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# Can Experiential Ownership Violate the Immunity Principle?

A Reply to Oliver Haug & Marius F. Jung

Caleb Liang

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In what follows, I respond to Haug and Jung’s criticisms of my target paper and defend the following claims: (1) the sense of experiential ownership can misrepresent the fact of experiential ownership; (2) the sense of experiential ownership is eligible to serve as a bearer of IEM; (3) at least some versions of IEM face genuine counterexamples; and (4) as far as the sense of self-as-subject is concerned, IEM is not a trivial property. Finally, I describe a new set of experiments that induced what I call “the self-touching illusion.” The data, I suggest, strengthen the view that both the sense of self-as-subject and IEM are open to empirical as well as philosophical investigation.

## Keywords

Experiential ownership | Immunity principle | Self-as-subject | Self-touching illusion

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## 1 Introduction

Does the sense of self-as-subject conform to the immunity principle (IEM)? When I experience a phenomenal state, does it guarantee that based on first-personal access I cannot be wrong about whether it is me who experiences it? In “Self-as-Subject and Experiential Ownership”, I elucidated the sense of self-as-subject in terms of the sense of experiential ownership, and argued that the sense of experiential ownership does not enjoy IEM. Haug and Jung raise very

substantial issues against my overall position.<sup>1</sup> Here, I respond to Haug and Jung’s criticisms and intend to show how an interdisciplinary approach may enhance our understanding of the sense of self-as-subject.

Let me begin by suggesting that the following two issues regarding IEM are different:

<sup>1</sup> I am very thankful for Haug and Jung’s criticisms, from which I have learnt a great deal. Below I will use “the sense of self-as-subject” and “the sense of experiential ownership” interchangeably.

(1) Does IEM correctly specify how we use the first-person pronoun “I”? (2) Does IEM really mark the line between the sense of self-as-object and the sense of self-as-subject? While (1) concerns a linguistic rule, (2) is about the nature of self-consciousness. The issue addressed in my paper was (2). I investigated the best way to understand the distinction between the sense of self-as-object and the sense of self-as-subject. I argued that IEM, or at least some versions of it, fails to draw the distinction between the two types of self-consciousness. I proposed an alternative account, according to which the distinction can be better articulated in terms of the sense of body ownership and the sense of experiential ownership.

## 2 Experiential ownership and the immunity principle

The first issue raised by Haug and Jung concerns whether the sense of experiential ownership could misrepresent the fact of experiential ownership at all. For ease of discussion, I will present my argument against IEM again, and then reply to Haug and Jung’s objection. Here is the argument:

- (1) For every phenomenal state there must be a subject who experiences it.
- (2) Every phenomenal state is in principle available to first-personal access.
- (3) Every phenomenal state is experienced by the one who has first-personal access to that state.

However, (1)~(3) do not imply:

- (4) Every phenomenal state is, from the first-person point of view, *represented as* experienced by the one who has first-personal access to that state (Liang [this collection](#), p. 8).

Three remarks are in order: first, when Haug and Jung characterize the fact of experiential ownership as a conceptual truth or a matter of logical necessity, what they say can be accommodated by (1) above. I agree with (1), but that is not my notion of the fact of experiential ownership. For me, the fact of experiential ownership is an *empirical* fact: it is not just that every phenomenal state has a subject; rather, it concerns exactly who is the subject of a specific

experience in a given situation. For example, right now, it is me, not you, who is experiencing back pains. So, the fact of experiential ownership is captured and fixed not by (1) but by (3) in my argument above; i.e., the question “who is the subject of that particular phenomenal state?” can be answered by ascertaining which particular subject has first-personal access to that state. Second, I would not characterize the sense of experiential ownership as concerning “the content of a phenomenal state” (Haug & Jung [this collection](#), p. 5). As I stated in the target paper (Liang [this collection](#), pp. 6–7), the representational content and the phenomenal character of a phenomenal state belong to the *what*-component of that state. The sense of experiential ownership is exclusively about the *who*-component, which is captured by (4) in my argument. Third, central to my argument is that (3) and (4) are not equivalent: as in FB’s case of somatoparaphrenia, feeling sensations is one thing, but whether she experiences herself *as* the subject of those sensations could be another. Misrepresentation may occur in one’s sense of self-as-subject when there is a mismatch between (3) and (4), i.e., when the sense of experiential ownership fails to pick out the same subject as the one settled by (3). As I suggested, the best way to describe FB’s case is that, while the fact of her experiential ownership is intact, her sense of experiential ownership fails to represent that fact. Given these remarks, the first four premises of Haug & Jung’s argument (on p. 5 of their commentary) seem to be problematic.

The second issue is about whether the sense of experiential ownership, as a phenomenal state, is eligible to serve as a bearer of IEM.<sup>2</sup> Haug and Jung insist that self-ascriptions relevant to IEM must be an explicit judgment (or belief) in an inference. However, it is not obvious that this restriction is mandatory. Given that my focus is on how to understand the sense of self-as-subject, I think that what is crucial for IEM is that the self-

<sup>2</sup> Note that, as I suggested in the target paper (Liang [this collection](#), p. 6), the fact of experiential ownership and the sense of experiential ownership are not numerically different states or events that can be detached from a phenomenal state. Rather, they are two ways of characterizing the *who*-component of that state.

ascriptions are justified on first-personal grounds, e.g., introspection, somatosensation, proprioception, etc. (cf. footnote 19 of the target paper). As the examiners of FB said: “The patient was blindfolded and instructed to say ‘yes’ when she felt a touch and ‘no’ when she did not feel any touch” (Bottini et al. 2002, p. 251). When FB said “yes” based on her sense of experiential ownership, there is no reason why this response shouldn’t count as a self-ascription. If we wish, we can reconstruct FB’s response in propositional form: I am mistaken in reporting “yes” during the test (ii) because, although I do know of someone that feels the sensations (via first-personal access), I am mistaken in thinking about who that person is. This seems to be a clear threat to IEM.

Also, it is worth pointing out that not all defenders of IEM think that self-ascriptions must explicitly be in propositional form. According to what may be called the Pre-reflective Account (Legrand 2006, 2007, 2010; Gallagher 2012; Zahavi 2005), at the pre-reflective level, the sense of self-as-subject is a constitutive component of the conscious state rather than an intentional object of consciousness. This phenomenological structure makes the sense of self-as-subject identification-free and hence enjoys IEM: when I am pre-reflectively conscious of myself-as-subject, I *cannot* be wrong about whether I am the subject of experiences. For the proponent of this account, making judgments about one’s sense of self-as-subject would count as *reflective* rather than pre-reflective self-consciousness, and hence ceases to be identification-free (Gallagher 2012, pp. 207–209). Given these considerations, I believe that the premises of Haug and Jung’s argument for the ineligibility of IEM-P are not as firm as they might think.<sup>3</sup>

The third issue is whether the specific case of somatoparaphrenia and the body swap illusion that I discussed are genuine counterexamples to IEM. The way that Haug and Jung oppose my counterexamples is related to our dispute above concerning whether IEM

has to be in the form of judgment. Haug and Jung define “judgment” as referring to a whole inference and “belief” as the conclusion of an inference. They then use their definitions to articulate a version of IEM and the necessary conditions for falsifying it. I concede that I don’t see why their account is obligatory for investigating the connection between IEM and the sense of self-as-subject. IEM has many varieties (cf. Liang this collection, pp. 7–8 and footnote 17). In my paper (Liang this collection, pp. 2 and 6), I did not claim that the two counterexamples would undermine all versions of IEM. It was “experiential immunity” in its *de re* and *which-object* forms that came under my attack. According to experiential immunity, when I am aware of a phenomenal state through first-personal access, I cannot be wrong about whether it is me who feels it. This variety of IEM focuses on phenomenal states rather than judgments, and a key feature is that it is *relative to first-personal access*, such as introspection, somatosensation, and proprioception. This feature accommodates a widely accepted view that whether a self-ascription enjoys IEM *depends on its grounds* (Pryor 1999; Coliva 2006). The feature, however, is omitted from Haug and Jung’s account, which indicates that their version of IEM is different from my target.

Haug and Jung argue that FB’s case is not a genuine counterexample because she did not judge “I am being touched on my hand”, and hence the necessary conditions for falsifying their version of IEM are not met. However, the perplexity of this case is not why FB felt nothing when she expected that she would be touched, but why she felt the sensations when she expected that her niece would be touched. So, when FB reported feeling the sensation in test (ii), a more appropriate reconstruction of FB’s self-ascription would be: “I am being touched on my niece’s hand.” She was wrong because in fact it was her own hand being touched by the researcher, not her niece’s hand. Then, my interpretation in the paper suggested that, using Haug & Jung’s formulation, “the only reason why she was wrong was because she misidentified her own

<sup>3</sup> I discuss the Pre-reflective Account in “Body ownership and experiential ownership in the self-touching illusion” (Liang et al. 2015).

sensations with someone else's" ([this collection](#), p. 9). This provides a falsification of experiential immunity.

Regarding the case of the body swap illusion, Haug and Jung argue that this is simply a case of mispredication. Instead of adding in more conceptual analyses to compete for the best interpretation of the study by [Petkova & Ehrsson \(2008\)](#), I will briefly describe a set of new experiments that combine the RHI and the body swap illusion. They explicitly address the Wittgenstein Question and measure the sense of experiential ownership. Before doing so, let me reply to the last issue raised by Haug and Jung.

The last issue concerns whether IEM is merely a trivial property. Here, I will limit myself to one remark. Haug and Jung consider IEM as purely a linguistic rule regarding how to use the first-person pronoun. Although many philosophers share this view, the goal of my paper was not to attack a linguistic rule. The opponents that I have in mind are those who try to use IEM to distinguish between the sense of self-as-object and the sense of self-as-subject. For these philosophers, IEM is not trivial at all. It matters to them and it matters to me if it turns out that the sense of self-as-subject really is fundamentally different from the sense of self-as-object. Because if the answer is yes, it would be very significant to consider whether the necessary and sufficient conditions for these two types of self-consciousness are distinct, and whether they are generated by different (though partially overlapping) neural mechanisms.

### 3 The self-touching illusion

At the end of my target paper I suggested that the next step for the investigation of the sense of self-as-subject would be to study the various conditions where one can pursue the Wittgenstein Question. I recently designed a set of experiments that allow us make exactly this step. The subject wore a head-mounted display (HMD) connected to a stereo camera positioned on the experimenter's head. Sitting face to face, they used their right hand to

hold a paintbrush, and brushed each other's left hand (figure 1).<sup>4</sup> Through the HMD, the subject adopted the experimenter's 1PP as if it was his/her own 1PP. In Experiment 1, the participant watched from the adopted 3PP (180°) the front side of his/her own virtual body, including not only the torso, legs, and face, but also his/her own right hand holding a paintbrush (figure 2). In Experiment 2, the participant watched from the adopted 3PP (180°) the front side of his/her own virtual body, including the torso and legs, but not the face. The participant also saw his/her own left hand being touched by a paintbrush held by the experimenter's hand (figure 3). Compared with the asynchronous condition, the synchronous full-body condition generated a "self-touching illusion": the subject felt "I was brushing my own hand!"<sup>5</sup>

Two "Wittgenstein Questions" in the questionnaires were designed specifically to measure the participants' sense of experiential ownership: "It was me who felt being brushed, not someone else" (WQ1), and "The one who felt being brushed was not me" (WQ2). Notice that these two statements are directly opposed to each other. In addition, they are not about the sense of body ownership, but about *who* felt the tactile sensations caused by brushing. In Experiments 1 and 2, the participants were touched by a paintbrush, so they were indeed the subjects of those tactile sensations. This fixed the *fact* of their experiential ownership. The task was to examine whether this fact was correctly represented by their *sense* of experiential ownership. Focusing on the syn-

<sup>4</sup> The experiments and data presented here are part of a bigger project; cf. "Body ownership and experiential ownership in the self-touching illusion" ([Liang et al. 2015](#)). Four students conducted the experiments under my supervision: Si-Yan Chang, Wen-Yeo Chen, Hsu-Chia Huang, Yen-Tung Lee.

<sup>5</sup> The self-touching illusion was measured by two questionnaire statements: "It felt as if I was brushing my own hand" (S1), and "The one whom I brushed was me, not someone else" (S2). A Likert scale from "strongly disagree" (-3) to "strongly agree" (+3) was used for the questionnaires. In both Experiment 1 (sync. n=38, async. n=35) and Experiment 2 (sync. n=28, async. n=14), the statistics showed significant differences between the synchronous and asynchronous conditions (Exp. 1, S1:  $p < 0.0010$ , S2:  $p < 0.0010$ ; Exp. 2, S1:  $p < 0.0010$ , S2:  $p = 0.0003$ ; one-tailed t-test). The measurements of skin conductance responses (Exp. 1, sync. n=15, async. n=15; Exp. 2, sync. n=13; async. n=13) showed the same differences (Exp. 1,  $p = 0.0080$ ; Exp. 2,  $p = 0.0473$ ; one-tailed t-test). This provided objective support for the questionnaire data.

chronous conditions, the average scores on WQ1 were 1.58 and 1.04 in Experiments 1 and 2 respectively, and the average scores on WQ2 were -1.03 and -0.50 in Experiments 1 and 2 respectively.



Figure 1: Experimental set-up.

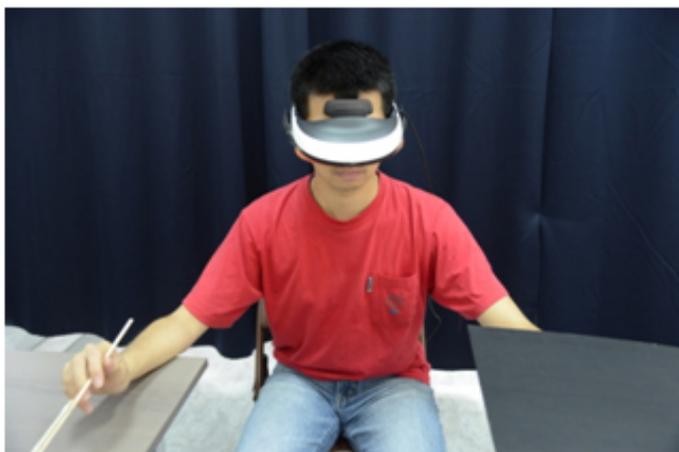


Figure 2: Subjects' view via the HMD in Experiment 1.



Figure 3: Subjects' view via the HMD in Experiment 2.

Suppose that the participants understood WQ1 as addressing themselves. That is, from their subjective point of view: it was *me* who felt the brushing. Then, according to IEM, no participants would commit mistakes regarding their sense of experiential ownership. One would expect that most participants would answer “strongly agree” (+3) or at least “agree” (+2) on WQ1. But that is not the case. In fact, 13.2% of participants in the synchronous conditions of Experiments 1 and 2 disagreed with WQ1 (i.e., they answered either -1, -2, or -3), and the average scores of WQ1 reported above were much lower than this interpretation requires. I discuss other possible interpretations elsewhere and argue that neither of them can support IEM.<sup>6</sup> Based on the data, it is more plausible that at least some participants in these experiments were uncertain and hence prone to error about whether they were the subjects of the tactile sensations that they actually felt. That is, the fact of having tactile sensations does not guarantee that the participants will necessarily have the *sense* that “I am the one who felt them.”<sup>7</sup> Overall, the data provide empirical evidence for the possibility that one’s sense of experiential ownership can misrepresent the relevant fact of experiential ownership. Hence, IEM could potentially be falsified.

6 Cf. “Body ownership and experiential ownership in the self-touching illusion” (Liang et al. 2015). Briefly, (i) suppose for some reason that the participants understood WQ1 to be addressing someone else. That is, in their subjective experiences, it was *not me* who felt the brushing. Then, according to IEM, one would expect that most participants would answer “strongly disagree” (-3) or at least “disagree” (-2) on WQ1. But this is not the case either. This time, the average scores of WQ1 were too high to fit this interpretation. (ii) Suppose that the participants did not all understand WQ1 in the same way: some took it as addressing themselves, but others as addressing someone else. Then, assuming IEM holds, one would expect the participants to answer either +3 (or at least +2) or -3 (or at least -2). But, again, that is not the case. Many participants answered “slightly disagree” (-1), “not sure” (0), or “slightly agree” (+1). In fact, the standard deviation in each experiment is large (Exp. 1, SD=1.5001; Exp. 2, SD=1.5512), suggesting that the participants’ responses to WQ1 varied widely.

7 In addition to WQ1, we also presented WQ2 (“The one who felt being brushed was not me”) in the questionnaires. The direct contrast between WQ2 and WQ1 was so obvious that, even if the participants felt uncertain about WQ1, the contrast can still be easily recognized. So, if IEM holds, one could reasonably expect that participants’ responses would manifest a *strong* “negative correlation” between WQ1 and WQ2. For example, if a subject answers +3 to WQ1, then he/she would likely answer -3 (or at least -2) to WQ2, etc. However, we only observed a weak negative correlation between these two sets of results (coefficient  $R=-0.3278$ ).

## 4 Conclusion

The defenders of IEM will try to find ways to interpret these data differently. It would not surprise me if what these data mean continues to be controversial. However, I hope that experiments like these and the discussions in the target paper will at least convince many researchers that sometimes it does make sense to ask Wittgenstein Questions (like WQ1 and WQ2 above). Both the sense of self-as-subject and IEM are open to empirical as well as philosophical investigation.

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