



Horizons of becoming aware: Constructing a pragmatic-epistemological framework for empirical first-person research

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Abstract

Recent decades have seen a development of a variety of approaches for examining lived experience in the context of cognitive science. However, the field of first-person research has yet to develop a pragmatic epistemological framework that would enable researchers to compare and integrate – as well as understand the epistemic status of – different methods and their findings. In this article, we present the foundation of such a framework, grounded in an epistemological investigation of gestures involved in acquiring data on experience. We examine the acts of turning towards one’s experiential field and attending to experience within the process of reflection. We describe what we call the *horizon of attending to experience* by analogy to the “experimental arrangement” in quantum observation: this horizon, we argue, co-defines experiential phenomena that end up being observed and reported; at the same time, it itself forms an element of experience and is therefore amenable to phenomenological investigation. Drawing on the constructivist notion of enaction, we show that acknowledging the inherently constructive nature of attending to experience and accepting one’s lack of epistemic access to the “original”, observation-independent pre-reflective experience is not a dead end for first-person research when situated in a constructivist (but not relativist) understanding of the reflective act and its results. Expanding the notion of the horizon to encompass all epistemic acts involved in producing phenomenological data and final results of a first-person study (i.e., *horizon of the method*), we suggest some lines of inquiry that would allow researchers to identify and articulate horizons of particular methods, opening a way towards integrating past and future findings of different complementary first-person approaches into a comprehensive map of lived experience.

Keywords First-person research · Empirical phenomenology · Epistemology · Methodology · Reflection · Enaction · Constructivism

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“To speak of experience as being standard, raw, or pure generally makes no sense. All we have is experience at its own level of examination, and depending on the kinds of effort and methods brought into play.” (Varela & Shear, 1999, p. 14)

Cognitive sciences are currently witnessing a resurgence of interest in empirical research into lived experience. In line with the increasing availability of neuroimaging technologies, many cognitive scientists and philosophers (cf. Varela, 1996; Depraz et al., 2003; Gallagher & Zahavi, 2012) have started to point to the need for precise descriptions of how mental phenomena, reflected in – or correlated with – the measured behavior and brain activity, are experienced from the first-person point of view. While just a few decades ago, empirical research into experience was existing only at the fringes of cognitive science, first-person approaches are nowadays increasingly used both in stand-alone first-person studies and as integrated into psychological or neuroscientific experimental designs. Together with the establishment of new research frameworks, such as neurophenomenology and front-loaded phenomenology, recent years have brought an increase in applying first-person methods¹, such as descriptive experience sampling (DES; Hurlburt, 1990, 2011) and micro-phenomenology (Petitmengin, 2006), in the context of cognitive science.

Despite the surge in the development and use of a variety of techniques for acquiring data on experience, the field of first-person research has so far failed to develop an established set of methods or accept a consensus on how to validate and understand the epistemic status of their findings. Indeed, results of different methods are frequently divergent or even contradictory, and it does not appear that the sum of these results has as of yet begun laying out an integrated account of lived experience.

Echoing the dispute that added the final blow to the project of introspectionist psychology a century ago, some contemporary critics (e.g. Dennett, 1993) argue that researchers’ failure to find a single method that everyone would agree on makes the project of an empirical science of experience a senseless endeavor. This issue also worries many defenders of first-person research, yielding attempts at comparing different methods in terms of their fidelity and accuracy with the goal of determining the best or the most appropriate among them (e.g. Froese et al., 2011). While other researchers, on the contrary, allow for methodological pluralism, the question remains how to join the accumulating results yielded by different methods into a coherent account of lived experience.

How can we make sense of the plurality of methods for acquiring (and analyzing) data on experience, their results, and their criteria of validation – and how can we

¹ Throughout the article, we will make use of terms that might have different meanings when used by other authors. We ask the reader to consult the *Glossary* (Appendix) for clarifying our use of the key terms necessary for developing our account: *first-person method*, *empirical phenomenology*, *reflection*, *pre-reflective experience*, *experience-as-phenomenon*, *horizon of attending to experience*, and *horizon of the method*.

approach the challenge of constructing an integrative picture of lived experience? We suggest that this cannot be achieved by forcing research into experience into naturalistic and objectivist scientific frameworks, or by proclaiming – or developing – a singular optimal method for acquiring and analyzing first-person data. The problem – and therefore, as we will argue, the way out – is related to the more fundamental feature of first-person research: the circumstance that in understanding and accounting for data on lived experience, one cannot disregard the specific way in which it was acquired.

In this article, we describe this constructive dimension of observing and examining lived experience as an inherent and unavoidable feature of the acts involved in acquiring phenomenological data. Maintaining that lived experience – regardless of whether one attends to it in real time (i.e., as it is unfolding) or retrospectively (i.e., after it has already transpired) – cannot in principle be examined in a non-constructive and non-participatory manner, we argue that first-person research requires a novel, non-objectivist epistemological framework better suited to its specific object of investigation: a framework which will enable making sense of the plurality of approaches to examining experience and the variability of their results.

Presenting the central contribution of the article, our proposal for such a framework is grounded in (i) observations emerging from our own past empirical work in first-person research within the context of cognitive science (e.g. Kordeš et al., 2019; Kordeš & Demšar, 2019); (ii) selected concepts from Husserl's phenomenological philosophy; (iii) epistemological solutions to the problems of participatory and constructive features of observation in the field of quantum mechanics (e.g. Bohr, 1934, 1949), and (iv) the complementary understanding of knowledge and cognition stemming from the enactive approach to cognitive science (Varela et al., 1991; Varela, 1996). While the general idea to utilize epistemological insights from quantum mechanics in other scientific fields has already been put forward by a number of authors (see Bohr, 1934; Bitbol, 2001, 2002; Fjelland, 2002; Gallagher, 2018), our proposal originally and concretely applies these epistemological insights to the specific field of first-person research. In doing so, our proposal is intended as a pragmatic and empirically oriented contribution to this emerging research field.

The article is split in four sections. In *Section 1*, we describe the constructive character of the act of examining experience, starting with the initial gesture of turning towards and attending to one's experiential field. In *Section 2*, we describe the observational situation in first-person research and, making use of the notion of *phenomenon* from Niels Bohr's epistemology of quantum mechanics, show that the experiential "percept" (i.e., what is observed when attending to experience), manifested in the course of the reflective act, can be regarded as a phenomenon co-defined by its conditions of manifestation. Drawing on the constructivist notion of enaction, we propose a non-objectivist framework in which results of examining experience are regarded as inseparable from the acts of examination. In *Section 3*, we describe the *horizon of attending to experience*, acknowledging attentional dispositions and attentional activity involved in relating to one's experience as a constitutive, while often overlooked part of experience; we then approach the challenge of how to empirically detect and

phenomenologically examine horizons in the context of first-person research. In *Section 4*, we expand the notion of the horizon, presenting the *horizon of the method* as a sum of “horizons” characterizing the entire series of epistemic acts that lead towards the generation of phenomenological data and final results of first-person studies. We propose some lines of inquiry that would enable researchers to identify and articulate horizons of particular first-person methods, offering a way of beginning to join results of different approaches into an integrative understanding of lived experience.

1 From excavation fallacy to excavation characteristic

Compared to the majority of other scientific endeavors, first-person research finds itself in a strange epistemic situation: the process of examining experience appears to unavoidably interfere with its target, altering – or even constructing – the very phenomenon that it is claiming to examine. This circumstance has been observed and problematized since the first systematic attempts at empirically researching experience by opponents and proponents of such research alike. Whereas critics of first-person research (e.g. Comte, 1830; Searle, 1992) have argued that the apparent intertwinement of the observer (the subject) and the object of observation makes the scientific observation of experience in principle impossible (see Bitbol & Petitmengin, 2013 for an overview of these and similar critiques), proponents of empirical investigation of experience do not regard it as an *a priori* unsolvable issue, but accept the potentially distorting dimension as a necessary difficulty of examining experience. For first-person approaches, the challenge then becomes how to minimize the distortion. Contemporary methods try to deal with this challenge in different ways. Methods aiming for a real-time observation of ongoing experience (e.g. think-aloud protocols, Ericsson & Simon, 1993) suggest a particular type of “non-reactive” observation; others attempt to access the undisturbed experience by examining an already transpired experience from the past (e.g. Hurlburt, 2011; Petitmengin, 2006).

In this article, our intention is not to propose further ways of avoiding tampering with the observed experience in the process of its examination. Instead, we describe the constructive dimension of observing and examining lived experience as an inherent characteristic of acquiring data in the field of first-person research and empirical phenomenology.

1.1 Attending to experience: What does your left foot feel like?

Before delving into a theoretical discussion, let us start with an experiential exercise aimed at encouraging the reader’s own first-person observation of the process of attending to (or more broadly, reflecting on) his or her experience.

What happens when one directs one’s attention towards an aspect of their experiential field to observe it? Say I am in the middle of a conversation with a friend

when she suddenly asks me: *What does your left foot feel like?* What is it like to attempt to satisfy this sudden interest in the experience of my left foot?²

At once, my attention turns towards the area of my experiential field (i.e., the totality of everything that I experience at this given moment) where I expect to find this particular element of experience. The queried area might present itself as a vague impression of that part of my bodily experience, or a more intense, specific sensation. Perhaps I notice a distant sense of cold or warmth, a spike of pain in my toe, or a sense of contact with the floor, the sock, the shoe; perhaps, instead, I notice no experience at all. Regardless of the nature and specificity of what I have observed, however, what I observe when I direct my attention towards the feeling of my left foot likely does not feel created anew. On the contrary: it probably feels that I noticed an aspect of experience (or the absence thereof) that is there and must have been there already before I decided to look.

This *experiential sense* that attending to an aspect of experience uncovered something that had already been there before I decided to look, however, does not necessarily warrant an *epistemological belief*. How can I know what I experience when no one is looking? Indeed, when I think about it, I might not be able to remember having experienced a feeling – not even a vague one – of my foot prior to having turned my attention towards it. It might even appear that the question (or more precisely, the act of looking prompted by this question) has *transformed* or even *constructed* something in my experience.

You may experiment with this by directing your attention towards other aspects of your experiential field: the feeling of your eyes focusing on reading these sentences, the sensation of the breath in your nostrils, etc. In each case, you can try to observe whether and how your act of attending to experience relates to the aspect of experience that ends up being observed. You might (or might not) see that you can turn towards your experience in a variety of ways. In examining the feeling of your left foot, you might, for instance, be able to adopt either an attitude of mindful accepting, or a concerned attitude aimed at checking for the potential presence of reoccurring pain in your toe, or various other attitudes; you might be able to focus mainly on the experience of warmth or cold, or primarily on the tactile sense of contact with your sock or another surface.

This experiential exercise in observing the process of reflection does not directly lead to any philosophical conclusions; however, it does point to some crucial epistemological dilemmas for first-person research. For instance: Can the aspects of experience that end up being observed be separated from the way of attending to them? Can the “same” experiential phenomenon be attended to in different ways (e.g. from different perspectives, with different attitudes and/or types of focus), or does every

² The exercise described here is *not* intended to capture how the process of reflection is carried out in any particular first-person method. Indeed, both of the arguably most widely employed first-person methods – micro-phenomenology and DES – specifically warn against asking inductive questions such as “*What does your left foot feel like?*”; they also focus on an already transpired (rather than concurrent) experience and do not suggest adopting different attitudes in attending to it. (But see Schwitzgebel, 2007 for an experience sampling study that incidentally used a very similar question.)

new act of attending to experience bring forth a new experiential phenomenon? What do we observe when we observe experience?

1.2 Distorting experience by the act of observation and the excavation fallacy

The question of whether observing and reporting experience is an act of “recovering” what was there (in the sense that it faithfully represents an already existing – even if as of yet unthematized – pre-reflective part of the experiential landscape), or whether it instead plays an active role in an *ad hoc* creation of belief or judgment about experience, is as old as the history of experience research. In contemporary phenomenology and philosophy of mind, the epistemological issue brought about by the potentially constructive character of attending to one’s experience is exposed in the context of the “refrigerator light” fallacy (Shear, 2009). The fallacy lies in assuming that the refrigerator light is always on, even when the door is shut – or, translating it to the case of observing experience, in assuming that the rich phenomenology brought forward in attending to experience is always present – even when we are not looking. In this vein, Susan Blackmore (2002) suggests that we might be mistaken in our very intuition that we *have* a stream of consciousness at all. Probing into my current state of consciousness (e.g. asking myself: “*Am I conscious now?*”), Blackmore argues, will always return a positive observation that there *is* some form of conscious experience (“*Yes, I am conscious now!*”); but how can I know that there *was* any experience (let alone a continuous stream of rich and detailed conscious states) present in the absence of looking?³

A somewhat analogous epistemological issue in the field of empirical first-person research has been described by Francisco Varela and Jonathan Shear (Varela & Shear, 1999; see also Depraz et al., 2003) as the *excavation fallacy*, perhaps alluding to how archeologists cannot avoid contaminating the artefact in the process of excavating it:

“How do you know that by exploring experience with a method you are not, in fact, deforming or even creating what you experience? Experience being what it is, what is the possible meaning of [its] examination?” (Varela & Shear, 1999, p. 13)

In this article, our intention is not to offer a definite answer to this question or to propose a way of avoiding the excavation fallacy, but to tackle the problem by rethinking the epistemological framework in which it is cast as a *fallacy* in the first place. Since in first-person research, the way of observing necessarily co-determines (or co-defines) the results of observation in a way that it cannot be subtracted from

³ A consistently phenomenological understanding of experience might render such dilemmas obsolete, stressing that any experience is, by (phenomenological) definition, necessarily experience *for a subject*, and that it therefore makes no sense to speak of “experience” independently of the subject’s relationship to it. However, this definition of experience is – as demonstrated by more than a century of aforementioned philosophical discussions – not accepted by all consciousness researchers and theorists. In this article, we refer to challenges such as the one posed by Blackmore not in order to resolve them, but to point to the current epistemological confusion of the field of first-person research.

them, we suggest redefining the excavation fallacy as a necessary *characteristic* of observing and reporting experience.

1.3 Distinctive features of observing and acquiring data on experience

In most natural sciences, it is possible to regard observed phenomena as objects that exist independently of observation by subtracting from these phenomena the way in which they are being observed (cf. Kordeš & Demšar, 2019; Bitbol, 2001). Whereas the possibility of this assumption does not necessarily lead to (or require) accepting the possibility of a “view from nowhere” (and the related idea that the results of observation reflect the objective contours of the world), it does offer a good approximation: namely, the possibility of a “view by anyone”, i.e., of an intersubjective agreement with regard to the results of observation.

Such intersubjective agreement – and thereby, the realist understanding of the researched domain – cannot be as easily assumed in researching experience. Here, the object of examination (i.e., lived experience) is directly observable by (i.e., empirically accessible to) only the experiencing person; what can be intersubjectively shared are only phenomenological data on this experience, acquired by means of the reflective act. What is more: even if the reflecting subject (i.e., the experiencing person) remains the same, results of observing experience alone still cannot be compared across different observational situations. Suppose that you turn towards and describe a particular aspect of our experiential field in *reflection*₁. How could this description, acquired in *reflection*₁, be compared with the supposed original experience, if not by conducting another reflective act – *reflection*₂? Since there is no way to evaluate the correspondence of the supposed original experience with the experience as it is observed and reported in reflection (except for carrying out another reflective act), the object of one observation cannot be straightforwardly compared to the object of another. Indeed, practically, there seems to be no way in which one could externally ascertain that the experience one is observing and describing is the “same” as the experience as it was pre-reflectively given in its “original version”.⁴

⁴ Despite the impossibility of intersubjective and intersituational corroboration of acquired data on experience that could help us in dealing with the apparently constructive nature of the reflective act, different arguments have been put forward for why the reflected-upon experience must be identical to (or at least based on) the pre-reflective experience as it supposedly existed independently, prior to reflection; these arguments have been backed by common sense scientific aspirations (e.g. What would be the point of first-person research without such a promise?) as well as phenomenological accounts (e.g. Husserl, 1991; Sartre, 1956; Zahavi, 2015). In the present article, we are not interested in either accepting or challenging these arguments. Instead, we emphatically seek to avoid the *in principle* theoretical debates about the relationship between pre-reflective and reflective experience (for a discussion of the problematic distinction between reflective and pre-reflective awareness, see Kordeš & Demšar, 2021, “The notion of reflective observation”, pp. 5–7), about the issue of whether the findings of empirical phenomenological research *really* represent an original pre-reflective experience, as well as about the nature of such original experience.

2 A non-objectivist epistemological framework for empirical first-person research

2.1 Analogy to quantum mechanics: The “paradox” of quantum observation

Luckily, empirical research on lived experience is not the only scientific field troubled with the impossibility of subtracting the act of observation from its observational objects and outcomes. Another prominent area that has been, since its early days, faced with a very similar observational problem is the field of quantum mechanics. In quantum observation, similarly to the above-described situation in observing experience, the *experimental arrangement* (comprising the totality of observational characteristics) appears to co-determine the phenomenon that ends up being observed: if we are interested and set out to measure particle-like attributes of a quantum object (e.g. its position), the object will behave as a particle; if we decide to determine its wave-like attributes (e.g. its wavelength), it will behave as a wave (see Bohr, 1949).

In this and similar observational paradoxes, the act of observing and the choice of the observational perspective appear to co-define what is observed – seemingly imposing upon the purported object of observation a change which cannot be neglected, reversed, or compensated for in the way analogous to classical physics. This raises questions similar to those we encounter in observing experience. How can we know what happened in the act of quantum observation? Had the observed quantum states existed before the act of observation, with the measurement merely revealing their pre-existing values? Did the observation interact with the quantum system, disturbing it in the process? Or did it perhaps even create the quantum property in question?

The fact that like in observing experience, these questions cannot be answered empirically (for instance by measuring the state of the same quantum system again – since the measurement has already collapsed the wave function and co-determined what can be observed in the future) has fueled a number of distinct and mostly opposing interpretations of the quantum formalism. Most of these – the so-called *ontic interpretations* – attempt to retain a realistic understanding of the world by regarding the results of quantum measurement as data about the observation-independent quantum reality (leading their proponents to suggest strikingly different versions of the reality supposedly represented in the quantum formalism; cf. Kordeš & Demšar, 2019).

An alternative approach is to conceive of the quantum formalism and its concepts as referring to our *knowledge* of the world, rather than to the (elements of the) world “in itself”. This *epistemic* view was championed and most consistently defended by the pioneering quantum physicists Niels Bohr. Bohr argued that without any direct empirical and epistemic access to the state of the quantum system in the absence of measurement, we cannot claim (nor, importantly, deny) that results of quantum measurement reflect the contours of the objective physical reality. Instead, he suggested, we must acknowledge the impossibility of distinguishing the behavior and attributes of quantum systems from their manifestation

in actual experiments. This led Bohr to introduce a new technical notion of *phenomenon* – a term that, in Bohr’s sense, designates “the observations obtained under specified circumstances, including an account of the whole experimental arrangement” (Bohr, 1949, p. 238). In other words, quantum phenomena refer to the experientially (i.e., empirically) and epistemically accessible *manifestations* of quantum systems, *co-determined* by the characteristics of measurement under which they appear. Inevitably manifested through specific ways of observing, phenomena are to be regarded as responses of the researched domain to a specific kind of probing – with the research domain “in itself”, i.e., the world existing independently of acts of observation (e.g. the “intrinsic” properties of the quantum object), remaining not only unknown, but unknowable (cf. Bohr, 1934; Plotnitsky, 2003) – available only to metaphysical speculation.

This has an important implication for understanding the results of quantum observation: since the way in which the observation is carried out forms an inseparable part of any observational outcome, this outcome can only be understood if we know the characteristics of measurement through which it was acquired. Or, to translate this suggestion into language less specific to the quantum realm: in order to understand the responses of the researched domain to the acts of observation, it is important to first understand the questions.

2.2 Experience as phenomenon, horizon as characteristic of measurement

As we have argued in detail elsewhere (Kordeš & Demšar, 2019), we suggest adopting Bohr’s metaphysically agnostic epistemology in the area of empirical research into lived experience (see also Bitbol, 2001, 2002). Analogously to Bohr’s understanding of quantum mechanics as the study of quantum phenomena, we propose to understand empirical first-person research not as the study of experience (or consciousness) “as it is”, but of *experiences-as-phenomena*, i.e., experiences as they are manifested in reflection and therefore co-determined by the specific acts involved in the thematization of experience.

Our application of Bohr’s philosophy of quantum mechanics to epistemological puzzles of researching experience is not unprecedented. Bohr himself regarded his epistemological ideas as more than a solution to the particular problem of quantum observation, likening the observational situation in quantum mechanics to research fields such as biology, psychology, and social sciences, and even explicitly comparing it to the observation of conscious phenomena (Bohr, 1934).⁵ A similar application of epistemological insights from quantum mechanics to a broader range of scientific domains has been more recently suggested by Ragnar Fjelland (2002) and Shaun Gallagher (2018). While Gallagher in particular argues that one can take Bohr’s understanding of quantum phenomena “as reflecting a principle to be applied

⁵ Bohr’s observations of the non-coincidental congruence between phenomenological descriptions and measurements in quantum mechanics have also been tellingly echoed by Maurice Merleau-Ponty (1995, p. 373).

to science more generally” (Gallagher, 2018, p. 126), our present proposal concretely applies this principle to the specific case of first-person research.⁶

When turning towards the pre-reflective, previously unattended aspect of experience, what becomes available to reflection cannot go beyond experience as it appears to attentive perception. In acquiring data on lived experience, like in quantum observation, there is no way of finding out what was there before the measurement (or what would have been there in absence of measurement). Comparing attending to experience to visually attending to the objects in one’s surrounding environment, experience-as-phenomenon can be likened to the common notion of the *percept* from the study of visual perception, denoting what is “seen” when “looking at” pre-reflective experience. Attending to experience returns a particular experiential percept (experience-as-phenomenon) – with the caveat that the correspondence of this percept to its supposed “underlying” object (the pre-reflective experience-in-itself) cannot be either confirmed or disconfirmed empirically. Like the notions of “quantum system” and “quantum object”, the notion of “pre-reflective experience” is here used as a placeholder (see *Glossary*): something that phenomena manifested in the act of observation purportedly refer to, but that is not itself empirically accessible. All that is epistemically available in observation is the experiential percept as it appears in the reflective act; inferring beyond it must necessarily rely on metaphysical theoretization about experience “in itself” (which our discussion here is trying to avoid).

In this way, what we see when we look at our stream of experience, like in quantum measurement, is more appropriately understood as a response of the researched domain to a specific kind of probing – with the research domain “in itself” (i.e., the pre-reflective flow of experience independent of observation) remaining unknown and unknowable. What does that mean for first-person research? Similarly to Bohr’s suggestion for how to understand results of quantum observation, here, phenomenological data (descriptions of experience-as-phenomena) cannot be understood without first understanding the characteristics of how experience was made manifest in reflection. We will call the totality of these characteristics the *horizon of attending to experience* (see *Glossary* and *Section 3*). In keeping with the comparison with quantum measurement, the horizon of attending to experience can be described as a first-person research analogue of the “experimental arrangement”, encompassing the sum of observational characteristics specifying one’s way of attending to their experiential field, and necessarily co-determining how experience is made manifest in the reflective act.

⁶ In line with Bohr’s ideas and their later more systematic exploration by Michel Bitbol (2001, 2002), we have elsewhere suggested that a Bohrian non-representationalist epistemological framework could be applied in all those areas of scientific investigation that cannot regard their research objects as independent of the act of observation, which we describe as belonging to the *non-trivial research domain* (see Kordeš & Demšar, 2019).

2.3 Constructivist understanding of first-person research: Examining experience as a process of enaction

What demands would an epistemological framework, suitable for the above-described observational situation in acquiring empirical data on experience, have to fulfil? First, it would have to accommodate the active role of the act of attending to experience and its constructive contribution to co-defining experiences-as-phenomena. Second, it would have to allow for an understanding of these phenomena (and the phenomenological data generated on their basis) as responses of the researched domain to a specific kind of probing, overcoming the falsely dichotomized dilemmas of whether what is observed in reflection is a homomorphic representation of experience-in-itself or an outcome of an arbitrary, *de novo* construction.

As we have argued elsewhere (Kordeš, 2016; Kordeš & Demšar, 2018, 2019), the described demands can be fulfilled within a constructivist approach to understanding knowledge – specifically, within Varela, Thompson and Rosch's (1991) enactive approach to cognition and cognitive science. In Varela and colleagues' use, the notion of *enaction* emphasizes the inseparability of action and perception in cognitive processes, stressing the mutual specification of the knower (the cognitive system) and the known (the world). In navigating through the world, the cognitive system does not passively represent a pregiven, mind-independent world, but instead actively brings it forth (or *enacts* it); accordingly, perceiving and knowing is seen neither as a product of representing (or copying) an independent, pregiven external reality nor an arbitrary construction that an independent mind would project from within. Whereas it was originally used to characterize cognitive and perceptual processes, the notion of enaction can be extrapolated to indicate a similar "middle path" in the investigation of experience; that is, to overcome the dilemma of whether the reflective act homomorphically recovers a pregiven, independently existing experience, or whether it on the contrary amounts to an unconstrained projection of the reflecting mind. We propose understanding the experience-as-phenomenon (the experiential percept), manifested in the reflective act, as *enacted* – brought forth as an outcome of an unresolvable intertwinement of the reflected-upon and the act of reflection. (For a more detailed exposition of the enaction-based epistemology of reflection – and empirical phenomenology and first-person research more broadly – as well as rebuttals of possible objections, see Kordeš & Demšar, 2018.)

Similarly to how in Bohr's epistemology, the experimental arrangement co-determines the quantum phenomenon, here, the experiential percept is co-determined by its way of being probed. What is found in reflection is to be conceived not as a representation of experience-in-itself, existing independently of the act of observing, but as a response of the researched domain to a specific kind of probing. Therefore, what one perceives in observing one's experience can only be understood in relation to particular characteristics of observation. Examining the horizons of attending to experience thus becomes of utmost importance for understanding the meaning and epistemic status of results of first-person research, and of finding a way of integrating results of past and future studies into a comprehensive map of lived experience.

In the next two sections, we will suggest two levels of examining horizons: first, a phenomenological examination of horizons of attending to experience as experiential structures in their own right (*Section 3*), and second, a multi-level examination of the horizon of the method, comprised of the sum of “horizons” characterizing other observational and reporting acts involved in the formation of final results of the study (*Section 4*).

3 Horizon of attending to experience as a part of experience

We have described the horizon of attending to experience as encompassing the totality of characteristics that shape one’s way of attending to experience. But surely, how one relates to experience in reflection can be influenced by many factors: the initial attitude with which the reflecting person first directs her attention towards the specific aspect of her experience, her beliefs and expectations about what she would – or *should* – notice in reflection, her overall aim in attending to experience, the ongoing development of the reflective act, etc. In the context of a scientific study, as we will further explore the next section, these factors also reflect the study’s research questions and goals, the theoretical background that contributed to its design, as well as the social dimension of the research environment. Does accounting for the horizon then require knowing all the ideas and expectations of the reflecting individual, her personal history and frames of mind, as well as all the details of the context within which she is turning towards her experience? Collecting all this information seems a nearly impossible endeavor, and even in case it could be achieved, it is unclear how knowing the totality of factors *shaping* one’s horizon could be used for “calculating” this horizon and integrating this calculation with results of reflection.

However, as first-person researchers, we can access the horizon in a more direct way: it can be *experienced*. Amounting itself to an element of experience – even if a highly subtle one – the horizon can be examined as any other part of the experiential field: not with regard to the factors and motives involved in its formation, but through turning our phenomenological focus to its mode of appearing. This will require adopting a specific angle of examination that allows the horizon to be directly noticed as a part and parcel of experience.⁷

⁷ The obvious difficulty for attempting a phenomenological examination of the horizon lies in the apparent vicious circle involved in any attempt at examining the horizon: if we want to notice the horizon of attending to experience, we must modify our way of relating to our experiential field by adopting another horizon of attending to experience – in other words, we must turn towards the very act of turning-towards. While systematically addressing the issue of self-referentiality in scientific inquiry exceeds the scope of this article (but see Kordeš & Demšar, 2018, 2019), we want to emphasize that self-referentiality does not automatically prevent empirical examination of experience. Unlike objectivist frameworks, the constructivist view can welcome self-referentiality as not only a possible complication, but indeed as an essential element of the scientific investigation of experience and mental processes more broadly (cf. Stewart, 2001; Riegler, 2001).

A reader from the field of phenomenology might notice that our use of the term horizon implies a connection to Husserl's phenomenology, where the notion of horizon plays a central role in the analysis of perception and internal time-consciousness (e.g. Husserl, 1960, 1991; Jorba, 2020). This overlap is not accidental: as we will see in this section, horizons of attending to experience – like Husserl's horizons – refer to potentialities of experiencing, implicitly present in the current experience, that appear in relation to the anticipatory dynamics involved in the constitution of (perceptual and temporal) objects of consciousness. Despite this resonance with phenomenological philosophy, we want to stress that in this article, we use the notion of horizon in a strictly methodological manner specific to investigating experience (i.e., to refer to the totality of characteristics that shape one's way of attending to experience).⁸

3.1 Attentional disposition as an element of the experiential field

Despite presenting an inherent feature of any experiential process, attentional activity and attitudes (including those involved in attending to experience in the context of the reflective act) have been left curiously underexplored as a topic of investigation in its own right both for phenomenological philosophy (cf. Depraz, 2004) and for first-person research (but see Depraz 2014 for a systematic phenomenological study of attentional dynamics). To our knowledge, the only study that explicitly empirically examined different ways of relating to experience is Petitmengin and colleagues' (2009) micro-phenomenological study of listening to a sound. In this study, the authors identified three different "attentional dispositions" that one can adopt in relating to one's auditory experience: paying attention to the *source* of the sound (e.g. trying to infer what type of bird is singing the birdsong, or where the bird is sitting); attending to the sound *as a sound* (e.g. analyzing its melody, pitch or rhythm); or noticing the sound as an element of the experiential

⁸ Our use of the notion of horizons in the present article primarily resonates with the understanding of horizons as it was postulated by Edmund Husserl in relation to his analysis of the potential-retentional structure of consciousness. In this context, and in line with the account presented here, Husserl's horizons are tied to the anticipatory dynamics involved in the constitution of perceptual objects and of the temporality of experience, and can be said to themselves present an implicit feature of experience. (Recently, the notion of horizon has been expanded beyond the paradigmatic case of perceptual acts to describe analogous reference to the possibilities of experience involved in more typically cognitive activities such as thinking, with the notion of "cognitive horizons" related to the concept of cognitive affordances; Jorba, 2020). Despite this resonance, we want to point out that our use of the notion of horizon is only a methodological operationalization. The preliminary identification of the similarity between our use of the term and the way that the notion is used in Husserl's phenomenological philosophy would require a more thorough analysis (an analysis that could also include the way Husserl's original use was adopted and adapted by other phenomenological thinkers, such as Martin Heidegger and Hans-Georg Gadamer, cf. Moran, 2011; we thank the anonymous reviewer for making this point). Due to the pragmatic, empirically oriented intention of our proposal, such an analysis exceeds the scope of the present article.

landscape (paying attention to how the auditory experience is being felt without attempting to connect it with what it is supposed to represent or be caused by). As they are described in Petitmengin et al. (2009), these different attentional dispositions strongly resonate with different ways of relating to one's ongoing experience that we found in our own research (see Kordeš et al., 2019, especially examples of various attitudes adopted towards the concurrent sensation of pain, "Contact with pain as means of detecting the horizon", pp. 213–215).

Narrowed down from referring to general ways of *relating to* experience to denoting ways of – more specifically – *attending to* experience, the notion of attentional disposition comes close to the experiential structure that we refer to with the notion of the horizon. (Since both concepts have only just begun to be phenomenologically explored, we do not exclude the possibility that further empirical studies will enable a unification of the terminology).

3.2 Horizons of the phenomenological attitude

We believe that for the field of first-person research, studying ways of relating to experience is important not only because they themselves present an essential part of experience as well as crucially co-determine the elements of experience made manifest in reflective observation, but also because specific attentional dispositions seem to be necessary in order to reflectively examine some of the subtler aspects of experience. Specifically, the third among the above-listed attentional dispositions (i.e., attending to – in this case auditory – experience *as experience*) can be aligned with types of horizons entailed in reflective or *phenomenological* attending to experience.

The phenomenological attitude, aiming at bracketing the totality of beliefs and judgments about what is experienced to instead grasp the experience as it presents itself to the experiencing subject, presents the essential methodological tool of researchers and participants involved in empirical phenomenological research. Accordingly, various contemporary methods for investigating experience – some of them explicitly (Vermersch, 1994; Depraz, 1999; Petitmengin, 2006; Giorgi, 2009; Morley, 2010), while others (e.g. Hurlburt, 2011) merely agreeing that what they are endeavoring towards is in line with the general idea of phenomenology – integrate the intention of putting the natural attitude out of play at the core of their methodological guidelines. While the research community is far from reaching a consensus regarding the definition of the phenomenological attitude and the challenge of its practical implementation in examining lived experience, both the phenomenological literature and empirical observations describe the adoption of the phenomenological attitude as a continuous achievement, rather than an on-and-off switch into a different attentional state (Depraz, 2019; Morley, 2010); furthermore, it appears that the phenomenological attitude can be adopted both in real-time (i.e., while initially living through the experience of

interest) or retrospectively (i.e., when examining an experience from the distant or just transpired past; cf. Kordeš & Demšar, 2021).^{9, 10}

As we have argued and tried to empirically demonstrate elsewhere, we maintain that even within the phenomenological attitude, there are various nuances of paying attentive (or reflective) attention to one's experiential field (Kordeš et al., 2019; Kordeš & Demšar, 2021; see also Depraz, 2014; Zahavi, 2011), none of which – according to the epistemological framework presented in this article – amounts to a “pure” observation that could *even in principle* (let alone in practice) bypass the excavation fallacy and other problems involved in examining experience. In other words, there exists not one, but multiple different ways of turning towards one's experience in a way that allows for a phenomenological (reflective) observation; that is, a spectrum of horizons of attending to experience that fall within the more general concept of “phenomenological attitude and may be compatible with and employed in phenomenological reflection. Every kind of attending to experience – phenomenological or not – entails a horizon, and there is thereby no “absolute” phenomenological horizon that would show experience in its pure form; no ultimate perspectiveless “radical self-awareness” (cf. Strawson, 2010).

3.3 Examining the horizon as an element of experience

While it might be difficult to imagine how to turn the phenomenological focus towards the experience of turning-toward itself, one support for this possibility comes from mindfulness-related meditation practices. These are often described as having two essential components: sustaining attention and adopting the correct (i.e., nonjudgmental) kind of attitude (or attentional disposition) towards one's experience (Kabat-Zinn, 1994). Accordingly, practicing mindfulness can be regarded as

⁹ Surprisingly, this seemingly important distinction is rarely explicitly mentioned in phenomenological literature and first-person studies. In approaches such as micro-phenomenology and DES, the phenomenological attitude is adopted retrospectively, directed to a past (even if just-elapsed) experience that was itself often lived through in absence of phenomenological or reflective focus. It might occur that a particular examined experience happens to be one in which the participant was reflectively or phenomenologically aware already while living through it (e.g. listening to a sound with a specific attentional disposition or maintaining meditative presence with one's ongoing experience; Petitmengin et al., 2009, 2017). Yet, the field of first-person research currently lacks a method for which maintaining real-time reflective (or phenomenological) awareness would constitute a *methodological premise*. Based on this observation, we have recently developed a novel approach for meditation-based phenomenological examination of ongoing lived experience, called *sampling reflectively observed experience* (SROE for short; see Kordeš & Demšar, 2021), which we in the next subsection suggest as a suitable approach for phenomenologically examining the horizons of attending to experience.

¹⁰ While DES emphasizes that it focuses on examining specifically “directly apprehended ongoing experience, that which directly presents itself ‘before the footlights of consciousness’ [...] at some particular moment” (Hurlburt, 2011, p. 2), our definition of reflective awareness is stricter than this. In DES, what we understand as the reflective act (see *Glossary*) is carried out not *during* the examined moment of experience (i.e., the last undisturbed moment before the beep), but while describing this moment in the subsequent note-taking and expositional interview. We do not think that real-time *reflective* awareness of experience is present throughout most of people's everyday lives, and while one might sometimes be thrown into reflection incidentally and/or without intent, we think that reflective attending more frequently requires deliberate attentional effort and skill.

practicing the adoption of a particular horizon of attending to experience. This practicing appears to have at its core an endeavor to decrease the difference between the desired horizon (in this case, the horizon of mindful, nonjudgmental presence with one's ongoing experience) and the horizon that is currently adopted. Being able to engage in such an endeavor suggests the possibility of having *some* experiential access to the current horizon as well as an experiential sense of the horizon that one is striving for – and if the horizon is itself experienced, it can be phenomenologically investigated.¹¹ (Indeed, practicing the adoption of a particular desired horizon can enable practitioners to learn to notice and examine different kinds of attitudes that they adopt towards their experience; cf. Kordeš et al., 2019).

Since our systematic investigation of horizons of attending to experience has just begun, we cannot yet provide a substantive phenomenological account, but can – for now – only point to the experience of the horizon with unsystematically acquired examples. One such example can be found in the following excerpt from a micro-phenomenological interview with a meditation practitioner (conducted independently of any particular study), in which the interviewee is describing a moment of attempting to attain the experiential state that he calls “the empty mind” (as he explained in other parts of the interview, attaining this state allows him to attend to ongoing experience in a way that approximates the phenomenological *epoché*):

“I become receptive. [...] It is kind of like listening ... for activity. Stillness [...] comes. And then it is like I have this very subtle intuitive sense of what the still mind is. Like a measure. [...] I know what the open/still mind is. It is like I am looking down from the head. Below [interviewee points toward shoulders] is a memory or image of what empty mind is. I use that while looking at the mind.”

In this report, the horizon of attending to experience manifests itself as a disposition towards, a search for, and at the same time an anticipation of attaining a specific experiential state (characterized by a specific attitude adopted towards ongoing experience); this feeling is accompanied with an already present “taste” (or subtle intuition) of the anticipated experience.

Building on such preliminary observations and our findings from Kordeš et al. (2019), we are currently employing the SROE research format (see *Footnote 9*; Kordeš & Demšar, 2021), combining random sampling of experience during meditation sessions with subsequent interview-based phenomenological exploration of a selected subset of samples that report on reflective awareness. Compared to other

¹¹ Meditation practitioners often report that they do not succeed in attending to their experience with complete absence of judgment. This does not preclude using meditation-based observation of experience as a tool for exploring horizons. Often, already *attempting* to adopt a nonjudgmental attitude towards experience allows the meditator to recognize the “distance” between her current way of attending to experience and the horizon (or attentional disposition) that she is striving to adopt. She can, for instance, observe how her attention is shifting between different areas of her experiential field, or how she is *trying to relax* a specific part of her bodily experience. The feeling of *trying to relax*, in this case, is a part of the horizon, and so is the feeling preceding the shift of attention towards yet another area of the experiential field.

similar approaches, which might sometimes enable exploring the horizon of attending to experience through catching it by accident (e.g. in DES) or through focusing on selected instances from the past (thereby introducing additional bias, e.g. in micro-phenomenology; see *Footnote 9*), SROE catches participants' real-time reflective attention (i.e., attention to how they are attending to their ongoing experience) by design, thereby focusing on the horizon as itself an essential element of this experience.

3.4 Noticing the horizon through its modification

The majority of proponents of first-person approaches seem to agree that the value of results of examining experience depends on the proficiency of those who examine it: that, as notably pointed out by Varela (1996), observing one's own experience is a skill that, much like playing a musical instrument requires systematic and disciplined training. Many early introspectionists, for instance, only admitted introspective reports of participants who underwent significant amount of practice in observing and reporting their conscious experience (Humphrey, 1951). Similarly, most contemporary researchers note a considerable difference in the quality of reports provided by novice, inexperienced participants and participants who have been familiarized with and trained in the particular method for examining experience (see e.g. Hurlburt, 2009, 2011). In this way, like the more obvious example of meditation practice described above, training a specific way of attending to (and reporting) one's experience in first-person research can also be described as cultivating the horizon.

In many cases, it appears that cultivating ways of observing and reporting experience within specific first-person methods not only co-determines the type of generated phenomenological descriptions, but appears to shape the overall way of participants' relating to their own experiential landscapes. Consider, for instance, "Jessica's paradox", observed by Hurlburt (2011, pp. 34–35), referring to how participants are frequently drastically mistaken about the features of their own experiential life before they begin to systematically examine concrete instances of their experience (but discover these features in the course of DES sampling and expositional interviews); instances in which patients with epilepsy became aware of previously unnoticed experiential signs of an approaching seizure through micro-phenomenological interviews – and learned to recognize (and even counteract) these signs in subsequent situations (Petitmengin et al., 2007); or the demonstration, stemming from our own longitudinal study of employing meditation as a tool for first-person research, of how introducing a new concept for articulating past experience can facilitate – and at the same time constrain – which experiential phenomena will be detected in upcoming attending to future experience (see Kordeš et al., 2019, "One cycle's discovery becomes next cycle's horizon"; pp. 202–203).

From a realist standpoint, these observations again raise dilemmas analogous to those already posed above for the case of a one-time observation of a specific experience (such as that of one's left foot). Namely: has adopting and training a particular way of exploring their experience in the mentioned studies changed participants'

way of relating to their experiential landscape – or has it, instead, changed the very *experiential landscapes* in question? Has employing the method enabled participants to *better access* their experience, allowing them to discover experiential phenomena that had been present (yet unnoticed) all along, and ensuring a higher fidelity or precision of the generated reports? Or did it change the experience itself by constructing these phenomena anew, leading participants to *experience differently*?

If we adopt the epistemic view, the only certain claim we can make on the basis of empirical data is that by employing first-person methods, participants can – often iteratively, through a series of sampling days or interviews (as reported e.g. in Hurlburt, 2009, 2011, and Kordeš et al., 2019) – learn to attend to their experience in novel ways, enacting experiential phenomena through horizons cultivated by the particular method. In the language of predictive processing (e.g. Clark, 2013), we could say that participants' priors can change in a way that allows for an emergence of different sets of experiential percepts, encompassing newly perceived aspects of experience. In other words, training and/or introducing new descriptive concepts can modify (or expand) horizons of attending to experience (see also the concept of generativity of experience, e.g. Depraz et al., 2017).

While this conclusion, as we will further explore in the next section, has important implications for approaching the issue of integrating results acquired by different first-person methods and the question of validity, it at the same time also points to another, not explicitly phenomenological way of detecting the horizon of attending to experience. Namely: by studying phenomenological reports acquired within or between particular first-person studies – even when these do not include direct experiential descriptions of the horizon – we can sometimes *indirectly* identify a change in participants' horizons over the course of research, or compare horizons specific to specific first-person methods.

4 Explicating the horizon of the method

This section describes the horizon of the method as the totality of “horizons” characterizing each epistemic act on the path towards producing phenomenological data and final results of first-person studies. By analogy to the narrower and more specific horizon of attending to experience, described in the previous section, the horizon of each method co-determines the types of experiential phenomena that can be described (and enacted in the first place) when applying this method to examining experience.

To more concretely demonstrate this suggestion, let's start by considering examples of results obtained by different first-person methods, applied to investigating a similar class of target experiential phenomena: for instance, the experience of thinking. Results of approaches, such as the think-aloud protocol (Ericsson & Simon, 1993) or Benny Shanon's (1989) investigations of “thought sequences”, support an account of thinking as a succession of apparently disembodied verbal-like thoughts. Micro-phenomenology (e.g. Petitmengin, 2007), by contrast, yields findings suggesting that the experience of thinking is often grounded in the embodied, transmodal and prediscursive experiential dimension of subtle experiential phenomena

such as felt meaning and felt sense (Gendlin, 1962/1997). On the other hand, DES (a method that incidentally emerged precisely on the grounds of Hurlburt's initial attempts at establishing a method for "thought sampling") shows that moments of experience that participants refer to as "thinking" do not, in fact, converge on a common experiential denominator, but span a variety of experiential modalities – from *inner speech*, *inner seeing*, and *unsymbolized thinking* to *feelings* and *sensory awareness* (cf. Heavey & Hurlburt, 2008).

How are we to make sense of these vastly different descriptions? Do they emphasize different aspects or levels of the experience of thinking, enabling their results to be simply added together? Do they oppose one another, and if so, what would be the way to determine which description is correct, or at least more accurate than the other?

As we argue in this article, the fact that different methods yield different types of results does not mean a dead end for first-person research on consciousness. The proposed constructivist understanding allows for an alternative interpretation: different methods employ specific, characteristic ways of probing, which lead to different types of responses of the probed domain. By analogy to quantum observation, each particular horizon of the method will allow us to inquire into some aspects of experience, and prevent us from accessing others. Thus, in order to understand the answers (i.e., the emerging phenomenological data and results) acquired with a particular method, we must understand its way of questioning. The central methodological challenge of empirical phenomenology then becomes to enable a clear specification of the characteristics of measurement.

4.1 Levels of thematizing experience

In the context of a first-person study, the process of thematizing experience usually aims at producing intersubjectively shareable phenomenological descriptions that can then be further compared and analyzed to potentially uncover general (or generic; Petitmengin et al., 2019) structures of the experience of interest. On the path towards producing its final outcomes, a first-person study typically intertwines the act of attending to experience with a series of gestures of (verbal) articulation, as well as further acts of assessing and analyzing the acquired phenomenological data. Whereas the initial moment of turning towards and grasping one's experience may present the most defining step in enacting the experiential percept (cf. Kordeš & Demšar, 2021), each of these acts can be said to further co-determine the eventually produced results of the study.¹²

When articulating experience by putting it into concepts and words (or, less frequently, other forms of articulation such as drawing, e.g. Valenzuela-Moguillansky,

¹² Importantly, these epistemic acts are typically not carried out in a diachronic succession, but are most frequently intertwined and may all simultaneously contribute to every step of the research process. For instance, linguistic and conceptual factors may co-determine what can be grasped at the very first moment of turning towards the pre-reflective flow experience, enabling and constraining the reflective act from its very onset (cf. Kordeš et al., 2019).

2013), for instance, finding a particular (verbal) description referring to a particular aspect of experience does not merely *label* what was already there. Whether silently expressed in one's own mind, written down, or uttered out loud in a phenomenological interview, each gesture involved in articulating experience entails a horizon that shapes what can be thematized as its result. In this way, the availability of concepts (alongside other factors involved in shaping the situation) participates in selecting which aspects of experience – and how – will be preserved, emphasized, omitted, etc. At the same time, articulating experience constrains what gestures are possible further on in the process of examining experience. Describing an aspect of experience in a specific way might lead the reflecting person to adopt a certain attitude (rather than another); make them more likely to focus on certain aspects of experience (and less likely to focus on others); enable them to recognize previously unnoticed dimensions of experience; or perhaps limit their ability to distinguish among various aspects of experience that ended up grouped under one chosen description. In sum, specific ways of articulating and conceptualizing experience can open up new possibilities for observation – but can, conversely, also constrain what can be observed next, or even what can be observed at all.

Horizons of epistemic acts involved in examining experience can be shaped by people other than the reflecting person alone. Creating shareable descriptions – notes and journals, but most obviously descriptions that emerge in the interview setting – can make one's subjective experience accessible to other individuals, enabling experiential phenomena to enter new processes of thematization in which knowledge about them is intersubjectively co-constructed. In some cases, such collaborative co-construction of knowledge about experience can be described as participatory sense-making (De Jaegher & Di Paolo, 2007): a form of social interaction in which the generated meaning cannot be reduced to the sum of the contributions of individual participants (cf. Kordeš & Demšar, 2018). In the course of a phenomenological interview, the interviewer is for instance doing much more than gathering the revealed descriptions of experience: her assistance frequently turns out to be essential for the interviewee to come into contact with, notice, or articulate particular aspects of experience, as well as to clarify and critically examine the emerging description. Even when specifically striving for an open-ended and “open-beginninged” (Hurlburt, 2011) nature of the interview, asking specific questions, calling for clarifications and elaborations, suggesting possible areas of focus, etc. co-determines the horizon of thematization – and, like in other acts involved in acquiring phenomenological data, the results of this process cannot be understood without taking into account the way in which they were enacted. Along these lines, descriptive experience sampling has been described as a “first-person-plural method” (Hurlburt, 2011, p. 58) in which the interviewer and interviewee jointly examine the interviewee's experience and their emerging characterizations of this experience; a similar description could be applied to other interview-based methods in the study of experience, including the descriptive phenomenological method (Giorgi, 2009), microphenomenology (Petitmengin, 2006), and other so-called “second-person methods” for the study of consciousness (cf. Froese et al., 2011; Olivares et al., 2015).

In this way, we can say that specific “horizons” characterize each of the gestures involved in the process of thematizing experience – starting with the first thematic grasping of an aspect of the experiential stream, continuing through the articulation and intersubjective re-examination of one’s observations, all the way to analyzing¹³ and assessing the generated phenomenological descriptions, leading to final results. As a totality of these horizons, the horizon of the method within a particular study is shaped by a variety of factors, ranging from the theoretical background that contributed to the study’s research design, through the study’s concrete research questions and goals, to the social aspects of the research environment (the interactional dynamics between the researcher and participant, the participants’ expectations about research and their own role, etc.), described in psychology with notions such as *peer pressure* and *demand characteristics* (Orne, 1962; Nichols & Maner, 2008; cf. Kordeš & Demšar, 2018). Through circular influences, the horizon of the method limits (and at the same time opens up) the types of horizons of attending to experience that can be adopted by each participant when turning towards each particular instance of the pre-reflective flow of experience.

Through the interplay of horizons, thematizing each particular experiential moment or episode is an iterative and, at least to an extent, irreversible process: the horizon of each gesture not only shapes what can be grasped within this gesture, but also constrains what (and through what horizon) can be noticed in the continuation of thematization. At each step of generating phenomenological data, the examination of the chosen aspects of experience both opens up and limits the space of possible future steps: what has been noticed will influence what can be noticed next, or perhaps what can be noticed at all. The aspects of experience that have, within a particular reflective act, already been thematized (e.g. a part of experience recognized as “a spike of pain in my left foot’s toe”) are usually not “un-thematized”, but contribute to “narrowing down” the eventually constructed answer about examined experience (see the notions of non-commutativity and epistemic irreversibility in Kordeš & Demšar, 2019, and Kordeš & Demšar, 2018, p. 226: “Twenty (or more) questions”); often, the course and the outcome of reflection can already be strongly co-determined with the initial choice of perspective.

While an exhaustive description of the complex interplay of all the horizons that together constitute the horizon of the method might be impossible, becoming aware of and acknowledging their contribution in empirical phenomenological research is crucial for assessing the validity and completeness of phenomenological reports acquired with first-person methods, for understanding the meaning of their results, and for making sense of findings of one method in relation to findings of others.

4.2 Explicating the horizon of the method

While we have by now sufficiently stressed the importance of understanding the horizon of the method, we have not yet suggested an approach to investigation that would

¹³ While a more detailed examination of the interpretative nature of qualitative analysis exceeds the scope of this article, see Kordeš et al. (2019) for an account of the “horizons of analysis”.

enable researchers to achieve such an understanding. The phenomenological investigation of the horizon of attending to experience, proposed in the previous section (and currently pursued in our ongoing research), can offer insight into only one among the elements of the horizon of the method. In order to begin elucidating horizons of the method more broadly, we suggest that such phenomenological investigation be paired, for each particular first-person method, with three other intertwined axes of analysis:

1. Examining the method's underlying theoretical views and expectations (e.g. deep vs. shallow view of consciousness, Froese et al., 2011; such examinations are demonstrated e.g. in Hurlburt's continuous exchanges with philosophical challenges to DES, e.g. Hurlburt & Schwitzgebel, 2007).
2. Examining specific techniques employed in the methodological framework of the method (e.g. retrospection vs. real-time observation of concurrent experience; sampling, interview, diary; technical specificities of the interview; training of the participants required; relationship of the methodological guidelines to the practice of the *epoché*).
3. Examining the method's results, specifically with regard to the enacted experiential phenomena and aspects of experience they tend to describe (e.g. comparing the results acquired with a particular method with different methods, applied to investigating similar areas of experience and/or experiential phenomena – an example would be a systematic meta-study of first-person studies of the experience of thinking, along the lines demonstrated at the beginning of this section).

4.3 Joining results of different first-person methods into a more comprehensive map of lived experience

The project of examining horizons of different methods could not only enable a construction of an (epistemologically and methodologically) improved foundation for future first-person research, but also amount to an important step towards unifying the knowledge about experience acquired in previous empirical phenomenological (or neurophenomenological) studies. We envision such a unified body of knowledge as a map of different types of experiential phenomena, enacted and described by different first-person methods. This map would be rendered in a space with as many axes as there are non-commutative methods for acquiring data on experience – that is, methods that allow for enacting one or another type of experiential percepts, where aspects of one cannot be enacted simultaneously with the aspects of another. (Similarly to the non-commutativity of observational perspectives in quantum mechanics, our investigation in this case must select one of the ways of examining experience – with each of the two mentioned methods enabling an examination of some experiential aspects, but preventing enacting others; see Kordeš & Demšar, 2019).¹⁴ If we, for instance, compare results of DES and think-aloud protocols: the

¹⁴ Not all first-person methods are non-commutative. Many of them aim towards similar aspects of experience, but at different levels of granularity. For instance: one could imagine carrying out a study exploring a diachronic unfolding of experience with the micro-phenomenological approach or an adaptation of a think-aloud protocol, where particular experiential moments of the unfolding of experience would be further – and in more detail – examined with DES.

horizon of DES can yield observational outcomes that will, joined together, fill in different momentary “snapshots” of experience across a variety of experiential modalities; the horizon of think-aloud protocols will, by contrast, allow for studying the sequence of events along the diachronic unfolding of experience, likely focusing on the contents of thinking. Additionally, a unified map of different types of experiential phenomena could eventually identify current gaps in understanding lived experience and lead the development of new methods with horizons that would enable acquiring data pertaining to these gaps.

If we can abandon the metaphysical aspiration that any one method should (or could) reveal consciousness “as it really is”, we can view the collection of results of different first-person approaches as a collection of answers to different types of probing. This, of course, does not absolve first-person research of having to deal with the issue of understanding and ensuring validity of particular first-person methods – indeed, dealing with this issue will be crucial for enabling a construction of a pluralistic, but not relativistic framework of first-person methods.

Whereas a more detailed examination of validity in the context of the proposed epistemology exceeds the scope of this article, it is important to point out that the constructivist understanding of knowledge, acquired in examining experience, allows to let go of the objectivist idea of an external validation reference without succumbing to idealism or relativism. In particular, abandoning the unattainable third-person correspondence validity criteria shifts the onus of validation towards a more suitable performative evaluative basis (see Kordeš & Demšar, 2018, 2019; Bitbol & Petitmengin, 2013). Specifically, for any methodologically well-developed first-person method, the validity of results it yields in any particular study can be partially assessed through investigating the validity of its implementation, considering criteria such as:

- Researchers’ (often interviewers’) and participants’ skill in observing and articulating experience;
- Adequacy (with regard to the protocol of the method) of probes into experience within the particular reflective act (e.g. using non-inductive questions in the micro-phenomenological interview, or “open-beginninged” probes in DES);
- Adequacy (with regard to the protocol of the method) of the pertaining responses and the emerging phenomenological description (e.g. the percentage of “satellites” in micro-phenomenology, or “subjunctionifiers” in DES);
- Performative coherence of processes of examination on various levels, including “internal coherence in self-assessment and report” and “interpersonal coherence in dialogue” (Bitbol & Petitmengin, 2013, p. 271);
- Intra- and/or intersubjective coherence of the acquired results (e.g. results that can be reproduced not only by a particular subject, but across different subjects that match selection criteria, revealing intersubjective invariants);
- Replicability of findings, whereby different research groups employ the same first-person method to address the same research question.

Some performative evaluation criteria concerning the implementation of the method can be assessed by external evaluators (with the help of logs, transcripts, and recordings); others are themselves experientially accessible and as such amenable to phenomenological examination (see Kordeš & Demšar, 2018, 2019; Bitbol & Petitmengin, 2013). Which of these criteria apply for specific cases depends on the method in question (e.g. its prescribed interview protocol, whether it requires training for interviewers or participants, its methodological assumptions, etc.) and has already been described in some detail with regard to established methods such as DES (Hurlburt, 2011) and micro-phenomenology (Petitmengin, 2006; Petitmengin et al., 2019).

Once a particular method has satisfied the performative criteria of validity, relating to the selection (and, if necessary, training) of participants, to carrying out steps of data acquisition such as sampling and interviewing, and to processes of validation and analysis of acquired data, the method is to be accepted as one of the possible (complementary) sources of data on experience.

5 Conclusion

In this article, we laid out the foundation of an epistemological framework enabling a pluralist understanding of empirical research into lived experience, grounding our take on the meaning of phenomenological data exclusively on what is empirically accessible. In the proposed epistemic (or constructivist) view of first-person research, knowledge acquired with first-person methods is regarded as knowledge about how experience responds to particular ways of probing, rather than knowledge about the unattainable “experience-in-itself”. This view prescribes bracketing – in the course of empirical research – the epistemically inaccessible notion of observation-independent pre-reflective experience. This, however, does not prohibit proposing and examining possible metaphysical accounts beneath (or beyond) what we can observe (as long as we pursue such metaphysical investigations *after* the empirical work is done). In a way, what we proposed is a radical sharpening of the phenomenological principle in the course of acquiring data on experience – namely, to investigate experience precisely *as it is given in phenomenological reflection* while suspending all judgments about what this experience-as-phenomenon purportedly *refers to* or is purportedly *about*.

With their different horizons, different methods shape the factors influencing how each participant turns towards, attends to, and describes their lived experience, thereby enacting different experiential percepts (phenomena) and different (but not necessarily conflicting) sets of phenomenological data. Investigating the horizons of examining experience thus becomes essential for understanding the meaning and epistemic status of results of first-person research.

We suggested two levels of such investigation. First, the horizon of attending to experience can be detected as an element of this experience and examined phenomenologically (e.g. by employing research formats such as SROE); such examination could additionally contribute to understanding lived experience by enriching the currently limited collection of phenomenological accounts of attentional dynamics involved in attending to (but also more generally relating to) one’s experience.

Second, and more broadly, the investigation of horizons can be expanded to examining various other constructive acts involved in the formation of final results. This will require a multi-level analysis of different first-person methods with regard to (1) the method's underlying theoretical views and expectations, (2) characteristics of employed techniques for data acquisition and data analysis, and (3) characteristics and tendencies of the method's results. The aspiration of this analysis would be to construct a space in which results of different first-person methods are not regarded as opposing, but recognized as complementary – ultimately allowing consciousness researchers to chart different experiential phenomena, enacted by a variety of first-person methods, by joining them into a comprehensive map of lived experience.

Appendix: Glossary

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- *First-person method* refers to any research method aimed at acquiring first-person or phenomenological data (i.e., data on lived experience, cf. Varela & Shear, 1999), usually taking the form of verbal descriptions of a particular experiential episode, or certain aspects thereof. (This includes interview-based approaches sometimes called “second-person methods”).
 - *Empirical phenomenology* refers to any type of empirical research on lived experience (also called *first-person research*) carried out within the phenomenological attitude (see Section 3.2). The term *empirical* is here used in a broad sense to denote any kind of research based in acquiring data (in this case, phenomenological data) by means of observation, distinguishing this approach from the largely theoretical endeavors of phenomenological philosophy. Empirical phenomenology thus stands for *empirical*, but *not naturalized* research on experience; this type of inquiry needs not be tied to any particular technique but encompasses all approaches to investigating experience that attempt to bracket the preconceptions, beliefs, and judgments about the experience in order to explore the way in which experience is actually given in consciousness.
 - *Reflection* (or reflective act) denotes the process of becoming reflectively aware of one's ongoing or past experience, most crucially consisting of attending to (or observing) experience (what Depraz et al., 2003 refer to as *the gesture of becoming aware*), but potentially also involving verbal or non-verbal articulation of experience. We are primarily interested in *phenomenological reflection* (i.e., reflection broadly carried out in line with the general methodological guidelines of the phenomenological approach; see Section 3.2) aimed at yielding phenomenological data.
 - *Pre-reflective (flow of) experience* refers to one's lived experience as it flows in absence of (or prior to) observation or examination. Since our epistemological framework is emphatically limited to what is epistemically accessible (see Section 2), our analysis does not make any claims about the nature or existence of the unexamined pre-reflective flow of experience. The expression is therefore used exclusively as a placeholder. (Synonyms used in other literature: *undisturbed experience*, *preconscious experience*.)
 - *Experience-as-phenomenon* refers to experience as it is manifested in the act of examination, i.e., as it appears to the experiential subject as she is attending to experience. By analogy to perception, experience-as-phenomenon refers to what is “seen” when “looking at” experience. (Synonyms used: *experiential percept*; to be distinguished from “apprehended experience” in broader sense, see Hurlburt, 2011 and Footnote 10.)
 - *Horizon of attending to experience* refers to the totality of characteristics involved in relating to one's experience within the reflective act. We argue that horizons are present in attending either to concurrent experience from the present or already transpired experience from the past. Horizons necessarily co-determine how experience is made manifest in the reflective act, and at the same time themselves amount to an element of the experience (see Section 3).
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- *Horizon of the method* refers to the inherent perspectivity of the entire process of first-person inquiry: the sum of “horizons” adopted not only in attending to experience, but also in further processes involved in generating phenomenological data and final results of first-person studies – acts of (verbal) articulation, intersubjective co-construction, analysis, and assessment (see *Section 4*).

Glossary of key terms used in the article.

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