

A Paper

Equipmentality, Fundamental Ontology, and the ‘Humour of the Human’

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To begin, I want to be explicit in a distinction that I am making between the Body - broadly speaking the lump of matter studied by scientists - and embodiment, its phenomenological correlate. A key claim that I make is that whilst the former is characterised by the epidermal boundary - that is, the Body ends at the surface of my skin - embodiment is characterised by a plasticity which allows its boundary to extend beyond and retract behind the epidermal one. In this presentation, I will be using literature in cognitive science to support my claims, before moving on to failure in embodiment characterised by a sudden retraction of this boundary. In my view, such failure is best explained with recourse to Heideggerean phenomenology, and I will conclude this paper by setting out a framework for pursuing just that.

In their paper, *When Pliers Become Fingers in the Monkey Motor System*, Umilta et al describe an experiment in which they trained monkeys to use a pair of pliers, before testing neurons in the primary motor cortex during such skillful tool use. Their finding is perhaps a surprising one, which I feel merits quotation at length: ‘In addition to being incorporated into the body schema, the tool, after learning, is coded into the motor system as if it were an artificial hand able to interact with the external objects, as the natural hand is able to do’ (Umilta et al 2211).

It is perhaps worth clarifying what precisely the term ‘body schema’ refers to. Broadly speaking, the body schema is usually construed in contrast to the body image, along a faultline of an action/perception dichotomy. The body schema pertains to sensorimotor representations, the body image to perceptual representations. This is a simplification, as the two interact to a great extent, but we needn’t go into that. According to Frederique de Vignemont, we need to understand the body schema as a ‘cluster of sensorimotor representations that are action-oriented’ (11). Moreover, she goes on to argue there is a crucial difference between motor-embodiment (relating to the body schema) and perceptual-embodiment (relating to the body image). She argues this by contrasting tool use with the rubber hand illusion.

In the rubber hand illusion, the experimenter hides the volunteer’s hand behind a screen whilst getting them to look at a rubber hand. Then the experimenter gently brushes the volunteer’s hidden hand and the rubber hand synchronously. After about one to two minutes, the volunteer will report having feeling in the rubber hand. This effect is a classic case of the body image incorporating an object.

[Author's note: At this point in the presentation, I showed a video demonstrating the illusion, available online at <http://www.youtube.com/watch?v=TCQbygjG0RU>]

The tool use, by contrast, is related to motor embodiment, as the phenomenon is not that you feel like the pliers are your hand, but rather your sensorimotor system expands to include the equipment.

Whilst I don't have time to go into great detail, de Vignemont's paper, 'Widening the body to rubber hands and tools', gives a good overview of the experimental data. In this paper, she argues that the tool is motorically embodied and the rubber hand is perceptually embodied by way of an example. When we want to stir a pot of boiling soup, we are more likely to use a spoon than our hand, and some people argue that this is indicative of the fact that we don't think of the spoon as 'part of us', in response to which de Vignemont claims:

[T]he tools are embodied, but only motorically, and not perceptually. In other words, the body image is said to include not only body percept, but also body affect. Numerous RHI [Rubber Hand Illusion] studies have found that if one threatens the rubber hand with a hammer or needle, participants react [...] as if their own hand was threatened. Hence it seems that the object needs to be perceptually embodied for one to react affectively towards it. (de Vignemont 18)

This explains the fact that we don't have the same sense of ownership for the pliers as we do our biological hand, but it must be noted that this is overcome in the case of prosthesis. I would suggest that the prosthetic limb eventually becomes perceptually and motorically embodied, and from this arises the sense of ownership that is often reported.

So, we are able to integrate equipment into our body schema in accordance with the requirements of the concrete task at hand, and we are also able to integrate objects into the body image so that they are perceptually embodied, and my suggestion is that a sense of ownership emerges out of those two forms of embodiment. This is a complex picture, which is not simplified by the clinical literature on body disownership. 'Alien hand' syndrome is a denial of ownership towards a part of the body, which is entirely dissociable from cases of the patient motorically neglecting it. By this, I mean the patient may well still use the limb, yet deny that it belongs to him. The opposite view would be the patient without use of a limb who nevertheless maintains a sense of it being part of him.

In short, that a limb is part of the Body necessitates neither that it is embodied (motorically or perceptually) nor that it is experienced as owned. Similarly, the object's 'artificiality' precludes neither ownership nor embodiment. Furthermore, what is needed is a phenomenology of embodiment, which can accommodate the plasticity outlined above. To that end, I want to turn to Martin Heidegger.

According to Heidegger (1996), we need to understand that the most fundamental relationship that we have with objects is what he calls 'readiness-to-hand'. The ready-to-

hand object is one that fulfills its function optimally, and in doing so is 'transparent'. When I use a pair of scissors to cut a piece of paper, the phenomenon is not that I hold a 'thing' which cuts the paper but simply I cut the paper. However, in failure the object suddenly emerges as salient, and I would argue this emergence is often comical.

The ready-to-hand is a modality that stands in stark contrast to the way in which the object is traditionally construed, what Heidegger calls the present-at-hand. In the present-at-hand modality, all objects are construed as lumps of matter which we act upon. However, this modality is derivative - it is only when we distance ourselves from our practical involvement with the objects that we see them as 'things' at all. This reification distorts the phenomenon of the object, and we risk overlooking the fact that when I am skillfully using equipment, it becomes an extension of my being. In overlooking this fact, we find ourselves leaning towards a dichotomous understanding of our relationship with objects - the mind/matter and animate/inanimate distinctions - which pervade much quotidian discourse.

Moreover, the ready-to-hand scissors are not 'things' with isolable properties, but rather they form a 'referential totality' in which the scissors, the paper and the desk all relate to one another. This is perhaps best understood by way of an example. Imagine that there is a surgeon in an operating theatre, undertaking a procedure that he has done many times before with the same colleagues that are in the room this time. He stretches out his hand towards a nurse. He needs the scalpel, but does not say anything. It is clear to all in the room that the scalpel is being requested precisely because they are familiar with this situation. The gesture can, in other contexts, be an invitation to 'hi-five', or a way of getting change from the grocer, but in this concrete context it is the scalpel that is required.

According to Heidegger, the object's failure discloses this referential context - we are suddenly made to stand back from the activity in which we were previously immersed and pay heed to this context. If the the scalpel breaks, the surgeon can try to repair it, search for a replacement or resign himself to the fact that Mr. Patterson is not getting his new kidney. What he can't do is continue the same relationship to the equipment, at least not until the problem is resolved.

At this point I feel I ought to be clear as to how I believe this argument relates to performance. If one looks at the role of the object in clown and silent comedy, the object failure is the bread and butter of these traditions. Charlie Chaplin and Mr. Bean both had the most unfortunate luck with objects, and I'm sure you can all think of cases from your everyday life where an object has failed with hilarious consequences. These cases, I want to argue, are characterised by a sudden retraction in our embodiment, and as such need to be understood phenomenologically.

Just as the embodied object can fail us, so too can the limb. It seems to me that phenomenologically, both limb and object need to fulfill the same transparency condition - insofar as they fulfill their function optimally, they 'get out of the way' and allow me to go about my business. Reflect on the phenomenology of your leg and your shoes. If your shoes

are uncomfortable or you get cramp in your leg, then this may well prove distracting - it might prevent you from listening attentively to the keynote speaker. In this way, both leg and shoes must be inconspicuous to be functioning optimally. Obviously the dysfunction is not a binary, but rather can be seen on a scale of severity. Nevertheless, there is a marked distinction to be made between the optimal mode - the leg and shoes not really being present in your awareness when you are listening attentively to the speaker - and the dysfunctional one. For me, the best example of this is the spectacles that I wear every day. For the most part, I am not aware of them - I see through them, and the salient phenomenon is the task at hand. However, on occasions when I enter a warm room after being out in the cold, my spectacles steam up and suddenly they emerge. This is quite literally a case of my spectacles transgressing the transparency condition.

As I mentioned in the case of the surgeon's scalpel, the failure of the object makes salient the whole contexture of equipment and concrete activity surrounding the task at hand. The uncomfortable shoes refer to your feet, the cobbles you endured on the way here and perhaps a desire to seem to have 'made an effort'. Moreover, our attention is diverted from the activity we were engaged with to the failed equipment - we might try to repair or replace it. In the case of the uncomfortable shoes, one could discreetly remove them and hope nobody notices. By contrast, the sufferer of chronic pain is not nearly so fortunate. Such cases can be profoundly debilitating, and relief can be found only in serious clinical treatment. But this is an extreme case - there are many cases of bodily failure that are neither as enduring nor as severe as chronic pain or paralysis. In those cases, it must be noted, we often laugh.

In his book, *On Humour*, Simon Critchley claims that humour of the body exploits the gap between being a body and having a body. In my view, the latter case - having a body - occurs when embodiment retracts behind the epidermal boundary so that the body part is a problematic and salient thing. However, I would go further and claim that whilst the object failing discloses the contexture of equipment and concrete activity surrounding what we were trying to do, the failed body discloses our limitedness. When one slips up on the way to collect an award, it serves as a reminder that both the nobel laureate and the local postman are subject to the same limits - gravity always wins. The classicists in the room might be reminded of Socrates, who talks of Thales, a man who falls into a ditch because he is busy looking at the sky, with the local bystanders having a laugh at his expense.

In conclusion, I want to claim that, far from being a 'low' form of entertainment, physical comedy actually highlights a characteristic of our embodiment so often ignored. Embodiment is characterised by a plasticity which allows for the incorporation of the artificial, in addition to our biological, 'equipment'. It is only in failure that the body and object become disentangled, and this disentanglement is often comical. Furthermore, it is by virtue of precisely what they disclose that the two types of failure are distinct. In the case of the failed object, it discloses a referential totality of equipment surrounding the activity, and more broadly, the world. The failed body discloses one's own finitude, and in cases of very severe failure entails a withdrawal from that world. As such, I want to claim that both areas require phenomenological investigation and that Heidegger provides a strong foundation for pursuing just that. This is precisely the subject of my Ph.D thesis, and it is an investigation

in the very early stages of development, as such I would welcome any thoughts and comments on the ideas I have presented.

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