

COMMENTS AND CRITICISM

SOMATOPARAPHRENIA, THE BODY SWAP ILLUSION, AND IMMUNITY TO ERROR THROUGH MISIDENTIFICATION*

In their “Self-Consciousness and Immunity,” Timothy Lane and Caleb Liang call into question Sydney Shoemaker’s claim that a certain class of self-ascriptions is immune to error through misidentification (henceforth IEM) relative to the first-person pronouns.¹ By presenting a clinical case (somatoparaphrenia) and an experiment (the Body Swap Illusion), Lane and Liang contend that those self-ascriptions that Shoemaker believes are IEM are, in fact, subject to error through misidentification. In this note, I argue that somatoparaphrenia and the Body Swap Illusion do not constitute a counterexample to IEM. Section I briefly summarizes Shoemaker’s view on IEM and identifies the desiderata that a counterexample to IEM must meet. In sections II and III, I show how Lane and Liang employ the case of somatoparaphrenia and the Body Swap Illusion to challenge IEM and explain why their challenge fails in light of the desiderata mentioned. In section IV, I reply to four possible objections to my position. The conclusion of this note is thus that, despite there being some troubling cases, Shoemaker’s view on IEM remains tenable.

I. SHOEMAKER ON IEM

Following Wittgenstein,² Shoemaker distinguishes two different uses of the word “I” (or “my”): the use “as object” and the use “as subject.”³ Examples of the use “as object” are such utterances as “my arm is broken,” “I have grown six inches,” and “I am bleeding”; examples of the use “as subject” are such utterances as “I feel pain,” “I am waving my arm,” and “I see a canary.” In the first sort of utterances, but not in the second sort, the recognition of a particular person is involved, and thereby in those cases the possibility of an error has been provided for.⁴ This by no means implies that utterances of the second sort are guaranteed to be true. As Shoemaker clarifies, Wittgenstein’s point is that those utterances are immune to a certain sort of error: they are

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¹ Timothy Lane and Caleb Liang, “Self-Consciousness and Immunity,” this JOURNAL, CVIII, 2 (February 2011): 78–99; Sydney Shoemaker, “Self-Reference and Self-Awareness,” this JOURNAL, LXV, 19 (Oct. 3, 1968): 555–67.

² See Ludwig Wittgenstein, *The Blue and Brown Books* (Oxford: B. Blackwell, 1958).

³ Shoemaker, “Self-Reference and Self-Awareness,” *op. cit.*, p. 556.

⁴ Wittgenstein, *The Blue and Brown Books*, *op. cit.*, pp. 66–67.

“immune to error due to a misrecognition of a person, or, as I shall put it, they are immune to error through misidentification relative to the first-person pronouns.”⁵ Shoemaker formulates IEM as follows:

[T]o say that a statement “*a* is Φ ” is subject to error through misidentification relative to the term ‘*a*’ means that the following is possible: the speaker knows some particular thing to be Φ , but makes the mistake of asserting “*a* is Φ ” because, and only because, he mistakenly thinks that the thing he knows to be Φ is what ‘*a*’ refers to.⁶

According to this formulation, to say that the statement “I feel pain” is IEM means that the following is impossible: the speaker reporting “I feel pain” knows someone to feel pain, but makes the mistake of asserting “I feel pain” because, and only because, he mistakenly thinks that the person he knows to feel pain is himself.

In light of what has been said, the desiderata that a counterexample to IEM must meet can be summarized in the following way:

- (1) The speaker, based on introspection, reports his experience in the sentence form “I Φ ,” where the term “I” in “I Φ ” is used “as subject.”
- (2) The speaker knows someone to be Φ , but mistakenly thinks that the person who is Φ is himself.
- (3) The statement “I Φ ” is a counterexample to IEM if and only if both (1) and (2) are satisfied.

The experiences of feeling pain, of waving one’s arms, and of seeing a canary are known through introspection. When reporting these experiences in the sentence form “I Φ ,” one uses the term “I” “as subject.” This suggests that to be a counterexample, an “I Φ ” utterance must be made on the basis of introspection with the term “I” used “as subject.” Moreover, given Shoemaker’s formulation, the sort of error at issue is such that the speaker saying “I Φ ” misrepresents someone else’s experience as belonging to himself instead of misrepresenting his own experience as belonging to someone else; otherwise, the speaker does not mistakenly think that the person who is Φ is *himself*. This will prove crucial for evaluating whether somatoparaphrenia and the Body Swap Illusion count as counterexamples to IEM.

II. SOMATOPARAPHRENIA AND IEM

Somatoparaphrenia is a syndrome wherein patients suffer from a delusion of disownership of parts of their bodies.⁷ It is typically brought

⁵ Shoemaker, “Self-Reference and Self-Awareness,” *op. cit.*, p. 556.

⁶ *Ibid.*, p. 557.

⁷ Giuseppe Vallar and Roberta Ronchi, “Somatoparaphrenia: A Body Delusion. A Review of the Neuropsychological Literature,” *Experimental Brain Research*, CXCII, 3 (2009): 533–51.

about by extensive right-hemisphere lesions. Patients experiencing this syndrome feel that a contralesional limb, usually a hand, belongs to someone else.

Lane and Liang proceed with their argument by exploiting a clinical case reported by Gabriella Bottini et al.⁸ A woman, FB, claimed that her left hand belonged to her niece. The examiner conducted a series of tests. FB was blindfolded and instructed to say “yes” when she felt a touch and “no” when she did not feel one. When the examiner told FB that he/she was going to touch her left hand and then briefly touched the dorsal surface of FB’s hand, FB reported no tactile sensation. However, when the examiner told FB that he/she was going to touch her niece’s hand and then briefly touched FB’s hand, FB reported a tactile sensation.

Lane and Liang regard FB’s case as a matter of *who* feels the sensation rather than *where* the sensation is felt.⁹ They divide the experiment into two parts: FB’s expectation that she will be touched is Part 1, and her expectation that her niece will be touched is Part 2. They hold that in Part 2, FB is not misrepresenting the location of her sensation; instead, FB is misrepresenting her sensation as belonging to someone else. Introspecting on the tactile sensation, FB, from her first-person perspective, misrepresents herself such that she is not the owner of the sensation. It follows that “FB commits an error through misidentification regarding just *who* is the subject of the sensation.”¹⁰

Now, despite being a perplexing phenomenon, FB’s case meets none of the aforementioned desiderata of a counterexample. FB’s case does not satisfy (1), because, granted that FB is introspectively aware of the sensation, FB does not report her experience in the sentence form “I Φ ” with the term “I” used “as subject.” After all, IEM is a feature of (some) first-person statements, not of experiences. This should be clear from Shoemaker’s formulation: “to say that a *statement* ‘*a* is Φ ’ is subject to error through misidentification relative to the term ‘*a*’ means that the following is possible.”¹¹ At any rate, unless FB reports her experience in the appropriate way, we have nothing by which to evaluate whether it violates IEM. FB’s case does not satisfy (2) either, for the following situation does not obtain: FB knows that someone feels the sensation, but mistakenly thinks that the person who feels that sensation is herself. Instead, FB is misrepresenting her own sensation

⁸Gabriella Bottini et al., “Feeling Touches in Someone Else’s Hand,” *NeuroReport*, XIII, 2 (February 2002): 249–52.

⁹Lane and Liang, “Self-Consciousness and Immunity,” *op. cit.*, p. 86.

¹⁰*Ibid.*, p. 86.

¹¹Italics added by the author. Shoemaker, “Self-Reference and Self-Awareness,” *op. cit.*, p. 557.

as belonging to someone else. Thus, FB neither reports her experience in the appropriate way nor misrepresents her experience in a way that violates IEM. As a result, FB's case does not satisfy (3) and is therefore not a counterexample to IEM.¹²

III. THE BODY SWAP ILLUSION AND IEM

The Body Swap Illusion is an experiment, first demonstrated by Valeria Petkova and Henrik Ehrsson, wherein subjects experience other people's bodies, as well as artificial bodies, as being their own.¹³ The illusion is induced by experimental manipulation of the visual perspective in conjunction with correlated visual and sensory signals supplied to the respondent's body.

In one setting (Experiment 5), the experimenter wore a helmet equipped with two closed-circuit television (CCTV) cameras mounted in such a way that they presented the experimenter's viewpoint. The subject stood directly opposite the experimenter, wearing head-mounted displays (HMDs) connected to the two CCTV cameras on the experimenter's head. This setup allowed the subject, by adopting the experimenter's perspective, to see his physical body from the shoulders to slightly above the knees. The subject was asked to stretch out his right arm and take hold of the experimenter's right hand, as if to shake it. During the experiment, the subject and the experimenter were asked to squeeze each other's hands repeatedly for two minutes. In the illusion condition, they squeezed synchronously, whereas in the control condition, they squeezed alternately, with the experimenter returning the squeeze semi-randomly.¹⁴ The experiment induced an

¹²Note that Lane and Liang formulate four theses: (i) For every mental state, there must be a subject who experiences it. (ii) Every mental state is in principle available to introspection. (iii) Every mental state is experienced by the one who is currently introspecting that state. (iv) Every mental state is, from the first-person point of view, *represented as* experienced by the one who is introspecting the state (Lane and Liang, "Self-Consciousness and Immunity," *op. cit.*, p. 87). While regarding (i)–(iii) as fully compatible with Shoemaker's view, Lane and Liang contend that proponents of IEM fail to see that (i)–(iii) do not imply (iv), which they believe must obtain for IEM to be true. However, FB does not represent the tactile sensation, of which FB is introspectively aware, as experienced by herself. Consequently, (iv) does not hold, so IEM fails. Or so their argument goes. Nonetheless, even if (i)–(iii) do not imply (iv), it is unclear why (iv) must hold for IEM to be true. Instead, I believe that FB's case shows just the opposite: IEM is compatible with the negation of (iv); that is, some mental states are *not*, from the first-person point of view, represented as experienced by the one who is introspecting the states. Although the tactile sensation of which FB is introspectively aware is not represented as experienced by herself, FB does not misrepresent someone else's experience as belonging to herself. At any rate, FB does not commit an error relevant to IEM, if she commits any.

¹³Valeria Petkova and Henrik Ehrsson, "If I Were You: Perceptual Illusion of Body Swapping," *PLoS One*, III, 12 (December 2008): 1–9.

¹⁴*Ibid.*, p. 4, Figure 6.

illusion such that the subject experienced the experimenter's arm as being his own. The illusion is so robust that "a participant can face his or her biological body and shake hands with it without breaking the illusion."¹⁵ Most remarkably, "after the experiment, several of the participants spontaneously remarked... 'I was shaking hands with myself!'"¹⁶

Lane and Liang understand the illusory experience of shaking hands with oneself as a matter of "agentive experience," where one experiences oneself as someone who is doing something.¹⁷ They maintain that when the illusion was induced and the subjects reported shaking hands with themselves, their experiences involved misrepresentation of *who* shook their hands. "Although it was really the experimenter who was shaking their hands, the subjects misrepresented themselves as the agent of the action."¹⁸ From their first-person perspectives, the subjects were introspectively aware of the agentive experience, but they were mistaken in thinking themselves to be the agent of the action. The subjects were mistaken about *who* the agent of the action was and so "commit[ted] an error that violates IEM."¹⁹

Before examining whether the Body Swap Illusion meets the aforementioned desiderata of a counterexample, let us take a closer look at the utterance "I was shaking hands with myself." This utterance is ambiguous and allows two and only two interpretations in the experimental context. Either (a) the term "I" refers to the subject wearing the HMDs, and the term "myself" refers to the image, displayed on the screen of the subject's HMDs, of the subject's body, which is an intentional object of perception; or, conversely, (b) "I" refers to the image of the subject's body, and "myself" refers to the subject wearing the HMDs.

Now, in (a), the subject wearing the HMDs is represented as the agent who performs the action of shaking hands, and the image of the subject's body displayed on the screen of the HMDs is represented as the object whose hand the subject wearing the HMDs is shaking. In (b), by contrast, the image of the subject's body is represented as the agent of the action, and the subject wearing the HMDs is represented as the object whose hand the image of the subject's body is shaking.

¹⁵ *Ibid.*, p. 1.

¹⁶ *Ibid.*, p. 5.

¹⁷ Lane and Liang, "Self-Consciousness and Immunity," *op. cit.*, p. 92.

¹⁸ *Ibid.*

¹⁹ *Ibid.*, p. 93.

Nonetheless, “I was shaking hands with myself” fails to meet all the desiderata in either sense. Taken in the first sense, “I was shaking hands with myself” satisfies (1), since the term “I” is used “as subject” and the report is based on introspection. But it does not satisfy (2) because it *is* the subject himself who wrongly thinks that he is shaking hands with the image of the subject’s body (the reference of “myself”), though the subject is actually shaking hands with the experimenter. Although the person with whom the subject is shaking hands is misrepresented, the agent of the action is not. Thus, “I was shaking hands with myself” is not a counterexample to IEM in the first sense. Taken in the second sense, “I was shaking hands with myself” satisfies (2), because the subject misrepresents the image of the subject’s body (the reference of “I”) as the agent who shakes his hand. But it does not satisfy (1), because the term “I” is not used “as subject”; it refers to an intentional object of perception. Though the agent of the action is misrepresented, the first-person pronoun is not used in the appropriate way. Hence, irrespective of what Lane and Liang mean by “I was shaking hands with myself,” the Body Swap Illusion does not constitute a counterexample to IEM.²⁰

IV. RESPONSE TO POSSIBLE OBJECTIONS

In this section, I consider four possible objections to my position. The first and the second are related to somatoparaphrenia. The third concerns the Body Swap Illusion, and the fourth pertains to my approach to the issue.

First, FB’s experience might be characterized in the sentence form “I Φ ” in such a way that the reconstructed statement is not IEM. As Lane and Liang point out in one of their footnotes:

²⁰ Again, note that Lane and Liang formulate four theses: (i) For every agentive experience there must be a subject who experiences it. (ii) Every agentive experience is in principle available to introspection. (iii) Every agentive experience is experienced by the one who is currently introspecting it. (iv) Every agentive experience is, from the first-person point of view, *correctly represented as* experienced by the one who is introspecting it (*ibid.*, p. 92). Lane and Liang emphasize that (i)–(iii) do not imply (iv), without which “the ground upon which IEM stands is shaken” (*ibid.*). Nevertheless, the Body Swap Illusion shows that the subjects might represent themselves as agents when plainly they are not, and so IEM is violated. Or so their argument goes. Nonetheless, even if (i)–(iii) do not imply (iv), it is unclear why (iv) must hold for IEM to be true. For reasons similar to FB’s case, I believe that IEM is also compatible with the negation of (iv); that is, some agentive experiences are *not*, from the first-person point of view, correctly represented as experienced by the one who is introspecting them. Granted that the agentive experience of shaking hands with oneself is incorrectly represented as experienced by the subject, the subject either does not use the first-person pronoun in the appropriate way or is really the agent who erroneously thinks that he is shaking hands with the image of his body. In any event, whatever error the subject might commit, it is not an error related to IEM.

A more scrupulous reconstruction of this [FB's] pathological experience would be: "I am introspectively aware of my niece's sensation." Under this reconstruction, the subject of experience, or the ownership of sensation, can be misrepresented.²¹

One might argue that FB's experience can be characterized by the statement "I am introspectively aware of my niece's sensation" with the term "I" used "as subject." Given that FB misattributes her sensation to her niece, FB is still mistaken about who the subject of the sensation is, so the reconstructed statement is not IEM.

For the sake of argument, let us grant that FB's experience can be thus characterized. According to Shoemaker's formulation, to say that the statement "I am introspectively aware of my niece's sensation" is subject to error through misidentification is to imply that the following is possible: FB knows that someone is introspectively aware of her niece's sensation but mistakenly thinks that person to be herself. Therefore, when considering the statement "I am introspectively aware of my niece's sensation," the question relevant to IEM is, "Are you sure it is *you* who are introspectively aware of your niece's sensation?" rather than "Are you sure it is your niece's sensation?"

Concerning the first question, the most natural answer would be, "Yes, it is *I* who am introspectively aware of my niece's sensation." However, FB's case would then not be a counterexample to IEM, since it is FB herself who incorrectly thinks that she is introspectively aware of her niece's sensation. In saying, "I am introspectively aware of my niece's sensation," FB does commit an error, but not an error through misidentification relative to the first-person pronoun. Although what FB is introspectively aware of is misrepresented, the subject of the experience is not. As a result, even if FB's experience can be characterized in the way that Lane and Liang suggest, FB's case is still not a counterexample to IEM.

Second, one might insist that when FB is misrepresenting her own tactile sensation as belonging to her niece, the subject of experience is already misrepresented. Why would only cases where one misrepresents someone else's sensation as belonging to oneself count as counterexamples to IEM?

When considering *Shoemaker's* formulation, however, a counterexample to IEM must be a case where one misrepresents someone else's experience as belonging to oneself, since IEM is concerned with misidentification relative to the *first-person* pronouns. To say that a speaker saying "I Φ " commits an error through misidentification

²¹ *Ibid.*, p. 86, note 42.

relative to the first-person pronoun means the following situation obtains: the speaker knows someone to be Φ but makes the mistake of asserting "I Φ " because, and only because, he mistakenly thinks that the person he knows to be Φ is *what "I" refers to*; that is, himself. It should now be clear that the error in question is such that he misattributes another's experience to himself rather than misrepresents his experience as belonging to someone else. Consider the reconstructed statement "I am introspectively aware of my niece's sensation" again. As I have argued earlier, although what FB is introspectively aware of is misrepresented, the subject of the experience is not. Even if we concede that FB does misrepresent the subject of the sensation, she does not misrepresent it in the "right" way. Instead of misrepresenting another's sensation as belonging to herself, FB misattributes her own sensation to her niece. Thus, when FB misattributes her sensation to her niece, she does not commit any error through misidentification relative to the first-person pronoun. Even if FB, upon being touched, reports that "She (FB's niece) feels the tactile sensation," it will not be a counterexample to IEM, because in saying so, FB only commits an error through misidentification relative to the *third-person* pronoun "she." In view of these considerations, FB's case is still not a counterexample to IEM.

Third, one might question whether the utterance "I was shaking hands with myself" can be interpreted only in the two ways mentioned. Perhaps both "I" and "myself" refer to the subject wearing the HMDs. In that case, "I" is used "as subject," and the subject misrepresents the experimenter's agentic experience as belonging to himself. Thus understood, "I was shaking hands with myself" seems not to be IEM.

Nonetheless, this attempt is futile. Except in cases where someone uses one of his hands to shake the other hand, it should be obvious that the one who shakes hands at all shakes *someone else's* hand. Or, to put it another way, if someone is the agent who performs the action *shakes hands*, then he is not the object whose hand he shakes. This truism is however violated when both "I" and "myself" refer to the subject wearing the HMDs. The subject wearing the HMDs cannot be both the agent who shakes hands and the object whose hand he shakes. The subject must shake hands with someone else.

In order for "I was shaking hands with myself" to make sense, it must be interpreted in either of the two ways mentioned. On the one hand, if the subject wearing the HMDs is the agent who shakes hands, then in the experimental context, the image of the subject's body is represented as the object whose hand he shakes. On the other hand, if the subject wearing the HMDs is the object whose hand someone else shakes, then the image of the subject's body is represented as the agent

who shakes his hand. Taking “I” and “myself” to have the same reference does not render “I was shaking hands with myself” a counterexample to IEM; rather, it is simply bad English.

The last possible objection bears on my approach to the issue. One might complain that my approach focuses solely on the conceptual or linguistic dimension of self-consciousness without paying due attention to the phenomenological dimension and so falls short in important respects.

Recall that the thesis I endeavor to defend is that somatoparaphrenia and the Body Swap Illusion are not counterexamples to IEM. I have been confining myself to exploring whether somatoparaphrenia and the Body Swap Illusion are counterexamples to *Shoemaker’s* version of IEM. Thus, however the discussion might be carried on, I have to be faithful to Shoemaker’s formulation. FB’s case and the Body Swap Illusion are undeniably puzzling, but a phenomenon does not constitute a counterexample to IEM simply by virtue of being bewildering. The opponents bear the burden of proof to point out the inadequacy, if any, of Shoemaker’s formulation, to propose a better characterization, and to reexamine the two cases accordingly.

V. CONCLUSION

So far, *pace* Lane and Liang, I have been arguing that somatoparaphrenia and the Body Swap Illusion are not counterexamples to IEM. By analyzing Shoemaker’s view on IEM, I show that an “I Φ ” statement is a counterexample if and only if its speaker makes it on the basis of introspection, uses the term “I” “as subject,” and knows someone to be Φ but mistakenly thinks that the person who is Φ is himself. FB’s case is not a counterexample, as FB neither makes any report nor misrepresents someone else’s sensation as belonging to herself. Nor is the Body Swap Illusion a counterexample, as the utterance “I was shaking hands with myself,” however it is understood, fails to meet all the desiderata of a counterexample. Hence, the troubling cases of somatoparaphrenia and the Body Swap Illusion leave Shoemaker’s view on IEM unaffected. To challenge IEM, the opponents need to put forward another argument.

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