Metadata of the chapter that will be visualized online

Chapter Title	From Phenomenology to the Self-Measurement Methodology of First-Person Data	
Copyright Year	2014	
Copyright Holder	Springer Science+Business Media Dordrecht	
Corresponding Author	Family Name	**Piccinini**
	Particle	
	Given Name	**Gualtiero**
	Suffix	
	Organization	University of Missouri – St. Louis
	Address	599 Lucas Hall, 1 University Blvd, St. Louis, MO, 63121, USA
	Email	piccininig@umsl.edu
Author	Family Name	**Maley**
	Particle	
	Given Name	**Corey J.**
	Suffix	
	Organization	University of Missouri – St. Louis
	Address	599 Lucas Hall, 1 University Blvd, St. Louis, MO, 63121, USA
	Email	maleyc@umsl.edu
Abstract	Ruth Millikan argues that there is no "legitimate phenomenology of experience": that there is no method—not even a fallible or partially reliable one—for accurately describing our experiences in the first-person. The reason is that there is no method for checking that the ideas we think we have about experience are about anything at all. Like phlogiston, there may be no such things as the properties we take experience to have.	

Chapter 3
From Phenomenology to the Self-Measurement Methodology of First-Person Data

Gualtiero Piccinini and Corey J. Maley

Ruth Millikan argues that there is no "legitimate phenomenology of experience": that there is no method—not even a fallible or partially reliable one—for accurately describing our experiences in the first-person. The reason is that there is no method for checking that the ideas we think we have about experience are about anything at all. Like phlogiston, there may be no such things as the properties we take experience to have.

Millikan's problem with phenomenology is threefold. First, we need a substantive theory of ideas in order to explain how we can know about or describe our experience (unless we think that ideas are somehow "given" in perception, a view that—nowadays anyway—virtually nobody holds). Phenomenology cannot be well grounded without such a theory. But then, the substantive theory that Millikan believes can do this job employs an assumption about ideas that is incompatible with the assumptions of phenomenology. Roughly, phenomenology assumes that the units of experience can be validated at one time and from one perspective, while Millikan makes the plausible case that "adequate empirically-based ideas" must be validated over time and across perspectives. Finally, Millikan sketches a theory that explains "what is really going on when people *think* they are describing their phenomenal experience." The upshot of Millikan's theory is that the phenomenology of experience is explained away.

The central figure in Millikan's theory is the *unicept*, what she calls "the fundamental units of cognition." Although they are similar to concepts, unicepts are not concepts, not even in the regimented sense used in psychology. Unicepts are not shared, and even if two people have a unicept about the same thing, there is no guarantee that they have access to the same information about that thing. So what *is* a unicept? Roughly, a unicept is that bit of our mental apparatus that allows us

G. Piccinini (✉) • C.J. Maley
University of Missouri – St. Louis, 599 Lucas Hall, 1 University Blvd,
St. Louis, MO 63121, USA
e-mail: piccininig@umsl.edu; maleyc@umsl.edu

AQ1

R. Brown (ed.), *Consciousness Inside and Out: Phenomenology, Neuroscience, and the Nature of Experience*, Studies in Brain and Mind 6, DOI 10.1007/978-94-007-6001-1_3,

to perform amazing feats of object constancy. It is Adam's unicept of his mother that allows him to recognize her by her voice, her face, her gait, and so on, all in imperfect sensory conditions. Unlike having a concept of something, having a unicept of something implies that one has the ability to recognize and reidentify the thing that the unicept is about.

Millikan offers a speculative but compelling story about the evolution and development of unicepts for ordinary perceptual properties. We know that in the visual system, there are detectors for various properties: there are edge-detectors, color-detectors, motion-detectors, face-detectors, and so on. Some of these, like face-detectors, are further downstream and take input from upstream detectors. Millikan suggests that, in a similar way, there are detectors for simple object properties, which could then feed into a mechanism for combining these into "proto-unicepts." Once we add in the ability to deploy proto-unicepts in propositional judgment and communication about objects, we have unicepts of properties and relations: a real candidate for a basic unit of cognition.

Modern science has changed the kinds of inputs available to our unicepts, Millikan argues, showing some of our unicepts to be chimerical. Where we once thought that certain relations objectively held among colors, suggested by their apparent similarity, we now know that this is not the case. It would simply be a mistake—as Millikan puts it—to think that the similarity between unicepts for two colors indicates similarity between those colors, just as similarity between the words "cat" and "rat" does not indicate similarity between cats and rats. And as previously mentioned, we have, via the sciences, methods for determining whether our unicepts refer to anything at all (such as phlogiston), or to more than one thing (such as heaviness into weight and mass). In sum, with the methods of empirical science, we can determine whether our unicepts are genuine, referring to one thing and one thing only, and whether the relations that seem to hold among unicepts in our experience reflect objective relations among the things represented. As Millikan puts it: "the likelihood that one's unicept of a thing is nonempty and univocal goes up with the variety of ways one knows to reidentify that thing so as to confirm one's judgments. It goes up with the variety of perspectives from which one is able to identify that thing. And it goes up with the number of occasions on which one finds opportunity to test a unicept's input methods against one another."

The problem with phenomenology, according to Millikan, is that there is no way to validate unicepts that purport to refer to properties of our experience. In the case of ordinary unicepts referring to public objects and properties, we compare different judgments under different conditions, and judgments made by different people, in an attempt to insure that all such judgments converge on one and the same public objects and properties. If they do, their unicepts are validated. But in the case of experience there are no public objects or properties to be referred to, so there is no way to compare our judgments under different conditions, let alone judgments by different people, to insure that all such judgments are about one and the same thing. Thus, there is no way to validate unicepts that purport to be about experience, which is what phenomenology requires. Thus, phenomenology is impossible.

What remains possible, and what Millikan embraces, is *heterophenomenology*—a methodology articulated and defended by Dennett (1991, 2003, 2007). Millikan does not explain how heterophenomenology gets around the failure of phenomenology. We will now sketch how her reasoning might go.

Heterophenomenology holds that when subjects utter first-person reports, which purport to describe their experiences, the heterophenomenologist must remain neutral as to their truth value. Instead of interpreting first-person reports as reports about experience, the heterophenomenologist interprets first-person reports as descriptions of the subjects' *beliefs* about their experience. About such beliefs, subjects are deemed incorrigible.[1] The heterophenomenologist can then use the appropriately interpreted reports as evidence that, in combination with other scientific evidence, can ground a theory of consciousness. According to Dennett, heterophenomenology is the method scientists currently follow when they use first-person reports as sources of data.

From Millikan's standpoint, what seems important is that the heterophenomenologist avoids any direct inference from first-person reports to the properties of experience. Whatever subjects utter in purporting to describe their experience is reinterpreted by the heterophenomenologist as expressing *beliefs* about experience. As a consequence, the heterophenomenologist need not take any unicepts to refer to properties of their experience. Since the heterophenomenologist remains neutral about the truth value of the subject's utterances, she avoids the problem that affects phenomenology.

Like Millikan, we doubt the viability of phenomenology. But unlike Millikan, we will argue that there is a way to validate unicepts that describe our experience. As a result, while we agree with Dennett that first-person data are public data on a par with other scientific data, we maintain that heterophenomenology can be improved in such a way that first-person data can be interpreted in terms of (typically) conscious mental states.

We grant that there is a sense in which unicepts that purport to be about our experiences lack a public object or property that can guide comparisons between judgments. But the same holds for unicepts that are legitimately employed in the sciences to refer to objects and properties that are not directly observable—unicepts for electrons, neutrinos, black holes, and the like. Physicists manage to validate unicepts for electrons, neutrinos, and black holes, while invalidating—and eventually rejecting as empty—unicepts for phlogiston, epicycles, the ether, and the

[1] Unfortunately, Dennett is somewhat equivocal about the status of the subjects' beliefs about their experience. Sometimes he describes them as the causes of first-person reports, which presumably means they are real, while at other times he describes them as merely constituting a fictional heterophenomenological world narrated by the subject. This makes Dennett's claim that subjects are incorrigible equivocal between a substantive empirical claim about the causes of first-person reports, which we take to be false, and a claim that is true by definition about the fiction narrated by the subject, which is true but trivial (cf. Schwitzgebel 2007).

like. By the same token, it may be possible for subjects to validate their unicepts for at least some properties of experience while, perhaps, invalidating and thus eventually rejecting others.

How might that work? Consider a child learning to use mentalistic language, say, the word 'sad'. She can observe public manifestations of sadness in her and other people's facial expressions, posture, gestures, tone of voice, etc. She may be told that she looks sad or is acting sadly and asked why. By engaging in conversations about sadness, she may begin to notice that something about her experience correlates with her public manifestations of sadness, and she may begin to use the term 'sad' to refer to that aspect of her experience. By engaging in conversations about sadness, initially based on overt manifestations of sadness, she will be able to compare different judgments under different conditions, and judgments made by different people, eventually becoming reliable at insuring that such judgments converge on one and the same property of her experience. She can do the same thing for other mental state unicepts (cf. Piccinini 2003, Section 2).

The crucial difference between the process of unicept validation we just sketched and phenomenology is that phenomenology is generally assumed to be conducted by a single subject working on her own, whereas unicept validation requires the public coordination of judgments by different people based largely on publically observable manifestations of mental states. We may think of mentalistic unicept validation on the model of instrument calibration.

One of us has argued that, when we do the methodology of first-person data, rather than thinking of the subjects who generate first-person data (through either first-person reports or other first-person behaviors) as observers reporting on what they experience, it is better to think of these subjects as self-measuring instruments (Piccinini 2009). On this view, it is not the responsibility of the subjects in scientific studies to eliminate biases or to determine how reliable they are; rather, that is the responsibility of the investigators, just as it would be their responsibility with any other scientific instrument. Furthermore, it is the investigators' responsibility to make sure that their instruments produce data that can be checked by other investigators in a public way. Thus, first-person data need not be private (which would be antithetical to scientific investigation), but can be public in the same way that data acquired via any scientific instrument is public.

This self-measurement methodology of first-person data improves on heterophenomenology in a number of ways (for more detailed discussion, see Piccinini 2010):

First, we should not be tempted into thinking that the first-person reports central to phenomenology must concern consciousness. Many psychologists use first-person reports to study things other than consciousness, such as memory or morality; and even if many of these phenomena are conscious in the sense that subjects are reporting on conscious mental states, there is no *a priori* reason to rule out that first-person reports can be about unconscious phenomena, interpreted and described by trained psychologists. Further, one should not be tempted into thinking that first-person *reports* exhaust the sources of first-person data. Scientists routinely use subjects' button presses as sources of data about a variety of psychological phenomena, where the subjects may be human or non-human primates.

Another way in which we break from heterophenomenology is that we reject agnosticism about first-person reports. We think it best for scientists to take subjects' reports at face value, treating such reports as one would in an everyday context. People are not generally agnostic about whether what others tell them is true; rather, they use their best judgment to decide whether and to what extent to believe other people, or whether to reinterpret their claims in appropriate ways. Determining whether we should doubt or reinterpret someone's claims is a matter of using whatever other evidence we have at hand. This practice is not infallible: there are pathological liars, for example, who lie without any particular reason that we might discover. But if we were to always withhold judgment about whether people were truthful, we would never learn anything from their first-person behaviors, and this holds true in the scientific use of first-person reports as well.

We also reject the heterophenomenologist's suggestion that first-person reports can only tell us about subjects' beliefs. Rather, first-person reports can tell us about other kinds of mental states, which subjects may or may not have any beliefs about. It is problematic to ascribe a person who reports that she feels, say, ashamed with nothing more than a *belief* that she feels ashamed. She may have such a belief, but that belief may not have been the cause of her report: she may have formed the belief *after* expressing the report. The idea that all first-person reports are caused by beliefs and that all first-person reports express beliefs (and only beliefs) is unjustified: what causes first-person reports (and first-person data more generally) is an open, empirical question. Much like the previous point, it is better to take what first-person reports are about at face value. And again, there may be special reasons to doubt that a person who says she is ashamed is actually ashamed, but in general it is inadequate to infer only that such a person merely believes she is ashamed.

Having rejected the heterophenomenologist's interpretation of first-person data solely in terms of beliefs, we also reject the heterophenomenologist's insistence that the subject be deemed incorrigible about such beliefs—and hence about her "heterophenomenological world". First-person data often give us useful information about experience, and about mental states more generally, but there is nothing incorrigible about first-person data any more than there is something incorrigible about any other data. It is up to psychologists and neuroscientists to investigate which first-person data are reliable about which mental states under which circumstances.

Our final point responds to Dennett's claim that heterophenomenology licenses the same experiments as phenomenology. On the contrary, a sound methodology of first-person data makes a significant difference to scientific practices. Unlike traditional phenomenology, which relies on the introspecting subject to avoid biases and errors (a dubious expectation), we recommend that psychologists and neuroscientists who collect first-person data exert the utmost care and rigor in eliciting, processing, and interpreting their data. Of course, this is not a surprising recommendation: we should expect all scientists to exercise such care when it comes to their data and their instruments. But there are specific steps that can and should be taken in the case of first-person data. A sound methodology can help to uncover and highlight them.

If Millikan's account of unicepts is correct, then she seems right about phenomenology: individual observers are simply not in a position to validate their mentalistic unicepts and the apparent relations among them from inside their minds (nor could they ever be in such a position). But if we are right, subjects can still validate their mentalistic unicepts with the help of others and by observing public manifestations of their mental states, possibly under the guidance of psychologists and neuroscientists who use them as subjects. As a consequence, first-person data may be used in scientific studies of mental phenomena. When circumstances allow it, first-person data may be interpreted directly in terms of experience. Like other investigations into how scientific instruments work, Millikan's theory—if correct—might shed light on some fundamental limitations of first-person data. But that will depend on the phenomenon being investigated, plus whatever other information we can marshal about that phenomenon.

In conclusion, there is a difference between the phenomenology of experience, which—we agree with Millikan—is a flawed methodology, and the scientific study of phenomenal experience. If we are right, the latter is a legitimate part of science, to be conducted in accordance with the self-measurement methodology of first-person data.

References

Dennett, Daniel C. 1991. *Consciousness explained*. Boston: Little, Brown & Company.

AQ2 Dennett, Daniel C. 2003. Who's on first? Heterophenomenology explained. *Journal of Consciousness Studies* 10(9–10): 19–30.

Dennett, Daniel C. 2007. Heterophenomenology reconsidered. *Phenomenology and the Cognitive Sciences* 6: 247–270.

Piccinini, G. 2003. Data from introspective reports: Upgrading from commonsense to science. *Journal of Consciousness Studies* 10(9–10): 141–156.

Piccinini, G. 2009. First-person data, publicity, and self-measurement. *Philosophers' Imprint* 9(9): 1–16.

Piccinini, G. 2010. How to improve on heterophenomenology: The self-measurement methodology of first-person data. *Journal of Consciousness Studies* 17(3–4): 84–106.

Schwitzgebel, Eric. 2007. No unchallengeable epistemic authority, of any sort, regarding our own conscious experience—contra dennett? *Phenomenology and the Cognitive Sciences* 6: 107–113.

AUTHOR QUERIES

AQ1. Please provide department name in the affiliation for authors “Gualtiero Piccinini and Corey J. Maley.”
AQ2. Please confirm the page range for Reference Dennett (2003).