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Proprioceptive Awareness and Practical Unity

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RESUMEN

Los sujetos desafereados, a la vez que carecen de consciencia propioceptiva de gran parte de sus cuerpos, son sin embargo capaces de usar sus cuerpos para realizar acciones básicas. El contacto visual sostenido con el cuerpo de cuyas partes ya no son propioceptivamente conscientes, les capacita para mover esas partes ejerciendo control sobre ellas. Esto podría considerarse que muestra simplemente que la consciencia propioceptiva no es esencial para la acción corporal. Argumento, por el contrario, que esto no es así. La consciencia propioceptiva figura de forma esencial en nuestra unidad autoconsciente como sujetos prácticos. Reconocer esto nos permite entender mejor la naturaleza de la discapacidad con la que los sujetos desafereados viven.

PALABRAS CLAVE: *consciencia propioceptiva, acción corporal, consciencia del yo, desafereación, representación espacial egocéntrica.*

ABSTRACT

Deafferented subjects, while lacking proprioceptive awareness of much of their bodies, are nevertheless able to use their bodies in basic action. Sustained visual contact with the body parts of which they are no longer proprioceptively aware enables them to move these parts in a controlled way. This might be taken to straightforwardly show that proprioceptive awareness is inessential to bodily action. I, however, argue that this is not the case. Proprioceptive awareness figures essentially in our self-conscious unity as practical subjects. Recognizing this allows us to better understand the nature of the impairment with which deafferented subjects live.

KEYWORDS: *Proprioceptive Awareness, Bodily Action, Self-Awareness, Deafferentation, Egocentric Spatial Representation.*

I

Brian O'Shaughnessy claims that proprioceptive awareness is “of fundamental importance to the animal condition” [O'Shaughnessy (2008), p. 174]. While his doing so is connected to the centrality he sees it as having for a number of animal capacities, his primary reason is this

— that without such awareness of the position of one’s limbs, “action is impossible” [O’Shaughnessy (2008), p. 138]. Now, given proprioceptive awareness’ distinctive character, it is not surprising that O’Shaughnessy thinks this. Proprioceptive awareness, after all, does not just give a subject the position of her limbs but gives her their position “from the inside.” Her limbs are not, that is, presented to her as if from *without*, as things to which she stands in relation. They are experienced, rather, *as parts of hers*. She experiences them as if *from them*. Where she now feels her left hand to extend is where she now feels *herself* (in part) to extend. Something like this certainly figures in O’Shaughnessy’s thinking. Consider what he says about an imagined case of someone suddenly losing proprioceptive awareness of his arm: “...irrespective of whether he vividly sees that arm, and knows with certainty exactly how it is spatially disposed, such a man is *not in a position* to basically or immediately or no-how move it” [O’Shaughnessy (1989), p. 39]. This man’s seeing his arm, O’Shaughnessy thinks, does not suffice for his being able to act with it. Such visual contact does not put him in touch with this arm in the right way. This arm is something *with which* this man acts, something *through which* he exercises his agency. It is not just something that he acts on. It needs, then, to be made available to him in a different way from other objects. This is where his proprioceptive awareness crucially comes in.

But there is reason to think that O’Shaughnessy is wrong about this. The kind of proprioceptive loss he imagines is something that in fact happens to people. But, as it turns out, it does not affect them as he thought it would. Though it happens rarely, viral infections can cause autoimmune reactions that attack the peripheral nervous system in a highly selective manner, destroying the afferent nerve pathways that underpin our proprioceptive capacity. This leaves affected subjects permanently *deafferented*. In this condition, subjects no longer have proprioceptive awareness of or much feeling in the parts of their bodies affected by the neuropathy. But because the condition does not affect the efferent nerves — those that carry motor signals from the brain—it is still possible for subjects to recover the ability to act with those parts that they can no longer proprioceptively feel. There are a few well-documented cases of deafferented subjects. Ian Waterman’s is one of them—probably the most well-known and extensively studied—and it illustrates this vividly.¹

Waterman, in early adulthood, lost all proprioceptive capacity from his collar-line on down. In the immediate aftermath, he was bedridden and unable to do almost anything for himself. Though he could move his limbs, these movements were uncontrolled. They were not actions so

much as they were attempts at action. But, over time and with monumental effort and determination on his part, Waterman was able to regain an astonishing degree of motor capacity — enough to be able to get out of bed, walk, dress himself, and perform all the other tasks required to lead a more or less normal, independent life — despite his proprioceptive deficit. His strategy has involved compensating for this deficit with his eyes. So long as he can see the parts of his body with which he intends to act, he can move them in a controlled, if somewhat stilted manner, maintaining their position or directing their movement as needed. (His movements, otherwise, tend to be inaccurate, since he has to rely on memory and initiate movement based on where he *thinks* the relevant limb is presently located. The limb, furthermore, may not be exactly where he last left it. Without the benefit of visual feedback, his limbs tend to drift from their positions.) His movements thus constitute basic bodily actions in much the way our own do. They are deliberate movements — reachings, raisings, wavings, graspings — he can make without doing anything else. Waterman's case shows, then, that basic action with a limb in the absence of proprioceptive awareness of it is possible. A subject can compensate for this absence with visual awareness of the limb.

Cases of deafferentation, like Waterman's, show that O'Shaughnessy is wrong about the relation between proprioceptive awareness and bodily action. Proprioceptive awareness of a limb is not necessary for basic action with it. Still, this leaves open how we're to understand the relation between proprioceptive awareness and bodily agency more generally. Even if such awareness of a limb is not necessary for acting basically with it, does it nonetheless figure in our bodily agency in a way that other forms of awareness cannot? Is there a sense in which it might yet be fundamental to the animal condition, if not exactly in the way that O'Shaughnessy envisioned it as being? What else can we learn about proprioceptive awareness' role in our bodily agency from these cases of deafferentation?

One further lesson that one might try to draw from these cases is this. The fact that deafferented subjects successfully use vision to compensate for their proprioceptive deficit shows that proprioceptive awareness is fundamentally no different in kind from vision or the other senses. While it, to be sure, is phenomenologically distinctive, what it does to enable one to act is no different from what vision does in the case of deafferented subjects. This, of course, is not to say that vision does *as well* as proprioceptive awareness in doing what the latter does. Having only one's vision to rely on in acting is, as Waterman himself has attested, challenging in ways that it is difficult for us to imagine. Proprio-

ception is obviously better suited to the role it fills. But what it does is the same as what one's vision could do. It gives one the position of one's body so that one can apprehend what it is open to one to do. It helps to reveal to one what is at present practically possible for one. One's vision cannot do this nearly as well as one's proprioceptive awareness. But it is not as though what one's proprioceptive awareness does is on a different order. So, one might conclude that there is nothing about proprioceptive awareness that ties it in particular to our bodily agency. Saying that it is fundamental to the animal condition is at best overblown.

But concluding this, I think, would be a mistake. Proprioceptive awareness, because of how it presents our bodies to us, does have a distinctive role in our bodily agency. It is central to the unity we have as practical agents, and this cannot be substituted with some other form of awareness. Recognizing this, as I will argue, requires recognizing how a subject's perception and action are ordinarily related. Perception, for a subject, is ordinarily practical. She can, for instance, just in looking at what's around her, immediately recognize what it is open to her to do. Her perception's revealing her practical possibilities to her in this way, I will argue, owes to her proprioceptive awareness of herself. This awareness structures her perception. It is what makes her perceptual apprehension of her surroundings at the same time a practical apprehension. Cases of deafferentation help to bring this out. A deafferented subject's perception is disconnected from her practical possibilities. She cannot just look out at what's around her and know what she is able to do. She has to instead look down at herself and consider the spatial relations in which certain parts of her stand to what's around her. This is her way of apprehending her practical possibilities. But even this, I will argue, is not practical in the same way. Here, the subject has to superimpose the practical on what she sees. So, even though her vision allows her to apprehend her practical possibilities, there is still for her a dissociation between what she sees and what she is aware of as practically open to her.

What cases of deafferentation show us, then, is that proprioceptive awareness is distinctive as a form of awareness. It is not just an awareness that gives us the position of our bodies but one that in doing so unifies our practical and perceptual orientations in the world. In having this awareness of ourselves, our being perceptually oriented is our being practically oriented. It, in this way, is central to our bodily agency in a way that other forms of awareness are not. It, then, is fundamental to the animal condition after all, even if not exactly in the way that O'Shaughnessy supposed.

II

It is important for us to understand how deafferentation affects a subject's relation to those parts of her body of which she is no longer proprioceptively aware — especially, how it affects the way in which she is able to act with them. This will help us see the difference a subject's having proprioceptive awareness makes. In this, Hong Yu Wong's discussion of Ian Waterman is helpful. Wong recognizes how profoundly Waterman's condition affects him, even comparing him to Descartes' famous pilot in a ship: "IW is like a pilot in his body vessel. Whilst his body remains the unique and immediate respondent of his motor commands [...] his means of control is only through conscious visual control. His way of acting with his body is thus quite unlike ours" [Wong (2015), p. 806].² Wong even elaborates on this by saying that, for Waterman, acting with his body is "like remote control" [Wong (2015), p. 806].

These characterizations are evocative and in that respect helpful. Waterman's relation to his body does seem pilot-like. But what we need to understand is what exactly this relation's being pilot-like comes to. How does one's lacking proprioceptive awareness change how one acts? Wong, in elaborating on how he thinks of Waterman's situation, says this: "Though IW can act with his body in a teleologically basic way, the character of his control over his body is remote. In contrast, fluid everyday action for afferented agents doesn't require that we target the bodily effector and consciously attend to it. In this sense, for us, acting with our bodies is not like remote control whilst it is for IW" [Wong (2015), p. 806]. Now, what Wong identifies here is certainly a part of what makes deafferented action different. A subject in this condition has to visually target the part of his body with which he intends to act and then consciously direct its movement while keeping visual contact with it. He cannot just focus on whatever it is he's acting on. He has to divert considerable attention to his limbs and to thinking about what it is he needs them now to do. Acting for him thus requires far more focus than it does for us. He cannot, as Wong puts it, act with the "fluidity and unthinkingness" [Wong (2015), p. 807] that we characteristically do.

But it seems that this can only be part of the story. While a deafferented subject can no longer act in our easy, unthinking manner — in losing proprioceptive awareness, such a subject also loses access to the motor habits he'd built up over a lifetime — there seems to be more to his acting's striking us as being "like remote control" than just this. It seems more centrally to have to do with his having only visual awareness

of his limbs as he acts with them, with his being unable to feel them “from the inside.” This, I think, is what makes Wong’s comparison to Descartes’ pilot so apt. But, this, unfortunately, is not something that Wong explores.³ What I will do, then, is pursue what he does not. I will spell out what it is about a subject’s having only visual awareness of his limbs that makes his manner of acting with them seem *remote*. This will position us to see proprioceptive awareness’ role in bodily action.

III

What is it exactly that a subject loses when he is no longer proprioceptively aware of a part of himself? He seems to lose something, but it is hard to specify just what this is. He can still, after all, come to know his limb’s position. He can look down at himself and, easily enough, see it. Even so, there seems to be something that goes missing for him. As O’Shaughnessy, in thinking of such a case, so suggestively puts it: “...somehow it seems remote or cut off, as if there were some other form of space in which the finger was not to be found, or as if there were some internal way of gaining access to the finger which is barred to him. He would like to sidle his way down his arm and into his hand; but there is no path leading from him to his hand” [O’Shaughnessy (2008), p. 138].

We can begin to account for what goes missing for such a subject by considering a key spatial difference between his awareness from the outer senses and his proprioceptive awareness. When a subject is sense perceptually aware of something, he is, in being so aware, aware of it as it stands in spatial relation to him — as being to his left or above him or in front of him. He, in this way, is at the center of all his perceptions, even if he does not figure in any of them as their object. His perceptions are, that is, egocentrically organized.

This, by contrast, is not how things are in a subject’s proprioceptive awareness. He is, through it, aware of his limbs, but he does not experience them as located in spatial relation *to him*. This difference is one that a number of philosophers have picked up on.⁴ As, for instance, José Luis Bermúdez explains it: “...the frame of reference for bodily awareness is of a fundamentally different type. We do not experience our bodies on an egocentric frame of reference. There is no privileged point in the body that counts as *me*, serving as the point of origin relative to which the distance and bearing of, say, bodily sensations are fixed” [Bermúdez (1998), p. 176]. There is, that is, no particular location *from which* a sub-

ject, in proprioceptive awareness, is aware of his limbs. They are not something on which he has a perspective. Instead, he experiences them as they are positioned in relation to one another, e.g., left leg bent at the knee, arms stretched out overhead. Nothing is felt as being located any farther from anything else. For, nothing is felt as being at any distance from him. He, so to speak, pervades the experience. Where he is aware of something — a fingertip, an elbow, a toe — is a place to which he feels himself to extend. Anything of which he is aware in this mode is something that feels to him to be a part of him.

This gets us some of the way towards understanding what goes missing for a deafferented subject. A limb of which he is no longer proprioceptively aware is one that he can only have a perspective on. This seems to be what O'Shaughnessy means in saying that it would be as if "there were some other form of space" in which the limb could no longer be found, as if there were "no path leading from him to his hand" [O'Shaughnessy (2008), p. 138]. Even while still being attached to the rest of him, it does not feel to him to be a part of him.

But we cannot stop with just this. For, the difference proprioceptive awareness makes, put in these terms, can still seem merely phenomenological, a difference merely in the way a subject feels his body to be. And the difference, as I want to understand it, runs deeper than this. What we've just seen is that what a subject gets in proprioceptive awareness is not a part of what he has a perspective on. What we now need to see is that what he gets in it, precisely because it is not a part of this, is something that *shapes* his perspective and so shapes his practical undertakings.

IV

There is a familiar sense in which perception and action are for a subject connected. What she perceives will have direct relevance to what she thinks of as being open to her to do. If she, for instance, sees a glass in her vicinity, she will, just in seeing it, be aware of certain practical possibilities available to her. This glass is something that she might reach for, smash, or bring to her mouth. Importantly, the possibilities she apprehends in this way are concrete. It is not just that she knows that this glass is something she might reach for.⁵ Because her perception is egocentrically structured, she also knows, given where it is in relation to her, *how* she would have to move her arm in order to reach for it.⁶

This connection is particularly tight. It is hard to see how a subject could be perceiving what's around her and *not* recognize at least some of the ways this bears on her practically and concretely. If a subject saw a glass as being to her left and had no clue about what it could mean for her practically — no clue about what turning towards it or reaching for it would involve on her part — then something has gone awry. The significance of something's being to her left has been lost on her. A subject *should* know, just in perceiving what she does, what it is open to her to do concretely. This is part of what it is for a subject to perceive something in egocentric relation to her. She cannot see something as being to her left and then draw an utter blank in asking herself, "But what does its being so positioned mean for me practically?" Just seeing it there should be enough for her to be able to act on it. As John Perry says, remarking on this connection, "When a ball comes at me, I duck; when a milkshake is put in front of me, I advance" [Perry (1986), p. 151]. In this way, perception bears directly on a subject's practical possibilities. It reveals to her the ways open to her to move.

But this is not how it is for a deafferented subject (assuming that her deafferentation is as extensive, say, as Waterman's).⁷ While such a subject still relies on her perception of what's around her — her perception is still egocentrically structured — perceiving what's around her is not enough for her to be able to act. She has to perceive not just whatever it is she intends to act on but also the limb with which she intends to act. Only then is she in a position to know how she has to move.

Still, what such a subject does can look to be not *so* different from what we do when we act. It can look as though her seeing the position of her limb out-and-out replaces what we do with our proprioceptive awareness. Consider, for instance, a case of the following sort. A deafferented subject sees a glass over to her left and wants to reach for it. Her seeing it *there* is, as it would be for any of us, how her action begins. But unlike us, she does not, just in seeing the glass, know what she has to do in order to act on it. There is a gap in her knowledge. She knows that the glass is to her left, but this is only part of what she needs to know to be able to reach for it. Knowing this is of no use to her until she fills the gap, until she knows the position of the hand with which she intends to do this reaching. It can seem, then, that what the subject does, in looking for and visually locating her hand, is fill this gap. It can seem that, in this way, her vision just does what her proprioceptive awareness no longer can.

But this is not in fact what her vision does. The glass' being to her left is not what is relevant to her when it comes to thinking about mov-

ing her hand. Though her seeing it there is what gets her thinking about reaching for it at all, she does not put this information to use in thinking about her movement. The spatial information that matters to her in directing her hand towards the glass is her hand's position *relative to the glass* — her hand's being just to the right of it or out in front of it. It is in seeing *their* spatial relation that she can see where her hand needs to go. Her seeing the glass as it stands in egocentric relation to her is not central to planning her movement. In general, such egocentric relations in perception no longer have the same relevance for her in acting. This means, then, that when it comes to the position of her hand, her vision does not take the role her proprioceptive awareness once had. Her vision instead replaces everything. Her seeing her hand's position relative to the glass stands in for all of it — for her seeing the glass as located in egocentric relation to her *and* for her proprioceptively feeling the position of her hand.

This means that our subject's relation to her hand as she moves it takes on an entirely different form from what it once did. The spatial reasoning by which she gets her hand to where it needs to be is no longer centered around her (as she feels herself to be).⁸ Her hand, granted, remains a part of her, but because her only way of locating it is through vision, the way she has of thinking about it, when it comes to where it is and where she wants it to be, is not that much different from the thinking she might engage in in arranging *any* two objects. Suppose, again, for instance, that what she wants to do is reach for a glass. What will matter to her is the glass' location relative to the hand with which she intends to reach it. Thinking about what she is to do is a matter of thinking about how to get this hand on a path to the glass. Does it need to go leftwards from where it is now or up? But suppose that, instead, it is not she who is reaching for the glass but someone else helping her (since it is on a high shelf out of her reach). She can see the glass from where she is standing, but her friend cannot. This friend just follows her directions. Our subject, in this case, has to consider her friend's hand and its location relative to the glass. Her thinking is about this hand and what path it should take to get to the glass. Should she tell her friend, "More to the left," or "Lower," given where her friend's hand is now?

While these two cases differ in a number of respects, there is considerable similarity between them when it comes to the kind of thinking in which our subject engages. In each case, her thinking concerns a hand and a glass and the spatial relation in which she sees them as standing. In each case, her thinking centers on the hand and is about drawing a path from this hand to the glass. Furthermore, in each case, her egocentric

perceptual relations do not enter into her considerations. Her seeing the glass as being to *her* left or above *her* does not matter to tracing the path that the hand takes. For, the location from which she sees the glass as being, say, to her left is distinct from the location on which her spatial reasoning centers — even when what is centered on is *her* hand — and so does not matter to tracing this path. Though, then, in the one case, the hand is *her* hand, its being hers is not reflected in her spatial reasoning. The form of her reasoning in both cases is much the same.⁹

We can see now that the egocentric relations that specify how our subject stands to what she sees have (almost) no part in how she directs her limbs. Even, then, while it is by seeing them that she directs their movement, the role that seeing characteristically has in action disappears from the scene. How she sees what's around her as standing in egocentric relation to her does not bear directly on what she is to do. Her looking around her, of course, still reveals the general lay of the land. But her seeing this stops short of her knowing how she is to move in order to act on *this* or *that* object. Thus, her just seeing things as they stand in egocentric relation to her no longer has the kind of practical significance it once did. It cannot direct her movement.

V

But what difference does having proprioceptive awareness make? Why should a subject's having such awareness of herself mean that her seeing what's around her can bear directly on how she is to move? It is clear that in order for her seeing to bear on her possibilities in these ways, the spatial framework that organizes her vision must connect with the framework that organizes her proprioceptive experience. The egocentric coordinates by which she pinpoints the objects she sees need to have significance for her limbs as she feels them proprioceptively.

As we've already seen, proprioceptive awareness is not egocentrically organized. It does not present a subject's limbs as located in relation to *her*. Though there is, of course, a sense in which a subject does proprioceptively feel her limbs in relation to her — her legs folded beneath her, her arms stretched out above her — *beneath* and *above* here cannot mean what they would were she locating something sense perceptually. These directional determinations are fixed not relative to her but to parts of her. Thus, *beneath* means something like *beneath the rest of her* and *above* something like *above her head*. But all these parts — those on which her at-

tention is fixed and those that she feels them in relation to — feel in this awareness to be parts of hers. So, whatever overlap there is between the space a subject represents visually and the space that she in proprioceptive awareness feels herself to occupy, the coordinates from the one mode of representation cannot be identical to those in the other. She, as the subject, figures very differently in the organization of each.

So how should we account for a subject's perceptions of her surroundings bearing directly on her possibilities for movement? While we've said that her perception, in being egocentrically structured, locates objects in relation to her, we have not specified what exactly is supposed to be captured by *her* here. It is easy to assume that what's captured depends on the sense modality — that *her* centers around her eyes, if what she's doing is seeing, around her hand if that's what she's exploring with — since the part of her from which the perception originates will depend on the modality. This, for instance, is how Bermúdez talks about it:

In the case of vision or exteroceptive touch [...] there is a perceptual field bounded so as to determine a particular point as its origin. If, for example, the visual field is described as the solid angle of light picked up by the visual system, then the origin of the visual field can be taken to be the apex of that solid angle. Similarly [...] the frame of reference for exploratory touch is a point in the center of the palm of the relevant hand [Bermúdez (1998), p. 152].

This “origin” of which he speaks is what he later goes on to identify with the “privileged part of the body that counts as me for the purpose of discussing spatial relations” [Bermúdez (1998), p. 153] represented in the given modality.

But things have to be more complicated than this. For, a subject's perceiving something as, say, in front of her depends not just on the part from which her perception originates but on this part's position in relation to the rest of her. The glass a subject sees might be dead-center in her visual field. But she will not see it as being in front of her unless most of her body is already oriented towards it. So, though light streams into a subject's eyes, making them, in a way, the point of origin of her visual experience, the perspective from which she experiences things visually does not center around just her eyes. She does not locate what she sees just in relation to them. What she sees she locates in relation to the whole of her.¹⁰ Though, then, her seeing something as to her left does not involve her knees or toes, her seeing it as so located nevertheless involves these parts. It involves them in that they are parts she experiences

as parts of her and that what she sees she sees in relation to her as she feels herself to be.

If this is the case, then the way her perceptions bear on her practical possibilities is straightforward. Her seeing something as to her left does not just pinpoint it in relation to her eyes or head but in relation to her as she feels herself to extend, including to the hand that she might use to reach for it. So, in having proprioceptive awareness that extends from her head to her hand, she can, just in seeing what she does, put it in spatial relation to her hand. Her seeing the object in relation to her is her locating it in relation to, among other things, her hand. Her seeing it, in this way, bears directly on her possibilities for movement. It shows her how it is she would have to move to reach for or otherwise act on this object. Having so located it, then, she can just move.

This is not how things are for a deafferented subject. Though she can still perceptually locate something as being to her left, its being so located does not have the same practical significance for her. In so locating what she perceives, she, like any subject, puts it in relation to her as she feels herself to be. But because of her deafferentation, this will only extend to her head and neck — those of her parts of which she still has proprioceptive awareness. She cannot, without looking for or otherwise perceptually locating her hand, know how she would have to move it in order to reach for an object she sees. Just seeing the object does not suffice because this does not put it in relation to her hand. To in fact put it in relation, she has to pinpoint the location of her hand. She has to see her hand as it stands to this object. She has to engage in a separate perceptual act.

But just how different is this from locating one's hand proprioceptively? To put something one sees in relation to one's hand, one needs to locate one's hand in some way or other. What does it matter if one does it by vision or proprioception? Doesn't it just come to the same—i.e., pinpointing the location of one's hand? Whichever way one does it, doesn't one engage in *some kind of separate act*?

A subject's proprioceptively pinpointing her hand, to be sure, is not the same as her seeing the glass for which she wants to reach. She can do the one without doing the other. Her proprioceptive pinpointing is, in this sense, separate from her seeing. But in another sense it is not. As we've already seen, a subject's seeing an object in relation to her is her locating it in relation to her as she feels herself to be. This is made possible by her proprioceptive awareness. Her proprioceptive awareness gives her the standpoint from which she sees objects as located in relation to her.¹¹

So, if she is proprioceptively aware of her hand, her hand becomes a part of the *her* in relation to which she sees such objects. In this way, her proprioceptive awareness shapes her perceptual states. It gives them the egocentric structure that they have. What we should say, then, is that a subject's proprioceptive awareness is in part constitutive of her perceptual states. While her perceptual experience goes far beyond what she experiences of her body through proprioceptive awareness, her perceptual experience, inasmuch as it locates objects in relation to her, depends on her proprioceptive awareness to do so. It is in this sense that her proprioceptive pinpointing is not separate.

A subject's seeing an object in relation to her, then, is her seeing it from her *bodily* standpoint. Her seeing it in this way is thus her knowing how she can move in relation to it. So, it is her seeing's being shaped by her proprioceptive awareness that makes it practical.

VI

We can now see in what sense a deafferented subject's actions might seem like actions performed *remotely* or *at a distance*. It is not just that her limbs are no longer parts of her to which she feels herself to extend. It is because, furthermore, that without such awareness of her limbs, her perceptions of the objects around her no longer have the same practical significance for her. Though she can still see something as, say, to her left, her seeing it as so located does not just in itself mean anything to her for how she would have to move in order to reach for or otherwise act on it. Her seeing the object, while it orients what she can feel of herself in relation to it, does not orient the whole of her. Her limbs remain blind to her relation to what she sees and so to their possibilities for movement. Visually locating her limbs allows her to apprehend these possibilities and guide her limbs through them. But because she does not feel these limbs, they, even under her gaze, do not share her orientation in relation to the objects around her. Her orientation is in part determined by where she feels herself to be, and this, because of her deafferentation, might remain fixed, even while she is moving one of her limbs. Her focus, as she moves the limb, then, is not on how *she* is positioned in relation to the object to be acted on but on the limb and its position. Her felt position recedes into the background, since it is that of the limb that matters to her present practical possibilities.

In this way, where she feels herself to be, and hence where she orients herself from in relation to the things around her, is separate from the space in which she acts. Her position in relation to these things does not reveal to her her possibilities for movement. These possibilities, because she can still move her limbs basically, still lie with these limbs, even though the space from which she orients herself does not extend to them. Her capacity to act is disjoint from her standpoint such that what bears on her from this standpoint does not have any significance for her limbs. Her space, the space from which she orients herself, is thus made distinct from the space of her practical considerations and possibilities. She needs to, in a separate perceptual act, visually apprehend her limbs and their relation to the object on which she would act. She can then project what is possible for these limbs onto them. It is in this sense, then, that her acting with these limbs is action performed at a distance. She is divided as a practical subject. She cannot reach herself practically just from her standpoint.

A subject's proprioceptive awareness, then, is what allows all of her practical and perceptual thinking to originate from the same space. It is what allows her to act *as one*. It is in this sense that proprioceptive awareness is fundamental to the animal condition in a way that others forms of awareness are not.¹²

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NOTES

¹ For more on Waterman's experience of deafferentation see Cole (1991), Cole (2016), and Cole and Paillard (1998).

² Interestingly, Descartes himself does not seem to think that what he says about our special relation to our bodies in fact extends to the capacity we have to move our limbs. As he writes in the *Discourse on Method*: "...it is not sufficient for [the rational soul] to be lodged in the human body like a helmsman in his ship, except perhaps to move its limbs, but [...] it must be more closely joined and united with the body in order to have, besides this power of movement, feelings and appetites like ours and so constitute a real man" [Descartes (1985), p. 141]. Even so, we can still, I think, see the point of Wong's comparison, given how strikingly different deafferented action seems to be.

³ Wong further develops his account of the difference between afferented and deafferented action in [Wong (forthcoming)]. Here, he is far more attentive to the difference that being able to experience one's body "from the inside" makes to one's sense of one's practical possibilities. He explicitly connects one's having proprioceptive awareness to one's capacity to engage in *motor imagery* and thereby apprehend what is practically possible for one. This, then, fills in more of the story about why deafferented action is so different from afferented action. But this still cannot be the whole of the story. As I argue above, the remoteness of deafferented action crucially involves the disconnect between one's perceptions of what's around one and what is practically possible for one. Lacking proprioceptive awareness, one's perceptual and practical spaces are disjoint.

⁴ See also Gallagher (2003) and Martin (1995).

⁵ The idea that perception opens a subject to what is practically possible for her is not, of course, a new one. James J. Gibson, for instance, writes of perceived objects as, in virtue of certain of their perceived properties, *affording* particular kinds of behavior, e.g., sitting, grasping, wielding, eating, and walking. [See Gibson (1977)]. It is worth noting, however, that, in speaking of a subject's practical possibilities in perception, I have a narrower such range of possibilities in mind in comparison to Gibson. I mean to be speaking only about a subject's here-and-now possibilities for bodily movement, given how she is at present positioned and given the location of the object on which she intends in some way to act. Gibsonian affordances are, in a way, more general. A rock that I see, for instance, might afford sitting just in being *somewhere* in my vicinity. But, if I am more than a few steps away from it, my seeing it will not reveal much in the way of practical possibilities in the sense that I mean. It will not, that is, reveal what particular bodily movements I will need to make in order to sit on the rock.

⁶ This is not to say that the subject needs to have a grasp of the motor specifications by which an experimenter might describe any reaching movement she then went on to make. The subject need not be able to say how exactly she would have to scale her grip or extend her arm to close her fingers around the glass. My point is just that such a subject would have *some* idea of what she would have to do with her hand and that something would be wrong if she drew an utter blank.

⁷ While O'Shaughnessy, for instance, in imagining subjects who have lost some degree of proprioceptive awareness tends to consider cases in which there is just one limb of which the subject is no longer aware, I mean, unless I specifically indicate otherwise, to be speaking about someone who, like Ian Waterman, only has proprioceptive awareness from the neck on up.

⁸ When speaking of 'spatial reasoning' here, I mean only the kind of implicit reasoning that is ordinarily at work when we act. I do not mean to imply that we need, for instance, engage in any explicit deliberation prior to acting.

⁹ Cole and Paillard's discussion of another deafferented subject, G.L., appears to support my claim that the form of deafferented subjects' spatial reasoning is different from ours when it comes to, say, directing the movement of a

hand towards an object. Under normal conditions, G.L. can point at objects with the same accuracy as control subjects because she can visually guide her hand. If, however, she is asked to point at a luminous target in an otherwise darkened room — and, so, forced to use her egocentric frame of reference — her performance “is greatly impaired, whereas that of control subjects is not” [Cole and Paillard (1998), p. 253].

¹⁰ Christopher Peacocke makes something like this point in discussing one’s experience of Buckingham Palace as seen with one’s head turned towards it but the rest of one turned off to the side. In such a case one would experience the palace as, say, to one’s left, even if the view one had of it were the exactly same as that which one would have when looking at it from straight on. See [Peacocke (1992), p. 106].

¹¹ This is not to say that a subject’s proprioceptive awareness is all-together responsible for her sense perception’s being egocentrically structured. It seems that even someone who had no proprioceptive awareness whatsoever (supposing that there could be such a case) would still, for instance, see objects in her vicinity as being nearer or farther *from her*. What the *her* came to for such a subject would, no doubt, be different — limited, perhaps, to a geometrical point. But it would not be absent. Her seeing, it seems plausible to say, would still be a seeing from somewhere and experienced as such.

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Political Theory for
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