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*Consciousness and Cognition*. Michael Thau. New York: Oxford University Press, 2002.

Michael Thau's book challenges much of current orthodox theory about consciousness and cognition. It is an enormously stimulating *tour de force*. I highly recommend it.

I find it useful to think of Thau's book as an extended defense of a single argument that appears in the final chapter (p. 193). This argument is a variation on Frank Jackson's Mary argument. Imagine that Mary has throughout her life been imprisoned in a black-and-white room. She has never seen colored objects, but she has often been verbally informed of objects' colors. (Thau's Mary does *not* know about the physics and neurophysiology of color vision.) One day she is watching a black-and-white monitor showing a fire engine. She is told that it is red, and she sincerely utters 'Some fire engines are red'. Suddenly, the monitor begins to transmit color images. Mary notices the change, and utters 'Wow, so some fire engines have *that* property', as she ostends the surface property of the fire engine that she is observing on the monitor. Mary now believes a proposition that she did not believe earlier, the proposition that she expresses by uttering 'Some fire engines have *that* property'. But she already believed the proposition she expressed by 'Some fire engines are red'. Therefore, her two utterances express different propositions. So, her utterance of 'that property' does not refer to redness. But her utterance of 'that property' refers to a property that her visual experience represents the fire engine as having. Thus, her visual experience does not represent the fire engine as being red, but rather as having some other surface property.

Similar thought experiments, Thau claims, lead to the conclusion that "vision represents

the world as having properties distinct from but corresponding to colors, shapes, distances, etc.” (p. 193). Yet further thought experiments lead to similar conclusions about all other sensory modalities, for instance, that auditory perception does not represent C-sharpness and loudness, but rather properties that correspond with these.

Thau’s conclusions are radical and *prima facie* implausible. Readers familiar with the literature on Jackson’s original Mary argument may immediately think of several replies. Much of the rest of Thau’s book attempts to forestall those replies. In what follows, I’ll present a summary of the rest of the book and then turn to critical remarks.

There is a salient subjective difference between your visual experience when you see a red object and your visual experience when you see a blue object. Let’s say that *what it is like* to see a red object is different from what it is like to see a blue object. Chapter 1 contrasts two theories of this phenomenon, *intentionalism* and *qualia theory*. According to intentionalism (which Thau endorses in modified form), “the subjective difference between your visual experiences is fully explainable by the fact that the objects are represented to you as having different colors. . . subjective differences between perceptual experiences are always explained by *representational differences* between them” (p. 16). According to qualia theory, “the fact that two perceptual experiences represent their respective objects differently does not completely explain any subjective difference there might be between them. A full explanation must advert to intrinsic properties that the experiences *themselves* have—to what are called *qualia*—and not merely to differences in what the experiences represent” (p. 16). Many philosophers think that *spectrum inversion* cases present serious problems for intentionalism (p. 17). Imagine that Norm and Abnorm both call ripe tomatoes ‘red’, well-watered grass ‘green’, etc.. Thus, they

apparently both believe that ripe tomatoes are red. From this, we (seemingly) can infer that Norm's and Abnorm's visual experiences of ripe tomatoes represent them as being red. But this seems consistent with there being a subjective difference in their experiences: we can imagine that what it's like for Norm to see red is the same as what it's like for Abnorm to see green. But if their visual experiences of ripe tomatoes represent the same color, and yet differ in what they are like, then differences in what-it-is-like cannot be fully explained in terms of representational properties. Therefore, the subjective differences between Norm's and Abnorm's visual experiences of red are not differences in what they represent, but rather differences in the intrinsic properties of their experiences. Norm's visual experiences of red tomatoes have the intrinsic property of being red' (to borrow a term from Christopher Peacocke), whereas Abnorm's visual experiences are green'. So, intentionalism is false.

Thau presents three arguments against qualia theory. First, qualia theory says that Norm's visual experiences of red have the intrinsic property red' whereas Abnorm's have green'. If this difference is to account for the subjective difference in their experiences, then (Thau says) Norm and Abnorm must be aware of these properties and so their experiences must be *represented* to them as having these properties. So (Thau concludes) the subjective differences between their experiences are representational, after all, contrary to qualia theory (pp. 31-32). Thau's second argument (or claim) is "the subjective difference between Norm's and Abnorm's visual experiences is a difference in the way objects in the world seem to them, not a difference in the way their respective experiences seem" (p. 34). Two conclusions follow: the prior argument against intentionalism is unsound and qualia theory is incorrect. Thau's third argument claims that qualia theory requires an incoherent view of experience (pp. 36-37).

Qualia theory says that we are ordinarily aware of the intrinsic properties of our experiences. But this awareness (Thau says) could only be an *experience* of those intrinsic properties of the experience, that is, an experience of an experience. Thau concludes that qualia theorists must say that an experience of an object is the same thing as an experience of that experience of that object. But this is incoherent, Thau says.

According to Thau, intentionalists should respond to spectrum inversion cases by holding that there are representational differences between Norm's and Abnorm's experiences. The surface property that Norm's experience represents tomatoes as having is distinct from the surface property that Abnorm's experience represents tomatoes as having. But their experiences cannot represent the tomatoes as having different *colors*, for we've already agreed that they have the same beliefs about the colors of objects. Hence, these distinct properties cannot be colors, and so they must be some other properties (pp. 34-5). This is Thau's preliminary argument for his radical conclusion concerning colors and visual experience.

The next three chapters consider the nature of representation in both belief and perception. These are crucial to defending the Mary argument at the end of the book.

In Chapter 2, Thau first argues that believing and perceiving do not involve mediating internal representations, or internal representational states such as belief states and perceptual states. Believing and perceiving are *unmediated* dyadic relations to propositions. Thau argues that propositions are structured, and that their constituents are objects and relations. For instance, the constituents of the proposition that Superman flies are Superman and the property of flying. Thau calls this view about propositions and cognitive relations 'Pure Millianism'. He presents arguments against various competing views, including several versions of Fregeanism

and one alternative version of Millianism, Guise Millianism, which agrees with Pure Millianism about the nature of propositions, but holds that our cognitive relations to them are mediated by guises (for instance, by internal mental representations).

Many philosophers think that *Frege's puzzles* refute Pure Millianism. In Chapter 3, Thau considers four different Fregean puzzles, one of which goes as follows. Lex Luthor sincerely utters 'Superman flies'. Thus he believes the proposition that Superman flies. One day, a person whom Lex takes to be reliable says 'Clark Kent flies'. Lex sincerely utters, 'Wow, so Clark Kent flies!' It seems that Lex now believes that Clark Kent flies, and that this is something that he did not believe before. But on Pure Millianism, the proposition that Clark Kent flies just is the proposition that Superman flies. So, Pure Millianism must be incorrect. Thau replies by claiming that Lex does come to believe a proposition that he did not believe before, but this newly believed proposition is not the proposition that Clark Kent flies. Rather, it is a *descriptive* proposition that he communicates (or registers) with the sentence 'Clark flies', for instance, the proposition that the bespectacled reporter from the *Daily Planet* flies. In response to other Fregean puzzles, Thau similarly emphasizes the descriptive propositions that one communicates and comes to believe when uttering and hearing sentences containing proper names. Thau notes that his replies to Frege's puzzles imply that ordinary speakers are often mistaken about the propositions that their utterances of sentences containing proper names semantically express. In Chapter 4, he uses Gricean distinctions between semantic content and implicated propositions to explain how speakers could be so mistaken.

Finally, in Chapter 5, Thau turns to the central argument concerning Mary that I presented at the beginning of this review. He points out that his Mary argument resembles the

above Lex Luthor argument. But, in contrast to the Lex case, Thau argues that there is no descriptive proposition that fully accounts for the new information that Mary acquires. He concludes that Mary did *not* previously believe the proposition semantically expressed by her utterance ‘Some fire engines have *that* property’. Thau considers various ways to resist his conclusion. For instance, he argues against a David-Lewis-style reply that says that Mary merely acquires a new ability rather than a new belief. Thau finally concludes that the property that Mary ostends is not a color and that visual experience does not represent colors.

I have barely scratched the surface of Thau’s rich book. Nonetheless, I shall now turn to a few critical points.

Thau’s arguments against qualia theory seem unsound, to me. At the very least, they need amplification. Regarding the first argument: Thau correctly claims that, according to qualia theory, people (sometimes) *represent* the properties of their experiences, namely when they are aware of their experiences. But qualia theorists hold that some of the properties of experiences that people represent are *non-representational, intrinsic* properties of those experiences. Qualia theorists also hold that awareness of these non-representational properties is crucial for explaining the subjective differences between experiences. So qualia theorists can admit Thau’s point that people represent properties of their experiences, and yet consistently deny the intentionalist view that subjective differences in experience are *fully* explained by the *representational* properties of those experiences. As for the second argument: qualia theorists (at least Fregean ones) can admit that Norm’s and Abnorm’s experiences differ in how they represent the world as being, but still consistently claim that, *in addition*, the experiences themselves seem different to Norm and Abnorm, and this latter difference is important to the

subjective differences between their experiences. Concerning the third argument: the qualia theorist need not hold that if a person is aware of the intrinsic properties of his experience, then he is having an experience of his experience. The qualia theorist could instead say that the state of awareness is some cognitive state other than an experience. In fact, some intentionalists wish to hold that people are sometimes aware of the representational properties of their experiences. They would reject the claim that this awareness is itself an experience. But if intentionalists can consistently deny that an awareness of an experience is an experience, then it seems likely that qualia theorists can also. (Robert Stalnaker made similar points about the first and third arguments in a session on Thau's book at the 2002 Eastern APA .)

I have strong doubts about Thau's attempt to defend Pure Millianism from Frege's puzzles. Let's consider the argument that uses Lex Luthor, and let's use 'time T' to refer to the time at which Lex first hears the utterance of 'Clark Kent flies'. Thau says that, at time T, Lex comes to believe, *for the first time*, that the bespectacled reporter from the *Daily Planet* flies. But it's difficult to see how, on Thau's theory, Lex could avoid believing this descriptive proposition *before* time T. Surely Lex believed, before time T, that the bespectacled reporter from the *Daily Planet* is Clark Kent. It follows on Thau's theory that, before time T, Lex believed that the bespectacled reporter from the *Daily Planet* is *Superman*. Moreover, Lex believed before time T that Superman flies. So, Lex believed (before time T) that the bespectacled reporter from the *Daily Planet* is Superman and that Superman flies. So why didn't Lex "put two and two together" and come to believe, before time T, that the bespectacled reporter from the *Daily Planet* flies? It's hard to see how he could avoid making this very simple inference, on Thau's theory.

So, Thau's attempt to defend Pure Millianism from one Fregean argument is unsatisfactory. So, we can tentatively conclude that the argument succeeds and Pure Millianism is false. Thau argues against the most obvious alternative theories, namely Guise Millianism and the various versions of Fregeanism, but given the failure of Pure Millianism, it's reasonable to suspect that one of these other theories might well be true. However, adherents of each of these views could plausibly claim that Thau's Mary argument is unsound. Fregean theorists, for instance, could say that the proposition that Mary semantically expresses when she utters 'Some fire engines have *that* property' is one that she did not previously believe, but, nevertheless, her utterance of 'that property' refers to redness. In short, Mary learns a new proposition about the old property redness. Guise Millians could deny the claim that Mary comes to believe a new proposition. Thus, the weakness of Thau's reply to the Lex Luthor case gives us reason to question the soundness of his argument concerning Mary.

There is another reason to worry about Thau's Mary argument, one that Thau himself considers (pp. 222-3). Let's suppose that Thau's theory of visual perception is correct. Suppose Joe has seen red objects in normal circumstances and gives the name 'R' to the Thau-ian surface property that his visual experiences represent. Suppose that, as Mary watches the black-and-white monitor, Joe tells her 'Some fire engines have R' and explains that R-ness is a surface property of objects represented in visual experience that corresponds to redness. Suppose that Mary sincerely says, 'Some fire engines have R'. When the monitor switches to color, she says 'So some fire engines have *that* property' and seems to acquire a new belief. Following Thau's sort of reasoning in the previous Mary case, we should conclude that Mary's utterance of 'that property' refers to some property distinct from R-ness, contrary to Thau's own theory. So, from

the assumption that Thau's theory is true, we can infer that it is false. So, it is false. (Thau does not mention that this argument is quite similar to one that Paul Churchland and David Lewis presented against Jackson's original Mary argument for non-physical qualia.)

Thau responds to the argument by claiming that it is impossible to name the surface property that corresponds with redness (pp. 223-5). Therefore, Joe does not name the property, and Mary does not come to believe a proposition concerning it when she sincerely utters 'Some fire engines have R'. Thau says that his intentionalism requires this reply to the argument. On his view, the subjective character of an experience is due to its propositional object. If one could believe a proposition concerning one of these Thau-ian properties, while not perceiving or imagining the property, then the belief itself would have the same subjective character as a conscious experience. But that is impossible.

Perhaps Thau's intentionalism does entail that Thau-ian visual properties cannot be named. But if that's so, then perhaps we should give up Thau's intentionalism, for it's difficult to see why Joe cannot name the (alleged) Thau-ian visual property. Joe, after all, stands in intimate causal relations to the (alleged) property. He can refer to it both demonstratively ('that property') and descriptively ('the surface property that visual experiences represent ripe tomatoes as having'). So the claim that Joe cannot name the property is difficult to accept.

Thau says that our visual experiences represent properties that are distinct from, but correspond to, colors. He tells us very little more about these properties. He does not, for example, tell us whether objects that we see really *have* these properties. This raises interesting questions about Thau's diagnosis of spectrum inversion. On his view, Norm's visual experiences represent ripe tomatoes as having one of these surface properties, while Abnorm's

visual experiences represent ripe tomatoes as having a different surface property. So do Norm's visual experiences *correctly* represent the surface property of tomatoes? Do Abnorm's? Do ripe tomatoes have only the first property, or only the second, or both, or neither? Thau's book does not say.

Let's suppose that Norm's visual experiences of ripe tomatoes correctly represent their surface properties. So ripe tomatoes really do have the Thau-ian surface property that corresponds with redness. But Thau holds that the surface properties that our visual experience represent are *internally determined*: an internal physical duplicate of me would have visual experiences that represent the same surface properties that *my* experiences represent (p. 237). Imagine that I am gazing at a ripe tomato, and that a duplicate of me forms in outer space at that moment. Thau's internal-determinism claim entails that my space duplicate's visual experience represents the same surface property that my experience represents (namely, the Thau-ian property that ripe tomatoes really have) . I find this consequence puzzling. What makes it the case that my space duplicate's visual experience represents the surface property that ripe tomatoes have? Not causal contact with instances of the property, for he has not had any causal contact of the relevant sort. But surely it's not a brute, unexplainable fact about his experience. My space duplicate's visual experiences *do* stand in an interesting causal relationship to properties exemplified by his retinas and nervous system. It would not be so mysterious (to me) to claim that my space duplicate's visual experiences represent those neural properties. But if they did, then Thau's internal-determinism claim would entail that *my* visual experiences also represent ripe tomatoes as having those same neural properties. Since ripe tomatoes do not have neural properties, it would follow that my visual experiences, and Norm's visual experiences,

*misrepresent* the surfaces of tomatoes. That seems to be an undesirable consequence.

There are related puzzles about my space duplicate's *beliefs*. On Thau's theory, my space duplicate could say to himself 'Something has *that* property', as he mentally ostends the Thau-ian property. Thus he could have a belief about that property. But Thau holds that my space duplicate cannot have beliefs about *redness*, because he has not had the appropriate causal contact with red objects (pp. 21-23, 237). I find this puzzling: why is it the case that one needs causal contact with red things to have beliefs about redness, but one does not need causal contact with objects that have the Thau-ian surface property to have beliefs about that property? Here's a potential reply to my question: my space duplicate *is* in causal contact with the Thau-ian properties, for the Thau-ian properties are just neural properties that my space duplicate's body really exemplifies. So my space duplicate's experiences can easily represent those properties. Unfortunately, this answer implies that ripe tomatoes do not really have Thau-ian properties, and that I have a false belief when I think to myself 'Ripe tomatoes have *that* property' while ostending the surface property that they apparently have. So let's suppose that ripe tomatoes really do have Thau-ian surface properties, in addition to color properties. Ordinary objects, like tomatoes, have both sorts of properties. But given this similarity between colors and Thau-ian properties, it's difficult (for me) to see why one must have causal contact with colored objects to have beliefs about colors, whereas one need not have causal contact with objects that have Thau-ian properties to have beliefs about those properties.

Perhaps all of these matters would become clear once we knew more about the nature of Thau-ian properties. But for the moment, I remain puzzled.

Despite my worries about the arguments and theories that Thau presents, I have no

hesitation about recommending this book. It is one of the most interesting and thought-provoking books that I have read in quite a while. (Thanks to Brian Loar and Robert Stalnaker for allowing me to read their comments on Thau's book for a 2002 Eastern APA session. Thanks to Kent Bach, Ben Caplan, Jeffrey King, Susanna Siegel, and Robert Stalnaker for helpful comments on drafts of this review.)

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