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# On investigating inner experience: Contrasting Moore & Schwitzgebel and Brouwers et al.



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#### ABSTRACT

Moore and Schwitzgebel (this issue) reported that readers report innerly speak the text about 59% of the time. Brouwers et al. (2018) reported that readers innerly speak the text only about 3% of the time. I use this huge discrepancy as a case study to discuss important issues in the investigation of inner experience, including: the training of participants; ambiguity in the time being considered; ambiguity in the phenomenon; the desirability of investigating the phenomenon itself, not merely its frequency; bracketing presuppositions; the advantages and disadvantages of large and small sample sizes; influence by the investigator; and the slide from phenomena to reports of phenomena.

#### 1. Introduction

Moore and Schwitzgebel (this issue; hereafter M&S) reported (among other things) that readers report innerly speaking the text about 59% of the time. My colleagues and I (Brouwers et al., 2018; hereafter Brouwers) reported that readers innerly speak the text only about 3% of the time. That is a shockingly huge discrepancy.

I provide here a broad comment on the psychological science of inner experience, using M&S as an exemplary instance of modern psychological science and Brouwers as an exemplary instance of descriptive science. Schwitzgebel and I have debated important issues in consciousness science frequently (Hurlburt & Schwitzgebel, 2007, 2011a, 2011b, 2011c); our confrontations have been constructive and instructive. I hope that we can highlight the M&S/Brouwers discrepant results in the same constructive spirit, encouraging psychological science to consider important issues.

Both M&S and Brouwers discuss several features of experience, but I focus here only on inner speech because the contrast is so stark. Further, I focus primarily on M&S Experiment 2, because that is their largest study.

### 2. Background

M&S is a questionnaire and experience-sampling study. Participants used a seven-point Likert scale (1 = Never, 4 = Half of the Time, 7 = Always) to respond to an online questionnaire item "How often do you experience an inner voice when you read? Examples: you hear a voice reading in your head, you hear the characters speaking in your head." Their mean response was 4.6, that is, somewhat more than half the time. Then, using a one-beep experience-sampling technique, M&S beeped participants at a random time between 30 and 90 s into reading either a poem, a descriptive story, or a story with dialog. Some of the M&S participants were recruited from a university subject pool, some from MTurk. Regardless of passage type or recruitment strategy, and compatible with their questionnaire responses, 59ish percent of participants answered Yes (they could have selected No or Maybe/Don't Know) to the

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experience-sampling question "In the final split-second before the beep, did you experience INNER SPEECH?"

Brouwers is a descriptive experience sampling (DES) study. During four days of natural-environment DES sampling, including a one-hour training ("expositional") interview each sampling day, Brouwers trained participants to try to give complete descriptions of the inner experience that was ongoing when beeped. Then Brouwers beeped those participants eight times while reading complete F. Scott Fitzgerald and Ernest Hemingway short stories; the first beep was perhaps 15 min into the reading. In the expositional interview about those beeps samples, participants almost never described innerly speaking the text while they read—only 3% of beeped samples involved such inner speaking.

Brouwers is an exemplary study by DES standards. Let us stipulate that Brouwers was the result of an honest attempt to describe phenomena in as high fidelity as the investigators could muster, but any defense that I make of Brouwers is not intended as a claim that DES is adequate nor especially as a claim that DES is the ultimate method for exploring inner experience.

The issue is that M&S and Brouwers both made claims about the frequency of inner speech that was ongoing in the final split-second before the beep. The M&S claim was about 20 times higher than the Brouwers claim. Understanding the source of that huge discrepancy is of fundamental importance to the psychology of inner experience.

A few years ago in this journal, Chris Heavey and I provided a theoretical essay (Hurlburt & Heavey, 2015) that contrasted questionnaires and experience sampling with descriptive experience sampling. That essay critiqued questionnaires and non-DES experience sampling, but did not make claims about the potential magnitude of between-method discrepancies. The present commentary shows that that magnitude can be huge.

#### 3. Pristine inner experience

M&S is, apparently, motivated by an interest in pristine inner experience (using Hurlburt's 2011 understanding of "pristine" as intending everyday, naturally occurring, non-manipulated experience). As do many psychology studies, its opening lines invite readers to consider their own pristine experience: "What sorts of conscious experiences do you have while reading? You are, in fact, reading at this very moment. So think, what are you experiencing right now?" There are two fundamental issues: Does M&S adequately simulate natural everyday (pristine) reading? and Do the M&S participants adequately report their experience while reading? Regarding the adequacy of the simulation, this is the M&S introduction to the task:

You will now have a short passage to read.

While reading, you will hear a beep and will then be asked questions about your inner experience.

When you hear the beep, stop reading and reflect on your inner experience in the final split-second before the beep.

Then a passage appears. I think the participant's mission in such a situation is *not* merely to read as they normally would; it is to read while simultaneously trying to figure out what kinds of questions they might be asked about their experience, while wondering how long the passage is, while wondering why this passage and not some other, while trying to figure out what the experiment is really about, and so on. The beep occurs within 30–90 s; I think it likely that few of those supposedly extraneous issues have been resolved or put aside.

Regarding the adequacy of the report: When the beep occurs, the passage disappears, replaced with a new screen (which participants have not seen before, and which they now must read and interpret):

NOTE: It is perfectly fine to answer all YES or all NO, and there is nothing wrong with answers here conflicting with previous responses or initially held beliefs.

In the final split-second before the beep, did you experience INNER SPEECH?

Please choose the appropriate response for each item:

Yes No Maybe/Don't Know

At issue is the degree to which a participant's ticking *Yes* (59% do so) reflects their inner experience that was actually ongoing while reading the passage in the split-second before the beep, that is, prior to the passage disappearance, prior to their engagement in the complex task of unpacking the currently-on-screen (and arguably more salient) instruction. I think it likely that the current unpacking of the instruction involves innerly speaking the instruction, and the ticking of the response reflects the instruction-reading experience as well as the passage-reading experience.

It may seem that "When you hear the beep, stop reading and reflect on your inner experience in the final split-second before the beep" is such a simple, straightforward instruction that participants will be able to describe experience adequately despite such interference. However, our DES practice demonstrates that participants almost never grasp such instructions on the first sampling day. Instead of reporting ongoing experience, they give generalities about experience or theories about experience; they respond to what they take to be the investigator's expectations; and so on, leading DES investigations to discard first-day reports entirely. It requires, in our DES experience, substantial on-the-job ("iterative") training to help participants "cleave to" experience—to report about experience and nothing else. The M&S reports are of the first-day, not adequately trained, variety.

Brouwers is also motivated by an interest in investigating pristine experience. Regarding the adequacy of the simulation, Brouwers attempted to create a situation where pristine reading experience can be approximated with high fidelity. Brouwers had participants read entire short stories, not context-less excerpts. Before reading they had been involved in four days of natural-

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