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REFERENCE AND ATTENTION:
A DIFFICULT CONNECTION

1. INTRODUCTION

I am very much in sympathy with the overall approach of John Campbell's paper, "Reference as Attention". My sympathy extends to a variety of its features. I think he is right to suppose, for instance, that neuropsychological cases provide important clues about how we should treat some traditional philosophical problems concerning perception and reference. I also think he is right to suppose that there are subtle but important relations between the phenomena of perception, action, consciousness, attention, and reference. I even think that there is probably something importantly right about the main claim of the paper. I take this to be the claim that there is a tight connection – of some sort at any rate – between our capacity to refer demonstratively to perceptually presented objects and our capacity to attend to those objects in our conscious awareness of them. What precisely this connection consists in, however, remains a mystery to me. My goal in these comments is to clarify this result.

I will begin, in section 2, with a fairly general statement of the problem I take Campbell to have set himself. Following this, in section 3, I will focus more particularly on what kind of relation Campbell takes to exist, or does exist, or perhaps could exist between attention and demonstrative reference. I examine four options, the first three of which seem to admit of clear counter-examples, and the fourth of which is too weak to be of any real interest.

2. STATEMENT OF THE PROBLEM

The most general question of the paper, as I understand it, is this: What is the role of consciousness in our psychological lives?



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Campbell develops what he calls a ‘targets’ view of consciousness. According to the ‘targets’ view, consciousness targets an object either for the purpose of *thinking* about it further or for the purpose of *acting* with respect to it. Having picked out the object in question, however, consciousness then drops out of the picture. If there is any further thinking about the object or acting with respect to it, these activities are performed at the level of unconscious, automatic low-level brain processing. But this processing is done *on* the object that was targeted by the subject’s conscious attention.

The ‘targets’ view stands between an over-ambitious view of consciousness, which Campbell calls the ‘how-to-do-it’ view, and an under-ambitious view of consciousness that we might call the ‘otiose’ view.

According to the over-ambitious ‘how-to-do-it’ view, our conscious experience tells us everything we need to know about the object in order to act appropriately with respect to it. In the case of catching a fly ball, for instance, it is part of the conscious experience of the ball that it is at a certain distance, that it is moving in a certain direction, and that it is traveling at a certain velocity. It is in virtue of this information, available to us in conscious awareness, that we are capable of catching the ball.

We find counterexamples to the ‘how-to-do-it’ view, as Campbell mentions, in various kinds of neuropsychological cases. Perhaps the most well known nowadays is the case of the visual form agnostic D. F., who has been studied extensively by Melvin Goodale and David Milner.¹ I will describe her case briefly in order to highlight the weaknesses of the ‘how-to-do-it’ view.

D. F., because of localized lesions in the brain (more particularly in the lateral prestriate cortex) that were caused by carbon monoxide poisoning, has lost the ability to see shapes or forms, including the ability to see the orientation of lines. Nevertheless, she is extremely good at acting differentially with respect to the very forms of which she has no conscious perceptual awareness. For instance, though she can’t see the shape of a coffee mug, if asked to pick it up she forms a grip that correlates precisely with its shape. She opens her hand wider for bigger mugs, smaller for smaller mugs, and manages to grasp them efficiently no matter what their shape. If the ‘how-to-do-it’ view were right, D. F. ought to

have lost her visuo-motor capacities when she lost her conscious perceptual awareness. Because she has the one without the other, it cannot be that conscious awareness is, or is alone, responsible for giving us all the information about objects that we need in order to act appropriately with respect to them. So the 'how-to-do-it' view is wrong.

In contrast to the over-ambitious 'how-to-do-it' view of consciousness, some have defended an under-ambitious view according to which consciousness is otiose. On such a view, conscious experience of the world plays no role at all in our psychological lives. But the 'otiose' view has the obvious difficulty of accounting for the difference between normally sighted subjects like us and blindsight patients. Blindsighters can make relatively accurate guesses about their environment, but they have no conscious awareness of it. We, by contrast, do have conscious awareness of objects, and it seems clear that we would be missing something if we lost that aspect of our experience. The 'otiose' view of consciousness is incapable of accounting for this natural intuition.

According to the 'targets' view that Campbell espouses, therefore, consciousness plays some role in our psychological lives, as against the 'otiose' view, but it does not play the complete role envisioned by the 'how-to-do-it' view. If this is right, then losing our ability to attend consciously to objects amounts to losing our ability to target them for further unconscious processing. Or at least it amounts to losing the ability to target them in the way that we normally do. Normally, Campbell believes, when we consciously attend to a perceptually presented object we are thereby able to think demonstratively about it. In the rest of my comments, therefore, I will talk more explicitly about the relation between demonstrative reference and conscious attentive perception.

3. REFERENCE AND ATTENTION

Conscious attentive awareness of an object, according to Campbell, bears some interesting relation to our capacity to refer to it. As he says, "it's experience of the object [by which he here means, I think, conscious, attentive experience of it] that provides knowledge of the reference of the term".² This tells us that there is some

relation at issue between attention and reference; but what kind of relation are we supposed to envision? Is attention necessary for reference? Is it sufficient? Is it the function of consciousness to make it possible for us to refer to objects, so that consciousness *by definition* enables reference? Or is it merely that in normal cases when we have conscious attentive awareness of an object we can in fact refer to it? I'd like to go through these alternatives briefly to consider some of their pros and cons. I'm not entirely sure which of them is Campbell's view, though I suspect from the general tone of the paper that the weakest of these is all he would go for. That's the one that says that in normal cases when we have conscious attentive awareness of an object we can in fact refer to it. If it is only this weak view that Campbell hopes to defend, then it may be difficult to criticize. But its unassailability is due directly to the weakness of the claim it makes. By contrast, any stronger view, I will claim, is indefensible.

To get a sense for the relation between attention and reference it is helpful to know what kind of knowledge of an object the subject must have in order to be able to refer to it. Campbell adopts a popular Strawsonian and Evansian requirement that is sometimes called the 'knows which' requirement. In order to understand a perceptual-demonstrative term like "That person" (said while pointing in the direction of a large crowd), the subject must know which person is being pointed out. Without knowledge of which person is in question, the subject cannot entertain the proposition containing the demonstrative term that refers to him. So knowing-which, according to Campbell, is a requirement on demonstrative identification (a requirement on what he calls 'knowledge of what the term stands for' or 'knowledge of reference'). The idea, then, is that conscious attentive awareness of a thing stands in some interesting relation to knowing which thing it is. But what is that relation? Well, let's try some options.

3.1. *Is Attention Sufficient for Reference?*

The question here: Is conscious attentive awareness of a perceptually presented object *sufficient* to know which object it is? Here are three cases that might count against such a claim.

1. *Evans case.* Imagine two identical steel balls suspended from a common point on the ceiling and rotating around one another fast enough that you can't track either one of them.³ In such a situation the subject might stare attentively at the two steel balls, be consciously aware of both, and be aware that there are two of them. But we might still think that he's incapable of distinguishing one from the other. After all, the balls look exactly the same, he never knows the location of either (since he can't track them), and there doesn't seem to be any other distinguishing information available to him. In this case, therefore, we might think that the subject has no capacity to think about one of the balls rather than the other. He has no capacity, in other words, to know which ball a putative demonstrative thought is referring to. But this is despite having conscious attentive awareness of both balls as perceptually presented to him. So it looks like a case where we have attention without reference, showing that the one is not sufficient for the other. I'll examine a possible reply to this example in a moment, but for the time being it looks to count against the claim that attention is sufficient for reference.

2. *Bálint case.* Balint's Syndrome is caused by certain kinds of bilateral damage to the parietal lobes. Balint's patients have a wide range of visual deficits, but perhaps the most interesting for our purposes is the one called simultanagnosia. Balint's patients can see only one object at a time. Now it's not as if the only information available to their visual system is information about one object. In fact, a typical problem for the Balint's patient is that although he only ever experiences one object at a time, the object he experiences is often composed out of features from various parts of the visual field: he gets binding errors, in other words, or what is called in the literature 'illusory conjunctions'.⁴ So for instance, when presented with a red X and a blue O, for periods of up to 10 seconds, the patient will see only one object, and that object is equally likely to contain an illusory conjunction – blue X or red O – as it is to contain a veridical one – a red X or a blue O. Now, we might think that the patient can attend to the object he sees, even if he only sees one of them. After all, this object is certainly a part of his conscious awareness and he can report on its visible features. But the question

is whether in so attending he has *knowledge of which* object he's attending to. In this very strange case I suppose that not only may the subject himself not know which object he is attending to, there may be no fact of the matter about it. For after all, if he sees the illusory conjunction of a blue X (when presented with a red X and a blue O) there seems no way to choose between the claim that he saw the X but got its color wrong, and the claim that he saw the blue thing but got its shape wrong. At any rate, whether this strong claim is right or not, it seems clear that such a patient, despite being able to *attend consciously* to the object, doesn't *know which* object he's attending to. Once again attention is insufficient for reference.

Perhaps it will be objected that the Evans case and the Balint case are not genuine examples of attending to an object. This would be true if attention were something more than merely "highlighting the thing in experience," although this is the way Campbell glosses the notion.⁵ We might extend the notion of attention, however, to require (for instance) that the thing highlighted have certain qualities – qualities like being experienced as unified, track-able, and located.⁶ But even if such an extension is defensible, there's another problem. For it seems that there are cases in which a subject successfully attends to a perceptually presented object that is experienced as unified, located, track-able (and almost anything else that might count as a reasonable requirement on attention) but he still does not know which object it is. This is made clear by a third kind of case.

3. *Grice case.* Imagine that it looks to me as if there's a certain coffee mug in front of me at a certain distance, and there actually is a coffee mug of exactly that sort in exactly that place. Because of an elaborate trick with mirrors, however, the coffee mug from which light is reflected onto my retina is a numerically different, but qualitatively identical mug standing directly behind me. Grice's causal theory of perception says that in such a case I am seeing the coffee mug directly behind me, not the coffee mug directly in front of me. It gives a story, in other words, about which object I'm seeing. But surely I'm not in a position, merely by attending to it, to know whether the object I'm perceiving in such a case is the one in front of me or the one behind. Whether Grice's theory is right or wrong,

therefore, this looks like a case in which attending to the object is insufficient for knowledge of which object it is. For no matter which object I am as a matter of fact perceiving (the one behind me if the causal theory is right, the one in front of me if it is wrong), I cannot distinguish between them merely by focusing my attention.

3.2. *Is Attention Necessary for Reference?*

The question here: Is conscious awareness of a perceptually presented object *necessary* to know which object it is? The relevant cases here are those in which a subject has no conscious awareness of the object in question; they are, in other words, the blindsight cases. So we need to ask whether the blindsighted subject knows which object he's pointing to. The blindsight cases, of course, are the ones that motivate Campbell's position, so he has a fair amount to say about them. I take it that the upshot of his view is that the blindsighter cannot, simply in virtue of having some reliable mechanism for detecting objects in the environment, thereby know which object he's detecting. As Campbell writes, "The blindsighted subject . . . does not yet know which thing is in question . . . The reason . . . is that it's experience of the object [i.e., conscious, attentive experience] that provides knowledge of the reference of the term, and the subject has not yet seen the thing".⁷ Now this seems to me the right thing to say about normal blindsight subjects. But I wonder if we might not be able to beef up the example a bit so that the subject still has no conscious awareness of the object, but could nevertheless be said to know which object he's blindsightedly detecting.

Suppose that the blindsighter has lived with his condition for many years. He's had a variety of helpful nurses and caretakers who have given him constant and reliable feedback about the various guesses about the environment that he sometimes makes. At first, of course, like any blindsighter, he resists the very idea that he's got access to any information about the environment at all. His nurses have to coax him into making guesses, from which he consistently disassociates himself. But with careful prodding, and extensive feedback, he eventually comes to recognize that the guesses he makes about the environment are remarkably reliable. Indeed, after years of practice he comes to trust his guesses about the environment in just the same way that a normal perceiver trusts his perceptions

of it. He doesn't have conscious perceptions of the environment, of course, but he has a reliable, though non-conscious, mechanism for detecting objects in the environment and he comes to recognize that this mechanism is reliable. In such a case, I think we might be willing to admit that the subject indeed, at least at times, knows which object he is non-consciously detecting. If so, then conscious awareness is not necessary for reference either.

Now, I'm not certain whether it's really right to think that having a reliable mechanism for detecting objects and recognizing that the mechanism is reliable together are enough to give us knowledge of which object is so detected. But the view is not patently absurd, and I suppose that it's the view that Sellars adopts when he writes in "Empiricism and the Philosophy of Mind" that "to be the expression of knowledge, a report [or experience] must not only *have* authority, this authority must in some sense be *recognized* by the person whose report [or experience] it is."⁸ It would be absurd, I believe, to think that this is all that conscious perceptual awareness of an object consists in, though it may be that Sellars believes this as well. But whatever conscious awareness of an object is over and above this recognition of reliability, if Sellars is right then conscious awareness is not necessary for *knowing which* object is being detected.

Arguably, then, attention is neither necessary nor sufficient for knowing which object is being perceived, and therefore is neither necessary nor sufficient for demonstrative reference as Campbell understands it. There are two other stories I can imagine he might have in mind, though, concerning the relation between attention and reference. I will conclude my comments with these.

3.3. *A Functionalist Account*

A third option is that Campbell is giving us a kind of analytic functionalist account of consciousness, according to which consciousness is defined functionally in terms of its capacity to enable referential knowledge. On this view, anything that enables referential knowledge will thereby count as consciousness. But if what I said in section 3.2 was right, then it looks like the beefed up blind-sighter has a way of obtaining the kind of referential knowledge we're interested in. This follows from Sellars' analysis of knowledge. But nobody would say (except maybe Sellars) that this kind

of beefed up blindsighter is thereby having conscious experiences of the objects he's detecting. So this kind of analytic functionalist account doesn't look very plausible either.

3.4. *The Psychological Model*

Finally, it's possible that the account Campbell is giving is something like the kind of account given by theoretical modelers in psychology. On this approach, he's told us about the role that consciousness *is meant* to play in our psychological lives when things are working properly. Sometimes it does work, sometimes it doesn't work, but in the normal cases this is what's going on. Said this way, the targets view of consciousness looks like a certain kind of view found in the empirical literature about visuo-motor activity. Milner and Goodale, for instance, believe that in normal cases we consciously select an object to act upon, and then the low-level unconscious brain processes of the so-called 'dorsal stream' fire up a subroutine that takes care of performing the activity itself. As Milner and Goodale write, "the goal object is 'marked' or 'flagged' in some way, perhaps by the kind of enhanced activity we call 'attentional'. Then this indexing must somehow be conveyed to the appropriate networks in the dorsal stream". These networks, in turn, "carry out the necessary [low-level] computations for efficient on-line control of a grasping movement directed at a goal object."⁹

If we think about Campbell's proposal on analogy with this kind of psychological model, his view looks like an extension of the Milner and Goodale theory to the case of demonstrative thought. As I said at the beginning, this is what I suspect Campbell is up to. But if that's right, then I wonder how kosher this kind of extension is. After all, the point of the empirical model is that it makes predictions you can follow up on in the laboratory. If attention plays this kind of targeting role, for instance, then when you disrupt attention it should be harder to perform the visuo-motor activity in question. And it's easy to measure the degree of success of these kinds of visuo-motor activities, for researchers can look at quantitative measures like the direction of the arm movement, the shape of the grip formation and the maximum grip aperture. But what is the analogous kind of prediction one can make for the case of demonstrative thought? The success or failure of the demonstrative thought seems less amen-

able to empirical measure. This is because whether a subject knows which object he has seen seems to be at least partly a matter for a priori speculation. As a result, there is no obvious way to falsify the very weak claim that in normal cases when a subject has conscious attentive awareness of an object he can in fact refer to it. But the unassailability of such a claim testifies merely to its weakness, not to its strength.

In the end, therefore, I find myself uncertain what the relation is supposed to be between reference and attention on Campbell's view. But that there is some sort of connection between them seems to me both plausible and important.

NOTES

¹ See Milner, A. David and Melvin Goodale, *The Visual Brain in Action* (Oxford: Oxford University Press, 1995).

² John Campbell, 'Reference as Attention', p. 4 (in the manuscript).

³ Gareth Evans discusses a case like this in *Varieties of Reference* (Oxford: Oxford University Press, 1982), p. 90.

⁴ See, for instance, Lynn Robertson, Anne Treisman, Stacia Friedman-Hill and Marcia Grabowecky, 'The Interaction of Spatial and Object Pathways: Evidence from Balint's Syndrome', *Journal of Cognitive Neuroscience* 9(3) (1997), 295–317.

⁵ See, for instance, p. 5 of the manuscript (beginning of section 2).

⁶ Evans, for one, does seem to impose a track-ability condition on demonstrative thought. See, for instance, *Varieties of Reference*, section 6.4.

⁷ See p. 4 of the manuscript.

⁸ Wilfrid Sellars, *Empiricism and the Philosophy of Mind*, Robert Brandom (ed.) (Cambridge, MA: Harvard University Press, 1997), p. 74.

⁹ *The Visual Brain in Action*, p. 202.

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