
Stepping Back and Adding Perspective

A Reply to Verena Gottschling

[Jonathan Schooler](#)

In this reply, I circumvent (some might say dodge) a number of Gottschling's fine-grained comments by stepping back and reviewing the key points of the three major sections of my target paper in light of her more general concerns. I first consider Gottschling's primary criticism of the first section of my paper, namely that insights that might emerge from considering the perspective shifting associated with reversible images do not apply in the context of differences between first and third-person perspectives. Although I concede there are differences in the meaning of "perspective" in conceptual and perceptual domains, I argue that the common element of a reliance on a frame-of-reference is sufficient to make the analogy helpful. I contend that a necessary element in overcoming the limitations of particular perspectives in both conceptual and perceptual domains is attempting to consider alternative vantages. This approach is then used to justify the tack of the next two sections: considering first-person experience from the vantage of third-person science and considering third-person science from the vantage of first-person experience. I note that Gottschling is largely sympathetic to the broad goals of the second section of my paper, and observe that her major concern with the construct of experiential consciousness emerges from her burdening it with unwarranted assumptions. I use her constructive suggestion for the need for further development of the notion of meta-awareness as a springboard for introducing a previously overlooked element (experiential monitoring) that may be useful for explaining how people can knowingly monitor performance without explicit verbal re-representation. Finally, I consider Gottschling's view that the third section fails to add to the value of the paper. Although I acknowledge that the arguments in the second section stand independently, I argue that discussion of how science can inform experience gains greater balance by also considering how experience informs science. I close by challenging the view that knowledge gained from science necessarily trumps that gained by experience, and conclude that it remains a worthy goal to seek a meta-perspective that accommodates both first- and third-person perspectives without reducing one to the other.

Keywords

Consciousness | Explanatory gap | Frame-of-reference | Heterophenomenology | Meta-awareness | Meta-perspective | Mind-wandering | Mind/body problem | Mindfulness | Monitoring | Neurophenomenology | Neutral monism | Panpsychism | Phenomenology | Time

1 Introduction

Reviewing a commentary on one's work, even one as thoughtful as that provided by [Gottschling \(this collection\)](#), is much like viewing a close-up picture of one's face on a large high-definition screen; every blemish seems patently visible and appears to overshadow even the most genuine of expressions. The temptation is to pull out one's

metaphoric Photoshop and doctor up every imperfection. There is another option, however, and that is to step back and consider whether from a broader perspective the blemishes are really as disfiguring as they might initially appear.

Inspired by this analogy, I will not attempt to rebut all of Gottschling's consistently

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incisive remarks about my paper. Rather I will use this essay as an opportunity to step back and review the broad strokes of my arguments in light of Gottschling's more general concerns. In so doing, I hope to demonstrate that while Gottschling offers a number of insightful suggestions for clarification and elaboration, the general logic of my arguments remain largely intact. Nevertheless, Gottschling's critique offers an excellent opportunity to clarify some points that may have been lost in the expanse of my initial paper.

2 Reflections on section 2¹: Applying perspective shifts to conceptualizing human experience from the first- versus third-person perspective

My paper opens with the contention that seemingly opposing arguments can often reflect alternative vantages of a larger meta-perspective from which both views can be understood. I illustrate this point using the example of reversible images that can be seen as corresponding to two entirely different objects depending on one's perspective. I argue that when one recognizes that both vantages are true from their particular perspective, one gains an understanding of the larger context (i.e., a meta-perspective). Although most of my examples are perceptual illustrations, I suggest that there is a close correspondence between the processes involved in perspective taking in perceptual and conceptual domains, and that an appreciation of meta-perspectives in the perceptual domain may help the formulation of meta-perspectives in the conceptual domain. In the spirit of this argument I suggest that the long-standing debate between approaches that emphasize the subjective first-person perspective of experience and those that emphasize the objective third-person perspective of science, may be akin to debating which direction the dancer is rotating in the spinning dancer illusion (see figure 6 in [Schooler this collection](#)). In both cases, it simply depends on your perspective. Taken from the perspective of

the individual, understanding consciousness necessarily invites a reliance on introspection and first-person analysis. Taken from the perspective of conventional third-person science, understanding consciousness necessarily requires objectively observable facts (e.g., behaviors, physiological responses) that can be derived independently of any single individuals' experience

I argue that both of these views have merit, that both researchers and schools of thought have debated (often vehemently) about which of these two vantages is more appropriate, and that part of the heat of this controversy may stem from people's disinclination to switch back and forth between perspectives and thereby gain a larger view that treats neither as decisively superior.

Gottschling rejects the notion that the alternative perspectives afforded by reversible images has relevance to conceptualizing the challenges of reconciling first- and third-person perspectives. Her difficulty with this analogy stems (at least in part) from her view that the meaning of "perspective" in these two contexts does not align. As she puts it: "Because it rests on a purely metaphorical use of 'perspective', the analogy does not go through" ([Gottschling this collection](#), p. 18). To be sure there are significant differences between the meaning of "perspective" in the context of perceptual experience, such as reversible images, and conceptual ideas, such as the difference between first- and third-person approaches to the study of consciousness. However, I argue that there are some deep parallels between the meanings of "perspective" in these two contexts that make the analogy a useful one. I'll begin by considering the broader issue of the parallels between perceptual and conceptual perspectives and then the more specific question of how these parallels might usefully apply to the conceptual distinction between first- and third-person perspectives.

Critically, in both perceptual and conceptual contexts "perspective" is defined by a frame-of-reference that determines how the constituent elements are understood and related to one another, as well as which elements are

¹ The paper begins with a very brief introduction that is numbered section 1. As a result the first major section of the paper is numbered section 2.

taken as central and which as more peripheral. In perceptual contexts, the frame-of-reference is defined in terms of the assignment of spatial arrangements; i.e., what is to the left and the right, what is in the foreground and background etc. In conceptual contexts, the frame-of-reference is defined in terms of the assignment of conceptual arrangements; i.e.; which elements are conceptually closer or further apart, which are more essential and which more peripheral. In both cases, frame-of-reference can have profound effects as evidenced by the reversible image research in perception (Chambers & Reisberg 1992) and research on cognitive framing (Tversky & Kahneman 1981) in cognition. A further striking parallel between perceptual and conceptual perspectives is that they both become easily entrenched. When one watches the spinning dancer (figure 6) it is very difficult to recognize that at any time she can be seen as facing in one of two different directions. In a very similar way, when one works on a conceptual problem it is very easy to interpret it in a particular way that creates a “mental set” that can impede its solution. There is even a common cognitive ability (Schooler & Melcher 1995; see also, Wiseman et al. 2011) for overcoming the mental sets associated with solving conceptual problems (e.g., insight problems) and perceptual problems (e.g., recognizing out-of-focus pictures). In short, perceptual reversible images elegantly illustrate a fundamental aspect of not just perception but of human cognition more generally; namely, that we routinely consider things (be they objects or ideas) within the context of a particular frame-of-reference (be that frame perceptual or conceptual), and we can have a very hard time reconsidering those things from a different perspective.

Even if it is appropriate to draw a parallel between the meaning of “perspective” in perceptual and conceptual contexts, it does not necessarily follow that the analogy can be extended to the particular conceptual problem of distinguishing between the first- and third-person perspective approaches. But I maintain that it is in fact particularly applicable in this context. The essence of the distinction between first- and third-person perspectives has to do with one’s

frame-of-reference. If one considers consciousness from a first-person perspective, one is understanding it in relationship to one’s own personal experience, taking subjectivity as the foreground and objective reality as the background. One is considering consciousness through one’s own experience, and grounding assumptions on what is real and important on the basis of that personal subjective vantage. In contrast, a third-person perspective takes the objective world as the frame-of-reference. Personal experiences that cannot be independently verified are therefore suspect and inferences must be drawn, as they are in all of science, on the basis of people’s measurable behaviors and physiological responses. In my view, it is no accident that these two approaches to thinking about consciousness have historically been described in terms of differences in *perspective* as they self-evidently entail thinking about consciousness from distinctly different frames-of-reference.

In short, I maintain that the notion of distinct conflicting perspectives akin to those associated with perceptual reversible images aptly applies to many conceptual distinctions, but especially apply when it comes to characterizing the objective/subjective divide. The corollary of this claim is the possibility that, like the alternative perspectives of reversible images, the objective/subjective divide may be usefully informed by recognizing that both perspectives represent equally meaningful interpretations that cannot be reduced to one another, but may be better understood from a meta-perspective that acknowledges the larger context in which they are both embedded.

In my view, the importance of the distinct perspectives that emerge from alternative frames-of-reference simply cannot be overstated. In addition to its self-evident effects in the context of perception, frames-of-reference are a powerful determinant of the actions that people take in important real-life situations. For example, doctors’ prescriptions of how to treat an epidemic is profoundly influenced by whether the treatment is framed in terms of lives saved or lives lost even when it corresponds to precisely the same scenario (Tversky & Kahneman 1981). In physics, fundamental breakthroughs

have repeatedly taken place as a function of changes in scientists' frame-of-reference. For example, Newton's laws of gravity emerged when he realized that the same frame-of-reference that applies to forces on the ground equally applies to the motion of the heavens (Westfall 1980). Einstein's special theory of relativity was fostered by his replacement of the notion of an absolute frame-of-reference with a frame-of-reference defined relative to the observer (2001). Given the significance of perspective and frame-of-reference in other contexts it stands to reason that something so salient as whether one is thinking about consciousness from their own perspective or from the objective perspective of science should profoundly impact the questions that they ask and the answers that they reach.

In the case of reversible images, the best way to understand how they can correspond to two so entirely distinct yet self-consistent representations is to practice alternating between vantages. Although at first it is very difficult to see how the spinning dancer alternatively rotates in two different directions, with practice one comes to appreciate the two vantages that the image affords, and thus to understand why her direction changes. The primary goal of my paper is to explore the hypothesis that a deeper understanding of the subjective/objective divide can emerge in a similar fashion. By thoroughly considering each vantage from the perspective of the other, it is hoped that a meta-perspective will emerge that recognizes the logical consistency of each, while not attempting to reduce either one to the other.

Gottschling suggests that my emphasis on "meta-perspective" is an unnecessary strategic move that ultimately detracts from the primary value of my paper. Part of her difficulty with the meta-perspective emphasis may arise from my inadequately situating the second section of my paper in the context of this construct, and the seeming equation of meta-perspective with non-reductionism in the third section. However, the value of considering alternative perspectives in overcoming the limitations that can emerge when one solely considers a single vantage has merit regardless of whether one ascribes to any of the ontological speculations I suggest in the

third section of my paper. Independent of the conclusions that one derives, there seems to be great value in systematically considering subjective experience from the vantage of a third-person perspective, and objective reality from the vantage of a first-person perspective, which are the goals of section 2 and section 3 respectively.

3 Reflections on section 3: Gaining a third-person perspective on people's first-person experience

In the second section of my paper I review research that attempts to inform our understanding of the first-person experience using the third-person perspective of science. This approach takes at its starting point a theoretical distinction between experiential consciousness (corresponding to the contents of on-going experiences) and meta-consciousness (or meta-awareness—the terms are used interchangeably) corresponding to the explicit re-representation of the contents of experiential consciousness. These levels are illustrated by the case of mind-wandering while reading. In this context, experiential consciousness corresponds to the content of the mind-wandering episode and meta-awareness is initially absent but suddenly emerges with the realization that one was mind-wandering rather than attending to the text.

An important implication of the distinction between experiential consciousness and meta-consciousness is that people can have experiences (e.g., mind-wandering) that they either fail to notice explicitly (temporal dissociations) or notice but manage to mischaracterize (translation dissociations). I review a program of research that has fleshed out this distinction in various contexts, with a particular focus on mind-wandering. Using assorted methodologies including the combination of experience sampling measures, self-catching, and behavioral measures, we find evidence that people routinely fail to notice episodes of mind-wandering but are nevertheless accurate at reporting it when they are directly queried.²

² A very recent paper (Seli et al. in press) suggests some variability in the accuracy of mind-wandering reports as assessed by the corres-

Gottschling devotes the bulk of her remarks to discussing efforts to develop a third-person science of first-person experience. In general, she is sympathetic to the approach. However, she raises a variety of concerns and makes a number of useful suggestions. As noted, I will not endeavor to respond to all of her concerns; however, there are several that stand out, and so I will consider them in turn.

Gottschling's primary reservation about the distinction between experiential consciousness and meta-awareness is that she is not persuaded by my characterization of experiential consciousness. Essentially she does not see how it is possible to "distinguish conscious processes which are not accessed from unconscious activity" (Gottschling [this collection](#), p. 11). Although it is true that there are some situations where it may be difficult to distinguish experienced but not meta-aware from unconscious processes (as in the case of potentially unconscious emotions, see [Schooler et al. 2015](#)), often this distinction is quite straightforward. For example, when people are surprised to suddenly realize that they are mind-wandering instead of paying attention to what they reading. In this case, it is evident that they were experiencing the contents of the mind-wandering as they are typically able to report them. It is simply that they had not engaged in the reflective process of noting that they were mind-wandering instead of reading. In short, Gottschling is unpersuaded by a mental state—"conscious processes which are not accessed"—that I never actually postulated. Essentially, she layered onto the construct the notion that experiential consciousness is not accessed, and then criticized it for this reason.

In fact, although I am not committed to the notion that non-conscious higher order thoughts underpin all conscious thoughts ([Rosenthal 1986](#)), I have no problem with Gottschling's attempted revision to my notion of experiential consciousness, namely that it represents a third-order level of consciousness. Indeed I have speculated about this possibility in the

pendence of such reports to behavioral indices of lapses. Nevertheless, people appear to have some access to when their reports are likely to be more vs less accurate as evidenced by a significant correlation between confidence in self-reports and correspondence to the behavioral indices of mind-wandering.

past (see [Schooler et al. 2015](#)). I am therefore entirely comfortable with [Gottschling's](#) suggestion that "meta-awareness would include a third-order state, in his terminology a re-re-representation whereas the experience of mind-wandering would involve only a second-order state, a re-representation" ([this collection](#), p. 16). Just so long as the second-order cognition is not *experienced* as a reflection about experience, I have no problems with whatever non-conscious higher-order cognitions may be required to produce it.

Although Gottschling's concerns with the notion of experiential consciousness seem to be largely a product of her reading into my distinction more than was intended, her suggestion that it may be helpful to consider more fine-grained levels of meta-awareness is a worthwhile idea that merits development. As [Gottschling](#) observes, there is a need for "an improved taxonomy of different kinds of reflection and 'taking stock' ... awareness itself might come in degrees and at differently levels of representation" ([this collection](#), p 20). Indeed, one feature that has been notably absent from my discussion of meta-consciousness (here and elsewhere) is consideration of the possibility of monitoring processes that may take place at the experiential level, without explicit re-representation at the meta-level. For example, sometimes when people are on-task they may experience a palpable sense of sustained attention without having explicitly to note to themselves that they are on-task. Similarly, when mind-wandering, people sometimes report that they knew they were mind-wandering. This awareness, however, may not necessarily be associated with an explicit acknowledgment of that fact. Rather they maintain a continuous unstated awareness that they are off-task. In short, a further distinction may be needed between a non-propositional "feeling of awareness" that one is doing something ("experiential monitoring") and the verbal/ propositional state of meta-awareness that may occur when people intermittently take stock of their mental state, as when one suddenly thinks to themselves, "Darn! I was mind-wandering again!"

The notion that sometimes people explicitly re-represent their state to themselves (meta-awareness) whereas other times they simply "just

know” they are in that state (experiential monitoring) would also be consistent with alternative mindfulness practices (Thompson 2014). For instance, open-monitoring involves monitoring the content of experience from moment-to-moment without deliberately attending to any particular object (Lutz et al. 2008). Open-monitoring cultivates an aspect of mindfulness described as “observing”, measured with items such as “When I walk, I deliberately notice the sensation of my body moving” (Baer et al. 2006). This seems akin to what I am referring to as experiential monitoring. A somewhat different practice involves labeling one’s experiences as they occur with short tags like “thinking,” “feeling,” or “sensation.” This cultivates an aspect of mindfulness called “describing”, measured with items such as: “My natural tendency is to put my experiences into words.” This process of re-representing experience in words seems akin to meta-awareness.

The distinction between experiential monitoring and meta-awareness might also speak to another of Gottschling’s concerns, namely the question of whether meta-awareness is necessarily all-or-none (as I intimated) or more continuous (as she proposes). Although research would be required to tease out this conjecture, it seems quite plausible to me that experiential monitoring might take place at a continuous level with individuals ranging from either dimly to explicitly aware of what they are doing. In contrast, a more discrete process may occur when individuals suddenly realize that they are engaging in a mental state (e.g., mind-wandering) that they had not previously noticed.

Several other concerns that Gottschling raises about my paper, including the possibility of unconscious emotions and how the distinction between experiential consciousness and meta-awareness relates to other distinctions of consciousness (including those of Dehaene et al. 2006; Block 1995 and Rosenthal 1986) are discussed in other locations (e.g., Schooler et al. 2015). While she points out a number of other modest blemishes that I will not address, ultimately the approach for gaining a third-person perspective of first-person experience that I articulated in section 2 of my paper appears logically intact.

4 Reflections on section 4: Toward a meta-perspective for considering the meta-physics of first- versus third-person perspective

Gottschling seems less optimistic about the contribution of the third section of my paper. She dismisses speculations I derive from considering third-person science from the vantage of first-person experience, as a “largely unnecessary strategic move” (Gottschling this collection, p. 1) that “does not seem to fit with the rest of the project” (p. 22). I concur with Gottschling that first person experience can be assessed from the third person perspective of science without also considering objective science from a first-person perspective. In the past I have routinely considered what science has to say about first-person experience without considering the other side of the coin (e.g., Schooler 2002; Schooler et al. 2011; Schooler et al. 2015). Clearly the two sides of the discussion are not logically co-dependent on one another.

I acknowledge that the final section of the paper was not necessary for shoring up any of my arguments in the second section. Nevertheless I maintain that it adds an important balance to the discussion by illustrating the potential value of considering both first- and third-person approaches from the vantage of the alternative perspective. In this concluding section of my paper, I change my frame-of-reference from a third- to a first-person perspective, and consider the current assumptions of science from this vantage. I identify three aspects of existence that I argue are axiomatic from a first-person perspective, including: the existence of experience, the flow of time, and the fact that the present is qualitatively different from the past or the future. I argue that all three of these essential elements are either unexplained by science (i.e., experience) or outright discounted as an illusion of consciousness (i.e., the flow of time, the privileged present). I contend that while many aspects of experience could be illusory, it is hard (indeed impossible for me) to conceive of how experience, the flow of time, or the privileged nature of the present could be among them. On these grounds, I suggest that there may be something missing from the current

account of objective science and speculate that an additional subjective dimension of time might fit the bill. I argue that a subjective dimension of time would provide: 1) a realm of reality for experience to reside, 2) the additional degree of freedom necessary to enable the flow of time in physics' current "block universe", and 3) a way to conceptualize the present. I readily acknowledge that such an account is highly speculative, but I offer it as an example of the type of meta-perspective that I think could emerge by attempting to reconcile the axioms required for both objective and subjective frames-of-reference.

Gottschling's assessment of my arguments in this section are largely a rehash of standard critiques of the "explanatory gap" (Levine 1983) and the hard problem of consciousness (Chalmers 1996). The standard refrain is that the inability of science to account for subjectivity corresponds to an epistemological gap not an ontological one. The fact that we cannot explain something, and perhaps never will be able to, does not require us to assume a different ontological foundation for reality. I concede that this kind of mysterian (McGinn 1989) account of the explanatory gap, although profoundly unsatisfying, is difficult to dispute. However, she largely ignores the more novel aspects of my arguments. Namely, she disregards my claim that not only is the current physicalist account unable to explain consciousness, it outright rejects two additional subjectively self-evident aspects of reality. It rejects the flow of time and the privileged present. While she acknowledges in a footnote that she finds this aspect of the paper "inspiring," it does not impact her overall dismissal of the need for a meta-perspective. As she puts it, "what the proposed meta-perspective might be and how it is helpful despite acknowledging our common sense intuition eludes my understanding not at an epistemological level but at an ontological level" (Gottschling this collection, p. 23).

Gottschling's reaction to the third section of my paper was not unexpected. As I noted in the close of my paper, "my arguments on this point will likely remain wholly unpersuasive to those who cannot conceive of subjective experience as offering an epistemological authority that rivals science." I recognize that it will be an uphill

battle to persuade philosophers and scientists steeped in the supremacy of the third-person perspective to consider that conclusions drawn from our own experience could possibly carry ramifications comparable to conventional objective science. But at the end of the day all of the science that we believe we know is necessarily delivered to us through our subjective experience. While what we know about objective reality is necessarily dependent on experience, the same is not the case for experience. Objective reality could conceivably be an illusion. This could all be a dream or we could be the proverbial brain in a vat. But the *experience* of objective reality is unquestionable, as even an illusory experience is still an experience. Given that the existence of objective reality is ultimately on less certain ground than the existence of experience, it is far from obvious why the third-person frame-of-reference holds its current unchallenged dominion.

5 Conclusion

I suspect that my big-picture approach to replying to Gottschling's very detailed analysis may be unsatisfying to some (Gottschling included) who might have expected point-by-point replies to each of her concerns. However, I hope that my stepping-back tactic enabled me to address the major concerns that were raised. At the outset I noted the close parallels between the factors that contribute to conceptual and perceptual processes. In addition to the value of perspective shifting, it might also be noted that stepping-back is another strategy that is useful in both conceptual and perceptual domains. For example, it is easier to decipher a highly pixelated photo from a distance than up close. Similarly, when people confront conceptual insight problems from a more distant perspective (e.g., imagining themselves a year from now) they are often better able reach a solution (Förster et al. 2004). Conceptual stepping back can enable one to distinguish the metaphorical "forest from the trees." It remains unclear whether there could be a genuine meta-perspective that enables us to accommodate the assumptions of both the first- and third- person perspectives. But if such a perspective does ex-

ist, it seems likely that finding it will require stepping back...way back.

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References

- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J. & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, *13* (1), 27-45. [10.1177/1073191105283504](https://doi.org/10.1177/1073191105283504)
- Block, N. (1995). On a confusion about a function of consciousness. *Behavioural and Brain Sciences*, *18*, 227-287.
- Chalmers, D. J. (1996). *The conscious mind: In search of a fundamental theory*. New York, NY: Oxford University Press.
- Chambers, D. & Reisberg, D. (1992). What an image depicts depends on what an image means. *Cognitive Psychology*, *24*, 145-174.
- Dehaene, S., Changeux, J. P., Naccache, L., Sackur, J. & Sergent, C. (2006). Conscious, preconscious, and subliminal processing: A testable taxonomy. *Trends in Cognitive Sciences*, *10*, 204-211.
- Einstein, A. (2001). *Relativity: The special and the general theory (reprint of 1920 translation by Robert W. Lawson ed.)*. London, UK: Routledge.
- Förster, J., Friedman, R. S. & Liberman, N. (2004). Temporal construal effects on abstract and concrete thinking: Consequences for insight and creative cognition. *Journal of personality and social psychology*, *87* (2), 177-189.
- Gottschling, V. (2015). Bridging the gap-A commentary on Jonathan W. Schooler. In T. Metzinger & J. M. Windt (Eds.) *Open MIND*. Frankfurt a. M., GER: MIND Group.
- Levine, J. (1983). Materialism and qualia: The explanatory gap. *Pacific Philosophical Quarterly*, *64*, 354-361.
- Lutz, A., Slagter, H. A., Dunne, J. D. & Davidson, R. J. (2008). Attention regulation and monitoring in meditation. *Trends in Cognitive Sciences*, *12* (4), 163-169. [10.1016/j.tics.2008.01.005](https://doi.org/10.1016/j.tics.2008.01.005)
- McGinn, C. (1989). Can we solve the mind-body problem? *Mind*, *98* (391), 349-366.
- Rosenthal, D. (1986). Two concepts of consciousness. *Philosophical Studies*, *49* (3), 329-359. [10.1007/BF00355521](https://doi.org/10.1007/BF00355521)
- Schooler, J. W. (2002). Re-representing consciousness: Dissociations between experience and meta-consciousness. *Trends in Cognitive Sciences*, *6* (8), 339-344. [10.1016/S1364-6613\(02\)01949-6](https://doi.org/10.1016/S1364-6613(02)01949-6)
- (2015). Bridging the objective/subjective divide. In T. Metzinger & J. M. Windt (Eds.) *Open MIND*. Frankfurt a. M., GER: MIND Group.
- Schooler, J. W., Smallwood, J., Christoff, K., Handy, T. C., Reichle, E. D. & Sayette, M. A. (2011). Meta-awareness, perceptual decoupling and the wandering mind. *Trends in Cognitive Sciences*, *15*, 319-326. [doi/org/10.1016/j.tics.2011.05.006](https://doi.org/10.1016/j.tics.2011.05.006)
- Schooler, J. W., Mrazek, M. D., Baird, B. & Winkielman, P. (2015). Minding the mind: The value of distinguishing among unconscious, conscious, and metaconscious processes. In M. Mikulincer, P. R. Shaver, E. Borgida & J. A. Bargh (Eds.) *APA handbook of personality and social psychology, Vol. 1. Attitudes and social cognition* (pp. 179-202). Washington, DC: American Psychological Association.
- Schooler, J. W. & Melcher, J. (1995). The ineffability of insight. In S. M. Smith, T. B. Ward & R. A. Finke (Eds.) *The creative cognition approach* (pp. 97-134). Cambridge, MA: MIT Press.
- Seli, P., Jonker, T. R., Cheyne, J. A., Cortes, K. & Smilek, D. (in press). Can research participants comment authoritatively on the validity of their self-reports of mind wandering and task engagement? *Journal of Experimental Psychology: Human Perception and Performance*
- Thompson, E. (2014). *Waking, dreaming, being: Self and consciousness in neuroscience, meditation, and philosophy*. New York, NY: Columbia University Press.
- Tversky, A. & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, *211* (4481), 453-458. [10.1126/science.7455683](https://doi.org/10.1126/science.7455683)
- Westfall, R. S. (1980). *Never at rest: A biography of Isaac Newton*. Cambridge, UK: Cambridge University Press.
- Wiseman, R., Watt, C., Gilhooly, K. & Georgiou, G. (2011). Creativity and ease of ambiguous figural reversal. *British Journal of Psychology*, *102* (3), 615-622. [10.1111/j.2044-8295.2011.02031.x](https://doi.org/10.1111/j.2044-8295.2011.02031.x)