

*Christian Tewes*

# Micro-Phenomenology as Experientially Based Access to Consciousness

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Herausgegeben von: Alexander Nicolai Wenzel,  
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# Micro-Phenomenology as Experientially Based Access to Consciousness

## Phenomenal Experiences, Methodological Issues and Challenges

*Christian Tewes*

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### Summary

Even though conscious experiences are explored in contemporary psychology with different methodological approaches significant questions remain: Can we explore first-person experiences with reliable methods? Why and in which circumstances should we trust first person reports? And how can we ensure that the process of verbalising mental experiences is not only a construction process but a methodological transformation, which enables intersubjective access to them. It is the aim of this paper to analyse how micro-phenomenology, understood as a simultaneously phenomenological and also empirical applied research method, tries to answer the questions and challenges mentioned above. To accomplish this, I focus in the first section on how first- and second-person access to conscious experiences is ensured and justified within the micro-phenomenological interview research procedure. In the second section, I concentrate on the question of whether micro-phenomenology has access to phenomenal experiences *themselves* given that they are mediated by interviews and complex processes of categorization and evaluation. In the final step, I analyse whether the explanatory scope of micro-phenomenology can be enhanced by integrating mixed method approaches to study mental phenomena qualitatively and quantitatively.

*Keywords:* first-person experiences, retentional memory, mixed methods, triangulation, categorisation, correspondence claim

### Zusammenfassung

Mikrophänomenologie als erfahrungsbasierter Zugang zum Bewusstsein  
Phänomenale Erfahrungen, methodologische Fragen und Herausforderungen  
Auch wenn bewusste Erfahrungen in der zeitgenössischen Psychologie mit verschiedenen Methoden untersucht werden, bleibt eine bedeutende Frage bestehen: Können erstpersonale

Erfahrungen mit gerechtfertigten und reliablen Methoden erforscht werden? Warum sollte man solchen erstpersonalen Berichten überhaupt vertrauen? Und ist nicht das artikulierte Resultat solcher Erfahrungen das Produkt eines bloßen Konstruktionsprozesses und nicht nur einer methodischen Transformation? Es ist das Ziel dieses Aufsatzes zu untersuchen, wie die Mikro-Phänomenologie diese Fragen und Herausforderungen zu beantworten sucht. Um dies zu erreichen, konzentriere ich mich im ersten Abschnitt darauf, wie der Erst- und Zweitpersonale Zugang zu Bewusstseinerfahrungen im mikro-phänomenologischen Interview gerechtfertigt wird. Der nächste Abschnitt handelt dann besonders von der Frage, ob in der Mikro-Phänomenologie ein Zugang zu Bewusstseinerfahrungen *selber* und nicht nur zu einem artikulierten und kategorisierten sprachlichen Artefakt erreicht wird. Abschließend wird untersucht, ob die explanatorische Reichweite der Mikro-Phänomenologie durch eine Integration sogenannter gemischter Methoden (mixed method approaches) verbessert werden kann.

*Schlüsselwörter:* erstpersonale Erfahrung, retentionale Erinnerung, gemischte Methoden, Triangulation, Kategorisierung, Korrespondenz

## Introduction

Ever since an understanding of the inherent intertwining of consciousness and mental phenomena led to the emergence of cognitive science (Baars 2003), several issues have been raised concerning their scientific investigation. Firstly, can we explore first-person experiences with a justified and reliable method? Why and in which circumstances should we trust first-person reports (Jack and Roepstorff 2003)? And how can one ensure that the process of verbalizing mental experiences is not only a constructive process but a methodological transformation which allows intersubjective access to *subjective experiences* of other minds? Secondly, there is the insight of the phenomenological tradition formulated by Edmund Husserl and Maurice Merleau-Ponty that all knowledge – including knowledge of the natural sciences – is only given to us from our conscious perspective and experiences of the world (Husserl 1980, 86, Merleau-Ponty 2005, IX). In a similar vein, Claire Petitmengin and Michel Bitbol point out in their recent account of micro-phenomenology that first-person experiences and reports are not only indispensable for psychology but also for the experimental data of the natural sciences such as quantum physics as well. Thus, first-person experiences are for the proponents of micro-phenomenology the starting point and »...ultimate warrant of the whole system of knowledge (Bitbol and Petitmengin 2013b, 175).« But the decisive question for them is, however, how one can gain access to more subtle and implicit experiences that transcend this knowledge, and focus on the process of perception, thinking evaluation etc. themselves.

There is currently a renaissance of introspective methods that combine phenomenology, new empirical research and theory building to answer these and similar questions (Weger, Wagemann and Tewes 2019). Micro-phenomenology is among these new approaches and relates important insights of the traditional phenomenology and psychopathology, of Husserl, Heidegger, Merleau-Ponty, Binswanger etc., to current research on psychological and psychopathological phenomena (see Depraz 2020a). It has been a matter of constant debate whether phenomenology also relies on introspection or is strictly separated from this research tradition (Zahavi 2007, Gutland 2018). It is not the aim of this paper to settle that issue. Rather, its aim is to analyze how micro-phenomenology as a simultaneously phenomenological and empirical applied research method tries, in its theory, method, and practice to answer and incorporate the questions and challenges indicated above. To accomplish this, I focus in the first section on how first- and second-person access to conscious experiences is ensured and justified within the micro-phenomenological interview research procedure. In the second section, I concentrate on the question of whether micro-phenomenology actually has access to phenomenal experiences *themselves* from the first-person point of view, given that they are mediated by interviews and complex processes of categorization and evaluation. In the final step, I analyze whether the explanatory scope of micro-phenomenology can be enhanced by integrating mixed method approaches to studying mental phenomena. In this context, I define the >explanatory scope< of an exploratory procedure in micro-phenomenology, which rests on a descriptive research method, in terms of how it ensures the traceability, reliability, and generalizability of its methods and findings. This can include both qualitative and quantitative research tools.

## I First- and Second Person-Access to Conscious Phenomena in Micro-Phenomenology

When it comes to the exploration of conscious phenomena in psychology, it is still a matter of debate how reliable access to these phenomena is to be achieved via a justified research procedure. Even if one is convinced that introspection is (a) an important source for the understanding of human mental and conscious life, one can hold (b), as Eric Schwitzgebel does, a sceptical view toward a deeper understanding of psychic phenomenal from the first-person perspective (Schwitzgebel 2008, 246). Schwitzgebel himself points to a »classical« challenge to the process of self-observation:

My thoughts, my images, my itches, may pain—all bound away as I think about them, or remain only self-conscious, interrupted versions of themselves. Nor can I hold them still,

even as artificial specimens—as I reflect on one aspect of the experience, it alters and grows (Schwitzgebel 2008, 267).

It comes as no surprise that these and similar problems with the experience of self-observation are deeply connected with the history of introspection. In his historical overview of the introspective movement, Kurt Danziger reconstructs Wilhelm Wundt's distinction between »self-observation« and »inner perception« (Danzinger 1980, 2444–245). The former is something whose existence only hardcore eliminative materialists would deny (Churchland 1981). That I enjoy or dislike strawberry ice cream or feel pain or an itch in my left foot and thereby perceive such events from my first-person point of view is something that even the sceptic in the sense above will concede. Nevertheless, it does not follow from this concession that conscious events such as emotions or thoughts are appropriate objects of scientific observation (Danzinger 1980, 245). Every classical objection to introspection is lurking at this point.

Thus, Edmund Husserl was already confronted (a) with Schwitzgebel's assertion that the process of reflection in self-observation distorts or interrupts the conscious events one is focusing on. This in turn has the effect that one cannot unequivocally determine (b) the type of mental events (»specimens« in Schwitzgebel's terms) to which the experienced conscious phenomena might belong. Another argument against introspection concerns (c) the intertwinement of subject and object or, to be more precise, the entanglement of the scientific observer and participant. Daniel Dennett regards violation of the »independence or non-identity claim« between the observer and participant in scientific experiments as devastating for what he calls »lone wolf phenomenology« or »autophenomenology« (Dennett 2003; 23). According to Dennett, one must treat phenomenological or introspective self-reports as fictional stories, unless we have independent scientific confirmation of the articulated experiences (Dennett 1991, 78 ff.). Even if we do not agree with Dennett's degradation of our conscious experiences to fictions, these considerations point to an important question: What are (d) the scientific objects in introspective research? Are we concerned here with inquiries into *conscious experiences as such* or only fleeting memories thereof? Or can the data of introspective research only be (e) observable interviews, reports, videos etc., as some argue (Piccinini 2009)? In the sections that follow I analyze how micro-phenomenology tries to settle these issues within its own research agenda.

## 1.1 The Elicitation Method as an Introspective Interview Technique

Several researchers have replied to Schwitzgebel's scepticism about a rigorous science of consciousness from the first-person perspective, that introspection is indispensable not

only for the foundation of cognitive psychology but also for any fine-grained behavioral and functional specification of mental phenomena. In the same vein, it is important to notice that most psychological categories have their roots in first-person reports and folk-psychological ascriptions and that the exploration of, for instance, many neurological patterns depend on tasks, which require first-person experience-based reactions or even explicit reports (Bitbol and Petitmengin 2013, Kotchoubey et al. 2016).

Micro-phenomenology aims at providing a practical research methodology which allows, pace Schwitzgebel and Dennett, a controlled access and evaluation of the rich lived experiences of subjects. The ground-breaking development of the elicitation method in micro-phenomenology goes back to the work of Pierre Vermersch (see Vermersch 2009).

How exactly Husserl's »classical« transcendental foundation of phenomenology is related to micro-phenomenology is a complex research topic, the detailed issues of which are beyond the inquiry of this paper (for such detailed discussion see Depraz 2020b). Nevertheless, it is important to notice that there is an ongoing phenomenologically based philosophical discourse in micro-phenomenology, which constantly reflects on the foundation of science, truth, knowledge, and psychology. In this regard, micro-phenomenology does not assume, in a naturalistic way, that causal processes precede and constitute consciousness. The representationalist theory of knowledge and mind is abandoned in micro-phenomenology (Bitbol and Petitmengin 2013a), thereby leaving the natural attitude of science that assumes a specific ontology of mind and world without further explorations.

Vermersch himself links his account of introspection in important respects to concepts and methods that Husserl had developed in his phenomenological writings and thereby demonstrates the continuity of his own work with the phenomenological approach to consciousness. Why do Schwitzgebel and others have the impression that in the mode of »naïve introspection« one is not aware of distinctive mental phenomena (Schwitzgebel 2008)? Following Husserl, Vermersch's answer to such questions is that in everyday life we are only *pre-reflectively* aware of our psychological states and processes. What we need to do to gain *explicit* knowledge of our mental states requires us to change our pre-reflectively awareness into a mode of *reflexive* consciousness (Vermersch 2009, 13).

But how can one ensure, as questioned in objection (a), that this transformation does not distort or blur our pre-reflective experiences? At this point a further important feature of Husserlian phenomenology comes into play, namely his concept of inner time consciousness. Let me explain this in more detail. For closing the time gap between conscious experiences and their verbalization, micro-phenomenologists do not rely on methods or tools such as the so-called beeper method (Hurlburt and Akhter 2010, 277) or protocol analysis (Erikson 2003). Such tools are rejected by micro-phenomenologists for methodological reasons. As Claire Petitmengin (2006, 238) points out, drawing up-

on descriptions by William James (1890, 244), mental processes such as memorizing an event or solving a mathematical problem are so complex and unfold so rapidly that it is impossible to observe them – at least in sufficient detail – at the moment they are occurring. Rather, it is necessary to re-enact individual mental processes again and again so that hitherto unnoticed aspects and properties can emerge and be grasped by the participant.

This does not mean, however, that we have no experiential access to these mental processes. We are pre-reflectively aware of these activities and qualities of content, otherwise we could not re-enact them. For that reason, I interpret Petitmengin's modal claim then in the special way she uses the concept of »observation«. If I observe my mental state or mental process when I am reflectively aware of the them, I grasp certain properties of, for instance, an emotion and neglect others. Thus, given that we interpret observation here as a *reflective mode* of consciousness, then it is from a practical viewpoint impossible to grasp every aspect of a mathematical structure all at once. Nevertheless, it is certainly possible to intensify and increase these reflexive capacities. Furthermore, it is, I suggest, not impossible (does not entail a logical contradiction) to imagine a superhuman mind that reflects on every property of a mental state or mental process all at once. Petitmengin modal claim rests not on a metaphysical impossibility but a practical one by implicitly referring to the constitution of the human mind.

## Retentive Memory as the Focus of Attention

To deal with the »temporal gap problem« in introspection, micro-phenomenology uses an interview method that seeks to elicit a single pre-reflectively lived experience from untrained interviewees. Before discussing some important details of this interview technique, we must deal with the following challenge: if the elicitation and verbalization of experiences rely on memories (re-enacting a single mental process) and not on the experiences themselves, then the trustworthiness of the findings seems to be weakened, given the unreliability of our fleeting memories and our reconstructions thereof.

The declarative memory, however, should not be confused with the re-enactment of a conscious experience. Vermersch and Petitmengin relate the inner evocation of an experience to Husserl's concept of »retention«. It can be described as a kind of short-term memory in a special sense. When we listen to a melody we not only hear the present sound; what has been played just before is still present in our consciousness, even though it is »fading« or »sinking« (Husserl 1985, 77–82). Since the retention is still present in the lived experience it is directly perceived in consciousness and does not re-present a past event (Vermersch 2009, 22). As Vermersch puts it:

[R]etentions *do not disappear*, and can be awakened, either involuntarily by an associative shock, or deliberately by an >awakening intention«. The hypothesis of passive memo-



ry [retention] and its awakening opens up the possibility of obtaining an extraordinary quantity of details in recollections, particularly when the person is skillfully interviewed (Vermersch 2009, 33 [my italics, C. T.]).

Retention or passive memory is certainly not, as Vermersch formulates, a »hypothesis« in the ordinary sense but something that we can frequently experience as evident. What is crucial for micro-phenomenology, however, is the conviction that we have access to such retentions even after a considerable time and can re-enact them in consciousness. If so, we do not re-present mental events or processes by means of an awakening intention and attentional stabilization, but by a process of »presentification« (Petemengin 2006, 238) whereby the interviewee takes up an intensified contact with the lived experience, discovering and specifying hitherto unnoticed aspects of a concrete single event or process (Vermersch 2009, 24).

That an act of intentional awakening can elicit and evoke former experiences presupposes that the focused event in its retentional structure still exists at least in a potential form. Moreover, given Husserl's thesis, passive memories are thereby directly connected to the temporal »now« of present time-consciousness. In the literature this characteristic is often explored today as a constitutive part of the »body memory«. The latter is defined as continuously relating the past to the present in its different embodied dimensions, for instance, skill-based behavior (Fuchs 2021, 13). Such an alternative conception of memory clarifies how micro-phenomenology can deal with the time-gap problem in a more general way. How this challenge can be met at the concrete methodological level will be shown below.

## Rules and Procedures for the Micro-Phenomenological Interview

It would be wrong, however, to assume that micro-phenomenology posits infallible access to introspectively evoked experiences. Wilson and Nisbett's famous studies on introspective research led them to conclude that people have no reliable introspective access to their mental states (Wilson and Nisbett 1977). They showed, for instance, that participants very often confabulate about the causes of or reasons for their decision-making or that they change their evaluation of a topic in an experimental setting without noticing. Taking these findings into consideration, careful methodological provisions must be built into introspective experiments to forestall such distorting effects. Practitioners of micro-phenomenology have developed a procedure and set of methodological steps for preventing these and similar side effects.

As already mentioned, one role of the interviewer is to stabilize the fleeting attention of the interviewee and to help her to focus once more on a singular experience. Furthermore, the interviewer aims to establish the actual pre-reflective aspects of the

experience and not the interviewee's beliefs or judgements concerning them (Petitmengin 2009, 239). As Petitmengin puts it:

[The interview] process consists – each time that the subject drifts away from a description to make comments or judgements about this experience, or has become lost in even more distant considerations – of asking a question that brings him back, firmly but not brutally *to the experience itself* (Petitmengin 2006, 240 [my italics, C. T.]).

This passage is insightful not only because it underlines how the interviewer is trained to intervene when there are indications that the interviewee is starting to formulate general assumptions, hypotheses or beliefs about her experience. In this sense, the interviewer induces a *phenomenological reduction* within the framework of the entire interview procedure (Bitbol, Petitmengin and Bitbo 2013, 271). Such a procedure entails that theories, beliefs and prior knowledge are strictly abandoned as to gain a broader access to the field of lived experience. It also shows how the second-person perspective of the interviewer contributes to gathering first-person experiential data, which can then be shared and evaluated at different stages of the analysis from an intersubjective perspective. Furthermore, the interviewer must also apply the phenomenological reduction to himself to exclude any bias and hypothetical considerations that might influence his questioning technique in the interview.

Thus, from its very beginning, the interview procedure unfolds in a *triangulation process*. I will specify further triangulation procedures of the interview and mixed method approaches in the following sections. As already indicated, though, a first form of triangulation during the interview is established between the interviewer, the interviewee, and a singular experience in the process of its articulation. This is not a mutual *representation* of an object in the intersubjective realm, as Davidson has defined the triangulated reference to external objects (Davidson 1991). Rather, the intentional awakening already indicates that the explored mental phenomenon depends in its appearance and verbalization on the constant interaction between interviewer and interviewee. Let us now turn to the concrete structure of this triangulation process in more detail.

## II The Triangulation Process of the Experience During the Interview

As the quotation already makes clear, it is the task of the interviewer to focus and re-focus the subject on the experience. There are further guidelines for accomplishing this, for instance, frequent reformulation of what the interviewee has said so far or encouraging her to use demonstratives like »that color« so as to stabilize elements of experience in the fleeting stream of consciousness (Petitmengin 2006, 240). Moreover, the inter-

viewer helps to re-direct awareness by asking *how* the experience is appearing from the interviewee's first-person perspective. To give an example, one can ask whether, »that color« appears blurred or clear, or how that color-experience unfolds, does it have a static or more dynamic character and in what ways it is related to the interviewee's perspective, etc. This procedure should also help the subject to loosen her absorption in the intentional content and to become reflectively aware of the underlying intentional acts (in Husserl's sense), which are involved in the constitution of the mental phenomena. In the literature these mental acts are also dubbed »micro-gestures«. The latter can consist, for instance, in the shift of attention to a more receptive openness towards an affective experience or a more active focusing and exploration of mental content (Wagemann 2022).

Pace Piccinini and others, the description of these selected aspects of micro-phenomenological method suggests that in the triangulation process the interviewer is focused not only on the publicly uttered symbolic expressions but on the evoked singular experience of the interviewee as well. This is underlined by the fact that embodied expressions such as gestures, eye movements or the intonation of the voice play an important role in the micro-phenomenological interview. According to an embodied phenomenological conception of social interaction and perception, mental events – for example, fear – can, in their strongly embodied form, be perceived directly from the second-person perspective; these can be communicated not only by facial expressions but the entire body posture as well (Krueger 2018).

Petitmengin, et al. view embodied gestures as »open windows« onto inner gestures (micro-gestures); these in turn co-constitute the meaning of the singular experience (Petitmengin, Remillieux, and Valenzuela-Moguillansky 2019, 698). For this reason, one can be reflectively aware of the felt experience of another person who is only pre-reflectively aware of being absorbed in this state or process. Interviewers can use these social-perceptual cues to assist an exploration of the synchronic and diachronic dimension of inner experiences:

Observations of these various types of gesture enables the interviewer to help his interlocutor to become aware of the kinesthetic and felt dimension of his experience and to deepen its description. For example, a deictic gesture towards the chest can draw the interviewee's attention to the felt sensations, with the help of a question such as »What is happening for you in the middle of your chest?« (Petitmengin 2006, 247).

Beside the function of pointing to a felt body sensation, gestures are also part of the broader embodied expression of an emotion. Taking all these aspects together, it becomes clear that the interviewer is not only eliciting and interpreting the utterances of the interviewed subject. Though the interviewer has no direct access to the original

singular experience in its intuitive richness as it appears to the interviewee from the first-person perspective, nevertheless the interviewee can be intentionally directed both to the *experience and its articulation* from the second-person perspective even when the intuitive conditions of fulfilment of this intention are indirect. If this is true, then it is wrong to suppose, as Piccinini and Dennett do, that only publicly uttered reports about experiences (and not the experiences themselves) are the legitimate objects of scientific research on consciousness.

## Inner Experiences and Their Articulation as Objects of Inquiry

Let me unpack the claim above in more detail. During the interview procedure the interviewer keeps (or should keep) in mind the difference between the singular experience and its articulation by the interviewee. Otherwise, it would not make sense to check the validity of her descriptions. To accomplish this, she is intentionally directed in the dialogue towards the experience, which unfolds by means of embodied expressions (gestures, facial movements, body postures, verbal intonation) and symbolically articulated words or sentences. Symbolic descriptions uttered by the interviewee enable the interviewer to refer indirectly (without an intuitive fulfilment of this reference) to the experience by means of its conceptual structure. In contrast, the interviewee is *directly* and reflectively related to the evoked conscious processes. Nevertheless, the interviewer is, beside the symbolic reference, also directly connected to certain *expressive dimensions* of the experience. As we have seen, both dimensions allow the interviewer to evaluate the quality of the utterances to avoid the side effects of introspective research mentioned above. This makes clear that the scientific object of exploration in the triangulation process is the singular experience itself and how one can reach an adequately fine-grained description of its different layers (strata).

In a recent paper on micro-phenomenology, Gerhard Benetka and Thomas Slunecko deny that the object of scientific inquiry is the experience itself. They argue that the theme and content of the interview consists of how the articulation »modifies« the experience and how it gets »enriched« by the re-articulation which the interviewer initiates (Benetka and Slunecko 2021, 36). But why should the modification and enrichment process of the articulated experience support the view that the elicited experience as such is not among the objects of inquiry? It is certainly true that the articulation process *modifies* and *enriches* the pre-reflectively lived experience by conceptualizing and symbolizing it. Yet if we understand concepts in an embodied pluralistic way, as Alva Noë suggests, they enable us to perceive the surroundings or to be aware of emotions and social situations and should not be reduced to mere functions in judgments (Noë 2015, 2015). If this is correct, one can understand the entire

interview procedure as a conceptual specification process of inner experiences, which highlights certain attributes, qualities, characteristics and relations of the interviewee's experience and not others. To sum up: if the articulation of the experience is successful, the modification and enrichment process unfolds the deep structure (layers or strata) of mental phenomenon and does not demarcate an unbridgeable boundary between symbolic language and inner experience. If this is the case, *both* the experience and how it is articulated remains the object of investigation during the interview, even if one acknowledges that the two are closely intertwined.

For critics such as Benetka and Slunecko, micro-phenomenologists mistakenly assume an unambiguous (exact or isomorphic) interrelationship between an experience and its articulation, an assumption that they argue is empirically untenable (Benetka and Slunecko 2021, 36). In the light of the above, however, we can see that micro-phenomenologists make no such assumption. There is no unambiguous interrelationship between evoked mental experiences and their articulations. On contrary, it is a necessary ingredient of micro-phenomenological research to be aware that symbolic utterances do not always conform to an experience and need to be re-evaluated again and again. In this way the accuracy of the resulting reports can be an explicit part of the interview itself. The following meta-question, which Petitmengin and Bitbol raise at the end of some of their interviews, makes this clear:

- a Do you have the feeling that the report you have given until now conforms to the experience you were describing?
- a' Do you have the feeling that the report you have given until now is complete?
- b How do you know that your report does (does not) conform to the experience?
- b' How do you know that your report is (is not) now complete? (Bitbol and Petitmengin 2013, 273).

These questions – concerning the felt accuracy of the interview – demonstrate that proponents of micro-phenomenology do not expect there to be a neat one-to-one correspondence between inner mental experiences and their articulations. Indeed, Bitbol and Petitmengin deny that the »authenticity check« (validation of the interview) involves any relation of *correspondence* at all. Why is this so?

In responding to sceptical criticisms of introspective research methods, micro-phenomenologists have developed a conception of »performative coherence«, which breaks with the »classical« realistic correspondence theory of truth. If one understands the latter in the context of a naturalistic stance, which defines truth conditions for a mind-independent reality, then the evaluation of introspective research is admittedly doomed to failure. For this reason, micro-phenomenologists suggest an alternative, a performative coherence theory, for evaluating introspective reports. This comprises, for instance, (a) forms of self-assessment as outlined in the questions above, (b) evaluation

of embodied cues and symbolic articulations by the interviewer, (c) a further form of triangulation in the evaluation- and categorization process of the interview (the structural analysis), and a triangulation by means of mixed method approaches such as the mutual validation between introspective reports and behavioral measures (including neuroscientific research) (Bitbol and Petitmenging 2013). We will come back to (b) and (c) in the remaining sections of this paper.

It is certainly correct that micro-phenomenologists reject the idea that one can establish truth-conditions for checking the reliability of introspective reports in an external »mind independent« way. Daniel Dennett suggests such a procedure in his »heterophenomenological« account of conscious phenomena. His main idea, roughly speaking, is that one should treat introspective reports of mental phenomena as fictional entities unless brain science can confirm their existence via experiments (Dennett 1991). Such appeals to neurophysiology as »hard science« are not new. External stimuli, for instance, perceptual clues, behavioral patterns or neural ensembles are taken as objective and *subject-independent* indicators of conscious experience.

However, such approaches are not appropriate for the exploration of the conscious mind, because they are viciously circular. We must always begin with conscious experience before we can relate it to external stimuli or to specific brain states. Nor are the suggested external procedures subject-independent; they actually require a complex intersubjective assessment procedure, which involves the conscious processes of many different people in the framing, performance and evaluation of the experiment and its findings. For these reasons the experiencing subject is indispensable for the existence and evaluation of the reliability of her mental reports.

Nevertheless, I suggest that the *wholesale* exclusion of the correspondence theory from micro-phenomenological research is too hasty. The interview procedure aims in a dialogical manner to detect and unfold retentions of a single mental experience. This, as has already been seen, is not an infallible process. Yet it is a foundational idea of micro-phenomenological research that the resulting articulations expressed in the interview method can do justice, at least *more or less*, to the re-evoked experience. Otherwise, one could not differentiate between a mere confabulation and an experience-based articulation of conscious phenomena. When we give up this distinction, Dennett would be right after all that introspective inquiries end up creating »heterophenomenological worlds«, fictional stories, whose narratives and characters are not part of reality.

These considerations make clear that one should at least strive for correspondence *within an introspective research procedure*, between experiences, their conceptual comprehension and their symbolical articulation. A sought-for correspondence, if successful, is then the result of the triangulation and performative coherence process delineated above. In phenomenological research on conscious phenomena undertaken from the first- and second-person perspective, the interviewer and the interviewee are

both oriented via in the triangulation process towards an unfolding experience with its multifaceted dimensions. Simultaneously, they are each working with different roles upon the experience and symbolic articulation in the interview to help bring forth a rich and authentic symbolic description of these dimensions in a quasi-oscillatory process.

That the independent external observer has, in many cases, no *direct evidence* of whether statements or self-reports made in this triangulation process are reliable, does not contradict this claim. We are not able to see elementary particles such as protons and neutrons directly (only their effects), but they are nevertheless existing entities, as quantum physics has shown. By analogy, all the criteria of coherence from (a) to (c) are mutually supporting *indicators* of whether an interviewee's statement conforms (corresponds) to an experience or not.

### Experimental Research on the Reliability of Micro-Phenomenology

So far, I have outlined and discussed how the micro-phenomenological interview procedure tries to avoid at a theoretical level the problem of confabulation in introspective research. However, it has been recently pointed out by Terje Sparby et al. that the question of whether micro-phenomenology delivers the findings about introspection which it claims, has rarely been empirically tested (Sparby et al. 2022). There are, as Sparby himself pointed out, some important exceptions.<sup>1</sup> For example, Petitmengin et al. conducted a study in 2013 which reproduced an experiment by Johansson et al. that should refute Nisbett and Wilson's claim, mentioned above, that we have no insights into the reasons behind our decision-making processes. In the original experiment the Swedish research team led by Johansson presented pictures of 15 pairs of women to 120 participants and asked them to say which one of each pair they found most attractive. In some trials, the experimenters showed the participants the sequence of 15 pairs and immediately re-presented six of the pairs, asking the participants to state, within a fixed timeframe, the reasons (verbal reports) for their decisions (Johansson, Sikström and Olssen 2005, 117). Unbeknownst to them, in the sequence of six pairs, three pairs (always in the same numerical order for every participant) had been manipulated: a double card ploy was used to switch the chosen card with the picture rated less attractive. Surprisingly enough, only 13% of the manipulated cards were detected as wrong (see for more details, Johansson, Sikström and Olssen 2005, 117). These findings seem, *prima facie*, to confirm Nisbett and Wilson's conclusion that introspective reports are untrustworthy.

Petitmengin now repeated Johansson's experiment with a crucial modification: among the manipulated cards, two were re-presented *immediately after* the choice and the participants were asked to state their reasons for their choices, as in the previous

study (these are called the »NEL« reports). With the remaining items the procedure deviates in such a way that the report was postponed and constituted on the base of an elicitation interview (in short »EL« reports) (Petitmengin et al. 2013, 656). In this case, the interviewer gives the covered picture back to the participant and the »representation stage« of the manipulated card is postponed until the elicitation report (35–45 minutes) is finished. The overall findings of the study are impressive. With the use of the Chi square test and Cramer V2 test the global statistical analysis showed that the detection rate in the »NEL« trials is only 33% whereas in the case of EL trials, it increases up to 80%. This demonstrates that the elicitation method significantly enhances the mental capacity for detecting changes between the retentional evocation of an experience and a current perception.

There are, however, potential objections or challenges to the entire methodology of the experiment. One concerns a possible implicit influence of the interviewer on the interviewee (interviewer bias), since the experimenter and the interviewer are the same person (Froese 2013, 674). But as Tom Froese himself points out, there are no insurmountable obstacles to coping with these or similar objections by improving the experimental setup. I will come back to this point. But what is particularly worth highlighting about the experiment here is that it is a prototype of a *mixed method* approach where a micro-phenomenological intervention (the »EL« trials) plays a decisive role. A mixed method approach is defined not simply as the use of qualitative and quantitative methods in a single inquiry. Following the suggestion by Abbas Tashakkori and John W. Creswell, what is crucial is *how* the methods are integrated in a research project or study, how »the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches« (Tashakkori and Creswell 2003, 4).

In the above-mentioned experiment, Petitmengin et al. use the qualitative elicitation method not simply for gaining new categories or insights into the dynamics of conscious experience. Rather, they use it for enhancing the participants' retentional capacities to detect the manipulation. The statistical evaluation allows them to measure *quantitatively* and *comparatively* how successful this intervention was (detections in NEL trials compared to EL trials). Moreover, further statistical analysis could not only calculate the global statistical impact of the NEL/EL conditions on the outcome but how details of the detection types (direct detection, delayed detection etc.) varied relative to each other (by use of contingency tables) (Petitmengin et al. 2013, 660–661).

Looking at such details of the experiment reveals how the integration of qualitative and quantitative methods is accomplished in Petitmengin's study. The qualitative micro-phenomenological intervention explores the conscious access to details of the decision-making process with the aim of enhancing the reliability of introspective reports. Whether the elicitation method can yield such positive findings is then tested and



validated quantitatively. Specifically, the statistical analysis of the *relation between the details* of the detection type (detection rate of NEL trials compared to EL trials) shows how the micro-phenomenological intervention enhances the explanatory scope of this introspective research procedure to detect the manipulation. In this case, the triangulation is not accomplished within the qualitative micro-phenomenological research procedure alone. Instead, the triangulation in this experimental setting is achieved by using phenomenological interventions and quantitative data to test how the elicitation method *enhances* access to earlier mental activities. The explanatory scope of this mixed method approach is then widened in that introspective intervention yields a *significant statistical improvement* of the detection rate, based on an exploratory micro-phenomenological interview. Such an improvement is then an indicator of the generalizability of the exploratively won findings.

As we will see in the next section, there are further tools how to strengthen the explanatory scope of a qualitative research design, which also applies to the micro-phenomenological research procedure. Phenomenology rests on a descriptive research method but also searches for categorical or eidetic laws, which govern and thereby explain the general structure of our experiences (Summa 2022).

To sum up the points made above, the research setting is framed at the theoretical level by means of a previous experiment, which seems to have demonstrated the unreliability of introspection on decision making processes. Moreover, the new version of the experiment, is guided by the micro-phenomenological hypothesis that one can improve first-person access to consciousness experiences with the elicitation method. To borrow a term from Shaun Gallagher (Gallagher 2003), one can »front-load« phenomenological insights into the research question and research design of an experiment.<sup>2</sup> Concerning our example, the research design is, as explained, a follow-up experiment by Johansson and colleagues but with an insertion of micro-phenomenological interviews to test whether this will enhance the »retentional detection capacities« of the participants.

Sparby et al. have raised sceptical points about whether this experimental setting is an appropriate way to test the reliability of introspective research:

»It is questionable, however, whether test involving manipulations adequately address the issue of reliability of reports as there is no way of accessing the inner decision-making as it originally was. As has been suggested, reliability should rather be tied to authenticity and coherence« (Sparby et al. 2022, 2).

I think that this interpretation of the experiment is unconvincing, for various reasons. Firstly, as I have already pointed out, the exclusion of *every* correspondence claim (including a reformulated one) from micro-phenomenological research is problematic, if one wants to explain the possible match or mismatch of a report or parts thereof with

the experience. Thus, why is access to the original decision-making process denied right from the start given the research procedure of the elicitation method? Secondly, how can one explain the difference between the outcomes of NEL trials and EL trials if not in terms of a more transparent access to one's own decision processes? Thirdly, the authors seem to suggest in a later part of their paper that it is desirable to test the supposed increased »granularity or richness of experiences« in further micro-phenomenological research. If so, it is again unclear how this could be accomplished without any *comparative, i. e. corresponding references* between experiences. The improvement of the explanatory scope in the way defined above is therefore strongly intertwined with the claim that one should not jettison every correspondence claim in micro-phenomenological research. But how could one further extend the plausibility of this claim in micro-phenomenological research?

As I have pointed out, Froese has criticized the concrete research design of Petitmengin's et al.'s follow-up study on the ground that the experimenter and interviewer are the same person. This limits the reliability of the experimental results since one cannot exclude that the interviewer unintentionally leads the participants to realize the manipulation. Furthermore, the research design of the study cannot measure possible learning effects since after the first successful detection of the manipulation the experiment did not proceed to prevent a ›suspicious effect‹ of the participants, which made it more likely to detect the manipulation at later stage of the experiment (Johansson, Sikström and Olssen 2005).

But to test such learning effects is decisive for *expanding* the explanatory scope of micro-phenomenology. Why is this so? One central idea of micro-phenomenology, as we have seen, is the conviction that we are only pre-reflectively aware of manifold experiences that we can re-enact and report by means of the elicitation procedure. Moreover, one would expect that a systematical training with the elicitation method, to re-focus and intensify the attention to retentional memory, increases the ability of participants to specify hitherto unnoticed properties and patterns. Froese et al. have proposed the double-blind research design (DBI), which might overcome the limitations of Petitmengin's follow-up study highlighted above. Froese et al. relate their suggestion to the well-known studies of brief visual displays i. e., of an array of letters or other items, which are shown to the participants for a short period of time (Sperling 1960). Subjects report that they could see all the letters, but they are only able to report 4 up to 5 of them immediately after the display. Additionally, Sperling found out that a slight change in the duration of exposure did not change the ability to report this limited number of letters (Sperling 1960, 6). As Ned block point out, it is an attractive picture to explain this result is due to the limited capacity of the working memory (Block 2007, 487). Another explanation is, of course, that the phenomenal impression of having seen all letters is simply an illusion of the introspecting subjects. Notice that the first option in

its different variants (subjects might have been pre-reflectively or reflectively aware of then letters without this resulting in explicitly memorable items) implies once again the correspondence claim. Let me explain this in more detail.

As I take it, what Froese and colleagues are suggesting by relating the DBI paradigm to visual crowding experiments here, is a test procedure, which is suitable at an empirical level to test whether my correspondence claim for micro-phenomenology is correct. Within the DBI paradigm neither the interviewer nor the interviewee can, for instance, report, the complete details of the number or objects displayed. Thus, the idea is to reproduce Sperling's or a similar experiment in the context of visual crowding and to combine it with a micro-phenomenological intervention. But this time the interviewer does not know in advance what the correct items will be. The decisive conviction behind this suggested procedure is that a skillful interviewer should be capable of enabling the interviewee to detect more items with the help of the elicitation method (Froese, van Praag and Seth 2011, 58). Further, that one could also test whether micro-phenomenological training leads to an increased learning effect after several attempts. On the one hand, if this procedure is successful, it would provide strong empirical evidence that the correspondence claim is correct. The reason is that the re-enacted items would be related to and *match* the former experienced objects and it is hard to see what else could then explain, if successful, the supposed higher detection rates after the interviews since the interviewer was unaware about the correct items before the experiment. On the other hand, the conceptual points in favor of correspondence claim outlined above lend support to Froese's view in the first place that further test procedures for the validity of micro-phenomenology are required.

There remains, however, the question of what one should expect from mixed method approaches in the micro-phenomenological realm at a more general level. Could such experiments equally help to foster the validity of introspective research – as Varela and Shear once pointed out, »...a mutual constraint, reciprocal influence and determination« between the first-and third-person perspective (Varela and Shear 1999, 3)? And what are the prospects for integrating micro-phenomenology more closely into the cognitive sciences? We will come back to these questions, after sketching the methodological evaluation process of the interviews and how their categorical findings have been used in further mixed method studies.

### **III Evaluating Micro-Phenomenological Interviews and Applying them to Mixed Method Studies**

Even at the stage of transcribing an interview, one is engaged in analysis and evaluation. This is so because one can already check the intensity and granularity of the articulated

experience. Once the interview is transcribed and numbered, the next stage consists of identifying the kind of information which the interview involved (Vermersch 2009). Thus, data in the text which concern general questions or expressed beliefs or theoretical convictions are discarded from further analysis as »satellite information« since they are not based on the re-evoked experience itself (Valenzuela-Moguillansky and Vásquez-Rosati 2019, 126). In micro-phenomenology, as in other qualitative research procedures, the patterns and relationships among emerging categories and resulting networks are built up by inductive data analysis. The analysis proceeds from the bottom up – as is usually the case in grounded theory as well – by organizing and categorizing the information into more abstract units (Creswell 2009). In micro-phenomenology, the identification of diachronic and synchronic units is the core aim of the evaluation procedure (Petitmengin 2006, 259).

Concerning the diachronic analysis, it is necessary to rearrange the diachronic sequences of the original transcript into the actual experienced process by categorizing the temporal evolution of the re-evoked events and/or processes. In the first step this is accomplished by matching the different utterances – such as sensations, bodily movements, or emotions – to specific moments. Having done so, the next step of analysis allows the identification of temporal units, which are composed of (depending on the granularity of the descriptions) different *phases*, *sub-phases* etc. (Valenzuela-Moguillansky and Vásquez-Rosati, 128).

Re-organizing the transcribed order of the sequenced reports into the temporal order of the evoked experience also demonstrates that the evaluation process of the interviews is focused on the original experience of the subject. Discarding or neglecting »satellite information« in the process of sequencing and categorization shows again that what is at stake in micro-phenomenological research is the experience itself in its articulated form and not merely a socially mediated symbolic construct. Nevertheless, the development of diachronic and synchronic units has the decisive function of specifying the *invariant structure* of the fleeting experience and allowing an intersubjective understanding of the experience in question (Tewes 2019, 157). Synchronic units can be identified by different procedures. One can start with a procedure similar to that used in the diachronic analysis, or use the latter to extract the generic units and their interrelationship. This is accomplished in a recursive manner (iteration of interrogation) that helps to identify the criteria for grouping utterances and specifying unities (Valenzuela-Moguillansky and Vásquez-Rosati 2019, 132). Such an analysis allows then a categorical explanation of fleeting experienced based on a descriptive methodology.

But how is it possible to grasp a categorical unit? According to the phenomenological approach, the specification of a category or unit in the network consists of finding the indispensable structure/properties within the varieties and richness of the phenomenal content that is articulated in the reports. In the micro-phenomenologi-

cal research procedure, the different types of experience are identified and coded by a team of trained interviewers. The *universal character* of the categories is therefore already extracted in a dynamical intersubjectively shared research procedure that also supports its public comprehensiveness, evaluation, and reliability. The qualitative analysis procedure of the interview is accomplished in a further triangulation that checks the performative consistency of the analysis and the findings. The criteria of consistency include, for instance, how the resulting structures (networks and levels of units) can be used to guide further research in follow-up interviews (Valenzuela-Moguillansky and Vásquez-Rosati 2019, 125). It involves detecting iterations of the same type or units of experiences, which is simply a test procedure for the »replicability« (detectability) of the type of experience(s). One should not confuse the last point with the claim that micro-phenomenological research is to be evaluated like experiments in the natural sciences. That would be a category mistake. But despite all the difference between micro-phenomenological research and natural-scientific experiments, it is obvious that the reproducibility and refinement of micro-phenomenological findings in follow-up elicitation interviews may enhance the explanatory scope of the entire scientific approach.

### **Fostering the Strength of Categorical Systems (Semantic Networks) through Intercoder Reliability (ICR)**

As already mentioned, the categorization of the data in micro-phenomenology is accomplished by developing the codes for categories and units in a bottom-up way and by cross-checking with other coders. Such a procedure should ensure the reliability, consistency, and transparency of the emerging categories or semantic networks. There is, however, a well-established method in qualitative research to measure the accuracy of this process and its outcomes. Intercoder Reliability (ICR) is defined as a numerical measure of the agreement between different coders: »...how the same data should be coded« (O'Connor and Joffe 2020, 2). In the literature as the reliability of intercoder agreement (Landis and Koch 1977, McHugh 2012).

Even though the use of ICR seems not (yet) to be widespread in micro-phenomenological research, its use is, in my view, a further significant step in fostering the explanatory scope of micro-phenomenology. As we have seen, one major objection to introspective research has been the lack of transparency and trustworthiness of its findings. ICR is in this sense not only an external indicator for the quality of the categories extracted from interviews; it also has the internal function for the researcher of clarifying the criteria for a category or a higher-level unit within a categorical system (semantic network). Thus, O'Connor and Joffe point out that even a disagreement or »negative« result of ICR can foster reflexivity and dialogue within a research team. Apparent in-

consistencies can be discussed, which can lead to an improvement and refinement of the coding frame (O'Connor and Joffe 2020, 6). I think this is entirely in line with the research target of the mixed method study discussed above by Petitmengin et al. for strengthening the overall reliability of introspective research. ICR is also a tool within a qualitative research design that can enhance the reliability of micro-phenomenological research at the level of analyzing and evaluating the resulting semantic network. When external coders are Involved who did not participate in developing the different levels and interrelationship of the categorical system, this enhances the explanatory scope of the findings by extracting categories which are transparent, communicable, and ready for further testing in the intersubjective realm. The core idea of enhancing the explanatory scope of micro-phenomenology is then once again to ensure the traceability, validity, generalizability and communicability of its research procedure and findings.

Let us take a final look at the question of how the mixed method approach as it has been developed in neurophenomenology can enhance the credibility and consistency of micro-phenomenological research.

## **Neurophenomenology as an Example of a Mixed Method Approach in Cognitive Science**

Neurophenomenology is one of the few types of study where a phenomenology-inspired mixed methods approach has been conducted. At the core of neurophenomenology is the micro-phenomenological interview. Varela originally developed this approach to study consciousness in the cognitive sciences from the first- and third-person perspective (Varela 1996; Varela and Shear 2000). One traditionally important focus of research in neurophenomenological studies is epileptic seizures, which are sometimes preceded by prodromic sensations. Such experiences can be an indicator of an approaching epileptic seizure. In a neurophenomenological oriented study, Petitmengin et al. used micro-phenomenological interviews to explore prodromic sensations with nine patients and to relate them (ex post) to EEG studies of their respective seizures (Petitmengin, Baulac and Navarro 2006, 300). In these studies, it was possible to receive descriptions of prodromes from each of the patients and to classify their synchronous and diachronic structure. Here is a snapshot of one such articulated experience:

»This can be 24 hours in advance. It's in the whole body, I feel ill at ease, inside, it's constant, and it won't leave me until it has manifested. What I feel is ... a little as if my body is abandoning me, therefore it isn't responding as quickly as usual ... I will get a pain in the head, it starts at the forehead, passes to the temples, and goes as far as the back of the neck, like a circle around the head« (Petitmengin, Baulac and Navarro 2006, 301).

Petitmengin et al. were able to differentiate on the basis of a categorical analysis between prodromic sensations and the aura of an epileptic seizure (ictal phenomena). Furthermore, they have offered hypotheses as to how these experiences might be related to the neurological patterns visible in the EEG studies (the prodromic phase is related, for instances, to a loss of synchrony at the neural level, Petitmengin, Baulac and Navarro 2006, 304). Without going into the details of this study, one can see the explanatory capacity which micro-phenomenology has here. The findings concerning the categorical structure of the prodromic states are used to detect different neurological patterns in the EEG studies and helps to integrate (tentatively) the knowledge acquired from the first- and third person perspective of the phenomena into a better understanding of the entire process of the epileptic seizure.

Drawing on such practical applications, Martiny and colleagues have analyzed how different phenomenological methods can have exploratory and explanatory functions in mixed method approaches within the cognitive sciences (Martiny, Toro and Høffding 2021). In the case of the specific study above, the triangulation of the epileptic seizure with phenomenological and neurological methods enables a better understanding of the psychopathological phenomena in question. Even though the causal and functional interrelationships between the experiences and the neural patterns in the prodromic and seizure phase are, of course, not yet fully clarified (subjects in the study were, surprisingly, able to block the seizure voluntarily during the prodromic phase), both research perspectives contribute mutually and in significant ways to the understanding of epileptic seizure. This is so because the first-person perspective in experiencing epileptic seizures is explored, fine grained experiences are detected, and possible interrelationships with neural patterns are provided. This does not mean, however, that neurophenomenology provides or aims at a naturalistic or even physicalistic explanation of the psychological realm. It is not part of the research agenda to *identify* or *reduce* psychological processes to neural states or patterns, a move, which would rest on a one-sided naturalistic world view. This example also shows, in prototypical form, that introspective research can contribute the understanding of the psychological realm in relation to bodily processes in mixed method studies.

## Conclusion

As the foregoing considerations have shown, micro-phenomenology has the capacity to build a bridge between phenomenology and cognitive science, between the first- and third- person perspective of studying consciousness. An important topic in introspective research is how to gain reliable access to conscious experience, and, as I have shown, micro-phenomenology has developed a detailed research procedure that shows how this

can be accomplished. I have argued, furthermore, that in micro-phenomenology we are directed at the experience *itself* and its articulation. To defend this argument, I have argued for a modified correspondence claim, which should be integrated into the micro-phenomenological research procedure. If this is the case, it naturally does not mean that all relevant methodological problems are solved. As I have pointed out with regard to Froese's evaluation, further empirical experiments are required to strengthen the validity of micro-phenomenology. In particular, the inclusion of quantitative methods into micro-phenomenological research, as commonly used in other mixed method approaches, is still a desideratum even though there are current efforts to show the fruitfulness of such methodological extensions of phenomenological research. Does that imply that micro-phenomenology is a project of naturalizing phenomenology? This is not the case as I have pointed out. But there is still a significant controversy over this issue in the literature. Bringing phenomenological methods into the cognitive sciences is by no means tantamount to *reducing* subjective experience to brain states or other physical processes. How the integration of first-, second-, and third-person methods into consciousness research can mutually contribute to psychology and the understanding of consciousness is still in need of further research. In the end, this might require not only a stronger foundation and the extension of introspective research but also a reconceptualization of how brain, body and environment contribute to the appearance of consciousness (Fuchs 2017).<sup>3</sup>

## Endnotes

- 1 I also regard some recent neurophenomenological research projects as such exceptions, which explicitly integrate micro-phenomenology into their research studies. I will briefly consider one of them in the final section.
- 2 See for instructive examples and explanations how to front-load phenomenology into experimental research Martini, Toro and Höffding (2021).
- 3 I would like to thank both reviewers and James Morley for constructive criticisms and valuable comments, which were of great help in revising and improving the manuscript, and Adrian Wilding for proofreading the text.

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