

ZSUZSANNA BALOGH / JÁNOS TŐZSÉR

Much Ado about Nothing: The Discarded Representations Revisited*

Our paper consists of three parts. In the first part we provide an overall picture of the concept of the Cartesian mind. In the second, we outline some of the crucial tenets of the theory of the embodied mind and the main objections it makes to the concept of the Cartesian mind. In the third part, we take aim at the heart of the theory of the embodied mind; we present three examples which show that the thesis of embodiment of the subjective perspective is an untenable position. However, everything these examples testify to can be accommodated and explained by our non-embodied or Cartesian view.

1. The Cartesian mind: The big picture

1.1 The mind as perspective

What distinguishes minded creatures from mindless ones is that the former are not merely surrounded by things and do not merely stand in causal relations with their environment, but the world *appears* to them. To have a mind is to be an entity to which the world *appears*, or somehow *manifests* or *shows* itself. In other words: in contrast with a mindless being, a minded being is one which *has a world*. Therefore, to have a mind = to have a world.

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To the minded creature the world is given *not simpliciter*, but always in a *certain way*. The world always appears to us from some *vantage point*, or from some *perspective*. God's mind may be the only one, in which we are inclined to believe, to which the world does not appear from a particular perspective. What distinguishes the human (finite) mind from God's mind (provided that God exists of course) is precisely that in the mind of the latter, things appear in their *totality* (as *Dinge an sich*), *independently of any perspective*.

In short: what distinguishes us from mindless things is that unlike to them, the world *appears* to us. What distinguishes us from God (if we assume that God exists) is that unlike God, the world always appears to us from a particular *perspective* or *vantage point*. This means that to have a mind is to have an *open-to-the-world perspective*.

However, the world appears *differently* to every minded creature. The world of every creature which has a mind or which has an open-to-the-world perspective is *different* – it is the nature of perspective that one excludes the other. In other words, every open-to-the-world perspective is *subjective*. This is not solipsism, however, because each and every perspective is open to *one and same* world. In other words: there is only a single world (the actual world, our world!), and this world appears to every minded creature in a certain way from its own particular subjective perspective.

According to some philosophers (especially certain sense-datum theorists, like MOORE 1953, RUSSELL 1917, AYER 1940, JACKSON 1977, etc.) the proposition that the world appears to us from some perspective entails the proposition that we cannot have access to the world. According to them, what we have access to (or at least what we have direct access to) is the perspectival appearance of the world, not the world itself. Accordingly, in each case of subjectively distinguishable appearances,

we are related to numerically different perspectival appearances (a sense-datum as a mental object).

This view is implausible. The subjective perspective or point of view is not a mental state (relation to a mental object or image or sense-datum), but a *condition* for being in a mental state. Furthermore, contrary to sense-datum theory, the subjective perspective is not an intermediary element or veil of ideas between our mind and the world, but is *the mode* in which the world *directly* appears to us.¹

It seems plausible to think that every appearance is an appearance *of something* and every appearance is an appearance *for someone*. As Dan Zahavi put it:

»Every appearance has its *genitive* and dative. [...] They have a world-directed aspect, they present (or represent) the world in a certain way, but at the same time they also involve presence to the subject, and hence a subjective point of view«. (ZAHAVI 2005a: 314)

Here is the thing. Every appearance has two basic aspects. Firstly, when the world appears to us, our mind is directed upon (some element or part) of the *world*. In short, every appearance *has an intentional object*, *i.e.* during every appearance we are aware of *something* and we experience *something*. In other words, every appearance has intentional/representational content, and every content represents the world in a certain way. ('Intentionality' and 'representation' are used interchangeably here.)

Secondly, when the world appears to us, it is always *like something*. Every appearance has phenomenal quality or what-it-is-likeness. The what-it-is-likeness of appearances presupposes a subject with a particular perspective who experiences

¹ On the nature of subjective perspective, see also CRANE 2001: ch.1.

the what-it-is-likeness of the appearances, or in other words, *to whom* the given appearance is like something.

1.2 *How the body appears*

Besides the many other elements of the world, our own bodies *also* appear to us in a certain way. According to the Cartesian view, this means that it seems as if we have bodies, *i.e.* each of us has one body. We *appear* to ourselves as having bodies, therefore the body is something we experience and which we are conscious of. To wit, our own bodies, in the same way as the other elements of the world, are the intentional objects of our mental states. Our bodies are represented to us just as the rest of the elements of world are, but they are represented in a different mode. This means that there are intentional objects of representation in both cases but the difference between representing the objects of the world on the one hand and the body on the other is to be found in *how* the intentional object is given, or in the *mode* of representation.

However, all of this does not entail that an advocate of the Cartesian view would not acknowledge the unique nature of our relation to our bodies; *i.e.* that it would not presume a fundamental difference between how our bodies appear to us and how another thing, for example, a different body, appears to us. Descartes himself says the following:

»Nature also teaches me by these feelings of pain, hunger, thirst, etc., that I am not lodged in my body, like a pilot in his ship, but, besides, that I am joined to it very closely and indeed so compounded and intermingled with my body, that I form, as it were, a single whole with it. [...] For in truth all these feelings of hunger, thirst, pain etc., are nothing other than certain confused ways of thinking, which arise from and depend on the union and, as it were, the mingling of the mind and the body«. (DESCARTES 1642/1985: 159)

Let us consider bodily sensations, such as pains. The Cartesian can argue as follows: When we have a pain such as a headache, a certain region of the body is characterised in the conscious experience, which has a particular phenomenal character. Plainly speaking, the phenomenology of the experience of a pain also includes the fact that it is a certain *part* of the body that hurts; that is, it is always a certain body *part* that appears to be in pain.

Put differently, when we have a pain, the intentional object of this pain is the body part that hurts, which is given in the painful mode, as the intentional object. The painful body part as the intentional object together with the painful mode in which it is given, form the intentional/representational content of the pain. Therefore, pain has an intentional/representational content and it represents a certain part of the body in some way.²

What about phantom pains? The Cartesian can put forward the following argument: According to the phenomenology of phantom pains, the subject does not feel pain outside the borders of the lived body. This means that the phantom pain is *subjectively indistinguishable* from a non-phantom pain (for the subject, the phantom pain experienced after the loss of a limb is exactly the same as the non-phantom pain experienced prior to the loss of the limb). In summary, these two types of pain have the *same* phenomenal character or what-it-is-likeness.

The Cartesian can go on to claim that since the phenomenal character of the phantom pain does not differ from that of the non-phantom pain (they are *a fortiori* indistinguishable from the subject's viewpoint), the only difference *can* be that whereas in the case of non-phantom pain the intentional/representational content represents the body correctly, in the case of phantom pain, the content represents

² For the intentional structure of bodily sensations in detail, see DRETSKE 1995, TYE 1997, BYRNE 2001, and CRANE 2003.

the body falsely. Therefore, the difference between the two conscious experiences does not affect their intrinsic nature, since the intrinsic nature of conscious experience is constituted by its phenomenal characteristics; that is, the ways in which the subject has the experience in question.

The crucial point of the Cartesian argument is that there can be two, numerically different conscious bodily sensations which have the same phenomenal character and which are *a fortiori* indistinguishable from the subjective viewpoint. Both of these bodily sensations have an intentional object, although only one of these intentional objects exists. Consequently, the intentional objects of different bodily sensations are not constitutive of these sensations. The occurrence of a bodily sensation as conscious experience *does not* presuppose the existence of the body part in question.

The last step of the Cartesian argument would be that in the same way that we can have pains which are subjectively indistinguishable from non-phantom pains, we could have conscious experiences of the body that are subjectively indistinguishable from experiences of a body that *does not* actually exist. It would be possible to seem to have a body without actually having one; that is, even if only our minds, their contents and an evil demon existed in the world, or if we were brains in a vat, it would still be possible to have a conscious experience of a non-existing body which would be subjectively indistinguishable from the experience of an existing body.

Finally, two points of clarification: Firstly, nothing we have said so far implies the acceptance of Cartesian substance dualism, or that the body and the mind are two different substances with no common properties. The fact that we could have the same mental life we have now if the outside world did not exist infers only that only those things are included essentially in the subjective perspective that *would be*

included even if there were only our minds, their contents and the evil demon in the world. However, this does not entail that the mind is not physical. As Katalin Farkas writes:

»The demon's intervention reduces the world to the enquiring subject. In my understanding, the role of the demon hypothesis is not to reduce the world to an incorporeal subject, but rather to reduce the world to a unique centre of enquiry: to a subjective viewpoint (and whether this needs corporeal existence or not is an *open* question). What survives the introduction of the demon hypothesis is the subject, and the portion of reality that is uniquely revealed from the subject's point of view«. (FARKAS 2008: 18, our italics)

Essentially, by the Cartesian view of the mind we simply mean the internalist approach to bodily sensations (and bodily experience in general), which may also be accepted by physicalists who are committed the thesis of local supervenience regarding bodily sensations (and bodily experience in general) (SEARLE 1983, 1992). This does not mean that we accept the thesis that the internalist approach should apply to all mental states. As far as Descartes' own views are concerned, it is the thesis he lays down in the Meditation entitled ›The nature of human mind, and how it is better known than the body‹ which are relevant for us, and not the claims he makes in the Sixth Meditation which contains the ›Conceivability Argument‹, or that the mind is different from the body.

Secondly, when we state that bodily sensations as conscious experiences represent the states of the body, we do not mean this in the indirect realist sense that focuses on traditional sense data. We are not saying that in our bodily sensations we come to be in a relation to some mental object or image which (e.g. due to resemblance) represents our bodies. Instead, we state that like acts of thinking, beliefs, etc., all bodily sensations have intentional/representational properties that determine how the body should be in order for the representation to be true. To wit,

we claim that the content of a bodily sensation determines what it *would be of*, that is, how the body *would* actually be presented *if* the bodily sensation was veridical. Therefore, the intentional/representational content of bodily sensations includes its own truth condition.

2. The theory of the embodied mind: A critique of the Cartesian view

The theory of the embodied mind can best be understood in its relation to the Cartesian view. Those who subscribe to the embodied mind view (or at least those who also subscribe to phenomenology, like Francisco VALERA 1996 and Dan ZAHAVI 2005b) would probably not argue with the thesis that to have a mind is to have a perspective that is open-to-the-world. They may as well accept the view that every appearance has intentionality and phenomenal character. They would definitely agree that the aim of phenomenology is to analyse the experiences of the subject from a first-person, or subjective, perspective. In other words, the investigation of how things appear *for* the subject, from the *point of view of the* subject and from the *perspective* of the subject.

The main difference between the Cartesian and the embodied mind view is to be found in how their proponents consider the *metaphysical nature* of this subjective perspective. In contrast to the Cartesian view, the advocates of the embodied mind theory do not believe that the subjective perspective being embodied is a contingent fact of the world but that embodiment is essential.

The embodied mind theorists, following in the footsteps of Edmund Husserl (HUSSERL: 1912/1989, 1935-8/1970), make a phenomenological distinction between the *objective* body (*Körper*) and the *lived* body (*Leib*). This distinction, of course, does not indicate that we have two different bodies in some sense, but rather that there

are two different ways of *experiencing* and understanding the numerically single body.

On the one hand, the ›objective body‹ represents the body as seen from an external point of view without the accompanying experience ›from the inside‹. The external point of view can be another person's perspective (just think of how, when a physician examines the body, she sees it from an impersonal perspective) or even perceived by the subject herself, as if from the ›outside‹, such as when one looks at a part of her body and observes it or sees it in a mirror or a photo. The body parts seen or observed in these cases are rendered from an external viewpoint, e.g. upon looking at her hair in the mirror, someone could think »How odd that my hair is going grey!« without having an experience of it happening ›from the inside‹.

On the other hand, according to phenomenologists, the *lived body* is seen from the embodied first-person perspective. It is how the body is experienced by the subject and it enables us to view the body from the outside. The lived body is the body seen from the subjective viewpoint; that is, it is the way the body *appears* in experience to us, or to put it more crudely, how we *feel* the body ›from the inside‹. It is the body, as it is *for me*. In addition, it is also what structures our experience and shapes our primary existence in the world as well as being our point zero when we enter into contact with the world.

This means that the subjective perspective is essentially an *embodied* subjective perspective and consequently, the *subject* of one's experiences is one's own *lived body itself*. One's own lived body does not appear to us, but the world appears *to the lived body itself*. There can be no distinction between the lived body and the self, as it is not as if the world is mediated *through* the lived body *for* the self; the lived body and the self are the same. The subject does not ›inhabit‹ the body, but

his own lived body itself is the one which *experiences* something. And the lived body is not the intentional object of conscious experience, but the lived body *has directedness* at the world. As Shaun Gallagher and Dan Zahavi put it:

»Phenomenologists deny that the body is a mere object in the world. The body is not merely an object of experience that we see, touch, smell, etc. Rather, the body is also a principle of experience, it is that which permits us to see, touch, and smell, etc.« (GALLAGHER and ZAHAVI 2008: 135.)

In contrast to the Cartesian view, they see »the body as subject, as experiencer, as agent, rather than the body as object, as thing experienced« (GALLAGHER/ZAHAVI 2008: 136). That is, the lived body determines the subjective perspective; the subject's point of view is the body itself.

Therefore, a phenomenologist cannot put the body »into brackets« as Cartesians would suggest is possible. On the contrary: »[she] seeks to understand to what extent our experience of the world, our experience of self and our experience of others are formed by and influenced by pure embodiment« (GALLAGHER/ZAHAVI 2008: 136).

Or:

»The phenomenological investigation of the body is not the analysis of one object among others. That is, it is not as if phenomenology in its investigation of a number of different ontological regions (the domain of logic, mathematical entities, utensils, work of art, etc.) also stumbles upon the body and then subjects it to a close scrutiny. On the contrary, the body is considered a constitutive or transcendental principle, precisely because it is involved in the very possibility of experience«. (GALLAGHER/ZAHAVI 2008: 135)

3. Some objections to the theory of the embodied mind

We have now arrived at the critical part of our discussion of the embodied mind theory. We are going to show that the embodiment of the subjective perspective becomes an untenable position to hold when we consider certain cases that question

the correspondence between our *experience* of the body and the actual physical body.

The concept of embodiment entails that the subjective or first-person perspective from which we view the world and experience ourselves is essentially embodied. However, we have seen that there are different ways that the body can be experienced; *viz.* subjectively and objectively. The phenomenologist assumes, however, that the subjective or lived body and the objective body actually always refer to one and the same body. We claim that this is a mistake, as there are both hypothetical and actual cases where the two can diverge. This means that our experience of the body and the actual body become separate, which leads to the conclusion that the Cartesian view that we present and which essentially builds on our subjective experience independently of what goes on with physical constitution, is much better positioned to accept the phenomenological findings of these hypothetical and actual cases.

Let us take three examples. The first is a thought experiment that has become known as *cross-wiring*. The second is of *out-of-body experience*, and the third is the neuropathology known as *Alien Hand Syndrome*. All of these examples serve to undermine the embodied view of the mind and support the view that it is the subjective *experience* or the intentional state that is definitive, rather than one's actual body and its physical condition

At the same time, each example approaches the experience of divergence from a different angle. In the first case, one's awareness of one's body is actually of another person's body; in the second, one's awareness (and viewpoint) of the body is from outside the boundaries of the actual body, and in the third, one's awareness of the body fails to extend to the actual boundaries of the physical body.

3.1 *Cross-wiring*

This example stipulates that it is plausible to believe that we can ›hook the awareness of our bodies (*i.e.* the general sense of limb position and movement as well as the particular sensations occurring in the body) so that where and how we feel our bodies ›from the inside‹ does not correspond with how and where our *actual* bodies are. The thought experiment involves the idea that two people undergo elaborate neurosurgery so that John's brain is connected to Frank's body by certain neural cables so that John's brain has access to the proprioceptive and interoceptive information arriving from Frank's body's receptors, nerve-endings etc. meaning that John's bodily *awareness* ›from the inside‹ is now of Frank's body (and no longer his own). We describe John's brain as being *cross-wired* to Frank's body. Consequently, if Frank's legs are moved or touched, John feels like it is his legs being moved or touched, or if Frank has a pain in his stomach, John will feel it as being a pain in his body. That is, the experience of how the body is *now* will be *subjectively indistinguishable* from how it was when John's brain was still normally connected to his own physical body.

The important question for us is: What can we learn about the subjective, first-person perspective in this case? Is it still necessarily embodied?

Since the assumption is that John's brain is connected to Frank's body in a way that his experience of it is phenomenally the same as it was when his brain was hooked up to his own body, we have to go by what his *experience* tells us. His experience tells us that his *embodied experience* was identical to the original experience of his body, or in other words, his ›lived body‹ did not match his ›objective body‹. This means that the claim about the essential nature of embodiment in the strict sense – that one's first-person viewpoint is necessarily identical with one's physical body – is untenable. In this scenario, one's perspective is actually identical

with one's *subjective experience of embodiment*. As we explained in the second part of our paper, this claim can very much be accommodated by a Cartesian or non-embodied view of the subjective perspective. The truth is that this experiment is usually recruited to refute the point that when one knows one's body ›from the inside‹, one is immune to error through misidentification. What does this entail?

There is a certain type of mistake that seems out of the question when we form judgements on the basis of internal bodily awareness. When I judge that »I have a toothache«, I seemingly cannot be wrong about *whose* pain this is, even if I may be wrong about other aspects of this experience. This is the claim that internal bodily awareness judgements are *immune to error through misidentification* (IEM). Immunity to error through misidentification is a kind of epistemic security against the possibility of being mistaken with respect to the subject of the experience. (The original idea was introduced by Ludwig Wittgenstein in the *Blue Book*, where he distinguished between the uses of ›I as subject and I as object‹.)

Importantly for us, in cases of perception, such as when I see my body in the mirror, I can be wrong about whether it is *my* body I make a statement about (since I could be mistaken about what I see, it could be someone else's body). If however my knowledge is of the proprioceptive/internal bodily sort, then I cannot say that, for example, my legs are crossed and be wrong about *whose* legs are crossed, or that they in fact *feel* crossed. But am I necessarily correct about my physical legs actually being crossed? Gallagher himself says that we have to be careful here, and in this case being careful means distinguishing between *objective* self-reference and *subjective* self-reference (GALLAGHER 2003: 63). The claim cannot be that through proprioception we cannot be mistaken about whether or not our legs are crossed *objectively*. Proprioception can be fooled in this regard. What we cannot be wrong

about though, is how we feel the body is *subjectively*, for us. Therefore, the argument is not that proprioception is immune to error through misidentification, because it necessarily delivers veridical information about *objective* limb position. In the same way that I can be wrong about the rain in the sentence »I think it is going to rain«, I can be wrong about the objective posture of my body. Proprioception is immune to error through misidentification, however, because it necessarily provides a form of non-observational access to the first-person or *mineness* experience of embodiment; that is, it provides *a sense of ownership* (GALLAGHER 2003: 67) for the body and its movements.

Without having to go into more detail about the IEM debate, we can see that subjective self-reference here is reference to the *sense* or *awareness* of the body, which can diverge from what goes on in the actual body. This confirms (again) that it is our *experience* of how our bodies are situated and not the physical body itself (or its objective position), that grants us the notion of the first-person perspective and the experience of embodiment. It seems odd that whilst subscribing to the distinction between objective and subjective self-reference, Gallagher fails to notice that subjective reference in this case is *not* to the physical body, which fundamentally undermines his (and other phenomenologists') claims made elsewhere about the mind's necessary embodiment.

3.2 *Out-of-body experience*

Let us now turn to our second example; that of out-of-body experiences (OBEs). OBEs have a complex nature and there are different types of sensations in which people have been reported to feel like they are somehow placed outside of their physical bodies. For our purposes, however, the neuroscientific overview of these phenomena is not necessary. What we need is the phenomenological description of

such an experience and its interpretation in relation to the first-person (or subjective) perspective.

In his book *The Ego Tunnel*, Thomas Metzinger provides such descriptions. One of them is by Ernst Waelti, who presents his experience as follows:

»I forced myself to lie in bed motionless. For a while, I dozed, then felt the need to move my hands, which were lying on the blanket, into a more comfortable position. In the same instant, I realized that... my body was lying there in some kind of paralysis. Simultaneously, I found I could pull my hands out of my physical hands, as if the latter were just a stiff pair of gloves. The process of detachment started at the fingertips, in a way that could be felt clearly, with a perceptible sound, a kind of crackling. This was precisely the movement I had intended to carry out with my physical hands. With this, I detached from my body and floated out of it head first, attaining an upright position, as if I were almost weightless. Nevertheless, I had a body, consisting of real limbs. You have certainly seen how a jellyfish moves through the water. I could now move around with the same ease.

I lay down horizontally in the air and floated across the bed, like a swimmer who has pushed himself off the edge of a swimming pool«. (METZINGER 2009: 90)

Metzinger himself notes that in such a case the physical body ceases to serve as the ›locus of identity‹, *i.e.* the first-person viewpoint from which one directs one's attention. At the same time the person still *recognizes* the physical body as his own, although he does not recognise it as *subject*. The spatial location of the viewpoint from which the experience is lived through and from which the physical body is seen, is on the outside of the person's body. The subjective body, however, is not seen, but only *felt* (METZINGER 2009: 93).³

From the description above it is clear that OBEs present another challenge to embodiment; namely, if the subjective perspective is essentially embodied, how can it be that people who have these experiences testify to the opposite? This point is

³ For a detailed account of the different types of OBEs, see METZINGER, 2009.

similar to the cross-wiring case as far as the subjective experience of the body is concerned. Those who undergo such an experience have a sense that their physical body does not match their subjective sense of it. At the same time, this is even more radical than the cross-wiring case in that the *spatial location* of the subjective perspective also diverges from the actual location of the body; as if one left one's body behind entirely, but one is still able to visually perceive it from an external viewpoint. (In this case the subjective body is the one that is experienced as moving and the objective body is the one that is lying in bed motionless.)

As far as we can see, this is all bad news for the embodied theorist, as now we have a subjective perspective that is not only constituted by the experience of something else than the physical body, but is actually located somewhere else than where the physical body is. Therefore, one's subjective sense of embodiment and the first person viewpoint are not essentially tied to embodiment. Importantly, however, this does not entail that the subjective sense is that of a *res cogitans*; *i.e.* a disembodied ego, as in most cases it seems that the subject still has a certain sense of being an embodied person. It is just that his body *feels* different phenomenally; lighter, easier to move etc. Again, if we hold a version of the Cartesian view whose emphasis is not on substance dualism (body-mind dualism) but on the point of view and experience/appearance of the body to the subject, we will have no problems accepting the truths of out-of-body experiences.

Another benefit of our view is that if we identify the subjective perspective with the felt location of the experience, we can also resist the challenge that IEM is violated in these cases, as the referent of ›I‹ here is the subjective viewpoint. If one insists that what we cannot be wrong about when we use ›I‹ as subject is the physical body, one will have a difficult job trying to defend IEM in light of OBEs.

3.3 *Alien Hand Syndrome*

As for our third example, this one concerns a certain neuropathology called *Alien Hand Syndrome*, which is a condition associated with the denial that a body part belongs to the subject, called *asomatognosia*.⁴ Feinberg describes individuals whose relatedness to parts of their bodies is severely altered. The condition's Greek name translates into »a lack of recognition of the body« (FEINBERG 2002: 8). In addition, someone suffering from such a disorder not only fails to recognise a body part as his/her own, but may even reject it.

Feinberg introduces patients who have all suffered strokes and subsequently lost sensation in one or more of their body parts on the left side of their bodies due to injury to the right hemisphere of their brains. These patients seem to systematically deny that the body part in question belongs to them, a problem that only arises when they have to identify their own body parts and not when they have to identify other peoples'. Another significant fact is that this misidentification is not due to any failure in the patients' linguistic abilities, as they can correctly identify other body parts on themselves. A very puzzling but also crucial feature of this condition is that even upon informing the patient that the limb in question is in fact hers, they cannot be convinced of the truth of this fact. One such patient is reported to have had the following experience:

»She denied that the affected limbs were hers and said that ›yours‹ or another's were in bed with her. When she was shown that they were attached to her and that the arm in question merged with her shoulder and that it must be hers, she said: ›But my eyes and my feelings don't agree, and I must believe my feelings, I know they look like mine, but I can feel they are not, and I can't believe my eyes‹«. (FEINBERG 2002: 11)

⁴ Asomatognosia is broadly defined as unawareness of ownership of one's arm, while somatoparaphrenia is a subtype in which patients also display delusional misidentification and confabulation. (FEINBERG et al., 2009)

It seems from this report that in such a condition, a part of one's own body does not feel the same way it used to. It does not feel as if it is an integral part of the subjective body due to the loss of bodily sensation in that part. The phenomenology of this disorder involves one's subjective experience of one's body or bodily awareness (from the inside) somehow failing to extend to the arm in question. We have the physically integrated and intact limb on the one hand and the *experience* of it not belonging to/not being integrated into the rest of the body on the other.

This is another example of a mismatch between the actual (objective) body and the phenomenal (subjective) one. The difference between this and the other two examples is that, phenomenologically-speaking, here the subject seems not to fill out the physical body, *i.e.* the experience of the body has different borders than the actual body does. Therefore, for these subjects, when it comes to identification it does not matter whether their embodiment actually includes having the arm in question, as this is not supported by their felt experience of this body part. Is the subjective perspective essentially embodied in this case? We cannot answer this in the affirmative because what is confirmed here is, again, the fact that it is the subjective *experience* which counts and not the actual physical composition of the body. The physical composition, *i.e.* the objective body is intact in this case as there are no injuries to the arm itself (and it is not missing in the objective sense). The subjective *feel* of this objective body however is damaged as the arm in question is not incorporated into the subject's overall bodily awareness.

Here the IEM dilemma rises once again. These subjects would definitely state that the arm in question does not belong to them. Are they wrong to claim so? According to the embodied theorist, they must be; but since our view allows for the

subjective perspective to diverge from the body, we do not have to face the IEM challenge here either. Or, if the embodied theorist says (as in the case of cross-wiring) that *subjective* self-reference can diverge from *objective* self-reference, then he has no choice but to concede that subjectivity does not have to be constituted by the objective body.

4. Conclusion

The embodied mind view assumes that the subjective perspective is constituted by the lived body and that the lived body is numerically identical to the objective body. However, our examples have shown that this cannot be the case, since it is plausible to think of situations where the objective body diverges from the *experience* of the body (lived body) and hence the subjective perspective.

However, our Cartesian model can incorporate all of the phenomena that these examples introduce, since we believe that it is the subjective *experience* of the body that is essential to the subjective viewpoint and not the physical body itself. Therefore, this perspective may either diverge from the body, or exist in the total absence of a physical body. We have shown that this is plausible without having to adopt the thesis of substance dualism.

Within this model, as we explained in the first part of our paper, the body and its parts are represented as *appearing* in certain ways to the subject. The representations of the body and its parts have intentional objects and the cases in which these objects do not actually exist are subjectively indistinguishable from the cases in which they do. Our theory can therefore explain and accommodate what is reported to happen to the subjective experience of the body in the three examples we listed without having to defend the IEM thesis from a bodily perspective. This explanation is given in virtue of representations, as in each case the *representation*

of the body departs from the *actual* body. A crucial difference between our view and the embodied mind theory is that, besides failing to defend the body-based IEM thesis in a plausible way, it also fails to give an account of the phenomenological findings of the above cases.

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