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Wittgenstein's challenge to enactivism

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Abstract

Many authors have identified a link between later Wittgenstein and enactivism. But few have also recognised how Wittgenstein may in fact challenge enactivist approaches. In this paper, I consider one such challenge. For example, Wittgenstein is well known for his discussion of seeing-as, most famously through his use of Jastrow's ambiguous duck-rabbit picture. Seen one way, the picture looks like a duck. Seen another way, the picture looks like a rabbit. Drawing on some of Wittgenstein's remarks about seeing-as, I show how Wittgenstein poses a challenge for proponents of Sensorimotor Enactivism, like O'Regan and Noë, namely to provide a sensorimotor framework within which seeing-as can be explained. I claim that if these proponents want to address this challenge, then they should endorse what I call Sensorimotor Identification,

according to which visual experiences can be identified with what agents do.

1. Introduction

Many have sought to develop the link between enactivism and later Wittgenstein (e.g. Hutto, 2013; Moyal-Sharrock, 2013; Boncompagni, 2013; Hutto, Kirchhoff and Myin, 2014; Loughlin, 2014b; Heras-Escribano et al, 2014; Steiner, 2018). However, two questions can be distinguished here. On the one hand, we can ask: is it correct to draw links between enactivism and Wittgenstein? On the other hand, we can ask: do Wittgenstein's philosophical remarks pose any serious challenges for enactivism? With some notable exceptions, this second question has not been actively explored in the literature.¹ Yet I think there is reason to claim that Wittgenstein does indeed pose such a challenge. Before detailing this challenge, however, we first need to clarify a number of issues.

First, there remains ongoing disagreement among commentators as to how to understand later Wittgenstein's meta-philosophical commitments (all subsequent references in this paper will be to the later Wittgenstein). Should the aim of Wittgenstein's philosophical method be understood as solely therapeutic i.e., to liberate us from so-called 'captivating pictures' in our language and, in doing so, bring philosophy to an end? Or, alternatively, might his method, not only help free us from such pictures, but also shed new light on

¹ Examples of such challenges are the following. Heras-Escribano et al (2014) claim that Wittgenstein's account of rule-following supports the view that normativity is scaffolded by our social practices. The authors argue that this then challenges the mind/life enactive claim that primitive organisms, like bacteria, can engage in "sense-making", that is, normatively charged interactions. Steiner (2018), on the other hand, argues that enactivists display a tendency to view mentality in terms of processes, a view that later Wittgenstein explicitly challenges.

ongoing philosophical disagreements? This interpretative issue matters here. For a lot of work would need to be done to show why a strictly therapeutic reading should be of interest to enactivists. On the other hand, if Wittgenstein were instead offering something more substantive, then it is straightforward to see why this could be relevant to enactivist concerns. Hence, if we are to claim that Wittgenstein can challenge enactivism, then we need an interpretation of Wittgenstein's method that can support such a challenge.

Second, enactivist approaches themselves come in many different shades and stripes. Broadly, we can distinguish between (1) Mind/Life Enactivism, (2) Sensorimotor Enactivism and (3) Radical Enactivism. These versions of enactivism are noticeably distinct. First, Mind/Life Enactivism (e.g. Varela, Thompson and Rosch, 1991; Thompson, 2007) emphasizes the continuity between mind and life, insisting that even organisms like bacteria are agents capable of making sense of their environments. Second, Sensorimotor Enactivism (e.g. O'Regan and Noë, 2001, a,b; Noë, 2004) claims that visual experience involves, in some fashion, embodied or sensorimotor know-how. Third, Radical Enactivism (e.g. Hutto and Myin, 2013, 2017) argues that contentful properties, like true and false, are not mental properties but rather scaffolded by some of our social and linguistic practices. Thus, if we are to claim that Wittgenstein can challenge enactivism, then we also need to clarify which version of enactivism is being challenged.

Given these issues, I propose to do the following. First, I will read Wittgenstein's philosophical method as "non-pyrrhonian" (Stern, 2006). That is, while I take his method to have therapeutic elements, the aim of such therapy is nonetheless to gain substantive insight, that is, clarification about how we use concepts

in our language-games and form of life.² Second, I will apply this reading of Wittgenstein's method to Sensorimotor Enactivism.

For example, Wittgenstein is well known for his discussion of seeing-as, most famously through his use of Jastrow's ambiguous duck-rabbit picture. Seen one way, the picture can be viewed as a duck. Seen another way, the picture can be viewed as a rabbit. Following my reading of Wittgenstein's method, I take his remarks on the duck-rabbit to remind us that seeing the aspects of the picture 'light up', that is, seeing the duck-rabbit as a duck or seeing the duck-rabbit as a rabbit, requires exhibiting or enacting an internal relation between our visual experience and our bodily (verbal or non-verbal) expressions of that experience. If so, then there is nothing that mediates between our visual experience of the aspects of the picture and our bodily expressions of that experience. I take this to be a substantive insight into visual experience.

Now, according to some proponents of Sensorimotor Enactivism, visual perception is dependent upon an agent's embodied or sensorimotor know-how of what are called sensorimotor

² Stern (2006) divides commentators on Wittgenstein into (at least) two camps. On the one side, there are those who favour what can be called a "pyrrhonian" reading of Wittgenstein's philosophical method. Pyrrhonian readers view Wittgenstein as someone profoundly skeptical of the remit of philosophy. That is, while philosophical concerns reveal "deep disquietudes" (Wittgenstein, 2009, 111), the job of the philosopher nonetheless remains fundamentally negative, namely to exorcise those disquietudes and in doing so bring philosophy to an end. On the other side, "non-pyrrhonian" readers, while agreeing that Wittgenstein's approach has therapeutic elements, insist that the outcome of this therapy is substantive. For example, Wittgenstein's reminders can provide new insight into our language games and form of life. Crucially, this insight is new, not in the sense of revealing some previously unheard of theory or explanation (Wittgenstein is not in the business of providing any theories or explanations), but rather in the sense of enabling us to see what is missed because it is always before our eyes (ibid, 129). In the text, I read Wittgenstein's method as non-pyrrhonian.

contingencies, that is, law full relations enacted whenever an agent engages with their immediate environment.

Yet Sensorimotor Enactivism's appeal to sensorimotor knowledge can be read in one of two ways. According to one reading, sensorimotor knowledge is what mediates between, on the one hand, the agent's visual experience, and, on the other hand, what an agent does. I call this a meditational reading of Sensorimotor Enactivism. According to a second reading, visual experience can instead be identified with what we do. I call this Sensorimotor Identification. Sensorimotor knowledge still plays a role but only as a background enabler of visual experience.

However, if we accept Wittgenstein's insight vis-à-vis seeing-as and we apply this insight to Sensorimotor Enactivism, then it follows that the meditational reading of Sensorimotor Enactivism cannot explain seeing-as, at least as this visual phenomenon relates to the duck-rabbit. For if there are no mediators between the agent's visual experience of the aspects of the duck-rabbit and the agent's bodily expression of that experience (verbal or non-verbal), then seeing those aspects cannot be understood in meditational terms. Thus, if proponents of Sensorimotor Enactivism were to adopt the meditational reading, then Sensorimotor Enactivism cannot explain seeing-as. This sets up what I regard as Wittgenstein's challenge to proponents of Sensorimotor Enactivism, namely to provide a sensorimotor framework that can explain seeing-as.

I will argue that if proponents of Sensorimotor Enactivism want to address this challenge, then they should reject the meditational reading of sensorimotor knowledge and instead endorse Sensorimotor Identification. Sensorimotor Identification, as the name implies, identifies visual experience with what agents do,

which in the context of seeing-as means exhibiting or enacting those internal relations that are made possible by our wider social and cultural practice of according a special role to pictures. Sensorimotor Identification can thus offer a non-mediational account of seeing-as and so, I claim, can potentially address Wittgenstein's challenge.

The layout of this paper then is as follows. In 2, I outline Sensorimotor Enactivism and show how its appeal to sensorimotor knowledge can be read in one of two ways. In 3, I survey some of Wittgenstein's remarks on seeing-as and show why the meditational reading of Sensorimotor Enactivism cannot explain seeing-as. In 4, I show how Sensorimotor Identification offers a framework within which seeing-as can be explained.

2. Sensorimotor Enactivism (SE)

Visual experience, according to some proponents of Sensorimotor Enactivism (henceforth SE), is dependent upon an agent's knowledge of what are called sensorimotor contingencies, which can be understood to be law-full relations enacted whenever an agent engages with their immediate environment. O'Regan and Noë (2001a) state: "The central idea...is that vision is a mode of

exploration of the world that is mediated by knowledge of what we call sensorimotor contingencies” (ibid, p940).³

In order to illustrate SE, consider the well-recognized phenomenon of colour constancy. Whenever we look at an object, we generally regard that object as one colour, even though the surface of the object may lighten or darken depending on changes in lighting conditions. I see a red apple sitting on the kitchen counter top, for example. If I attend to my visual experience, I may notice that, as I move towards the apple, the surface of the apple darkens. Yet throughout these changes in illumination, I continuously see the apple as red. As Noë (2004) puts it, “[w]e see the uniformity [of colour] despite, or behind, or beneath (as it were), the variable appearance” (ibid, p127). What then explains this constancy or uniformity?

SE answers this question in the following way. I see the apple as red because of my implicit or practical grasp of how my visual experience of the apple would change under different lighting conditions. In more detail, it is my sensorimotor knowledge of how the contingencies enacted as I move in relation to the apple would change under these conditions that gives the apple its red colour. Accordingly, colour can be understood as what regulates the changes that occur on the surface of the object under different

³ Since O’Regan and Noë’s original formulation of Sensorimotor Enactivism, there has been extensive development of this theory, both by O’Regan and Noë in separate publications, and by other commentators (see Bishop and Martin, 2014 for a summary). For example, O’Regan (2011, 2014) has since claimed that explaining phenomenal experiences (including visual experiences) requires appealing to what he calls “cognitive access”. On the other hand, Noë (2016) claims that phenomenal experience stems from a more fundamental link between mind and life, which he cashes out as the claim that sensorimotor interactions are, as he puts it, “expressions of consciousness” (ibid, p78). In the text, however, I only focus on O’Regan and Noë’s (2001 a, b) and Noë’s (2004). formulation of Sensorimotor Enactivism.

lighting conditions (see Noë 2004 p128). Says Noë, “[c]olours, on the enactive view..are the ways things are disposed to change their appearance as colour-critical conditions change” (ibid, p143). This is the sensorimotor explanation of colour constancy.

As this example clarifies, sensorimotor knowledge is not propositional knowledge. Instead, such knowledge, according to Noë, is “practical knowledge...know-how. To perceive you must be in possession of sensorimotor bodily skill” (ibid, p11; see also O’Regan and Noë, 2001b, p82).

However, as O’Regan and Noë (2001a) highlight, the contingencies enacted by the agent as they move in their environment are not all equivalent. Indeed, O’Regan and Noë divide such contingencies into two groups: (1) contingencies distinctive of what they call the “visual modality”, and (2) contingencies distinctive of what they call “visual attributes”.

The contingencies distinctive of the visual modality are dependent upon facts about our embodiment. For example, facts such as that our eyeballs have a certain size and shape, which ensures that whenever they saccade, the light hitting our retinas alters in specific ways (ibid, p941). Or that flow patterns on our retinas expand whenever we move our bodies forward and contract whenever we move our bodies backwards. Or that any image on our retinas will, under usual circumstances, disappear whenever we close our eyes (ibid).⁴

⁴ Sensorimotor Enactivism’s insistence on the importance of embodiment has led some commentators to read this view as a version of embodied mind, which is the claim that mentality is not some thing locked away inside our heads but rather a fully embodied phenomenon e.g. see Rowlands (2010); Loughlin (2014a). My account of Sensorimotor Identification (see section 4 of the this paper) supports such an assessment.

By contrast, the contingencies distinctive of visual attributes are dependent upon an agent being embedded and situated within their local environment. In our case, these will include, among other things, facts such as that we always view an object from a certain distance; that in normal circumstances we only ever partially see an object; that as we move around an object, some parts will appear, others will disappear; that the brightness of the light reflected from the surface of an object will change as we move and/or the object moves and/or the light source moves (ibid, pp941-942).

Yet these differences among sensorimotor contingencies also raise the following question, namely what exactly is the role of sensorimotor knowledge? This issue has been subject to much dispute within discussions of SE.

For example, Shapiro (2011) has pointed out that talk of sensorimotor knowledge is ambiguous. Does such talk imply that an agent must move now in order to have visual perception of their environment? But if so, then how can SE explain the fact that agents who cannot or do not move can still have visual perception?

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On the other hand, Block (2005) has objected that, “even if perceptual experience depends causally or counterfactually on movement or another form of activity, it does not follow that perceptual experience constitutively involves movement” (ibid, p265). That is, even if sensorimotor knowledge plays an important, perhaps even crucial, role in causing what we perceive, it does not follow that such knowledge also constitutes what we perceive.

⁵ For further discussion of this objection, see Prinz (2006), Aizawa (2007) and Loughlin (2014a).

Clark (2009) voices a similar objection. He remarks that perhaps, “embodied activity is just a causal precondition of setting or re-setting parameters in neural structures that once set and activated, suffice for the experience in question” (ibid, p970). In other words, there may be a learning/post-learning distinction (what Clark calls “training and tuning”). As with Block, the objection is that it is only during learning that sensorimotor knowledge plays a crucial role. If so, then such knowledge is only a background or enabling condition that once in place allows internal (neural/Central Nervous System) processes to act as the constituents of visual experience.

Finally, Hutto (2005) has argued that, “it is not knowledge – not embodied know-how per se – that gives perceptual experiences their character but facts about the nature of our embodiment in relation to particular active engagements. These are facts that we do not know and do not need to know in order to have experiences” (ibid, p401). Seeing, insists Hutto, is simply something we do (see section 4 of this paper where I defend a somewhat similar claim).

These criticisms reveal that SE’s appeal to sensorimotor knowledge is far from straightforward. I endorse this assessment. Indeed, I think we can distinguish between two ways to read the appeal to sensorimotor knowledge.

According to the first reading, which I will call a meditational reading of SE, knowledge of sensorimotor contingencies mediates between, on the one hand, what we visually experience, and on the other hand, what we do. Talk of mediation is a recurring theme within both O’Regan and Noë (2001a) and Noë (2004). As mentioned at the beginning of this section, O’Regan and Noë (2001a) regard visual experience as “mediated by knowledge

of...sensorimotor contingencies" (ibid, p940). Similarly, Noë (2004) describes how, during perception of an object, "one is able to draw on one's appreciation [that is, knowledge] of the sensorimotor patterns mediating (or that might be mediating) your relation to [the object perceived]" (ibid, p90).

Recall then our example of the red apple sitting on the kitchen counter top. As we saw, SE claims that I see the apple as one colour because of my implicit grasp or practical knowledge of the sensorimotor contingencies of visual attributes enacted as I move in relation to the apple. If we endorse the meditational reading, then it follows that my knowledge of these attributes mediates between, on the one hand, what I visually experience (the red apple), and on the other, what I do (move in relation to the apple).

Yet SE need not be read in meditational terms. According to a second reading, which I will call Sensorimotor Identification, visual experience can be identified with what agents do. Continuing with our example of the apple, we could then deny that there is anything that mediates between my visual experience of the apple and my physical engagement with the apple. Instead, seeing the apple as red is something I do, not something I know how to do (even if know-how may still play a background role – see section 4 of this paper).

In what follows, my focus will be on the meditational reading. Drawing on some of Wittgenstein's remarks about seeing-as, I will claim that if proponents of SE, like O'Regan and Noë, were to adopt this reading, then SE cannot explain seeing-as.

3. Wittgenstein

Wittgenstein is well known for his remarks on seeing-as. As some commentators on Wittgenstein have noted e.g. Johnston (1993), Krebbs (2010), while Wittgenstein discusses this topic for many reasons, one of these reasons is to unseat any prior notion we may have that seeing is a simple or straightforward phenomenon. Instead, Wittgenstein wants to remind us that, “[t]he concept of seeing makes a tangled impression” (Wittgenstein, 2009, PPF, 160).

For my purposes, I will not provide an exhaustive survey of Wittgenstein’s commentary on this topic. Rather, I will focus on just one example he gives, namely Jastrow’s ambiguous duck-rabbit picture. I will claim that if Wittgenstein is correct in his assessment of this example, then this example cannot be understood in meditational terms. Hence, if proponents of SE were to adopt the sort of meditational reading discussed earlier (see section 2), then SE cannot explain seeing-as.

In his discussion, Wittgenstein reminds us of some of the unique features of seeing-as. Such perception, notes Wittgenstein, is distinct from simply describing what you or I may see. It can involve, for example, seeing the connections between two objects (like drawings of faces). Wittgenstein remarks: “The one man might make an accurate drawing of the two faces, and the other notices in the drawing the likeness which the former did not see” (ibid, 112). On the other hand, when seeing these connections, the perceiver both sees that the target of their visual perception has not changed and yet they now see the target differently. Says Wittgenstein, “I observe a face, and then suddenly notice its likeness to another. I see that it has not changed; and yet I see it differently. I call this experience “noticing an aspect”” (ibid, 113).

However, Wittgenstein seeks neither to provide a causal explanation of seeing-as nor to theorise about such visual experience. Rather, he is “interested in the concept and its place among the concepts of experience” (ibid, 115). As such, Wittgenstein’s investigation of seeing-as is a grammatical or logical one, in the sense that he seeks to remind us how the concept of seeing-as fits “among the concepts of experience”. Note that the term ‘concept’ here does not mean ‘an interior mental item’. As I will show, it instead means ‘a doing’. I thus take Wittgenstein to be clarifying how seeing-as fits within our language-games and form of life.

Wittgenstein does this in a number of ways. For example, he distinguishes between, on the one hand, the “continuous seeing” of an aspect, and on the other, the “lighting up” of an aspect (ibid, 118). I will return to the continuous seeing of an aspect in a later section (see section 4). For now, I will concentrate on what happens whenever an aspect lights up.

Perhaps the most famous example Wittgenstein gives of this visual experience is Jastrow’s ambiguous duck-rabbit picture. As is well known, whenever you or I look at the picture, the different aspects of the picture ‘light up’. Viewed one way, the picture can be seen as a duck. Viewed another way, the picture can be seen as a rabbit. According to Wittgenstein, this lighting up of aspects raises the following question: “Do I really see something different each time, or do I only interpret what I see in a different way?” (ibid, 248).

For instance, when looking at the duck-rabbit, do I have two visual experiences, one of the picture as a duck, another of the picture as a rabbit, such that, whenever an aspect changes, I alternate from one experience to another? Or do I simply have one visual experience i.e., that of the picture as a duck-rabbit, but two

interpretations of the picture, such that, whenever the aspect changes, I alternate from one interpretation of the picture to another?

Wittgenstein dismisses the latter possibility. According to Wittgenstein, whenever we interpret something, there is always the possibility that we could be wrong in our interpretation. However, whenever we see the aspects of the picture, there is no possibility that we could be in error. Says Wittgenstein, “[w]hen we interpret we form hypotheses, which may prove false. – [But] “I am interpreting this figure as...” can be verified [or falsified] as little (or in the same sense as) “I am seeing bright red”” (ibid, 249). Seeing the aspects of the duck-rabbit light up thus does not involve interpreting what we see.

Perhaps then we have two visual experiences, one of the picture as a duck, another of the figure as a rabbit? For example, perhaps there is something about the organization of the picture that generates these two experiences e.g. some property of the picture?

Wittgenstein also dismisses this possibility. For while my visual experience undoubtedly does change whenever the aspects change, the picture itself does not. Indeed, if asked to reproduce the picture before and after the change of the aspect e.g. draw the picture, then I would likely reproduce the same picture in both instances. As Wittgenstein points out, “[i]f I represent it by means of an exact copy – and isn’t that a good representation of it? – no change shows up” (ibid, 131). Thus, even if I do have two visual experiences, it is not apparent how any property of the picture can explain why this is so.

How then should we account for aspects lighting up? I think an answer can be found in Wittgenstein's remark, "what I perceive in the lighting up an aspect is not a property of the object, but an *internal relation* between it and other objects" (ibid, 247, my emphasis). I shall read this remark in the following way.

We see the duck-rabbit picture as a duck or as a rabbit. And we exhibit or enact this seeing-as in what we do. We may say, for example, "now I see the picture as.." Or we may put the duck-rabbit picture closer to pictures of ducks than rabbits or closer to pictures of rabbits than ducks. Or we may compare the aspects of the picture with our background experience of real life ducks or rabbits. We do these things because there is an internal relation between our visual experience of the picture and our bodily (verbal or non-verbal) expressions of that experience. ⁶ As McGinn (2013) puts it, "[Wittgenstein's discussion of seeing-as reveals] a concept [i.e. seeing-as] that is *internally linked with doing*...It is not that there is no distinction between having a visual experience and expressing it...But none of this detracts from the fact that the language-game we play with the words 'seeing' and 'seeing-as' links these concepts to forms of behaviour, with ways of representing or responding to what is seen, in which these characteristic visual experiences are expressed" (ibid, p325, my emphasis).

⁶ Krebs (2010) offers a detailed account of internal relations. According to Krebs, "Wittgenstein suggests that the kind of understanding involved in seeing internal relations is not only conceptual but also sensible and mimetic – or perhaps better said: that the conceptual is at the same time, and sometimes primarily, sensible and mimetic". As such, seeing such relations is thus tied, in some non-eliminable fashion, to what we do. Krebs then applies this view of internal relations to seeing aspects. He states: "The concept of seeing aspects thus highlights the importance of bodily awareness in language and perception" (ibid). I take Krebs' account to be consistent with the account of seeing-as I have offered in the text.

This ensures that if you or I were to give a different verbal or non-verbal bodily expression of our visual experience, then we would not be seeing the aspects of the picture. Consider that if I were to look at the duck-rabbit and simply say, "I see a duck", or "I see a rabbit", then, under these circumstances, I would not be seeing-as. Indeed, as Baz (2015) points out, "[the] Wittgensteinian aspect cannot be separated from our experience of the object seen 'under it'. To know what I see when I see a Wittgensteinian aspect, you'd have to see – that is, experience – it yourself..[O]ur perceptual experience and our expressive, embodied responses (linguistic and non-linguistic) to that experience are not separable.." (ibid). Nonetheless, our visual experience of seeing-as and our verbal or non-verbal bodily expressions of that experience are still distinct, since, says McGinn, "the possibilities for concealment and pretence [remain an] essential part of our ordinary language-game" (McGinn, 2013, p325).

I take these remarks to provide the following account of seeing-as. The things we do whenever we see the aspects of the duck-rabbit light up are among the "fine shades of behaviour" (Wittgenstein, 2009, PPF, 180) by which we exhibit or enact the internal relation between our visual experience and our bodily expressions of that experience (verbal or non-verbal). Seeing aspects light up is, in short, a doing. Following my reading of Wittgenstein's method, I take this to count as a substantive insight into visual experience.

Recall then the mediational reading of Sensorimotor Enactivism (SE) outlined earlier (see section 2). According to this reading, sensorimotor knowledge is what mediates between the agent's visual experience and what the agent does. If proponents of SE were to adopt this reading, then SE must understand the agent's visual experience of the lighting up of an aspect as involving the

agent's knowledge of how their visual experience would change if they were to move in relation to the duck-rabbit picture or the picture were to move in relation to them. This knowledge then is what mediates between the agent's visual experience of the aspects of the picture and the agent's bodily expressions of the experience.

However, I have claimed that, whenever we say, "now I see the picture as.." or we put the duck-rabbit picture closer to pictures of ducks than rabbits or closer to pictures of rabbits than ducks etc, then we are exhibiting or enacting an internal relation between our visual experience of the changing aspects and our bodily expressions of that experience. In which case, there is nothing that mediates between our visual experience and what we do. Consequently, the meditational reading of SE cannot explain the lighting up of an aspect, since the lighting up of an aspect, at least as it pertains to the duck-rabbit, is non-mediational. In which case, if proponents of SE were to adopt the meditational reading, then SE cannot explain seeing-as.

This then sets up what I regard as Wittgenstein's challenge to proponents of SE. Wittgenstein's challenge to such proponents is to provide a sensorimotor framework within which non-mediational seeing-as can be explained. In the following section, I show how such proponents could potentially address this challenge.

4. Sensorimotor Identification (SI)

O'Regan and Noë (2001a) claimed that "seeing is a way of acting" (ibid, 2001a, p939). I propose that if proponents of SE, like O'Regan and Noë, want to address the challenge set by Wittgenstein, that is, explain seeing-as, then they need to build on this claim. Specifically, such proponents need to endorse what I call

Sensorimotor Identification (henceforth SI), according to which visual experience can be identified with what agents do.⁷

The first thing to note about SI is that it significantly departs from previous identity views, such as those offered by Place or Smart. For, unlike such views, SI does not posit an identity between visual experience and anything happening inside the heads of agents. Instead, as just noted, SI identifies visual experience with what agents do. Nonetheless, second, SI still qualifies as an identity view, since, as with previous identity views, SI endorses the claim that identities don't require further explanation. That is, if A and B are taken to be identical, then this rules out worries such as, if A occurs, why does B also occur? Indeed, once visual experience is identified with doing, then giving a full account of what agents do is to give a full account of visual experience (for more details on this view, see Myin, 2016; Loughlin, 2018; Myin and Loughlin, 2018; Myin and Zahnoun, 2018).

I previously claimed that Wittgenstein's substantive insight into visual experience was to remind us that seeing the aspects of the duck-rabbit light up requires exhibiting or enacting the internal relations between our visual experience of those aspects and our verbal or non-verbal bodily expressions of that experience. This ensures that, for example, whenever we say, "now I see the picture as.." or we compare the aspects of the picture with other pictures or with our background experience of real life ducks or rabbits, then there is nothing that mediates between our visual experience and how we bodily express that experience. This excludes a

⁷ My aim in section 4 of this paper is only to convince proponents of Sensorimotor Enactivism that they can handle the challenge posed by Wittgenstein. I shall thus set to one side the issue as to whether or not Wittgenstein himself would have accepted a proposal like Sensorimotor Identification.

meditational reading and so sets up Wittgenstein's challenge to SE, namely to provide a sensorimotor account of non-mediational seeing-as.

I now claim that if proponents of SE were to endorse SI, then they could meet this challenge. For such proponents could identify our visual experience of seeing the aspects of the duck-rabbit light up with what we do. Hence, seeing the aspects change is, for example, to say things like, "now I see the picture as..", or to compare the aspects of the picture with other pictures or with one's own background experience of real life ducks and/or rabbits. And if seeing aspects is to do these various things, then there is nothing that mediates between this visual experience and what we do.

Note this isn't some crude behaviourism. SI is neither reducing our visual experience of seeing-as to what we do nor seeking to replace our visual experience of seeing-as with doing. Indeed, SI recognises the importance of visual experience. However, it does so by reminding us of those 'fine shades of behaviour' that make our visual experiences what they are. For there are internal relations between such experiences and how we bodily express those experiences (verbally or non-verbally) such that, while our experiences and our bodily expressions remain distinct, nonetheless if you were to express yourself in ways other than those just listed e.g. when looking at the duck-rabbit, you were to simply say, "I see a duck" or "I see a rabbit", then you would not be seeing the aspects of the duck-rabbit light up.

SI is consequently the claim that visual experiences can be identified with the embodied and embedded interactions of agents with their environments, which means that the unique qualities of those experiences can be accounted for by examining the nature of

such interactions. Given that behaviourism is usually (though not always) understood as that which tries to explain away the qualities of such experiences or reduce such experiences to something else and SI does neither of these things, then SI is not a form of behaviourism.

In section 3, I pointed out that Wittgenstein distinguishes between continuously seeing an aspect and the lighting up of an aspect. I will now argue that continuous aspect perception and the lighting up of aspects are doings made possible by our participation in a wider social and cultural practice of according a special role to pictures.⁸

For example, suppose I am looking at a drawing of an animal (for a similar example, see Wittgenstein, 2009, PPF, 180). The animal is depicted as having been pierced by an arrow. In looking at the drawing, I see the animal as being 'struck down' by the arrow. This is my attitude towards the drawing, that is, I treat the depicted animal as if I were looking at a real flesh-and-blood creature, a creature suffering and in distress. This is an example of continuous aspect perception.

Contrast this, however, with someone whom Wittgenstein terms "aspect blind" (ibid, 257). The aspect blind person will not see the drawing in the way that I do. Not because there is some defect with their visual apparatus. They can see as well as you or I. Instead, they are blind in the sense that, while they may know what the

⁸ Johnston (1993) writes: "What aspect perception brings out...is the special nature of our relationship to pictures. The importance of aspect dawning [i.e., an aspect lighting up] is that it draws attention to the wider phenomenon of continuous aspect perception. Against the background of the latter, the former loses its mystery, for the change in aspect in an ambiguous drawing is simply the correlate of the unchanged aspect in an unambiguous drawing" (ibid, p43). In line with Johnston's interpretation, I also emphasize the role of our relationship to pictures and how this relationship involves seeing aspects.

drawing represents e.g. an animal pierced by an arrow, they nonetheless fail to see that aspect that I take to be most salient or prominent, namely how the animal is 'struck down' by the arrow.

Wittgenstein uses the example of the aspect-blind person to remind us of our special relationship to pictures. For we often do treat such items as if they were the objects they depicted (ibid, 197). This is not to say that we confuse such items for real world objects. Indeed, it is likely because they are not equivalent to real world objects and yet tangible reminders of such objects that they are special for us. For example, I may clutch a picture of a dead loved one to my chest or kiss the picture precisely because I cannot do so in real life. Nonetheless, this relationship is what is missing when it comes to the aspect blind. Says Wittgenstein, "[t]he 'aspect-blind' will have an altogether different relationship to pictures from ours" (ibid, 258).

If Wittgenstein is right, then it is our enculturation within this wider social and cultural practice of according special roles to pictures that allows us to see the continuous or changing aspects of pictures.

Return then to Sensorimotor Identification (SI). Following this discussion of our special relationship to pictures, I claim that agents must gain skillful or practical know-how of the sensorimotor contingencies that make up this wider practice if they are to exhibit or enact the internal relations between visual experience and bodily expression. These contingencies will include (but are not limited to): pictures are objects, so they can be viewed from close up or from farther away. They can be examined from above or below. Viewing a picture thus requires mastering differences in scale and perspective, for instance, how objects look smaller when they are farther away from the agent and larger when they are the closer to

the agent (what O'Regan and Noë call sensorimotor contingencies of the visual modality). Pictures are also drawn, sketched, painted or made using a camera. As such, making pictures, for creatures such as ourselves, depends on the acquisition and development of fine motor skills, like hand-eye coordination. These are just some of the contingencies that make up this practice, contingencies an agent must master if they are to see the aspects of pictures.

Some support for this comes from Chambers and Reisberg (1985). In a series of experiments, Chambers and Reisberg presented subjects with an ambiguous figure, such as the duck/rabbit, and asked those subjects to form a mental image of the figure. They then asked the subjects to reverse the figure, that is, if the subject initially saw a duck, now reverse their mental image and see a rabbit, or vice versa. Strikingly, none of the subjects were able to do so. By contrast, when asked to draw the figure and perform the same task, all the subjects were able to do so. This suggests, I contend, that agents must have mastered the practice of drawing, that is, be active participants within the wider practice of according a special role to pictures, if they are to see the aspects of a picture.

Bringing these considerations together, I claim that if proponents of SE were to endorse SI, then such proponents could regard an agent's visual experience of seeing the continuous or changing aspects of pictures as doings made possible by an agent's skilful or practical knowledge, that is, an agent's adaptation or attunement to those sensorimotor contingencies available within our social and cultural practice of according special roles to pictures. It is by mastering these contingencies that agents learn to see new possibilities, which they exhibit or enact via their bodily (verbal or non-verbal) expressions. SI can thus arguably meet the challenge

set by Wittgenstein, that is, it can provide a non-mediational account of seeing-as.

If this is correct, then, contrary to the meditational reading of SE, sensorimotor knowledge is not what constitutes visual experience. Rather, as suggested by the likes of Block and Clark (see section 2), sensorimotor knowledge is instead a causal precondition for or background enabler of visual experience, since it is only by becoming skilful masters of the practice of according special roles to pictures that agents can exhibit or enact the internal relations that exist within this practice and thus, for example, see the continuous aspects of the drawing of the wounded animal or see the changing aspects of the duck-rabbit.⁹

Nonetheless, pace Block and Clark, visual experiences are still doings. Consider once again colour constancy (see section 2). According to SI, seeing the apple as red can be identified with what I do. I may say, "That apple looks tasty". Or I may search for another apple in the kitchen because I prefer green apples to red apples. As previously noted, this is not crude behaviourism but rather a reminder of those 'fine shades of behaviour' that make my visual experience what it is. For there is an internal relation between my visual experience and how I bodily express that experience (verbally or non-verbally). I can exhibit or enact this relation because there is a wider practice of calling THIS 'red' and THIS 'green' etc, a practice whose contingencies I have adapted or attuned to. In which case, colour constancy is a doing caused by or

⁹ This distinction between an agent's practical knowledge of the contingencies available within the wider practice and exhibiting or enacting internal relations allows that an agent could possess such knowledge but, on a particular occasion, fail to exhibit or enact such relations, that is, fail to see the aspects of the drawing or picture, perhaps due to bad lighting, tired eyes etc.

enabled by my sensorimotor knowledge, that is, my skilful attunement to this wider practice.

5. Conclusion

Many authors have identified a link between later Wittgenstein and enactivism. But few have also recognised how Wittgenstein may challenge enactivist approaches. In this paper, I have considered one such challenge. Building on Wittgenstein's remarks on seeing-as, I have showed how Wittgenstein challenges some proponents of Sensorimotor Enactivism, like O'Regan and Noë, to provide a sensorimotor framework that can explain seeing-as. I have claimed that proponents of Sensorimotor Enactivism could address this challenge if they were to reject a meditational reading of Sensorimotor Enactivism and instead endorse Sensorimotor Identification, according to which an agent's visual experience can be identified with what an agent does. Sensorimotor Identification thus provides a sensorimotor framework within which seeing-as can be explained.

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Bibliography

Aizawa, K (2007). Understanding the Embodiment of Perception. *Journal of Philosophy*, 104, (1), 5-25.

Baz, A. (2015). Review of: Campbell and O'Sullivan (eds): Wittgenstein and Perception. Notre Dame Philosophical Reviews. Retrieved January 16th 2018 from: <https://ndpr.nd.edu/news/wittgenstein-and-perception/>

Bishop J, M and Martin, A, O. (2014) *Contemporary Sensorimotor Theory, Studies in Applied Philosophy, Epistemology and Rational Ethics*. Springer International Publishing.

Block, N (2005). Review of Alva Noë, Action in Perception. *Journal of Philosophy*, 102, 259-272.

Boncompagni, A. (2013). Enactivism and the 'Explanatory Trap. A Wittgensteinian Perspective. *Methodes*, pp27-49.

Chambers, D, Reisberg, D (1985): Can mental images be Ambiguous? *Journal of Experimental Psychology: Human Perception and Performance*, II (3), 317-328.

Clark, A (2009). Spreading the joy: Why the machinery of consciousness is still probably inside your head. *Mind*, Vol. 118, 472, 963-993.

Heras-Escribano, M, Noble, J and de Pinedo, M. (2014). Enactivism, action and normativity: a Wittgensteinian analysis. *Adaptive Behavior*. 1–14. DOI: 10.1177/1059712314557364

Hutto, D (2005). Knowing what? Radical versus Conservative Enactivism. *Phenomenology and Cognitive Sciences*, 4 (4), 389-405.

Hutto, D. (2013). Enactivism, from a Wittgensteinian Point of View. *American Philosophical Quarterly*, vol 50, no. 3, pp281-302.

Hutto, D, Kirchhoff, M, Myin, E. (2014). Extensive Enactivism: why keep it all in? *Frontiers in Human Neuroscience*, vol 8, article 706.

Hutto, D, Myin, E (2013). *Radicalising Enactivism: Basic Minds without Content*. Cambridge, MA: MIT Press.

Hutto, D, and Myin, E. (2017). *Evolving Enactivism: basic minds meet content*. The MIT Press.

Johnston, P. (1993). *Wittgenstein: Rethinking the Inner*. Routledge.

Krebs, V. (2010). The Bodily Root: Seeing Aspects and Inner Experience. In Krebs, V and Day, W (eds), *Seeing Wittgenstein Anew, New Essays on Aspect-Seeing*. Cambridge University Press.

Loughlin, V. (2014a). Sensorimotor knowledge and the radical alternative. In Bishop J, M and Martin, A, O (eds), *Contemporary Sensorimotor Theory, Studies in Applied Philosophy, Epistemology and Rational Ethics*. Springer International Publishing.

Loughlin, V. (2014b). Radical Enactivism, Wittgenstein and the cognitive gap. *Adaptive Behaviour*. Vol: 22, no: 5, pp350-359.

Loughlin, V (2018). Sensorimotor theory, cognitive access and the 'absolute' explanatory gap. *Phenomenology and the Cognitive Sciences*, 17:611.

McGinn, M (2013). *The Routledge Guidebook to Wittgenstein's Philosophical Investigations (2nd Ed)*. Routledge.

Myin, E. (2016). Perception as something we do. *Journal of Consciousness Studies*, vol 23, numbers 5-6, pp80-104(25).

Myin, E, Loughlin, V (2018). Sensorimotor Enactive Approaches to Consciousness. In R. J. Gennaro (ed.), *Routledge Handbook of Consciousness*, pp202-215. Routledge.

Myin, E, Zahnoun, F (2018). Reincarnating the Identity Theory. *Frontiers in Psychology*, 9:2044.

Moyal-Sharrock, D. (2013). Wittgenstein's razor: The Cutting Edge of Enactivism. *American Philosophical Quarterly*, Volume 50, number 3, pp263-279.

Noë, A (2004). *Action in Perception*. The MIT Press. Cambridge, MA.

Noë, A (2016). Sensations and Situations: A sensorimotor integrationist approach. *Journal of Consciousness Studies*, number 5-6, pp66-79.

Prinz, J (2006). Putting the Brakes on Enactive Perception. *Psyche*, vol 12 (1), 1-19.

O'Regan, K. (2011). *Why Red Doesn't Sound Like a Bell: Understanding the feel of consciousness*. Oxford University Press.

O'Regan, K. (2014). The Explanatory Status of the Sensorimotor Approach to Phenomenal Consciousness and Its Appeal to

Cognition. In Bishop J, M and Martin, A, O (eds.), *Contemporary Sensorimotor Theory, Studies in Applied Philosophy, Epistemology and Rational Ethics*. Springer international Publishing.

O'Regan, K, Noë, A (2001a). A sensorimotor account of vision and visual consciousness. *Behavioural and Brain Sciences*, 24 (5), 939-1031.

O'Regan, K, Noë, A (2001b). What it is like to see: a sensorimotor theory of perceptual experience. *Synthese*, 129, 79-83.

Rowlands, M (2010). *The New Science of the Mind: From Extended Mind to Embodied Phenomenology*. Cambridge, MA: MIT Press.

Shapiro, L (2011). *Embodied Cognition*. Routledge, Taylor and Francis Group.

Steiner, P. (2018). Reading and understanding: on some differences between Wittgenstein and 4E cognitive science. *Revista Italiana di Filosofia del Linguaggio (RIFL)*, vol 13, n 2: 124-137.

Stern, D (2006). How many Wittgensteins? In A Pichler, S Saatela (eds): *Wittgenstein: The Philosopher and his Works* (pp205-229). De Gruyter Online.

Thompson, E. (2007). *Mind in Life: Biology, Phenomenology, and the Sciences of the Mind*. Harvard University Press.

Varela, F J, Thompson, E, Rosch, E (1991). *The Embodied Mind: Cognitive Science and Human Experience*. The MIT Press.

Wittgenstein, L (2009). *Philosophical Investigations*. G.M.Anscombe, P.M.S.Hacker and J.Schulte (trs). Oxford: Wiley-Blackwell.