

controversy. Thus, in order to establish T (via something like the argument I have considered here), Varzi would have to address that controversy and show that the universalist as such is committed to SD1*. But this he has not done.⁵

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Mental ownership and higher-order thought: Response to Rosenthal

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Mental ownership concerns *who* experiences a mental state. According to David Rosenthal (2005: 342), the proper way to characterize mental ownership is: 'being conscious of a state as present is being conscious of it as belonging to somebody. And being conscious of a state as belonging to somebody other than oneself would plainly not make it a conscious state'. In other words, if a mental state is consciously present to a subject in virtue of a higher-order thought (HOT), then the HOT necessarily represents

1 The order of authorship was determined arbitrarily; this article is completely collaborative.

the subject as the owner of the state. But, we contend, one of the lessons to be learned from pathological states like somatoparaphrenia is that conscious awareness of a mental state does not guarantee first-person ownership. That is to say, *conscious presence* does not imply *mental ownership*.

According to Rosenthal's (2005: 4) transitivity principle, mental states are conscious only if one is in some way aware of them. He champions the view that this principle is implemented by HOTs. Succinctly, the HOTs in virtue of which a mental state can become conscious have the content, 'I am in a certain state' (Rosenthal 2005: 343). As he (2005: 343–44) emphasizes, this awareness of a state as present seems 'direct' and 'unmediated'. The notion of self here is minimalist, just a 'raw bearer'. This leaves room for the possibility that one can describe oneself incorrectly. According to Rosenthal's 'battery model' (2005: 345–48), I might misattribute contingent properties (e.g. personal history) to myself. I might, say, believe myself to be Barack Obama. Nevertheless, Rosenthal highlights the point that we are immune to error as regards the raw bearer (Rosenthal 2005: 354–60). According to this version of immunity, the 'Thin Immunity Principle' (TIP), 'when I have a conscious pain, I cannot be wrong about whether it's I who I think is in pain ... I cannot represent my conscious pain as belonging to someone distinct from me' (2005: 357). HOTs necessarily refer to both the first-order mental state and the owner, who can be none other than self. Conjunction of the battery model and TIP implies that I can describe myself inaccurately, but I *cannot* represent my conscious mental states as belonging to someone else.

Liang and Lane (2009), however, have argued that empirical evidence can be adduced to refute this claim. Specifically, in the case of a patient (FB) suffering from somatoparaphrenia (a syndrome in which one feels alienated from parts of one's body) accompanied by tactile extinction (in the alien body part), conscious perception was recovered when the patient was advised that somebody other than herself would be touched (Bottini et al. 2002). As the result of a right hemisphere stroke, FB came to believe that her left hand belonged to her niece. In a series of controlled experiments, whenever that hand was touched, FB felt nothing (Part I). She was not mistaken about her identity, was fully oriented in space and time, and evinced no other indications of mental deterioration. But, surprisingly, upon being told that her niece's hand would be touched, FB experienced tactile sensation (Part II).

We suggest that the concept of mental ownership plays a critical role in explaining the dramatic experiential contrast between Parts I and II. It is our contention that FB's case is best explained by distinguishing mental ownership from conscious presence. Even when characterizing FB's case in a way that is maximally consistent with HOT theory, it seems that although a tactile sensation is consciously present to her in Part II, her HOT does

not represent her as the owner. We have argued that this constitutes a counter-example to Rosenthal's view.

Rosenthal (2010) proposes two criticisms of our view. First, he claims 'it's not at all obvious what representing a state as being present to oneself consists in apart from representing the state as belonging to oneself. So it's unclear what their distinction amounts to'. Second, he argues that FB's recovery of tactile sensation can be explained by HOT theory without violating TIP. We begin with the second objection.

Rosenthal (2010) argues that 'There are two kinds of ownership': (a) 'whom a sensation subjectively belongs to', and (b) 'the apparent bodily location of the sensation'. To illustrate this distinction he cites the phenomenon of phantom limb: 'In addition to being aware of bodily sensations as one's own, we are aware of such sensations as having some bodily location; pains, for example, subjectively seem to be in a hand, foot or other body part.' He understands this apparent location as just one among various qualitative aspects of the pain; in the same way that pains can be sharp, dull or throbbing, so too they can seem to be located in the head, the chest or a limb that doesn't exist. On this characterization, (a) is unaffected. Those who experience phantom pain, still experience the pain as their own.

Rosenthal regards FB's case as analogous to phantom limb. He says that because FB is aware of the sensation in a 'spontaneous, unmediated way', it follows that 'she is aware of the sensation as being her own'. It is just that this particular sensation has a subjective location in her niece's rather than in her body. So the idea is that, although (b) is misrepresented, (a) is not. On this view, Liang and Lane fail to recognize subjective bodily location as an alternative and legitimate notion of mental ownership. Accordingly, FB's case can be accommodated by HOT, without violating TIP.

We disagree. First, to claim that spontaneous, unmediated awareness somehow implies that mental ownership can never be misrepresented is to beg the question. It is one thing to say that, in Part II, FB has a HOT that enables her to have spontaneous and unmediated awareness of the tactile sensation. It is something else to say that FB's HOT represents her, from the first-person point of view, as being the owner of that sensation. The inferential leap from premiss to conclusion is substantial: it should not be assumed that subjective spontaneity or apparent absence of mediation guarantees mental ownership. Liang and Lane's objection is precisely that – the two are not necessarily related in this way.

Second, when applying TIP to the case of pain, Rosenthal (2010) argues: 'No error is possible about whom I am aware of as having the pain because the spontaneous awareness tacitly identifies the bearer of the pain with the bearer of the awareness'. The problem is, again, there is a gap in this argument. It leaves a critical question unanswered – why can't identification of the bearer of the pain by spontaneous awareness go astray? As Rosenthal has repeatedly emphasized in his writings (e.g. 2002 and 2005), one of the main

virtues of his theory of consciousness is that HOTs can misrepresent.² Indeed, HOT theory allows for the possibility of describing mental states that do not even exist. Given that HOTs, *ex hypothesi*, must refer to both a mental state and to the state's owner, and given that HOTs can be completely wrong about the first order state to which they refer, it is arbitrary to insist that HOTs cannot be wrong about mental ownership. Liang and Lane's contention is that HOTs can misrepresent not only the content of first-order mental states but also the subject.³ Spontaneous awareness can obtain in the absence of mental ownership.

Third, Rosenthal takes subjective bodily location to be an alternative notion of mental ownership. But this is mistaken. Note that he treats subjective bodily location as 'an aspect of the qualitative character of bodily sensations'. In other words, where the subject feels the sensation is regarded as part of the content of the sensation, i.e. part of *what* the subject experiences. For the sake of argument, we can allow that phantom limb might be explainable in these terms, and that 'we must understand this apparent location as a qualitative aspect of the pain'.⁴ The problem is, if this view is adopted, it would be a mistake to use subjective bodily location to explain somatoparaphrenia. The two cases are not analogous: in phantom limb who feels the pain is not at issue. The qualitative character of bodily sensations is about *what* the subject experiences, namely the content of first-order mental state, not about *who* that subject is. Explaining *who* in terms of *what*, treating the former as merely derivative from the latter, is to mischaracterize the phenomenological perplexity of mental ownership. Location and belongingness are distinct. In sum, Rosenthal's objection fails because he has not established subjective bodily location as a legitimate alternative notion of mental ownership.

Recall that Rosenthal's first objection is that it is unclear what our distinction between conscious presence and mental ownership 'amounts to'. One way of responding to this worry is by unpacking the distinction in terms of his theory. For the sake of argument we can agree with Rosenthal on the following points: (1) For every mental state there must be a subject. (2) The subject is aware of conscious mental states in virtue of having suitable HOTs, such that awareness of those mental states seems unmediated and spontaneous. (3) Every conscious mental state is consciously present to the subject. But (1)–(3) do not imply that every mental state is represented, from the

2 Rosenthal (2005: 8) touts this as a clear advantage that his implementation of the transitivity principle has over rival implementations, like inner-sense models.

3 Liang and Lane (2009) have previously shown that Rosenthal's battery model of self-identification does not prevent TIP from being violated, at least as regards the case of FB.

4 Although we do not argue the point here, some theories, like Melzack's (1989) 'neuromatrix', suggest that Rosenthal's approach might even fail to adequately account for phantom limb phenomena (both pain and other sensations).

first-person point of view, as belonging to the subject, the one who is currently aware of it in a spontaneous, unmediated way. Thus it can be seen that HOT theory itself allows for the possibility that TIP can be violated. And as FB's case shows, when Rosenthal (2005: 357) proclaims that 'one cannot be wrong about whether the individual that seems to be in pain is the very same as the individual for whom that pain is conscious', he is mistaken. No aspect of HOT theory can be enlisted to justify Rosenthal's inference from presence to ownership.

Why is allowing for the presence-ownership distinction so important? Our exchange with Rosenthal is not – and we believe Rosenthal would heartily agree – merely a parochial, philosophical dispute. Wittgenstein (1969: 66–67) once famously claimed that to ask of a person who reports being in pain 'are you sure that it's *you* who have pains?' would be nonsensical. Most contemporary philosophers have taken this remark to be undeniably true. Wittgenstein, we contend, was wrong. It would not necessarily be nonsensical. On the contrary such questions should sometimes be asked.

Getting clear about the conceptual issues in this vicinity is essential to making progress on a host of challenging empirical issues. One important role for philosophy, which remains underdeveloped, is to elucidate concepts with an eye towards motivating directed, fruitful inquiry, in both clinical and experimental contexts. Consider again FB's recovery from tactile extinction in Part II. Motivated by realization that spontaneous awareness does not guarantee ownership, a clinician might have pursued an additional line of questioning. Adequate investigation of FB's perplexing phenomenal experience would require that she be asked the Wittgenstein question, albeit in slightly recast form, to wit: 'Are you sure it is you who is feeling your niece's sensation?'

Somatoparaphrenia is surprisingly common, some reports (e.g. Baier and Karnath 2008) indicating that it occurs in as many as 8% of acute stroke patients with right brain damage. The presence-ownership distinction espoused here, we suggest, can motivate a research programme that combines well-designed questions and varied stimuli. For example, probes similar to those employed in the Cambridge Depersonalization Scale (Sierra and Berrios 2000) could help to evince and render reportable the rich phenomenological complexity. Along with this scale, multifarious stimuli should be applied. The tactile tests on FB can be supplemented with, for instance, the cold pressor pain test (e.g. Mitchell et al. 2004), aiming for a more refined, nuanced understanding of her phenomenology.

Making salient the distinction between mental ownership and conscious presence, and wielding these notions perspicaciously, is a significant way in which philosophy can contribute to the development of revelatory empirical inquiry. To illustrate with a current dispute among neuroscientists, Feinberg et al. (2010) have recently criticized the Geschwind–Gazzaniga account of somatoparaphrenia as incapable of explaining the 'bizarre aspects of the

confabulations displayed by our somatoparaphrenia patients'. He proposes an alternative account that has clear implications for distinguishing between the neuroanatomical substrates of asomatognosia and somatoparaphrenia. Proper evaluation of these competing empirical accounts, we submit, requires that serious attention be given to those 'bizarre aspects', most notably the phenomenology of mental ownership.⁵

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