

# Michael Tye, *Vagueness and the Evolution of Consciousness*. Oxford: Oxford University Press, 2021. Pp. 133.

Michael Tye is perhaps best known for his defense of *tracking representationalism*, a view that combines representationalism (the view that an experience's phenomenal character is determined by its representational content) with a tracking theory of representation (the view that mental representation is a matter of causal covariation, carrying information, or, more generally, *tracking*). In *Vagueness and the Evolution of Consciousness*, Tye takes an unexpected turn, endorsing a combination of tracking representationalism and *panpsychism*, understood here as the view that phenomenal consciousness is a primitive feature of the fundamental constituents of reality. While Tye takes both panpsychism and tracking representationalism to fail as theories of consciousness, he argues that their combination—*panpsychist representationalism*—can avoid the problems of both.

## 1. Book summary

Chapter 1 frames the discussion in terms of the problem of vagueness for materialist theories of consciousness (theories that identify or ground consciousness in physical or functional properties). The problem is that the properties that materialist theories identify consciousness with (or ground consciousness in) are *vague* in that they admit of borderline cases.<sup>1</sup> For example, functional properties are vague since there are borderline cases in which it is indeterminate whether something plays the relevant role. Since materialism identifies consciousness with (or grounds it in) vague properties, it is committed to the vagueness of consciousness. The problem is that it is not vague whether something is conscious. In brief, assuming consciousness exists, it seems we are forced to reject one of these two claims, both of which are highly plausible according to Tye:

- (1) Materialism is true of consciousness.
- (2) Consciousness is sharp (i.e., not vague).

Chapter 2 considers a possible resolution of the problem that rejects neither materialism nor the sharpness of consciousness: *Russellian monist panpsychism* (or *panpsychism* for short), the view that consciousness is the intrinsic, categorical nature of the physical. This broadly materialist view appears to avoid vagueness by taking all fundamental entities to be determinately conscious.

Tye rejects panpsychism, citing several well-known problems. The main problems center around panpsychism's alleged inability to offer an intelligible explanation of non-fundamental

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<sup>1</sup> Tye acknowledges that vagueness is most clearly ascribed to concepts and predicates rather than to properties but insists that properties can be vague, too. But this is not obvious. The book would have benefitted from a clear defense of this crucial claim.

conscious experiences (such as, presumably, our conscious experiences), where an *intelligible* explanation of A in terms of B is one in which B a priori entails A. It seems that the facts about fundamental instances of consciousness, even in combination with the causal-dispositional facts that define our internal organization and relationships to the environment, do not a priori entail that there are non-fundamental experiences like ours.

Tye also claims that, aside from panpsychism's internal difficulties, the view doesn't actually help with the problem of vagueness: The panpsychist identifies non-fundamental experiences with fundamental experiences organized in particular ways, but the relevant organizational properties are vague, so the theory predicts borderline cases of consciousness (p. 29). So, it is not in fact compatible with the sharpness of consciousness.

Chapter 3 switches gears to provide a defense of representationalism and the argument from transparency, overviewing well-worn discussions. Tye defends a version of representationalism, *property representationalism*, on which the phenomenal character of an experience is determined by the properties it represents. He combines this representationalism with a *tracking theory of mental representation*, on which representation is a matter of causally indicating, having the function of indicating, or otherwise *tracking* something. For example, on Tye's tracking representationalism, an experience with a reddish phenomenal character is an experience that tracks redness. While Tye defends tracking representationalism, he is aware that the view faces a vagueness problem: Since it is vague whether an internal state tracks something, the view is incompatible with the sharpness of consciousness.

Chapter 4 presents Tye's positive proposal, which is a combination of panpsychism and representationalism. According to this *panpsychist representationalism*, fundamental entities have *consciousness\**, which is *mere* consciousness, consciousness without any particular phenomenal character. There is something it is like to be a fundamental entity, though there is nothing *in particular* that it is like to be it.

When fundamental entities "are arranged so as to form states that play the sort of role assigned to conscious states in GWT [global workspace theory]" (p. 88), they form non-fundamental entities that are conscious\*. Thus, like traditional panpsychism, representationalist panpsychism is committed to fundamental consciousness-related features combining to form non-fundamental consciousness-related features.

Consciousness\* is distinct from consciousness, which Tye (at this point in the book) takes to be the having of particular phenomenal characters. When conscious\* states play the roles specified by GWT, which includes that of tracking worldly properties, they thereby have the tracked properties as part of their phenomenal characters. For example, a conscious state with a reddish phenomenal character is a conscious\* state that plays the roles specified by GWT and tracks the property of redness.

Tye claims that this view solves the problem of vagueness: it is a materialist view that is compatible with the sharpness of consciousness\*. The view, though, is incompatible with the

sharpness of consciousness, since consciousness requires tracking and tracking is vague. Tye explains away our intuition that consciousness is sharp by claiming that the sharpness of consciousness\* misleads us into thinking that consciousness is sharp (p. 79).

The book concludes with a chapter on the neurobiology of consciousness, reviewing some empirical hypotheses regarding the location of consciousness in the brain and applying panpsychist representationalism to determine which life forms are conscious.

## 2. Discussion

### *Does panpsychist representationalism avoid the intelligibility problems of traditional panpsychism?*

While Tye's version of panpsychism differs from traditional versions, intelligibility problems remain. For one, Tye fails to intelligibly explain how the consciousness\* of fundamental entities "transfers" (p. 88) to non-fundamental entities. He takes this to be a matter of how fundamental entities are arranged so as to play the roles of GWT, but it is unclear how any kind of functional arrangement of conscious\* fundamental entities can account for non-fundamental consciousness\*. This is a straightforward instance of panpsychism's combination problem.

Tye also fails to intelligibly explain the having of particular phenomenal characters. He takes conscious states with specific phenomenal characters to be non-fundamental conscious\* states that track worldly properties, but there is no intelligible explanation of why a non-fundamental conscious\* state's tracking a particular worldly property should result in a conscious state with a particular phenomenal character.<sup>2</sup>

### *Does Tye solve the problem of vagueness?*

Tye's solution to the problem of vagueness involves claiming that (1) consciousness\* is sharp even though (2) consciousness is vague and that (3) the appearance of a dilemma arises because we mistakenly attribute the sharpness of consciousness\* to our consciousness. There are problems with all three claims.

Regarding (1), one might worry that although Tye's view allows that the consciousness\* of fundamental entities is sharp, it does not allow the consciousness\* of non-fundamental entities to be sharp. This is because it takes non-fundamental entities to be conscious\* when

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<sup>2</sup> See AM's *The Phenomenal Basis of Intentionality* (OUP 2018).

conscious\* fundamental entities "are arranged so as to form states that play the sort of role assigned to conscious states in GWT" (p. 88) but the property of being thus arranged is vague.<sup>3</sup>

Claim (2) also seems questionable. Tye argues that there can be borderline cases of having a particular phenomenal character, such as a borderline case of pain (pp. 13–14). We agree that the term "pain" is vague and that, if we accept that corresponding to vague terms there are vague properties, the property of having a pain is vague, too. However, it seems clear that whatever we call the above-mentioned indeterminate pain state, it has a sharp phenomenal property, Q: there is a specific, fully determinate way that it feels. Indeed, Q is plausibly more fundamental than any vague phenomenal properties the state has in that the state instantiates the vague properties in virtue of having Q. Even if it's right to say that there are vague phenomenal properties, there are also sharp phenomenal properties, and Tye's view cannot accommodate them.

(3) claims that the appearance of a dilemma arises because we mistakenly attribute the sharpness of consciousness\* to our consciousness. But if the objection to (1) is correct, then on Tye's view our own consciousness\* is not sharp. So, we don't have any observable sharp consciousness-like properties with which to conflate our allegedly vague consciousness (and surely we are not conflating the sharp consciousness\* of quarks with our own consciousness!). The objection to (2) also makes (3) implausible because it offers a principled reason for thinking that some macroscopic conscious properties are sharp. As far as consciousness-as-we-know-it is concerned, the dilemma is unresolved.

### *Is there really a problem of vagueness?*

To generate a dilemma, materialism must be committed to consciousness being vague. But, one might suggest, materialism is not thus committed. While many existing materialist theories invoke vague physical or functional properties, these theories can be precisified to instead invoke sharp physical or functional properties. For example, instead of identifying consciousness with neural oscillations with a frequency of roughly 40 hz (Crick and Koch's "astonishing hypothesis"), the materialist could identify consciousness with neural oscillations at exactly 39.12409825–40.185282624 hz (call this the *sharpened astonishing hypothesis*; of course, the term "neural" also needs precisification, for example, in terms specific patterns of fundamental particles). If such views are available, then there isn't even a prima facie incompatibility between materialism and the sharpness of consciousness.

Tye briefly considers something like this precisification strategy on behalf of the non-reductive materialist, who takes consciousness to be grounded in (but not identical to) physical or functional features. Tye rejects the resulting view, citing explanatory challenges. The interesting

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<sup>3</sup> Tye appears to aim to address this worry when he claims that he does not identify consciousness\* with any role and there is no problem with sharp properties playing vague roles (p. 89). But while these points are correct, they do not address the worry that Tye's view predicts that the consciousness\* of non-fundamental entities is vague.

problem for our purposes is that such views cannot explain why one physical/functional state grounds consciousness while another nearby one does not (pp. 10–11).<sup>4</sup>

We certainly agree that precisified materialist theories face a challenge in explaining consciousness. But this does not affect the point that the availability of such precisifications means that materialism is not in fact committed to the vagueness of consciousness. Instead, materialism is, at best, committed to accepting that consciousness and its constituting physical/functional features are either both sharp or both vague.

Assuming, along with Tye (at the beginning of the book), that consciousness is sharp, the materialist is forced to take consciousness to be a matter of sharp physical or functional properties. This is where the problems for materialism really get started. As we've seen, such a view faces an explanatory worry: why should one physical/functional state give rise to consciousness but not another? This worry is related to well-known explanatory-gap style worries in that if the explanatory gap could be bridged, these worries would dissolve: if there was an intelligible explanation for why a precise physical/functional feature gives rise to consciousness and no such explanation for nearby physical/functional features, there would be no further question of the sort raised by Tye.

However, we think Tye is onto something in claiming that precisified versions of materialism face special challenges. Precisified theories face an additional "structural mismatch" worry: they imply that some tiny physical differences make large phenomenal differences, i.e. that some apparently large differences are small, or vice-versa. Of course, a posteriori physicalists have a response at hand: there is only one difference and any impression to the contrary is an illusion. It seems to us, however, that the need to posit cognitive illusions to explain away such an apparent structural mismatch is a significant cost above and beyond what a posteriori physicalists already accept.

In short, the materialist has an obvious way to dissolve Tye's dilemma: the precisification strategy. But this strategy does not come without problems, which would be interesting to explore.

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<sup>4</sup> Tye also suggests (in a footnote) that all physical properties within the realm of natural science are vague because "the simplest interpretation of quantum mechanics has it that micro-reality is vague or fuzzy" (fn. 4), so the precisification strategy cannot be applied without appealing to properties outside the realm of science. The claim that quantum mechanics (QM) makes microphysics vague would require much more defense to adequately support the claim that materialist theories are in principle unprecisifiable. The fundamental states of QM (wavefunctions) have nothing vague, fuzzy, or indeterminate about them; indeterminacy creeps in at the level of the relationship between these states and classical observables such as position. So, the fundamental physical states are not vague or fuzzy. Even the classical observables are not vague on most interpretations of QM. If we flip a slightly biased coin and the objective odds of tails are 51/49, this does not make the coin's state "borderline tails".

### 3. Conclusion

We recommend Tye's *Vagueness and the Evolution of Consciousness* to anyone interested in representationalism, panpsychism, or challenges to materialism arising from vagueness. While we are not convinced that the book succeeds in solving the problems it sets out to solve or that it correctly construes materialism's troubles in this area, it raises important questions and makes headway in charting the prospects of combining panpsychism with views about the relationship between consciousness and intentionality, which is an interesting and, we think, promising area for future research.

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