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Re Simon Del Pin

In his thesis, Simon considers ways to improve the field of conscious research. How can the growing field of consciousness progress better and faster? In particular, he explores an experimental paradigm with strong inference (SI). In SI, experimenters contrast many hypotheses from competing theories with experimentations. He doesn't end with this theoretical consideration, but he did it on his own. Very impressive!

Chapter 1 serves as an introduction to the entire thesis, and it reads great. Unfortunately, there are some missing components. I realize that Simon touched the following in Chapter 3. Nonetheless, no mentions of open science practices came as a surprise to me. I don't know if you, Simon, plans to add Chapter 4 as a conclusion / discussion on these issues. But, what are your thoughts on these issues that are already implemented to make SI possible? Pre-registration, registered report, open data, code sharing, and adversarial collaborations? You mention that there are more costs to this than benefits. I disagree. Like any new practice, it requires trials and errors at the initial stage. But I don't see any reason not to promote them. They are much better way to make progress, which is consistent with your global goals. Introduction can also talk about another meta-scientific approach, meta-analyses. It is a common practice in other fields. In fact, many fields consider meta-analyses as the most powerful scientific publication. Especially when the reviewed papers used intervention / randomized control, coming from many labs. Discussions of this type of approach could improve Introduction chapter.

Upon laying foundation in Chapter 1, Simon (and colleagues) presents an empirical paper. It was peer-reviewed and published in Consciousness Cognition. In this paper, Simon played a key role from conception of the experiment to writing of the manuscript. In his clever design, two theories of consciousness made two opposing predictions. Results favoured one over the other. I am particularly impressed by the fact that Exp 2 self-replicated Exp 1, with a very nice statistical analysis. This is all great.

My only reservation is: did you pre-register this study? If not, why? Have you shared all the data and source codes? Without these, the power of this very nice paper is not as widespread as it can be.

Chapter 3 is Simon's recent publication in Neuroscience of Consciousness. It follows up Chapter 2, in some details of philosophical and theoretical points. Table 1 is a very nice synthesis.

I have some minor comments on this paper.

1) Is Step 2, the assumption check, necessary at all? If two theories can make two distinct predictions, isn't it enough? Let's say, if you compare IIT with a theory X, which claims that consciousness is not unified. (As X, one can consider Pinto et al's theory based on their own split brain finding Pinto 2017 Brain). Let's say IIT and X make two distinct predictions about, let's say, a psychophysics on a binding of color and motion. Then, you do pre-registration and registered report, possibly reviewed by the researchers from both camps. This is a plausible scenario. Then, if one of the theory is not supported, one can consider if their "assumption" might have been wrong, right? Note that in this scenario, checking of the assumption is completely unnecessary. I'm not sure why comparisons of theories need the check of their assumptions. Can you clarify?

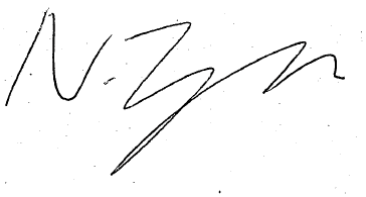
2) I also think this paper could analyse potential problems of the SI approach from another angle. For example, focussing on comparisons of the 'currently available theories' can come at a huge cost. What if the most common ground completely misses what we want to address in the first place? If a theory is all about 'reports' about consciousness, isn't it misleading to focus on such a theory to promote the science of consciousness?

Having said that, overall, the thesis is a very strong contribution to the field. I have no reservation for Simon to be awarded a PhD.

Congratulations and looking forward to seeing you in person in the future!

Best regards,

Naotsugu Tsuchiya

A handwritten signature in black ink, appearing to read 'N. Tsuchiya', with a stylized, cursive script.