while “only his original mind remained unchanged” [10].

By the same token, roughly in the time of Artemidorus, identity and mind are preserved in Lucius’ metamorphosis into an ass, so as it is recounted by Apuleius in the *Asinus aureus*. Not unlike Ovid’s Io, Apuleius’ Lucius, once deprived of his voice together with his human complexion, looks askance at his beloved Photis, and silently reproaches her for having inadvertently caused his transformation [11]. Yet, even though Lucius is turned into a “perfect ass,” as he admits himself, he still is Lucius in that he “retained the human sense and understanding” [11].

This narrative patten which, in ancient instances of bodily transformation, never affects the inner self, the original mind, and, in short, the identity of the transformed individuals, was clearly abandoned by the authors of the last couple of centuries, from Christian Andersen’s *The Little Mermaid* (1837) to George Langelaan’s *The Fly* (1957) [12]. The best known example of this change in perspective is offered perhaps by Franz Kafka’s *Metamorphosis*. While Io or Lucius preserved a distinctively human conscience and, in spite of their metamorphosis, were recognized by their beloved ones, witness to the transformation, the destiny that awaits Gregor Samsa is a completely different one. Even though his parents and sister do not doubt the metamorphic process which has turned him into a cockroach, they are unable to consider him to be the Gregor they were used to. He is kept locked in his room, his mother shuns the sight of him with horror, and his father will even attempt at his life [13]. Gregor himself begins to think as a cockroach “rapidly consigning his human past to utter

oblivion” [13]. In the end, even his sister becomes convinced that the cockroach into which her brother transformed has nothing to do with the true Gregor: “I will not utter my brother’s name in front of this monster, so I will simply say: we must try to get rid of it. . . . ‘It has to go,’ . . . ‘You must just try to get rid of the thought that it is Gregor’” [13].

It is certainly not by chance that Kafka’s narrative should agree with Devereux’s analysis in showing how the modern perception and mentality inextricably link bodily metamorphoses to disturbances of one’s self and identity. The ancient nonchalance in accepting the persistence of the *mens antiqua* in fictional cases of bodily transformation has been substituted, in modern times, with a profound feeling of anxiety which, according to Devereux, can be linked to psychosis and schizophrenia. Should we try to find an explanation for this divergence between ancient and modern thought with respect to bodily metamorphoses, we could address the issue of dualism versus monism, that is, the debate whether the mind/soul (*ψυχή*) and the body may or may not be considered as two separate entities.

Monism versus Dualism and the Problem of Personal Identity

It can be safely affirmed that Greek philosophy and the Latin thought of the first centuries, which was greatly indebted to it, were generally speaking dualistic, even though not without notable exceptions. Ovid, Apuleius, and Artemidorus were all close to Pythagorean and Platonic philosophical traditions, which advocated the independence of the soul from the body. The former is not only immortal but, in Plato’s formulation, is lodged in the body as in a prison or in a grave [14,15]. Men use their body, but *are* not their body since those who use something cannot *be* that which is used. On the contrary, man *is* the immortal soul lodged in the body [16]. Therefore, it is clear that, should any bodily metamorphosis take place, the soul, and hence the self and identity, would remain intact.

Through the mediation of Paul and of the Platonic philosophers of the late Antiquity, this dualistic perspective was embraced by the Church Fathers, only to be later integrated by Scholastic philosophers into a generally Aristotelian system of thought which was in its original formulation materialistic and monist. Aristotelian physiology, which comprised Aristotle’s doctrine of the soul, was in fact the polemical target of Descartes’ *De l’homme*, where the body is described as a machine to which “God unites a rational soul” [17,18]. In general terms, although they are brought into contact with one another through the pineal gland, soul and body, thought and matter, are for Descartes two utterly diverse and incommensurable substances.

With the turn of the eighteenth century, dualistic positions became increasingly rare. Eighteenth-century materialism and in general the whole French Enlightenment are an example of this trend toward monism. Julien Offray de La Mettrie, for instance, believed disembodied soul to be like matter without form—something which cannot even be imagined [19]. Soul, in itself, “is merely a vain term of which we have no idea and which a good mind should use only to refer to that part of us which thinks” [20]. During the nineteenth century, monist positions were held not only by materialistic philosophers (e.g. Ludwig Feuerbach,

Karl Marx), but also, in nonreductionist terms, by spiritualists such as Henri Bergson, who aimed at providing a unitary explanation of both body and mind or, more precisely, matter and memory [21]. With the turn of the twentieth century, a monist stance was advocated by many of the American pragmatists. John Dewey, for instance, considered “[t]he idea that matter, life and mind represent separate kinds of Being” a “philosophical error” [22]. On the contrary, Dewey believes, there is an utter continuity between body and mind, so that “‘body’ designates the continued and conserved, . . . while ‘mind’ designates the . . . features which emerge when ‘body’ is engaged in a wider, more complex and interdependent situation.” This notion proved central for twentieth-century phenomenology as well, as it clearly results from Maurice Merleau-Ponty’s work, and in particular from the *Phénoménologie de la perception*, where body is described as our way to be in the world and conscience as the way that the body transcends itself and becomes involved in the world [23].

In recent times, the materialist side of modern neuroscience linked mental states to physical processes occurring in the brain, so that it has become virtually impossible to state that thought and matter are something completely different and mutually independent (although a growing number of neuroscientists believe that “consciousness” is actually distinct from the brain, which merely acts as a filter [24], perhaps via quantum mechanical processes [25]). However, what is more interesting for the topic at hand is that a new kind of dualism has gained significance, one which instead of opposing body and mind, concerns the relationship between the mind, embodied in the brain, and the body proper, that is our body, nervous tissue apart.

In these terms, whether one should accept a weak dualist position or not does not automatically orient one’s choices toward either a dualist or monist stance with regard to the mind/brain–body proper issue. This is the case, for example, with John Searle. Although Searle rejects both mind–body dualism and monism, he quite clearly embraces a dualist position as far as it concerns the mind/brain–body proper problem [26]. With regard to consciousness, his doctrine, which he names ‘biological naturalism’, advocates for instance that consciousness is “entirely caused by lower level neurobiological processes in the brain,” even though it exists only “at a level higher than that of neurons and synapses,” which are not conscious themselves [26]. In other words, “consciousness stands to the brain as digestion stands to the movements of the stomach” [27]. That said, according to Searle, consciousness has nearly nothing to do with the body proper, because it is *entirely* caused by processes occurring *in the brain*.

An opposite point of view about the mind/brain–body proper problem is defended by António Damásio, who believes that “body and brain form an indissociable organism” as they are “indissociably integrated by mutually targeted biochemical and neural circuits” [28]. According to Damásio, the mind hence depends on the whole organism as an ensemble: It may not be *in* the body, but “the body contributes . . . a *content* that is part and parcel of the workings of the normal mind” [28].

Our tendency to side with one or the other perspective regarding the mind/brain–body proper relationship would greatly influence our expectations about a head transplant, in particular with regard to the issue of personal identity, which can be seen as a corollary of the mind/brain–body proper problem. If, like Searle, we posit the mind to be relatively independent of the body proper,

we would probably assume that, in a Lockean manner, the criterion of personal identity should relate to the continuity of one’s psychological experiences (thoughts, memories, etc.). If, like Damásio, we think instead that mind and body proper are indissociably bonded, we will be led to believe that our identity is provided not only by our mind but also by *our* body as opposed to *any* body. Our self and our sense of the self would then be granted not only by the continuity of *our* mental states, but also by the continuity of *our* body.

This last notion is clearly displayed in Damásio’s monograph on self and identity, *The Feeling of What Happens* [29]. Similar perspectives have been advocated by a number of scholars who have approached the issue of personal identity from a variety of different philosophical stances (e.g. Gallagher [30], Svenaeus [31,32]). The most ‘extreme’ position, among those who are inclined to believe personal identity to be inextricably linked to the body proper is the animalist one, which is best exemplified in Erik Olson’s *What Are We?* Olson’s answer to this question is apparently simple: We are human animals. Hence, what we are is an animal body that encompasses nervous tissue in the same way that it encompasses epithelial or muscle tissue too. As a consequence, our identity, Olson believes, is provided by bodily rather than psychological continuity: indeed, we identify ourselves with the embryo we once were, even though “there is no psychological continuity between the embryo as it started out and the full-grown animal,” since “the adult animal’s mental properties cannot derive in any way from those of the embryo, for the embryo had none” [33].

The assumption according to which there is no psychological continuity between the embryo and the adult is perhaps contestable, in particular since it heavily depends on one’s notion of ‘continuity,’ however, head transplant-wise, it is to be noted that, for the animalist, the person resulting from a head transplant would be the body donor rather than the head donor. From Olson’s point of view, brain/head transplant is ontologically no more relevant than kidney or liver transplant: we lose an organ, albeit a particularly interesting one.

Opposite to this view is the position of the so-called psychological theorists, who generally depart from a dualistic stance with regard to the mind/brain–body proper relationship.¹ In contrast to animalist theories, these philosophers believe that what matters in personal identity is psychological rather than bodily continuity. Besides, more or less implicitly assuming that the mind is lodged in the brain and does not significantly involve the body proper, psychological theorists claim that, were somebody’s brain transplanted in somebody else’s body, the resulting person would be the head/brain donor. This is, for instance, the opinion held by Sydney Shoemaker’s, who wrote about hypothetical brain transplants in his 1963 book *Self-Knowledge and Self-Identity*, concluding that the criterion of personal identity is the continuity of one’s own memories (or quasi-memories, that is, in the transplant case, memories of actions which one’s new body has never performed) [36,37].

¹It is to be noted that some philosophers have come to conclusions which somehow straddle the divide between animalists and psychological theorists. According to them, in the case of a brain/head transplant, the resulting person would not be the head nor the body donor, but a third person altogether [34,35].

Similar, yet perhaps more complicated, is Derek Parfit's theory. Parfit believes that "a person is an entity that is distinct from his brain or body," although it involves the existence of both [38]. Personal identity would hence concern the persistence of both brain and body and, in particular, it would require the preservation of one's psychological continuity. That being said, Parfit continues, personal identity is not what matters in survival [38]. On the contrary, what matters in survival is psychological continuity alone. In other words, in the hypothetical case that somebody's brain were transplanted into somebody else's body, the resulting person would be continuous with the head donor: "[i]f all of my brain continues both to exist and to be the brain of one living person, who is psychologically continuous with me, I continue to exist" [38,39].

Personal Identity Reconsidered

Once stripped bare of its most rigorous and analytic demonstrative apparatus, Parfit's theory might seem slightly sophisticated. However, these and similar doubts might be intrinsic to the purely theoretical nature of both Parfit's and Olson's positions. Indeed, both animalists and psychological theorists have made extensive use in their works of the thought experiment concerning head/brain transplant, which has been named *transplant intuition*, since it tends to elicit an intuitively true conclusion on the part of the audience. Unsurprisingly, both animalists and psychological theorists have succeeded in formulating the *transplant intuition* in such a way as to force the reader to accept either the animalist or the psychological point of view [33,36,39]. This possibility has also been proved by Bernard Williams, in his 1970 article *The Self and the Future*, in which two parallel thought experiments are formulated so as to elicit intuitively animalist or psychological conclusions [40].

In light of this, one of the undoubtedly praiseworthy effects which the *Heaven* project has yielded on the public opinion is that it has shown that, when the transplant intuition ceases to be purely theoretical it also ceases to be as intuitive as its name would lead us to believe. In other words, these thought experiments, which have been criticized by Daniel Dennett, who called them 'intuition pumps,' prove to be rather inefficient pumps when an actual patient lies on the operating table. This is not to say, of course, that the issue of personal identity is not a central point in the debate regarding head transplants. Rather, we may try to think about it in a way that is not purely theoretical and intuition-inducing.

As gross and naïve this may sound, the way personal identity is generally perceived has little to do, in fact, with either Parfit's or Olson's theories. This conclusion may have motivated the recent work of some scholars who have undertaken a statistic inquiry on the perception of personal identity [41,42]. Although these authors have understandably failed to disentangle themselves from the chains of thought experiments, their works implicitly suggest that since personal identity, unlike issues of purely academic nature, is something which is sensed by everybody, we may conclude that a good enough definition of what personal identity in fact *is* may be provided by the way in which it is generally perceived, statistically speaking. In other terms, given the character of the notion of personal identity, and given in particu-

lar the fact that the way people perceive personal identity clearly influences personal identity itself, we may want to choose a more simplistic and commonplace definition over a sophisticated one.

The question arises, then, of how personal identity is *generally* perceived. My guess is that the *general* perception of personal identity *generally* involves our body proper, as I hope to have demonstrated through my analysis of ancient and modern metamorphoses [28]. Otherwise, it would be difficult to explain the feeling of uneasiness which the *Heaven* project has generated in a nonmedical public. More precisely, I am under the impression that unlike the ancients, today's public, which is mirrored in Kafka's and Devereux's accounts, tends toward a roughly monist perspective. However, unsurprisingly, this monism, in its general conception, does not seem to resemble the sophisticated brain-mind monism embraced by virtually all contemporary neuroscientists and philosophers of mind. On the contrary, it still appears to approximate the simpler and more ancient ontological body-mind monism, hence proving extremely problematic with regard to the head/brain transplant issue.

A variety of sociological and psychological reasons could be cited to explain the nature of what I think to be today's *general monism*. Besides, from a cultural point of view, it is to be noted that, while I do not think that philosophical theories as such produce the general notion of personal identity, the general, *viz.*, cultural perception of philosophical theories does undoubtedly influence it. And, as discussed earlier in this article, from the eighteenth century onwards, and up to the 1960s at least, most philosophical positions which have influenced our culture up to the present time have embraced a roughly speaking body-mind monist perspective.

If it be true that over the last centuries, these philosophical traditions have influenced our culture so much as to link the general perception of personal identity to a notion of body-mind relationship which is essentially monist in the ontological sense, one last doubt could be voiced with concern to the *Heaven* project. Indeed, one may think that the head anastomosis venture patient himself, being a man of our time, would surely encounter problems regarding personal identity. However, it is to be considered that the patient, that is, someone who is willing to undergo the head transplant procedure, certainly does not embrace the common perspective on the issue concerning body-mind monism and bodily continuity as a standard for personal identity. In the end, personal identity, or at least the perception of personal identity, is a personal matter, and provided the successful outcome of the transplant, the patient will or will not perceive himself to be the same person he was before *regardless* of the general notion of personal identity and regardless of Parfit's or Olson's theories. To put in different terms: "there are good reasons to leave it to the individual undergoing the transformation to negotiate the parameters of his or her identity, on her own terms and at her own pace" [35].

What is really interesting about this all is, then, a last question which, for the time being, is to be left open. If the head transplant patient recovers and experiences no major personality-related issues, will this factual experience be enough to change the general conception of personal identity and to do so in a way unprecedented by thought experiments of any kind?

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