First-Person Science is Third Person and Vice Versa

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> Upshot • Science requires memory, but memory is constructive. Kordeš and Demšar appeal to historical constraints on memory to address this paradox. Yet history, even an imagined history, involves a third-person perspective. I suggest that a third-person perspective is required by any science, even a "first-person" science.

« 1 » Urban Kordeš and Ema Demšar develop, in their target article, a descriptive model of the "experiential dynamics of the enaction of belief about past experience" (§54). The model describes

> "three important experiential moments on the path towards the enaction of belief: (1) the intent to probe into the past experience, (2) the feeling of confidence of being able to access the experience and answer 'what it was like,' and (3) the articulation, or as we call it, excavation of the answer." (§27)

« 2 » Before developing their model, they must see off a standard objection to first-person phenomenological research based on the putative "fact that every attempt at observing experience changes the very experience that is being observed" (§11). This is the "excavation fallacy." They argue, in effect, that this "fallacy" is not a bug but a feature: by "regard[ing] reflection as a kind of measurement that *co-determines* the resulting belief about the experience in question," they "[dissolve] the excavation fallacy by recognizing it as an intrinsic *characteristic* of the reflective process" (§19, emphases in original).

« 3 » Kordeš and Demšar urge that their model is best understood within a constructivist epistemology. They do not, however, explicitly note a salient feature of both the target article and the model it presents: while both *describe* first-person reports, neither *is* a first-person report. Both article and model are, in accord with the usual customs of scientific publishing, presented in the third person. Hence both implicitly raise a question: is the notion of "first-person science" even well-defined? Can first-person science be distinguished from third-person science?

« 4 » It is a constructivist rallying cry that third-person science is inevitably first-person. As quantum-information theorist Christopher Fuchs (2010: 7, emphasis in original) puts it, an observational outcome represents "the consequences (for *me*) of *my* actions on the physical system." Here I will suggest the converse: first-person science is also inevitably third person. The target article provides not only evidence for this claim but also, somewhat ironically, the argument itself.

Has the excavation fallacy been dissolved or universalized?

« 5 » Suppose, with Kordeš and Demšar, that retrospective reflection co-determines the resulting beliefs about past experiences, and that this co-determining is in fact an intrinsic characteristic of the reflective process. The process of recalling that it rained last night, for example, co-determines one's belief that it rained last night. This supposition is well supported by current cognitive neuroscience. Lynn Nadel and colleagues remark, for example, that

> "an episodic memory is stored in the brain in 'dismembered' form, as bits and pieces represented in distinct brain systems […] recalling an episodic memory involves 'reconstruction' – putting together these bits and pieces (accurately or not)." (Nadel et al. 2012: 1642, parentheses in original)

« 6 » Does recognizing the essentially constructive nature of episodic recall "dissolve" the excavation fallacy? It indeed appears to render it not a *fallacy*; if something is inevitable, it makes little sense to call it an error. But recognizing that the remembered past is in an important sense inaccessible renders the very notion of "memory" paradoxical.

« 7 » Science, however, *requires* memory. It must be possible to remember how an experiment was done; otherwise the claim that it was done becomes meaningless. It must be possible to remember what results were obtained. If the results were recorded in a laboratory notebook, it must be possible to remember recording them. If the content of these memories in called into question, the very ability to do science is called into question. Yet remembered contents *are* called into question, not here or there but across the board, and it is *science itself* that does this. It is science itself that declares science to be in an important sense impossible.

« 8 » This situation is a *limit paradox* as defined by Graham Priest (1994). Such paradoxes occur whenever a property that is well defined and logically "safe" within some subset of a domain proves to be logically destructive when applied to the whole domain; Russell's paradox is a canonical example. Science regularly discovers limit paradoxes by discovering that potentially destructive concepts apply to entire domains (Dietrich & Fields 2015). Perceptual psychology, for example, allows all perceptions of patterns or regularities to be imaginative constructs (i.e., "apophenic"), while quantum theory requires that the boundaries around a macroscopic system, including those around experimental apparatus, have no physical consequences. Such paradoxes undermine the ability to conduct well-defined experiments, just as the constructive nature of recall undermines the ability to report their results.

Can epistemic feelings be privileged?

« 9 » The evidentiary core of Kordeš and Demšar's first-person science is, as it was for Descartes, an epistemic feeling: the "feeling of veracity" (§33) or "experience of confidence" (§34). It is this feeling that guides the subject to the "original past experience" that "correspond[s] to what is being enacted [in the present]" (§33).

« 10 » What, however, are such epistemic experiences? First, they are *experiences*, and as such, are *present* experiences. They are, moreover, notoriously easy to manipulate (e.g., Hippel & Trivers 2011; Jost & Amodio 2011). Extraordinarily profound epistemic experiences are commonly induced by the neurofunctional disruption of insular-cortex seizures (e.g., Picard 2013). Hence it is difficult to consider epistemic experiences as accurate or reliable guides. That they may be the *only* guides does not decrease the difficulty.

« 11 » Kordeš and Demšar emphasize, consistently with their constructivist approach, that the epistemic feelings to which they appeal provide no evidence regarding "the ontological status of the supposedly pre-existing original experience" (§41). However, these feelings are taken to provide evidence that "the reflective process is viably constructed within the historically interdependent network of experiences" (§46). What constitute the "historical interdependencies" that assure a "historically constrained and thoroughly non-arbitrary" (§44) process of reflection? In the absence of an objective (observer-independent) history in which past experiences may be situated, are these constraints not just those by which unobserved and hence fictive histories of objects are "filled in" to link episodic memories (Fields 2012)? Such processes are essentially confabulatory and are easily manipulated by the self or others.

Is first-person science possible without third-person reference frames?

« 12 » Any appeal to a non-confabulated past or to confabulation-resistant "historical constraints" is an appeal to a third-person reference frame, an explanatory construct independent of and hence safe from manipulation by immediate first-person experience. Appeals to enaction as a process, particularly appeals to enaction as an *embodied* process, are similarly appeals to a third-person reference frame (e.g., the body, with its own confabulation-resistant rules and processes). A confabulation-resistant second-person process or social context is also such a reference frame.

« 13 » The seemingly inevitable need for such third-person reference frames within the logic of a target article detailing a first-person science with a constructivist epistemology suggests that such reference frames are in fact essential to science. The practice of science suggests the same: science is full of appeals to laboratory apparatus, calibration standards, reliable public records and, of course, the two most central third-person reference frames, memory and other people. The practice of science is inevitably social, as Kordeš and Demšar point out in Footnote 3; it is inevitably a first-person performance that is *observed and critiqued by others*. Without these others – without an axiomatic assumption of these others by each first-person performer – science is indistinguishable from confabulation.

« 14 » While the all-too-common reification of the "god's eye" view or "view from nowhere" has been rightly criticized (e.g., Koenderink 2014), the imaginative, counterfactual "theorist's perspective" that leaps beyond "current experience" to an experience of an utterly different kind, an experience of generality and abstraction, seems also essential to science. Without such leaps, in particular, we would have no models or theories. But while the theorist's perspective is obviously first person whenever it is being experienced, its function is typically third person: it observes, critiques, generalizes and abstracts "ordinary" first-person experiences. It serves as an "internal colleague," one that is often in the way.

« 15 » Comprising two first persons, both of whom confabulate but who also keep an eye out for and sometimes catch confabulations by the other, seems a useful as well as typical condition for a scientist. Having two first persons induces a third: the one that "hears" and judges their critical wrangling. The sociality of science is thus enacted within each individual, as well as between the different individuals that must be assumed to exist if the practice of science is to make sense.

« 16 » If each "person" embodies multiple perspectives, the "historical constraints" guiding recall become a hierarchy of negotiations, first between multiple internal perspectives that may have different epistemologies and intuitions, and then between these internal perspectives and any external perspectives that may be engaged. The labels "first-person" and "third-person" seem of little use in this more "communal" view of cognition. Science in this view is both first and third person, whatever its domain or focus. None of the perspectives involved is "objective" and all can and do confabulate, but by negotiating amongst themselves, they can correct or at least refine one another's confabulations to produce useful guides to their mutually interdependent activities in their collectively specified world.

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Authors' Response
If First-Person Knowledge is Excavated, What Kind of Research Follows?

Urban Kordeš & Ema Demšar

> Upshot • We begin our response by restating and clarifying the principal argument of the target article. We go on to focus on four main themes addressed by the commentators: (a) the question of the inevitability of a horizon in enacting beliefs about experience; (b) the consequences of our epistemological position for second-person research methodologies; (c) the importance of distinguishing between the feeling of veracity of what is observed and the unquestioned realist intuitions of the natural attitude; and finally (d) the implications of our discussion for first-person science. We conclude by addressing the question about the relationship between inferred and apprehended experience.

« 1 » We appreciate the constructive challenges raised with regard to several points made in our target article. As some of the most critical comments stem from various misunderstandings of our central epistemological proposal, we begin our response by restating the key points of the target article.