



Searle on the biology of seeing

Pierre Le Morvan

Department of Philosophy, Religion, and Classical Studies, 104 Bliss Hall, The College of New Jersey, Ewing, NJ, 08638, USA



ARTICLE INFO

Keywords:

Seeing
Perception
Biology
Biologism
Mental states
Consciousness

ABSTRACT

Searle offers an account of seeing as a conscious state not constituted by the object(s) seen. I focus in this article on his biological case for this thesis, and argue that the biological considerations he adduces neither establish his own position nor defeat a rival object-inclusive view. I show (among other things) that taking seeing to be a biological state is compatible with its being (partially) constituted by the object(s) seen.

“Always beware of what a philosopher takes for granted as so obvious as to be not worth arguing for.” – Searle (2015, 96)

1. Introduction

Over many decades, John Searle has championed a version of a view we may call “Biologism”—the thesis that, insofar as humans and other conscious animals are concerned, anything mental (including any conscious state) is biological.¹ An important recent work of his proves to be no exception.² Therein, he argues that all conscious states are biological and as such are realized in cellular systems and caused by biological processes. As he puts it:

Consciousness with all of its touchy-feely, “mysterious,” ontologically subjective features is a biological, and therefore physical, part of the world. As such, it enters into causal relations with other parts of the physical world. Thus, for example, all of my conscious perceptions are caused in my brain by the impact of perceptual stimuli on my nervous system. And these perceptions in turn together with other processes, some conscious and some unconscious, cause my physical behavior. For example, I see the glass of beer in front of me, so I reach out with my hand, take it, and drink from it. Some people still think that the ontological irreducibility of consciousness makes

consciousness not a part of the physical world. They are mistaken (...) [T]he very conscious state which is qualitative, subjective, touchy-feely, etc. must have a lower-level description in which it is a biological process causing the secretion of acetylcholine. This is no more mysterious than the fact that my car engine has a higher-level description where the explosions in the cylinder move the piston, and a lower-level description where the oxidation of hydrocarbon molecules releases heat energy (48–49).

A particular concern of Searle's is to offer an account of seeing as a conscious state, and a significant part of his case for this account appeals to biological considerations. I focus in this article on this biological case.³ I argue that, even if we accept Biologism, the biological considerations Searle adduces neither establish his own position nor defeat a rival object-inclusive view: ultimately, his appeals to biology do not settle the question of the ontology of seeing.

This article unfolds as follows. In the next five sections, I address some preliminary matters useful for assessing Searle's case: I delineate what I call the “Intra-Organismic Conditional” in section 2, distinguish between Biologism and a species of it I dub “Narrow Biologism” in section 3, delineate some key assumptions of the article in section 4, discuss the state of depression as a prelude to seeing in section 5, and distinguish between the object-exclusive and object-inclusive conceptions of seeing in section 6. After these preliminaries, I summarize

E-mail address: lemorvan@tcnj.edu.

¹ The qualification “insofar as humans and other conscious animals are concerned” is important as Searle does not rule out the possibility that non-biological complex machines could give rise to mental states or consciousness. Hereafter in this paper, whenever I generalize about mental states, conscious states, or consciousness, it will be assumed that the discussion concerns biological beings such as humans and other conscious animals. Searle has defended his version of Biologism in a number of works including (1983), (1984), (1992), (2002), and numerous other writings.

² See Searle (2015). Hereafter, all page references in this paper are to this work.

³ Given this focus, I will not treat here his non-biological arguments (such as arguments from hallucination and time-lag arguments) for his position. Arguments such as these have been amply discussed in the literature. What makes Searle's position distinctive is his particular emphasis on biological considerations—hence, my focus on them.

Searle's account of seeing in section 7, and then present his biological case and show why it fails to establish his own position and to defeat the rival object-inclusive view in section 8. I consider, in terms of its implications for seeing, an argument Searle deems to be decisive against consciousness existing outside the brain in section 9, I conclude with some retrospective and prospective remarks in section 10.

2. The intra-organismic conditional

Biology, as the scientific study of life, is a many-splendored thing. It encompasses both *intra-organismic* and *extra-organismic* branches: the former focus on what goes on within living organisms, and the latter focus on the interactions of living organisms with other organisms and the world around them. A paradigmatic example of an intra-organismic branch is neurobiology, the study of nervous systems. A paradigmatic example of an extra-organismic branch is ecology, the study of the interactions of organisms with each other and with their environments.

Accordingly, if someone *S* characterizes something *x* as biological, it is worth asking how *S* conceives of the scope of the biological, for depending on *S*'s conception thereof, *S* could mean markedly different things about *x*. Suppose for instance that *S*'s conception—whether wittingly or unwittingly—restricts the biological to the intra-organismic, where something *x* is intra-organismic relative to an organism *o* if and only if it is realized in one or more cellular systems in *o*, is caused by biological processes, and is not constituted by anything distinct from *o*.⁴ If so, then what *S* means by characterizing *x* as biological will differ significantly from what someone else means whose conception of the scope of the biological is not so restricted.

Consider in this connection the following claim that we may call “the Intra-Organismic Conditional”:

- (i) For any *x*, if *x* is biological, then *x* is intra-organismic.

By contraposition it follows that:

- (ii) For any *x*, if *x* is not intra-organismic, then *x* is not biological.

Accepting the Intra-Organismic Conditional requires classifying as *not biological*—since not intra-organismic relative to an organism *o*—quite a number of entities, beings, processes, or states that biologists themselves standardly classify as biological. These include ecosystems, ecological niches, natural selection, symbiosis, predation, and coevolution (among others). None of these can be adequately understood as being intra-organismic as each is not (solely) realized in an organism *o* and each has at least one constituent distinct from *o*.⁵ Yet all are readily classified as biological by biologists themselves.

We have good reason therefore to take the Intra-Organismic Conditional to be fallacious as biological counter-examples show it to

⁴Note that something's being intra-organismic in the sense used here does not mean simply that something is within an organism. If a mouse is swallowed by a snake, the mouse is not immediately intra-organismic relative to the snake although its components, once digested, may later be.

⁵An ecosystem—which “consists of all the organisms living in a particular area, as well as all the nonliving physical components of the environment that affect the organisms” (Campbell, Reece, Mitchell, & Taylor, 2003, p. 2)—cannot be intra-organismic in that it is not realized in an organism and has extra-organismic constituents. Similar considerations apply (among others) to an ecological niche understood as the sum total of a population's use of biotic and abiotic resources of its habitat; natural selection understood as the process in which heritable variations are exposed to environmental factors that favor the reproductive success of some individuals over others; symbiosis understood as a close association between organisms of two or more different species that live together in direct contact; predation understood as an interaction where one species eats another; and coevolution understood as a process whereby two species are engaged in a series of reciprocal adaptations.

be false that *x* is biological only if *x* is intra-organismic.⁶

3. Biologism and narrow biologism

As noted above, Biologism is the thesis that, insofar as humans and other conscious animals are concerned, anything mental (including any conscious state) is biological.⁷ This thesis may be stated as follows:

- (iii) For any *x*, if *x* is mental, then *x* is biological.

We may distinguish a species of Biologism we may dub “Narrow Biologism” according to which, insofar as humans and other conscious animals are concerned, anything mental (including any conscious state) is biological and intra-organismic. This thesis may be stated as follows:

- (iv) For any *x*, if *x* is mental, then *x* is biological and intra-organismic.

As a point of logic, it is worth noting that (iii) *by itself* does not entail (iv); although the conjunction of (iii) and (i) entails (iv), we have seen above reasons to think that (i) is fallacious. In other words, Biologism does not *by itself* entail Narrow Biologism; although the conjunction of Biologism and the Intra-Organismic Conditional entails Narrow Biologism, such an inference relies on a fallacious conditional.⁸ Thus even if we suppose that Biologism is true, we should be careful of thinking that it follows that Narrow Biologism is also true, and we should not take for granted that, if something mental is biological, it is also therefore intra-organismic. We are well advised to distinguish Narrow Biologism from its genus Biologism.⁹

4. Three key assumptions

In light of the points above and for the sake of argument in the ensuing discussion, I shall make the following three key assumptions. (1) Biologism (as distinguished above from Narrow Biologism) is true. (2) Seeing objects does not require a logically prior awareness of something else (such as a sense-datum or idea) mediating between the seer and seen objects. (3) Seen objects exist independently of being seen. I make these assumptions, not because I think they are so obvious as to not be worth arguing for, but rather to lay out what will not be in dispute in the ensuing critical discussion.¹⁰

5. Depression as prelude to seeing

In order to understand and assess Searle's account of seeing, it's

⁶Although philosophers need not uncritically accept as biological everything biologists take to be within their purview of study, philosophers should presumably be wary of declaring for themselves what counts as biological without due attention to what biologists themselves count thereas.

⁷Biologism to be sure does not entail that everything biological is mental.

⁸Moreover, it is not obvious how to derive Narrow Biologism from Biologism without invoking this fallacy.

⁹A reviewer of this journal has pointed out that, to his or her knowledge, the distinction drawn here between Biologism and Narrow Biologism “is a novel contribution; it has the potential to impact many areas of inquiry outside of perception research (say, philosophy of biology, action, and psychology more generally).” The reviewer notes that it “would be nice to read about how this distinction might impact other research projects.” I am grateful for the reviewer for this observation. Given the focus of this article on the biology of seeing, however, it would take me too far afield to explore here the impact of this distinction on other areas of inquiry. I will have to leave such an exploration to another occasion.

¹⁰Thus, although Searle inveighs at considerable length against views that take perception to be indirect in the sense of involving a logically prior awareness of intermediate entities (such as sense-data), I have no interest in defending the latter view, or views inconsistent with Biologism or the perception-independence of seen objects.

helpful for the sake of comparison to attend first to another kind of mental state such as the state of depression.

Being depressed can presumably be caused by an outside event. Suppose for instance that Jill breaks up with Bill, thereby causing him to fall into a state of depression. No doubt Jill's breaking up with him causes intermediate events in Bill's brain and central nervous system that culminate in his being depressed. Still, what triggers Bill's depression is Jill's breaking up with him.

It is possible however for someone to be in a state of depression without its being caused by an external event. Suppose that Jill has not broken up with Bill and his life is (objectively) going quite well, yet he is depressed nonetheless as a result of abnormally low serotonin levels in his brain due to a genetic neurological anomaly. In this case, Bill's depression presumably has a purely internal cause.

Whether its triggering cause is internal or external, witness how Bill's state of depression is not constituted by anything external to his body (or brain and central nervous system), and is thus only intra-organismic. To be sure, his state of depression can have a cause external to his body—e.g., Jill's breaking up with him—but this cause is not a constituent of his depression.¹¹

6. Object-inclusive and object-exclusive conceptions of seeing

Now consider Jill's seeing Bill. I do not mean her dating him, but rather her seeing him in the primary sense of the verb—e.g., (say) Bill enters the room, and Jill sees (visually perceives) him. Suppose with Searle that we think of Jill's seeing Bill as a conscious state of hers.¹² Given this supposition, and assuming Biologism, we may distinguish between two fundamentally different conceptions of this conscious state: what we may call the *object-inclusive* and *object-exclusive* conceptions.

On both these conceptions, the seen object (namely, Bill or his body), triggers, by reflecting or emitting photons, a series of intra-organismic events in Jill's visual system and brain that are nomically necessary for her seeing him. These conceptions differ however on the question concerning what constitutes her state of seeing. On the object-exclusive conception, her seeing him has only intra-organismic constituents and is not constituted by the seen object; by contrast, on the object-inclusive conception, her seeing him is constituted not just by intra-organismic constituents but by the object seen itself.¹³ On the object-exclusive conception, although the seen object (Bill) causes Jill's state of seeing him, this state is solely in her head; by contrast, this state is not solely in Jill's head on an object-inclusive conception as it encompasses the object seen.

Related to the contrast between object-exclusive and object-inclusive conceptions is the contrast between what we may call *weak* and

strong direct realism. Weak direct realism is the thesis that seeing objects is direct in the sense of not involving the logically prior awareness of something putatively intermediate (such as a sense-datum or idea or reified appearance of some sort) between the seer and the object seen. Strong direct realism accepts weak direct realism but goes further in taking the object seen to be a constituent of the state of seeing. The object-exclusive conception is a species of weak direct realism, whereas the object-inclusive conception is a species of strong direct realism.

7. Searle's account of seeing summarized

Searle offers a version of the object-exclusive conception of seeing. On it, whether Jill sees Bill or hallucinates him, in both cases she has a conscious visual experience as of Bill. This visual experience is a putative common kind of which Jill's seeing Bill and her hallucinating him are each species. When Jill sees Bill, her visual experience is caused by light quanta reflected from his body that impinge on her visual system causing neural events that eventuate in this experience; when she hallucinates him her visual experience is not caused in this way but rather by some internal neurological cause(s). Searle summarizes his object-exclusive conception of seeing in terms of the following “picture”:

- (a) Light reflected off an object causes a sequence of neuron firings beginning at the photo receptor cells of the retina.
- (b) That sequence eventually produces a *conscious visual experience*.
- (c) Like all conscious states, these conscious visual experiences are qualitative, ontologically subjective, and part of a unified conscious field. They never come in isolation, but are part of a totality of consciousness at a time.
- (d) They are all in the head; that is, the impact of the photons eventually causes the qualitative, subjective visual experiences and like all other biological phenomena, such as photosynthesis and digestion, these exist entirely in the biological system. They exist in systems of cells—in this case, neurons—and there is no way that they could, so to speak, leak outside the brain and be floating around in the neighboring area (175).

On this way of thinking, the putative state of visual experience common to seeing and hallucinating is akin to the state of depression in a very important respect: both visual experience and depression have no extra-organismic constituents, and both can have internal or external causes. According to Searle, whether he sees or hallucinates a man in front of him, he has a conscious visual experience that is intentional in having the content that *there is a man in front of him*. When he sees the man, his conscious visual experience has an object—the man himself. If he has a corresponding hallucination, the conscious visual experience has the same content, but no object. “The content can be exactly the same in the two cases, but the presence of a content does not imply the presence of an object” (35). The content of any perceptual experience has a “mind-to-world” direction of fit and specifies conditions of satisfaction. These conditions are “satisfied only if the state of affairs perceived causes the perceptual experience” (36). Thus seeing occurs when a visual experience is satisfied because a perceived object (or state of affairs) causes the visual experience; hallucination occurs when a visual experience is not satisfied because no perceived object (or state of affairs) causes the visual experience.

On Searle's view, your seeing an object (or state of affairs) *o* is *direct* in the sense (i.e. weak direct realist sense) that you do not need to be aware of something else in order to see *o*. Perceived objects (and states of affairs) have an existence independent of their being perceived; as such they are *ontologically objective*. In seeing them, “you have conscious visual experiences that go on in your head” which are *ontologically subjective* (12). Seeing occurs only if there is a “causal relation by which the objective reality causes the subjective experience” (12). For Searle, describing the subjective experience “has to be pretty much the same” as describing the objective reality, and there is a deep reason for

¹¹ Similar considerations apply to a number of other mental states including various pains, pleasures, and moods (among others).

¹² Actually, I think seeing is better characterized as a conscious event rather than a conscious state, but I will suppose for the sake of argument that it is the latter.

¹³ Thus, on the object-exclusive conception, in contrast with the object-inclusive conception, seeing is akin to depression in that no extra-organismic trigger of the state is constitutive of the state. Insofar as they subscribe to Biologism, species of the object-inclusive conception as understood here include the Relational View advanced by Campbell (2002), the Object View advanced by Brewer (2011), the Enactionist View advanced by Searle (2004), the Spread Mind Theory advanced by Manzotti (2016 and 2017) and forms of Disjunctivism such as found for instance in Martin (2009a and 2009b) and Fish (2013). Cf. the Ecological Account of Seeing in Gibson (1986). I include the qualifier “Insofar as they subscribe to Biologism” in order to leave open the extent to which the views mentioned above actually subscribe to Biologism; engaging in this exegetical question would take us too far afield from the central purpose of this paper. Note that some forms of the object-inclusive view do not subscribe to Biologism such as the version of the Theory of Appearing defended by Alston (1999).

this, namely that specification of the content of the subjective experience is the same as the description of the state of affairs that the content presents you with:

When vision is doing its biological job, the description of the intentional content and the description of the state of affairs it presents has to be the same because a main biological function of the perceptual experience is to give you knowledge of the real world (13).

8. Searle's biological arguments for the object-exclusive conception

We have seen above what Searle's object-exclusive conception of seeing amounts to. We turn now to his biological case for it.

Searle adduces a number of biological considerations in favor of his view, and they may be helpfully collected and reconstructed as three main arguments. We may call them the *Argument from Intentionality*, the *Argument from Consciousness*, and the *Argument from Causal Efficacy*. If sound, these arguments would not only establish his version of the object-exclusive conception of seeing, but also defeat the rival object-inclusive conception. Below, we consider each argument in turn.

8.1. The Argument from intentionality

According to Searle, intentionality “is above all, a biological phenomenon common to humans and certain other animals” and its most basic biological forms include “conscious perception, intentional action, hunger, thirst, and such emotions as anger, lust, and fear” (33). All intentional states are intra-organismic, for all of them, “without exception, are *caused by* brain processes and *realized in* the brain” (34). Since seeing, for Searle, is an intentional state, and since any intentional state is biological and therefore intra-organismic, seeing too is biological and therefore intra-organismic. And since seeing is intra-organismic, it cannot have an extra-organismic constituent.

Suppose that Searle is right that intentionality is indeed “above all, a biological phenomenon common to humans and certain other animals.” Even supposing this, notice that his first biological argument evidently appeals to the Intra-Organismic Conditional—a conditional we have reason to believe is fallacious—as the argument relies on the premise that any intentional state is intra-organismic in virtue of its being biological. Moreover, even if we suppose that seeing is an intentional state and that any intentional state is biological, it does not follow that seeing is intra-organismic. This conclusion does follow *if* we assume not just Biologism but Narrow Biologism. But to assume the latter is to assume that seeing is intra-organismic and cannot be an object-inclusive state, and so Searle gives us no non-question begging argument for that conclusion.

To be sure, one could argue that intentionality is essentially object-exclusive in that no intentional state has as a constituent the object(s) of that state, and since seeing is intentional, it is object-exclusive. What does the argumentative work here, however, is the putative object-exclusive nature of intentionality, and whether intentional states are biological turns out to be immaterial. Appealing to the biological nature of intentionality thus amounts to little more than window-dressing as what does the real work in this argument is an object-exclusive ontological conception of intentionality.¹⁴

¹⁴ Defenders of the object-inclusive conception of seeing have at least two options in responding to such an argument. (1) They can accept that intentionality is object-exclusive and, appealing to the distinction drawn in Dretske (1969) between non-epistemic and epistemic seeing, argue that seeing *o* (where *o* is some object) is object-inclusive and hence non-intentional even if seeing that *o* is *F* is intentional. (2) They can distinguish, as does Le Morvan (2008), between transparent, translucent, and opaque intentional states, where

8.2. The argument from consciousness

On Searle's view, all conscious states “are caused by neuronal processes in the brain” (48). Searle concedes that we “do not know the details” of how they are so caused, “but given our present understanding of neurobiology there is no doubt that consciousness is caused by neurobiological processes” (48). Searle contends that “consciousness is *ontologically irreducible*” but “*causally reducible* to brain processes” and that “means that all of the features of consciousness, without exception, are caused by neurobiological processes in the brain” (48). Since all conscious states are causally reducible to brain processes and therefore intra-organismic, and since seeing is a conscious state, it too is causally reducible to brain processes and therefore intra-organismic.

In this argument, Searle once again assumes about seeing (and asserts) the very thesis he is seeking to establish. This is because his taking seeing to be the *effect* of neurobiological causes in the brain, or to be causally reducible to brain processes, is effectively to assume that seeing is intra-organismic and object-exclusive. Searle's argument is thus essentially predicated on Narrow Biologism, and however plausible we may find Biologism, the former does not follow from the latter alone. Yes, it does follow if we appeal to the Intra-Organismic Conditional, but we have seen how such an appeal proves problematic.

8.3. The argument from causal efficacy

We saw in the previous argument how Searle contends that seeing is a conscious state *caused by* neurobiological processes. He also argues that seeing as a conscious state can have causal efficacy in terms of behavioral effects only if it is realized in cellular systems and so is intra-organismic. “For example, I see the glass of beer in front of me, so I reach out with my hand, take it, and drink from it (...) the very conscious state which is qualitative, subjective, touchy-feely, etc. must have a lower-level description in which it is a biological process causing the secretion of acetylcholine. This is no more mysterious than the fact that my car engine has a higher-level description where the explosions in the cylinder move the piston, and a lower-level description where the oxidation of hydrocarbon molecules releases heat energy” (49). Since seeing is a conscious state that has behavioral effects, it too is realized in cellular systems and so is intra-organismic.

Several points concerning this Searlian argument merit attention.

It's worth noting to begin that we should be wary of the following general causal-behavioral thesis: *x* can cause behavioral effects *e* of *S* only if *x* is realized in *S* (or *S*'s body or cellular systems). Such a thesis is too strong for it quite implausibly rules out distal causes. For instance, if this thesis were correct, it would be false (say) that Vesuvius's eruption in AD 79 caused Pompeians to flee their city, false because the eruption did not occur within their bodies. Yes, their fleeing no doubt had intra-organismic proximal causes, but it also presumably had a distal cause that triggered these proximal causes.¹⁵

(footnote continued)

the “intendum” is what an intentional state is about, and where the “intender” is the subject who is in the intentional state. An intentional state is transparent if it satisfies the following two conditions: (i) it entails the existence of not just the intender but the intendum as well, and (ii) substitutivity of identicals applies to the intendum (*i.e.*, if the intentional state is about *a*, and *a* = *b*, then the intentional state is about *b* as well). An intentional state is translucent if it satisfies (i) but not (ii). An intentional state is opaque if it satisfies neither (i) nor (ii). Defenders of the object-inclusive conception of seeing can argue that seeing *o* is transparently intentional even if seeing that *o* is *F* is translucently or opaquely intentional. Searle (2015) does not address these alternatives.

¹⁵ Since Searle is committed to seen objects causing conscious visual experiences, he is also committed to states of seeing having distal causes. There seems to be a tension however between this claim and Searle's claim that all conscious states such as seeing are “causally reducible to brain processes.” For if conscious states are causally reducible to brain processes, then how could they

Searle, of course, could respond that he does not advocate the general causal-behavioral thesis noted above but rather the following more restricted thesis: a conscious state x of S can cause behavioral effects e of S only if x is realized in S (or S 's body or cellular systems). Even so, assuming Biologism, we should bear in mind that the key question is not whether seeing an object is realized in the perceiver's body or cellular systems, but whether it is fully or partially so realized. On a version of the object-exclusive conception of seeing like Searle's, it is fully so realized. The object-inclusive conception by contrast need not deny that seeing an object is partially so realized, but it affirms that the full realization of this conscious state includes the object seen itself. Similarly, the object-inclusive conception of seeing need not deny that this conscious state has a lower-level description in terms of the perceiver's body or cellular systems, but what it affirms is that the full description of this conscious state must include the object seen itself. Insisting as Searle does that seeing has a lower-level description and is realized in the perceiver's body or cellular systems does not by itself establish that his version of the object-exclusive conception of seeing is correct, nor does it establish that the object-inclusive conception is incorrect. Biologism does not entail Narrow Biologism.

A non-human biological example can help reinforce this point. Consider electroreception, the biological ability to perceive natural electrical stimuli.¹⁶ As described by Balcombe (2016), "it is nearly unique to fishes, the only known exception being monotremes (platypuses and echidnas) cockroaches, and bees" (60). Such electrical sensitivity is widespread in elasmobranchs such as sharks, skates, and rays, and has evolved independently at least eight times in fishes (60–61). Elasmobranchs perceive electrical stimuli with a network of jelly-filled pores called *ampullae of Lorenzini* that

detect subtle electrical changes generated by nerve impulses of other organisms, which propagate efficiently through water. Such is the sensitivity of this system that just the heartbeat of a fish hiding six inches under the sand may be enough to betray its presence to a hungry shark or catfish (61).

Bracketing the question whether electroreception is a conscious state (or whether elasmobranchs are conscious), notice that it is beyond dispute that it is biological, (at least partially) realized in cellular systems, and has a lower-level description in terms of cellular systems. However, it does not follow from these facts alone that an object-exclusive conception of electroreception is correct, and an object-inclusive one is incorrect. To be sure, such a conclusion would follow if one accepted the Intra-Organismic Conditional, but we have seen how the latter is problematic. It would also follow if one assumed Narrow Biologism, but to assume the latter is to beg the question against an object-inclusive conception of this state.

9. Searle's "decisive" argument

In the previous section, we saw how Searle offered in effect three main arguments putatively predicated on biological considerations for his object-exclusive conception of seeing. Each argument, were it sound, would imply that the object-inclusive conception of seeing is incorrect. Because of its implications for how to think of seeing as a conscious state, it is also worth considering an argument Searle deems decisive against consciousness existing outside the brain:

(footnote continued)

also have distal causes?.

¹⁶ Other examples abound. For instance, consider the magnetosensation of roundworms (*Caenorhabditis elegans*) who rely on a single nerve to detect the Earth's magnetic field and to orient themselves accordingly. See <https://www.nih.gov/news-events/nih-research-matters/magnetic-field-sensor-unearthed-worms>. Magnetosensation is also used by birds, bees, sea turtles, and salmon (among others).

The decisive argument against consciousness existing outside the brain is that like any other higher-level biological feature of the world, such as digestion, photosynthesis, or lactation, consciousness has to be in some biological system. It has to be realized, for instance, in some system composed of cells. Perhaps we can create consciousness in non-organic systems, but the biological principle is an instance of a much more general principle which states that any higher-level features at all—such as the liquidity of water, the solidity of the table, and the elasticity of the steel bar—have to be realized in lower-level elements. If we think of consciousness as existing outside human and animal nervous systems as, so to speak, floating around in the air or in the structure of the table, then we have to suppose that the air molecules and the table molecules are realizing consciousness. The idea is not worth serious consideration (51).

Though our concern in this article is with seeing as a conscious state in particular, not consciousness more generally, several points are worth making here in relation to seeing. To begin, the object-inclusive conception of seeing need not take this conscious state "as existing outside human and animal nervous systems as, so to speak, floating around in the air or in the structure of the table." To deny that seeing a table is solely realized in the body of the perceiver is not *eo ipso* to deny that it is partially realized there, and to deny that this conscious state is fully described without reference to the object seen is not *eo ipso* to deny that it is partially described in terms of the perceiver's internal states.

Furthermore, let's attend to Searle's biological examples to which he compares consciousness: digestion, photosynthesis, or lactation.¹⁷ Suppose we grant for the sake of argument that each of these biological processes is intra-organismic. Even putting aside the difference between processes and states, it does not follow that every conscious state is intra-organismic and so object-exclusive.

Consider in this connection the following physical analogy. Suppose for the sake of argument that the liquidity of water, the solidity of the table, and the elasticity of the steel bar are non-relational states of these physical objects. Just because some (even many) physical states are non-relational, it does not follow that all are. Take (as one example) quantum entanglement whereby two particles are generated and interact in such manner that the quantum state of one particle cannot be described independently of the other, even if they separated by large distances. My point is not that seeing is akin to quantum entanglement, but rather that just because many (even most) biological processes are intra-organismic and object-exclusive, it does not follow that all conscious states are as well, even on the supposition that they are biological.

10. Conclusion

To his credit, Searle rightly emphasizes the importance of biology in understanding consciousness more generally, and a conscious state such as seeing more particularly. But however much we may find Biologism plausible and even appealing, we have seen above that assuming it does not by itself favor an object-exclusive conception of seeing like Searle's over the alternative object-inclusive conception. None of the biological considerations that Searle adduces dictates that we must choose one ontology of seeing over the other. And however much Searle couches his arguments in biological terms, the biological facts prove neutral. In

¹⁷ At least one of these examples may be contested, however. Consider digestion, and take our earlier example of a snake digesting a mouse it has ingested. To be sure, such digestion occurs within the snake's body and is realized in its cellular systems, but one could give an object-inclusive account of digestion according to which the object ingested (or its components) is a constituent of this process.

the end, his incredulity that a state of seeing could be constituted by the object(s) seen is grounded not in biology but in metaphysics, and his arguments ultimately turn on metaphysical considerations, not biological ones.

Nonetheless, lest they fall prey to Searle's arguments, those who subscribe to both Biologism and to the object-inclusive conception of seeing who would be wise to (among other things):

- (1) Explicitly distinguish Narrow Biologism from Biologism itself;
- (2) Explicitly reject the Intra-Organismic Conditional and Narrow Biologism;
- (3) Emphasize how denying that seeing is fully realized in bodily states does not entail denying that it is partially realized therein.
- (4) Emphasize how denying that seeing is fully described without reference to the object seen does not entail denying that it is partially described in terms of the seer's internal states.

In closing, two final points deserve note. Searle stresses that from “a biological and evolutionary point of view the phenomenology of perception must relate us directly to the world perceived” (101). Notice how such a point dovetails ironically with the object-inclusive conception of seeing, for how much more can the phenomenology of perception relate us directly to the world perceived than in the seen object being a constituent of a state of seeing itself? Finally, although he makes much of the importance of biological considerations in discussing seeing in particular and consciousness more generally, Searle fails to distinguish Narrow Biologism from Biologism itself, and does not argue for the latter as distinguished from the former. Searle would be wise to heed his own advice to “[a]lways beware of what a philosopher takes for granted as so obvious as to be not worth arguing for” (96).

Acknowledgments

I am very grateful to Katherine Le Morvan, Rick Kamber, and to reviewers of this journal for very helpful comments.

References

- Alston, William (1999). Back to the theory of appearing. *Philosophical Perspectives*, 13, 181–203.
- Balcombe, Jonathan (2016). *What a fish knows: The inner lives of our underwater cousins*. New York: Scientific American/Farrar (Strauss and Giroux).
- Brewer, Bill (2011). *Perception and its objects*. Oxford: Oxford University Press.
- Campbell, John (2002). *Reference and consciousness*. Oxford: Clarendon Press.
- Campbell, Neil A., Reece, Jane B., Mitchell, Lawrence G., & Taylor, Martha R. (2003). *Biology: Concepts and connections* (4th ed.). San Francisco: Benjamin Cummings.
- Dretske, Fred (1969). *Seeing and knowing*. Chicago: University of Chicago Press.
- Fish, William (2013). *Perception, hallucination, and illusion*. Oxford: Oxford University Press.
- Gibson, James (1986). *The ecological approach to perception*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Le Morvan, Pierre (2008). Intentionality: Transparent, translucent, and opaque. *Journal of Philosophical Research*, 30, 283–302.
- Manzotti, R. (2016). Experiences are objects. Towards a mind-object identity theory. *Rivista Internazionale di Filosofia e Psicologia*, 7, 16–36.
- Manzotti, R. (2017). *Consciousness and object: A mind-object identity physicalist theory*. Amsterdam: John Benjamins Publishing Company.
- Martin, M. G. F. (2009a). In Byrne, & Logue (Eds.). *The reality of appearances. Disjunctivism: Contemporary readings* (pp. 91–116). Cambridge, MA: MIT Press.
- Martin, M. G. F. (2009b). In Byrne, & Logue (Eds.). *The limits of self-awareness. Disjunctivism: Contemporary readings* (pp. 271–318). Cambridge, MA: MIT Press.
- Searle, John (1983). *Intentionality: An essay in the philosophy of mind*. Cambridge: Cambridge University Press.
- Searle, John (1984). *Minds, brains, and science*. Cambridge, MA: Harvard University Press.
- Searle, John (1992). *The rediscovery of the mind*. Cambridge, MA: MIT Press.
- Searle, John (2002). Why I Am not a property dualist. *Journal of Consciousness Studies*, 9(12), 57–64.
- Searle, John (2004). *Action in perception*. Cambridge, MA: MIT Press.
- Searle, John (2015). *Seeing things as they are*. Oxford: Oxford University Press.