

Going Beyond Theory

Constructivism and Empirical Phenomenology

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> Context • Epistemologically, constructivism has reached its goals, particularly by emphasizing the idea of participatory observation, circularity, and the fact that construction is based on experience. However, rather than research, the main occupation of constructivists and second-order cyberneticians seems to lie in making the case for their epistemological idea, which has been exhausted in many aspects. **> Purpose** • To counteract this exhaustion and an increasingly apparent lack of energy, it is argued that constructivism requires a dedicated field of research, a field where it would be possible to test constructivist concepts empirically and thus go beyond mere theoretical discourse. **> Method** • Based on a review of basic constructivist premises and a critical examination of the field of empirical phenomenological research, the article connects their respective findings. **> Results** • The article proposes that empirical research on lived experience (i.e., empirical phenomenology) requires a constructivist epistemological foundation and might therefore be a logical continuation of constructivist endeavours. In such a way, both fields might benefit considerably. Not only would constructivism acquire an empirical tool for testing its ideas, such a partnership might also provide empirical phenomenology with a more suitable epistemological platform than the realism-based research framework of cognitive science (of which it has become an integral part). The possibilities and problems of introducing empirical research into constructivism are also discussed. **> Implications** • The article presents an opportunity to re-think the role and future of constructivism. It suggests educating a new generation of constructivist researchers whose principal goal would be the attempt to study lived human experience. That could also open a path to the experimental grounding of many constructivist insights. **> Key words** • Empirical phenomenology, radical constructivism, non-trivial systems, neurophenomenology, phenomenological reduction, Francisco Varela.

Introduction

« 1 » The participatory position, namely the realisation of being included in the very system one is researching, or of being “included in a larger circularity” (Foerster 1992: 10), has reformed cybernetics into so-called second-order cybernetics. Such an epistemological perspective is extremely close to, if not synonymous with, the notion of constructivist epistemology. A relatively simplified depiction of this correspondence is shown in Figure 1.

« 2 » This figure requires some comment. Namely, it does not necessarily portray the chronological development of ideas, but their epistemological evolution (extensive analysis can be found in Froese 2010). The term *constructivism* is used to denote an epistemological credo and various underlying perspectives, i.e., “the idea that the mental world – or the experienced reality – is actively constructed or “brought forward,” and that the observer plays a major role in any theory” (Riegler 2012: 237).

« 3 » Traditional cybernetics (i.e., first-order cybernetics) has proven to be fer-

tile ground for the development of several research fields, perhaps most notably for cognitive science. On the other hand, this is hardly the case with second-order cybernetics and constructivism. Obviously, the realisation of one’s participation in the observed system does not carry equal weight within different fields of study. Still, there are certain areas of research where it appears to be of the utmost relevance. Reminiscing on the early years of second-order cybernetics, Heinz von Foerster describes the realisation that...

“a brain is required to write a theory of a brain. From this follows that a theory of the brain, that has any aspirations for completeness, has to account for the writing of this theory. And even more fascinating, the writer of this theory has to account for her or himself.” (Foerster 2003: 289)

« 4 » In order to narrow down the area of interest, one might add that we need consciousness to study consciousness, experience to study experience. It would appear that a constructivist epistemological posi-

tion should especially resonate in the fields of study where circular self-referentially closes in on itself.

« 5 » The aim of the present article is to argue that any research on experience necessarily calls for a constructivist epistemological foundation. At the same time, radical constructivism (as a set of epistemological ideas) requires empirical grounding. Such a joint enterprise can be seen as the next logical step proceeding from present-day constructivist endeavours (see Figure 2).

In search of the science of the non-trivial

« 6 » This article attempts to demonstrate that constructivism as a set of ideas necessarily requires a follow-up in empirical research and that a perfect candidate for this job exists. Despite being certain that the logic of this demonstration is sound and the arguments presented are valid, it would go against the spirit of the epistemology defended here to think that the character-



Figure 1 • A possible view of the relationship between cybernetics and constructivism.

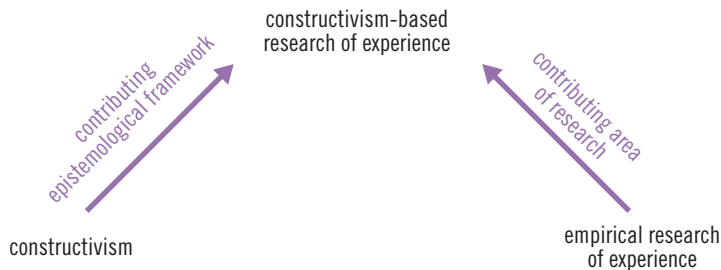


Figure 2 • The proposed collaboration: constructivism as an epistemological framework for empirical research on experience.

istics of the author, his beliefs, and personal history do not play an essential part in the concepts being defended. It is in accordance with the fundamental idea of second-order cybernetics to give up the view from nowhere and to acknowledge the personal history of the author (Kordeš 2005). Similarly, it is in line with the ideas of radical constructivism to give up the ambition of proposing the one and only correct theoretical solution; in other words, to expect it to reflect the objective state of affairs (Glaserfeld 1991). In the same vein, it might be sensible to mention that the author of this text encountered (and turned to) second-order cybernetics and constructivism as a computational cognitive scientist in search of a possibility for a more meaningful way of studying consciousness. One cannot help but feel a special fondness for the poetic style of von Foerster’s writings, for the “radical” version of constructivism (in the sense of “thoroughly consistent,” Riegler 2012: 246), and for phenomenological inquiry as proposed in Natalie Depraz, Francisco Varela and Pierre Vermersch (2003). But after years of studying and advocating the constructivist idea, I feel a certain restlessness and a desire for a venue for empirical research and evaluation within this epistemological frame. This probably accounts for

the search for an empirical grounding for constructivism as elaborated in the present article. Still, it seems that others have also been troubled by such feelings. In his 2001 paper, Stuart Umpleby states somewhat resignedly:

“After about twenty years of making the case for second order cybernetics, it seemed to me that we had largely succeeded. The idea of perspectival observation – what a person sees depends upon his or her background – had become widely accepted in scientific circles even if cyberneticians did not receive much credit for the change in thinking.” (Umpleby 2001: 88)

“7” No matter how fruitful, the long years of passionate and spirited arguing for their epistemological credo have left the constructivist community with a certain lack of fresh energy and – as Umpleby notices – largely without the credit they deserve. The idea of perspectival observation has indeed become widely accepted as representing the spirit of the postmodern era. Taking the role of the observer into account has even managed to find its way into some of the sciences, e.g., ethnography, but alas rarely in a form that would go beyond a kind of disclaimer or paragraph explaining the researcher’s background. While this

might be an underestimation,¹ other clear indications exist that the project envisioned by the pioneers of second-order cybernetics is not yet accomplished (i.e., Umpleby 2001, 2010) and that there is renewed interest in its continuation (e.g., Müller & Riegler 2014; Vörös 2014).

« 8 » The starting point of second-order cybernetics was a radical elaboration of the insights into the nature of human cognition achieved by classical cybernetics. It proceeded from the seemingly simple realisation that it is impossible to reflect upon and research the characteristics of cognitive systems without being aware of and taking into account the fact that the researchers are part of the very system they are observing and that the characteristics they perceive apply to them as well. In the seminal text by Ranulph Glanville (1982), it is obvious that the pioneers of second-order cybernetics saw the relationship between the cogniser and the cognised as equal, both of them participating in the game of co-creation (co-construction or – in a sense – co-deconstruction). From this, one might infer that their expectations and efforts were directed towards the preparation of a wider research paradigm based on the core constructivist postulation – a paradigm in which a researcher would participate in the researched phenomenon as an equal partner and co-creator.

« 9 » As part of the attempts made by second-order cybernetics to show the importance of the inter-actional nature of cognition, von Foerster constructed the term “non-trivial machines” (Foerster 1991), outlining the systems dependent on their history of interactions. Thus he writes:

“When asked, all my friends consider themselves to be like non-trivial machines, and some of them think likewise of others. These friends and all the others who populate the world create the most fundamental epistemological problem, because the world, seen as a large non-trivial machine, is thus history dependent, analytically indetermin-

1 | Despite mainstream efforts of natural science (with an emphasis on physics) being directed to bypassing the need to account for the role of the observer, some exceptions have to be mentioned, perhaps most notably endophysics (Rössler 1987) or complexity research (i.e., Newman et al. 2006).

able, and unpredictable. How shall we go about it?" (ibid: 71)

« 10 » Von Foerster suggests three possible strategies for dealing with this, so-called, fundamental epistemological problem: 1. ignore the problem; 2. trivialise the world; and 3. develop an epistemology of the non-trivial. Amazing progress in (natural) science was made possible by taking the first option; that is, by denouncing any questions concerning its epistemological foundations and by largely ignoring mutual influence between the researcher and the researched system.

« 11 » However, there are certain areas where the ignorance strategy proves to be a little trickier. For example, at the beginning of the twentieth century physicists were faced with a surprising case of the unavoidable influence of the observer and observation: in the quantum realm, the influence of observation could not be ignored. One of the reasons was that the disturbance of even the subtlest measurement is close to the order of magnitude of the phenomenon being measured. More importantly, the mathematical formalism of quantum mechanics represents every quantum entity as dispersed over a spectrum of different states and only the act of measurement "collapses" the entity's wave function into the actuality of one single state. It is theoretically impossible to predict which state it will be in (before the measurement, we only know the probabilities). This raised questions of predictability and determinism. Such strange properties of the quantum world seemed to endanger basic assumptions about the world as well as the established way of doing empirical natural science.

« 12 » Ever since, a plethora of interpretations and solutions has been proposed in an effort to make sense of or, if possible, avoid "unnatural" elements (Einstein, quoted in Schlipp 1998). One such interpretation is the *ensemble* or *statistical* interpretation (introduced by Max Born, described in Pais 1982), suggesting that the wave function should not be read as a property of any singular entity, but should only be applied to large ensembles. In that way, probabilities are transformed into averages that can be predicted and accurately measured. Such a view avoids the issue of the collapse of the wave function and enables researchers to deal with the observed system as deterministic.

« 13 » Let us recall that for von Foerster, the line between trivial and non-trivial phenomena marks the division between systems that are independent of their history of interactions and those in which such a history cannot be ignored, resulting in their unpredictability. Within this view, we may conclude that the statistical processing of quantum mechanics represents von Foerster's second strategy: trivialisation. Further, it can also be shown (Kordeš 2005) that the division between trivial and non-trivial can be translated into the question of in which systems we can disregard the influence of the observer and in which not.

« 14 » The trivialisation strategy does not resolve von Foerster's "fundamental epistemological problem" but avoids it. The strategy is based upon the requirement that the observed system has to be predictable and independent of the observer (if not of the measurement). It selects only those systems from the observed area that meet this requirement. By accepting such a strategy, science becomes a kind of filter: letting through only that part of the experienced world that is repeatable, predictable (at least in principle), and in which the influence of the observer can be either ignored or avoided. Statistical interpretation has filtered individual events – thus allowing the continuation of empirical naturalistic research, but only at the price of prohibiting research on individual quantum events. The spirit of the ensemble interpretation (observing behaviour at a statistical level only and thus ignoring individuality) is not only adhered to in physics. Very similar conventions are upheld in other areas, most notably in psychology and, lately, in cognitive science.

« 15 » The problem of quantum mechanics is especially interesting because it brought the examination of epistemological foundations to the very core of natural science. Solutions proposed by the pioneers of quantum physics are neither naive nor ignorant.² Constructivists therefore cannot settle for

2] Some of the proposed solutions are epistemologically very innovative and can even help in understanding introspection and consciousness. Further discussion on those topics exceeds the scope of the present article, but can be found in Bitbol & Petitmengin (2013), Bitbol (2014), Kordeš (2015), etc.

an excuse and blame the exclusion of their ideas on the epistemological insensitivity of the scientific community. For physicists (and recently, cognitive scientists) resorting to trivialisation is not so much a question of ignorance as of there simply not being a viable alternative so far, one that would allow for empirical research and at the same time accept the findings of constructivist epistemology. Until there is such an alternative, there is no point in waiting for scientific methodology to adapt to constructivist epistemological realisations (as sound as they might be) of its own accord. The trivialisation strategy – for now – seems to offer the best means of keeping science successful.

« 16 » As the third strategy of dealing with the non-trivial, von Foerster suggests the development of an epistemology of the non-trivial. The premise of the present article is that such an epistemology already exists – namely constructivism. The problem lies in its apparent incompatibility with classical scientific endeavours. To date, we are still unable to work out how scientific research might take some of the insights of radical constructivism into account. Such a research approach would be ready, for example, to give up the assumption of a solid researched substance, undisturbed by observation and the properties of the observer. A constructivist science should find a way to take account of the researcher's active role, involvement in the observed phenomenon, and the constant dynamism resulting from such acts of observation.

« 17 » While the search for a potential blending of naturalistically oriented science and constructivist ideas goes on, let us take this opportunity to suggest an alternative idea: to find an area of research where the naturalistic paradigm (i.e., von Foerster's first and second strategy) has been proven to be unsuccessful. If we look at the trivialisation processes used by contemporary science as a filter that allows only those areas of the experienced world to pass through that appear to be observer-independent (i.e., they allow post festum trivialisation), a sensible approach might be to look for an area that is ruled out by this filter. This must be an area for which the role of the observer is so intrinsic that it is impossible to deny it: the area of empirical research on experience.

Constructivism points towards phenomenology

« 18 » In this section, I attempt to climb up onto the shoulders of giants and demonstrate how constructivist ideas can be seen as signposts for research into lived human experience. I will demonstrate that most authors from the radical constructivism spectrum in the final instance arrive – albeit by different roads – at the phenomenological attitude, i.e., the view that experience is primary. In Francisco Varela's words, one can describe such an attitude as

“the re-discovery of the primacy of human experience and its direct, lived quality that is phenomenology's foundational project. This is the sense within which Edmund Husserl inaugurated this thinking in the West, and established a long tradition that is well and alive today not only in Europe but world-wide.” (Varela 1996: 335)

« 19 » Examining the work of some pioneers of constructivism, their alignment with the phenomenological attitude seems quite obvious. For example, Alexander Riegler (2012: 238) describes Ernst Mach's epistemological position as a “phenomenological perspective, according to which the world consists only of our sensations, knowledge does not refer to material entities but to sensations only.” Accordingly, Riegler brands Mach's branch of constructivism as “phenomenological constructivism.”

« 20 » Despite the fact that all constructivist approaches share the belief that the mental world or experienced reality is not a one-to-one representation of a mind-independent reality, they do not share a unified opinion about the relationship between the two. With this in mind, Riegler (2012) divides constructivist approaches into dualist and non-dualist ones. The “dualist” approaches “maintain that constructed mental structures gradually adapt to the structures of the real world” (ibid: 240), whereas “non-dualist” approaches hold a more agnostic attitude to discussions of and even the very existence of a mind-independent reality. This agnosticism does not of course imply its denial but the denial of the possibility to “rationally know a reality beyond our experience” (Glaserfeld 2001: 41). Constructivists who take this denial quite literally thus

take up the phenomenological attitude. For the continuation of our reflections, it is important to know that from such a position, the experienced reality is seen as the only area that can be researched, while mind-independent reality “arises as an explanatory proposition of our experience of operational coherences” (Maturana 1988: 39). The alignment of his vision of constructivism with the phenomenological attitude was expressed even more radically by von Foerster in his so-called constructivist postulate, which already drifts towards idealism: “Experience is the primary cause and the world is a consequence of it” (1996: 34, see also Glaserfeld 1995).³

« 21 » Constructivism and – as will become clear later – contemporary empirical research on experience consists of a wide array of concepts and research projects, which makes it even harder to make any general conclusions about the basic assumptions upon which they are built. But in view of what was presented above, it does not appear ungrounded to conclude that the core representatives of both fields proceed upon the same realisation of the primacy of human experience. While some (constructivists) take this realisation as one of the epistemological factors, others (empirical researchers into experience) regard it as a definition of their research subject. In constructivist texts, with perhaps the exception of Mach, one as a rule does not find many

3 | At this point it is necessary to point out the diversity of expressions used to denote the distinction between the experiential and the subject-independent. In this target article, the following terms are taken to have a similar meaning: on the experiential side – phenomenal world, mental world, experienced reality, etc.; on the side of the external, objective world – noumenal world, mind-independent reality, real world, or sometimes just world. Riegler (2012: 240) warns of the need for clearer articulation: “...in the German-speaking literature on constructivism, the distinction is often made between Wirklichkeit (from the German “wirken,” meaning “to have an effect on”) – the world as the domain of our experience – and reality (from Latin “res” = thing) – the world as the domain of things in themselves.” It is also important to emphasise that the above-mentioned distinction is just a terminological one, it does not imply any epistemic stance.

suggestions (on how) to research that which is “primary.” Most constructivist authors do not perceive research on experience as a basic task, but tend to see constructivism more as a “horizontal meta-science” (Riegler 2012: 237). The proposal advocated in this article is that it would make sense to consider the possibility of upgrading constructivism into an empirical research method, which would allow it to upgrade or refresh its epistemological foundations with research on human experience.

Empirical phenomenology needs constructivism

« 22 » While awareness of the primary position of experience seemingly reflects one of the most essential notions of constructivism, it is by no means its own discovery. In Western philosophy it is possible to trace the long line of this idea's evolution perhaps as far back as Xenophanes or the skeptics (such as Pyrrho, Agrippa or Sextus Empiricus who are often quoted by von Glaserfeld). In later periods, it has resurfaced several times in diverse ways.

« 23 » One of the more important instances of this includes Johann Wolfgang von Goethe's scientific project. At the end of the eighteenth century he tried to propose an alternative to Cartesian-Newtonian science and its doubt in experience. Goethe endeavoured to pursue morphology and optics in a rigorous and systematic way from the point of view of focusing and sensitising the observer. The most relevant for the present discussion is his idea of the relationship between the observer and the observed. To him, research was a dynamic process of intimation between the two:

“Goethe intimates a concept of order according to which not only the object of observation changes and moves but also the subject of observation. Both the observer and that which is observed changes, transforms and develops. Goethe's claim that perception [Anschauung] itself could change or [be] enlivened is based on the prior assumption that perception and understanding [Verstand] are always related.” (Wellmon 2010: 161)

« 24 » Goethe's “poetic” science received ample derision and was later almost com-

pletely forgotten. It could in no way stand up to Newton's approach, which managed to ignore the depth, quality, and uniqueness (i.e., properties of the non-trivial) of individual experience, thereby ensuring the proliferation of natural science.

« 25 » It would appear that each new wave of enthusiasm for the natural sciences also brings fresh interest in research on experience. The transition from the nineteenth to the twentieth century did not bring just a massive onset of the natural sciences and technology, but also an increase in interest in experience, as demonstrated in the work of the German introspectionists, William James, the so-called Kyoto school (described in Varela, Thompson & Rosch 1991), and others. Of all the authors from this period, it is Edmund Husserl who deserves our particular attention here: he succeeded in making a most comprehensive articulation of the primary status of experience and pointed out the problems of the approach taken by natural science in the research on this area. He demonstrated the uncritical, unexamined way in which the natural science paradigm takes up everyday ontological and epistemological intuitions (the so-called natural attitude). Phenomenology was conceived as a fundamental science of essences, which could be fathomed by practicing phenomenological reduction, i.e., by bracketing the natural attitude. By introducing phenomenological reduction, Husserl set up methodological grounds for the foundation of such a research project. Phenomenology grew to become a strong philosophical movement, but unfortunately, "it would be an exaggeration to claim that Husserl produced a universally accepted methodology" (Vörös 2014: 98).

« 26 » Despite Husserl's argumentation against the gathering of psychological data on parts of experience and despite psychological scepticism about the validity of data gained by introspection (e.g., Nisbett & Wilson 1977), attempts at empirical research on experience have gained new ground in the past few decades. As early as the 1970s, a strong qualitative research tradition started, mostly in psychology and education (i.e., Giorgi 1970; Manen 1997), developing specific concepts and approaches. Yet more relevant for the purpose of this article is the recent development of phenomeno-

logical research techniques connected to the progress of cognitive neuroscience. Almost paradoxically, the very faith in the possibility of reducing experience to neurological processes represents one of the causes of increased interest in the subjective that can be noticed recently. Even though neuroscience often treats experience merely as a troublesome epiphenomenon, it has become apparent that at least a certain level of knowledge about direct experience is required for measuring its physiological correlates (Vörös & Markič 2014). Due to this, cognitive neuroscience has "accepted the role of introspection or reporting personal mental experience as a form of data" (Barinaga 2003: 45). Besides accepting phenomenal data, it is becoming increasingly apparent that acquiring this data is far from trivial. Russell Hurlburt (1979, 2009) and others (i.e., Petitmengin 2006; Lah & Kordeš 2014) have shown that it does not suffice to simply ask about experience. Much more sophisticated, iterative techniques are required, preferably involving some training of the participants.

« 27 » Partially due to the needs of cognitive neuroscience, these past two decades have witnessed the development of a whole new range of empirical approaches, methods, techniques, and ideas. So far, researchers of experience have not yet formed a uniform group with a common methodology or a specifically defined research objective. On the contrary, the array of research techniques aimed at experience covers a wide range of approaches, from simple quantitative questionnaires (i.e., Christoff et al. 2009; Killingsworth & Gilbert 2010) to in-depth dialogical methods. Quantitative approaches mostly do not reach beyond questions such as, for example: "Where was your attention focused just before the probe?" with possible answers "on task" or "off task" (Christoff et al. 2009) or "How do you feel right now?" (the participant is required to choose a point on the scale ranging from "very good" to "very bad"; Killingsworth & Gilbert 2010). Such a simple perspective of experience is quite compatible with the methods of neuroscience and thus very common. It is obvious that in such research it is not necessary to accept the phenomenological attitude – on the contrary, in research where one is required to collaborate with neuroscience it is very useful to adhere to its basic assumptions.

« 28 » Qualitative, in-depth research approaches on the opposite side of the spectrum include the elicitation second-person techniques developed by Vermersch (2009) and Claire Petitmengin (2006), the descriptive experience sampling method by Hurlburt (Hurlburt & Heavey 2006), the more clinically-oriented research approaches by Josef Parnas (Parnas & Gallagher 2015) and Daniel Stern (2004), and others (some of which are reviewed in Varela & Shear 1999 and more recently in Froese, Gould & Barrett 2011). This is the group of approaches on which I will be concentrating. These are the approaches conceived especially for research on experience and that have been modelled using phenomenological insights.

« 29 » The approaches in question agree upon and follow the basic methodological directions suggested by phenomenology. Still, they mostly do not fully adopt the phenomenological attitude. This explains why these research approaches could perhaps be more appropriately described as *phenomenologically inspired approaches* or *phenomenological psychology* (Zahavi 2004).⁴

« 30 » Further on, when presenting my vision of the fusion of experience research and constructivist epistemology, I will use the term *empirical phenomenology* to denote that having "empirical" and "phenomenology" in the same phrase is not an oxymoron. I intend to indicate that bracketing the natural attitude can still allow for the systematic gathering of empirical data. Approaches such as the elicitation interview or descriptive experience sampling will be considered as candidates that might – beside especially dedicated introspection techniques – become part of a kind of research that will no longer try to trivialise the field of experience. Thus, when using the term "empirical," I do not mean the methods oriented according to the requirements of the natural sciences. Instead, I use it to designate specially dedicated techniques of gathering phenom-

4| Some also speak of "first-person research" (Petranker 2003) in order to stress that what is examined is the subjective, the "inner." It might be more useful, however, to preserve this terminology for delineating the focus of the research: third-person (examining the experience of others), second-person (dialogical co-research), or first-person (examining one's own experience).

enal data, thus distinct from what Hurlburt & Schwitzgebel (2011) call “armchair introspection.”

« 31 » In his neurophenomenological programme, Varela (1996) stipulates his hope that one day, systematic research on experience will represent a complement to its neuroscientific counterpart. But for this to happen, it would need to reach the standards of conventional science: repeatability, intersubjectivity, and, as a result, the derivation of general laws, perhaps even predictability. Similar hopes are shared by many other phenomenological researchers. Their more or less articulated assumption speaks in favour of the possibility of capturing the essential structure and dynamics of human experience. Their research is therefore expected to reveal stable, recurring structures that would be valid intersubjectively and intersituationally. It might be possible that in order to get there, entirely new methods and ways of research will be needed, but there are few people who actually doubt that reducing experience to a trivial phenomenon (in von Foerster’s words) is possible.

« 32 » Varela (1996), and more thoroughly Varela and Jonathan Shear (1999), enumerate the problems encountered in the research on experience, and the critics who warn about them. Among them Varela mentions Daniel Dennett (1991), who believes that phenomenology is unable to give any meaningful contribution to science due to the lack of consensus about what method to use. Perhaps Varela is a little hasty in rejecting Dennett’s criticism:

“In a book that is in many other respects so *savant* and insightful, this display of ignorance concerning phenomenology is a symptom that says a lot about what’s amiss in this field.” (Varela 1996: 334)

« 33 » The fact remains that currently in the area of empirical phenomenology there is no consensus about what technique of collecting data and/or analysis to use. Neither is there a coordinated division of the area of research – similarly to in the time of the German introspectionists, the units and parameters according to which different researchers compartmentalise experiential space still vary widely today. This state of affairs partially discloses an even more acute

fact: the influence of personal history and theoretical framework on the results of the research. This also begs the question of who is actually the researcher in cases like this: is it the scientist conducting the interview or rather the participant who is supposedly rummaging through her experience and reporting it? (The manner of observation is of course affected by the personal history of both.)

« 34 » Besides, many phenomenological studies indicate that some psychological constructs conceal experiential modalities that are individually completely diverse. One could take the example of the phenomenology of thinking. Temple Grandin (1996) has discovered at least three utterly diverse types of experiential structures of thinking in autistic people, while Hurlburt and Heavey (2006) arrived at the same conclusion based on the results obtained from the entire population (unfortunately, Hurlburt’s and Grandin’s typologies are far from compatible). From this it could be concluded that interweaving of the researcher’s typologisation of experiential landscape, the observer’s punctuation, and individual variability of experience brings into question the very possibility and sense of intersubjective validation of phenomenological data.

« 35 » This Gordian knot points to an even more elementary problem with the research on experience: the so-called “excavation fallacy” (Depraz, Varela & Vermersch 2003), i.e., the problem of mutual influence between the researcher and the researched. John Searle sees this problem as the ultimate proof that systematic scientific research on experience is indeed impossible.

“The very fact of subjectivity, which we were trying to observe, makes such an observation impossible. Why? Because where conscious subjectivity is concerned, there is no distinction between the observer and the thing observed... Any introspection I have of my own conscious state is itself that conscious state.” (Searle 1992: 97)

« 36 » Interestingly, the above-mentioned central issue of the research on consciousness cannot be found in reports from empirical phenomenological studies. All existing research techniques either ignore or attempt to minimise the interaction between the researcher, the research itself, and

the researched. In other words, they use one of the first two strategies to solve von Foerster’s “fundamental epistemological problem.” It would thus appear that empirical phenomenology is actually trying to follow the standards of validity taken over from natural science – a science developed for research on the trivial. A methodological toolbox based on eliminating the subjective element is being used in research on the subjective. And although Varela (1996) points out the novelties of research on experience and warns against preconceived notions of what is normal and what is not, he does not dare go much further. It looks as if the fear of being disclosed as unscientific has created a blind spot for some of the essential characteristics of experience:

- Experience is simultaneously the framework of our observation, the observing eye, and the object of observation.
- By researching it, experience changes.
- The change in experience in turn changes the observer and therefore the observation.
- The above circularity is not $a \rightarrow b, b \rightarrow a$; it is $a \rightarrow a$ – experience observing experience.
- Our current experience is a point in the history of experience, which is constructing itself.
- Acquiring knowledge about experience is not so much about creating a categorical system as about expanding awareness to reach ever more subtle skills of bracketing the natural attitude and enhancing meta-experience (the experience of experience).
- Knowledge about experience is itself a new experience. In Jack Petranker’s words, by observing experience we are becoming “conscious differently” (Petranker 2003: 5).

« 37 » If one tries to trivialise research on experience, most of the above-mentioned points become lost. Rejecting the attempt to ignore the above-mentioned points, there are two approaches to take: either agree with Dennett and give up research on experience, or bite the bullet and develop a non-trivial research strategy, a strategy that ought to include three:

« 38 » *Observation* – Accepting the constructive role of observation and giving up the notion of duality between observation

and the observed. The next two requirements can be seen as corollaries of the first one and can prove to be more controversial.

« 39 » *Intersubjectivity* – Giving up the stipulation of intersubjective validation as a necessary condition for meaningful research. This does not imply that systematic research on experience cannot and will not yield intersubjective and/or repeatable results. The new strategy we are searching for should, similarly to standard science, strive for stable, intersubjective patterns (or “invariants”; Varela 1996: 337). But – and this is crucial – it should not reject results that do not live up to that standard simply because we do not know how to incorporate them into standard (trivial) science. Many, starting with Husserl, assure us that phenomenological approaches can bring us to invariants, but so far no one has been able to prove that in a fully convincing and satisfactory way (as reflected in Dennet’s criticism mentioned above). It is important to understand that what is meant here is not an agreement on subjective judgements (in the vein of Thomas Metzinger’s “this one is the most blue one” 2003), nor an agreement on the explanations of mental phenomena (which is a classic psychological comment on introspective methods; i.e., Nisbet & Wilson 1977). When talking about intersubjectivity in the area of research on experience, I am referring to the most elementary notion of the term: agreement between researchers on the description of the experiential phenomenon.⁵ Invariants would then be the experiential modalities on which the majority of researchers would reach an intersubjective agreement. Such expectations are perfectly viable if we believe that what we are researching is “something out there” – something that is “there” regardless of the properties and the horizon of the observer. But if we are ready to give up this assump-

5 | A discussion of the finer points of the issue is beyond the scope of the article, but has been amply dealt with in other sources, i.e., Husserl (2012), Bitbol & Petitmengin (2013), and Froese (2009), if we consider only phenomenology-related ones. The point of view for social structures (including self-referential operations constituted by communication) is extensively covered by studies of the autopoiesis of communication (i.e., Luhmann 1995).

tion and instead choose to regard the act of observing and the observed object as an indivisible unit, such expectations are no longer self-evident. The hope that still remains, despite everything, is that the multitude of research, comparisons, and analyses will eventually bring us to asymptotes in which the diverse observations will finally be aligned. But we should not regard this hope as more valuable than the data available to us – regardless of how threatening the alternative might seem. This is exactly the bullet we have to bite if we hope to achieve a science of the non-trivial. By starting from the assumption that the research will lead to repeatable and comparable data, we are merely repeating the trivialisation strategy. There is no other way to take up the challenge of the epistemology (and methodology) of the non-trivial but to face the fear that such research might not produce universally comparable data. We have to face the possibility that our fears might turn out to be justified – i.e., that an intersubjective non-trivial science is impossible. There is only one way for us to find out: to allow (at least at the start of such a research endeavour) for data that are not necessarily intersubjectively validated. Perhaps at least part of the reason for the 100-year struggle for the recognition of introspection methods lies in its attempt to follow the trivialisation strategy of the natural sciences.

« 40 » *Transformation* – Acknowledging the possibility of a personal transformation of the researcher. This has been foreseen by a number of theoreticians, contemplating the possibilities of a phenomenology-inspired science (i.e., Varela 1996; Petranker 2003; Bitbol 2012; Vörös 2014). But it has probably been foreseen most forcefully by Husserl himself:

“the total phenomenological attitude and the epoché belonging to it are destined in essence to effect... a complete personal transformation, comparable in the beginning to a religious conversion, which then, however, over and above this, bears within itself the significance of the greatest existential transformation which is assigned as a task to mankind as such.” (Husserl 1970: 137)

« 41 » The strategy in question should abandon the view from nowhere and adhere to von Glasersfeld’s observation that “We

can only really explain experience through experience” (Glaserfeld 1995: 20). When comparing the enumerated characteristics of experience with the properties that constructivist science ought to consist of, as described in the second section, it is easy to detect a large amount of overlap. This overlap consists in the unavoidable role of the observer, the circularity, and dissolution of borders between observation and construction, between the observed, observer, and observation, etc. All of these seem to demonstrate that constructivism is indeed a suitable candidate for a functional framework for research on experience.

Constructivist science

« 42 » The vision of the evolution of constructivism put forward in the following section presents the use of constructivist concepts as an epistemological framework for which there exists an appropriate empirical substance – lived human experience. This proposal might be said to include the transformation of constructivism from meta-science into an empirical research discipline. From the point of view of empirical phenomenology, I propose an alternative to naturalisation: instead of having phenomenology adapt to the research methods of natural science, a new epistemological framework would allow it to derive new, better-adapted methodological strategies. Let me explain that my ambition here is not to oppose the naturalisation, i.e., the phenomenologisation, of natural science (as mentioned by Zahavi 2004 and Vörös 2014). Instead, I attempt to present a fusion between the phenomenological area of research (which also includes basic methodological guidelines) and the constructivist epistemological framework. Such a fusion would use methodological tools from natural science if possible – but no more than allowed by the limit of non-triviality.

« 43 » A concrete specification of the research strategy must remain a challenge for the future. At this stage, it is not yet entirely clear whether the definition of science can be extended to the point of accommodating a non-trivial strategy required by the characteristics of experience, as presented in the

previous section. Nevertheless, it is a direction worth examining. In this section, I will touch upon some of the key points such an examination might follow, beginning with a short reflection on the relationship between empirical research and constructivism.

« 44 » The notion of *research* is normally connected to the process of discovering the world “as it really is,” i.e., discovering the properties of the objective world. As we have seen above, constructivism – as well as phenomenology – brackets the certainty about the existence of any such thing. Taking this agnosticism into account, the question emerges: What is the meaning of research within constructivism? And what exactly is it the constructivism should be researching? The answer to the former question might be found in Glanville’s (1982) analysis of the act of observation through the metaphor of “whitening” the black box (before that, a similar model was proposed by Glasersfeld 1974). The observation is modelled as a search for a stable interaction between a white box (the observer) and a black box (the observed). While to the observer the act of observation might appear as the construction of a functional description of the observed, such a perspective is only viable when the observer excludes herself from the system. From the point of view of the system that includes both the observer and the observed, this is an attempt at constructing a stable interaction (or in von Foerster’s words: an “eigenbehaviour,” Foerster 1976: 93). Observation (as well as research) is therefore a constructive interactional process of negotiation, with the aim of achieving a stable coupling (i.e., seeing, understanding, etc.) and as such, a skill that has to be trained.

« 45 » Let us suppose that we have to a certain degree managed to quell the seeming opposition between the act of construction and the act of research. But even if we are aware of this at the theoretical level, it is hard to transfer such a realisation to the world of everyday experience. From the experiential aspect, research is perceived as the endeavour to see/understand the observed object such as it is. The phenomenology of observation and research appears to be necessarily connected to the desire to see what is there (and not the intention of construction). Trying to see/understand *how things*

are appears to be the experience of (every) act of observation. It seems that the strong intention to *find out* is precisely that which drives any researcher to drill persistently into a question and does not allow them to be satisfied with the first superficial answer.

« 46 » It would seem that the default mode of our everyday interpretation of lived experience is realistic. Husserl described this tendency to interpret experience as the observation of the external, observation-independent world with the term “natural” and sometimes also “everyday attitude” (Husserl 1982). And it is at this very point that constructivism meets phenomenology: unlike natural science, which does not question this default mode, both constructivism and phenomenology put such a belief within brackets. This gesture was dubbed “phenomenological reduction” by Husserl (ibid.), while Varela sometimes refers to it also as the “gesture of reflection.” Through such a gesture

“[...] the habitual way we (have to) relate to our lived-world changes. This does not mean to consider a different world but rather to consider the present one otherwise. As we said before, this gesture transforms a naive or unexamined experience into a reflexive or second-order one. Phenomenology correctly insists on this shift from the natural to the phenomenological attitude, since it is only then that the world and my experience appear as open and in need of exploration.” (Varela 1996: 336)

« 47 » The latter remark by Varela, namely that it is precisely this bracketing of the notion of the “real world” that opens up the space for exploration, is especially interesting for the present discussion. The gesture of reflection can be seen as a constructivist turn – the turn from focusing on the construct to taking an interest in the process of construction itself. Such a change in focus opens up the view to (constitutes the possibility of) new areas of the experienced world. From the constructivist perspective, this is a way to make the natural attitude become the object of research, which from this newly found point of view no longer appears to be a reflection of the actual state of the world, but a process aimed at ensuring a continuous, meaningful flow of experience. The object of constructivist

research might not lie in parts of the world but in the very process of its enactment. How does the world emerge? How can the notion of a continuous flow of experience be maintained? In this way, research essentially becomes second-order research – research into that which one researches with. Most of the above-mentioned processes/phenomena are familiar to constructivists, but rarely empirically researched. And even when they are, there is no consensus about the perspective and methods that should be applied. I have tried to argue that the phenomenological perspective is a result of adopting what I have called “the constructivist turn.” That claim accepted, the proposed enhanced version of empirical phenomenology can offer the means and tools for constructivist research.

« 48 » In the selection of research areas, this target article somewhat diverges from Varela’s plan since to a certain degree he neglects the fact that it is the research paradigm that determines the areas of research. In his project he assumes that the phenomena researched by phenomenology will at least to some extent coincide with those of neuroscience (e.g., Varela 1999). This assumption is not very appropriate as a starting point, considering phenomenology’s objections to the naive and unexamined stance of natural sciences (Zahavi 2004). It is important to let the areas of research spread out in accordance with the new epistemology rather than measuring them with a yardstick borrowed from third-person cognitive science.

« 49 » The research approach and techniques of constructivist science as proposed here could partially be borrowed from empirical phenomenology, i.e., second-person techniques for gathering phenomenal data as envisioned by Petitmengin (2006), Vermersch (2009), Hurlburt (1997), and others. But since most of these research approaches are adapted to the trivialisation filter of natural science, the constructivist framework could enable research to adapt much better to the non-trivial properties of experience.

« 50 » Two principal venues can be discerned here, i.e., two essential aspects of empirical phenomenology, where a more appropriate epistemological basis could come in useful. The first one is the problem: What are we actually observing? Most of the existing techniques are based on a more or less

explicit assumption that the stability of the researched substance is similar to that dealt with in the natural sciences, in the case of research on lived experience this is the assumption of reified experience. The majority of techniques thus presuppose that in the area of experience research, one can separate the researched substance from the researcher. Hurlburt (2009), for example, mentions the “pristine experience” and constructs his entire research technique on trying to minimise the influence of retrospection (and by that the influence of the research). A slight exception might be found in recent work by Petitmengin and Michel Bitbol (2009). They notice that their research technique changes the experience researched and appear to be open to questioning what it is that the retrospective methods are in fact researching. In Bitbol & Petitmengin (2013) we can detect a step away from the reification of experience, accompanied by the introduction of new ways of validation.

« 51 » Nevertheless, it appears that most attempts at empirical research on experience have so far failed to open up a space for accepting the possibility that what is being researched is not necessarily a fixed structure, independent of the observer’s actions, gestures, and attitudes. Namely, it is a possibility that becomes evident once we bracket the notion of the observer-independent reality and once we allow for the possibility that the observation is part of the construction. As a constructivist, one should not be surprised that one’s observations are being invented, constructed, or rather *enacted*.⁶ The influence of observation, the observer’s perspective, and expectations should thus no longer be considered as merely a bias that needs to be minimised, but as a constitutive, inseparable part of the result.

6 | Varela, Thompson & Rosch (1991: 172) introduced *enaction* with the intention to find a term that would characterize the “middle way” between what they call “the chicken position” (observation is the recovery of pre-given properties of the world) and “the egg position” (the cognitive system constructs its own reality). The term has mostly been associated with the embodied aspect of cognition, which I am not tackling in the present article. Nevertheless, its central meaning is exactly what I want to emphasise in the present discussion.

« 52 » Such a realisation underlines the problem already mentioned in this article: by letting go of the notion of the observer-independent world, one has to accept that what is being researched is not necessarily a shared area. There is a strong intuition that the laws governing our experience are shared and uniform, but that does not suffice as an argument on which to base a research project. Accepting the uncertainty brought about by the agnostic stance towards the real world is one of the most difficult aspects of the construction of a non-trivial science since we must accept the possibility that perhaps (despite our best efforts directed towards such goal) we will never reach invariant results and thus a fully-fledged scientific project. Still, science as an open-ended inquiry is all about gathering evidence and following it wherever it leads. Bearing this in mind, it would actually be unscientific to abandon our research even before it actually begins just because there are no guarantees that it will ultimately be possible to create a general, intersubjective model. After all, this would not be much different from the situation of biologists in the times of Alexander von Humboldt, gathering samples everywhere they went without knowing for certain if they would ever be able to produce a system, i.e., capture the general idea.

« 53 » The first question (What actually is it that we are observing?) begs the next one: Who is the researcher? This is another problematic point of discussion from the perspective of standard science. Experience research, i.e., the first-person aspect, quickly brings us to the realisation that our everyday intuitions about experience are quite poor (cf. Hurlburt 2009) and that it is necessary to learn how to observe one’s own experience. But this can only happen if we are interested in our own experience. This means that the person whose experience we are researching must become a researcher of her own experience. It is only the “owner” of the experience who can make the gesture of reflection, she alone can search for more detailed subtleties, articulate them, and evaluate the exactness of their articulation. Contrary to most research situations in psychology, a participant in phenomenological research is not merely an informant but becomes the main expert on her experience. In the case of dialogical research techniques, the pri-

mary task of the interviewer is to ensure the participant (the researcher) has space for the inquiry into her experience.

« 54 » In describing the beginnings of second-order cybernetics, when researchers first entered the circularity of the research process, von Foerster noted: “Clearly when cyberneticians were thinking of partnership in the circularity of observing and communicating, they were entering into a forbidden land.” (Foerster 2003: 289). Similarly, the researcher, as described here, would also be entering a forbidden land: research into one’s own experience. Such an endeavour almost certainly leads to a personal transformation and as such is existentially uncertain. To quote Varela (1996: 346): “sustained, disciplined learning *does* entail transformation, and so does everything else we do in a sustained mode.”

« 55 » Adding to Varela’s investigation, Bitbol notes that the...

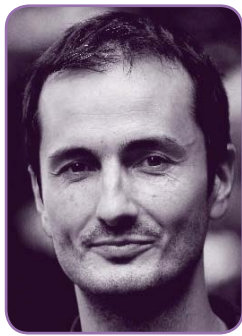
“‘hardness’ of the hard problem boils down to the hardness of practical training, and to the hardness of changing our very conception of science in order to let it encompass its lived source and performative procedures as well as its objects and achievements.” (Bitbol 2012: 171)

The researchers of such a research project should strive to become methodologically calibrated instruments by:

- taking up systematic training in phenomenological reduction/gestures of reflection (of which different modalities are described in Depraz, Varela & Vermersch 2003); and
- systematically checking and studying the possibilities for sharing results and reporting on phenomenal data.

« 56 » Such patient and persistent training in introspection represents an essential addition and upgrade to the second-person techniques. Varela (1996), in his neurophenomenological project, defines the phenomenological research strategy with the following four points:

- bracketing the natural attitude, suspending beliefs;
- allowing immediate experiential evidence (which Varela 1996 calls “intimacy”);
- training in both of the above-mentioned points in order to enable stability; and



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- searching for invariants, allowing for intersubjectivity.

« 57 » The first two points describe the act of phenomenological reduction. The third indicates the need for in-depth and existentially binding research. As stated in the paragraph above, I propose to expand the third point with training in the skills of reporting phenomenal data (as, for example, suggested by Vermersch 2009 and Depraz, Varela & Vermersch 2003). If one accepts the premises described in this article, reporting (together with all the "biases" and individual influences that accompany it; cf. Froese et al. 2009 and Froese, Gould C. & Barrett 2011) can be seen as another, integral part of the enactment.

« 58 » As far as the fourth point is concerned, I suggest an agnostic stance. As mentioned above, there is still a lack of guarantees concerning the existence of such invariants in the area of inquiry into experience. The quest for possible intersubjectivity must take into account the specificity of such research as described above: the practice of phenomenological research involves a personal transformation; it changes the phenomenon originally observed, and through that, the observer herself, who becomes "conscious differently" (Petranker 2003). As a consequence, each process of validation is in fact a fresh inquiry into experience. The process of checking (i.e., experiencing) the results reported by such researchers will have to include embarking on the same path as that taken by the original researcher. If we follow Searle's claim that the goal of science is to establish statements whose validity can be discovered and evaluated by any interested researcher (i.e., statements that are epis-

temically objective) but are not necessarily ontologically objective (Searle 1992), we have to concede that the proposed endeavour still fits within such a framework. In the constructivist science envisioned here, reporting about the process, the technique, and the general path of research is therefore an essential feature. If we add to this the fact noted above that personal history, views, and expectations participate in enactment, then it is not only desirable but crucial to reflect and record individual details of the process as well as those of the characteristics of the observer.

Conclusion

« 59 » Let me now draw together the highlights of this expansive and disciplinarily diverse article. Its idea is based on the observation that constructivism – as an epistemological framework – and empirical phenomenological research – as a methodological guideline in the area of research – might complement each other. In the article, I try to show how radical constructivism and transcendental phenomenology come together in bracketing the everyday inclination to accept a realistic interpretation of experience, i.e., the natural (or everyday) attitude. I agree with Husserl that, in order to bracket this default mode of the interpretation of experience, a conscious gesture of reflection is needed. In phenomenology, such a gesture is called phenomenological reduction, leading to a new view of experience (the phenomenological attitude). I believe that radical constructivism makes a similar turn when taking up an agnos-

tic stance towards the existence of the real world (I suggest the term *the constructivist turn*). In many respects, the approach I propose, as well as its goals, are in line with the projects described in Varela (1996), Varela & Shear (1999), and Depraz, Varela & Vermersch (2003). However, it turns out that certain aspects of the research paradigm based upon radical constructivism are closer to Goethe's idea of science as the mutual change, transformation, and development of the researcher and the researched.

« 60 » Adopting constructivist epistemology points to the involvement of the research approach as well as the researcher's point of view (i.e., also the personal history and characteristics of the observer) in an enactment circle. Observation is not to be seen as a distortion of the image of the phenomenon such as it "really" is. Instead, it is one of the factors in the construction of the phenomenon through an interactive process. On one hand, this emphasises the importance of explicating the researcher's personal point of view (i.e., the horizon). On the other hand, it points out two characteristics of such research that seem to threaten the possibility of it developing into a fully-fledged intersubjective scientific endeavour.

« 61 » If we accept the proposed fusion between phenomenology and constructivism, we must also accept that any research also carries an existential note: it almost necessarily leads to the personal transformation of the researcher. The person whose experience is being observed can no longer be treated as a mere subject – she must become a researcher herself (or at least a co-researcher).

« 62 » A second, perhaps even more pressing question refers to the lack of a guarantee that such research will ever provide us with intersubjectively verifiable invariants. The article shows that premature assumptions about the existence of such invariants might quickly lead to trivialisation and thus the loss of the most essential feature in the research area of experience. I suggest that constructivism-based research on experience should start with systematic, meticulously recorded gathering of samples. The

article may be seen as an appeal to bracket the expectations about the exact form of findings of such research. I call for bracketing assumptions that are not based on evidence but on the fear of the fluidity and uncertainty brought about by the non-trivial. At the same time, I advocate the patient and well-documented collection of evidence when encountering the vast, still undiscovered area that is lived experience.

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Open Peer Commentaries

on Urban Kordeš's "Going Beyond Theory"

In Search of a Remedy

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> **Upshot** • The naturalistic paradigm, which relies on the third-person perspective and the exclusion of the observer, cannot accommodate human experience in its scientific enterprise. I present a critical overview of Kordeš's proposal to merge the constructivist epistemological framework and empirical phenomenology. I doubt whether constructivism actually requires empirical grounding, but I do see constructivism with instrumentalism as a possible framework in which researchers will be able to make sense of the phenomenal data.

« 1 » Urban Kordeš's target article "Going Beyond Theory: Constructivism and Empirical Phenomenology" deals with one of the key questions in contemporary cognitive science – how to incorporate experience research into the edifice of the natural sciences. Kordeš's innovative proposal is to merge experience research (what he dubs "empirical phenomenology") and construc-

tivist epistemology. In what follows, I will briefly outline Kordeš's proposal.

« 2 » On the constructivist side, he starts with insights from second-order cybernetics about the interactional nature of cognition (§9) and Heinz von Foerster's proposal for dealing with what he calls the "fundamental epistemological problem": "the world, seen as a large non-trivial machine, is thus history dependent, analytically indeterminable, and unpredictable. How shall we go about it?" (Foerster quoted in §9). Von Foerster suggests three possible strategies: "1. ignore the problem; 2. trivialise the world; and 3. develop an epistemology of the non-trivial" (§10). As pointed out by Kordeš, the first strategy results in amazing progress in natural sciences, but it largely ignores the mutual influence between the researcher and the researched system. The second strategy results in trivialisation of the world by letting through "only that part of the experienced world that is repeatable, predictable (at least in principle), and in which the influence of the observer can be either ignored or avoided" (§14). In this way, it avoids the problem via statistical interpretation. The first two strategies, for which Kordeš uses the term "naturalistic paradigm" (§17), were relatively successful in natural sciences, but he stresses that they

have turned out unsuccessful in the area of empirical research on experience, where the role of the observer cannot be denied.

« 3 » Kordeš suggests that an epistemology of the non-trivial already exists, namely constructivism (§16). Here, the reader would appreciate a more detailed description of the main features of the proposed epistemology, and reasons why he thinks these should be beneficial. Indirectly, he already hints at such a description by pointing out the apparent incompatibility between constructivism and "classical scientific endeavors" (ibid). The latter are based on the assumption of the existence of observer-independent entities that are ready for examination from the outside, while constructivist science takes seriously a researcher's active role in the observed phenomena.

« 4 » The main point of his argument seems to be that radical constructivists end up with the phenomenological attitude – "the view that experience is primary" (§18). He stresses that radical constructivists are agnostic to the existence of mind-independent reality, deny the possibility to "rationally know a reality beyond our experience" (Ernst von Glasersfeld quoted in §20), and therefore reject the realist position in science. He then concludes that "the core rep-

representatives of both fields [constructivism and contemporary empirical research on experience] proceed upon the same realisation of the primacy of human experience" (§21). The difference is, as Kordeš acknowledges, that constructivists take it as an epistemological stance, while empirical researchers into experience "regard it as a definition of their research subject" (§21). Discussing different approaches to the study of experience, he focuses primarily on the ones that are inspired by Edmund Husserl's phenomenology. These approaches are distinguished by using techniques for a disciplined cultivation of the reflective ("phenomenological") attitude (e.g., Varela 1996; Varela & Shear 1999; Depraz, Varela & Vermersch 2003). He terms his own proposal, perhaps somewhat provocatively, "empirical phenomenology" (§30), and goes on to explain that he uses the term "to designate specially dedicated techniques of gathering phenomenal data" (§30).

« 5 » Kordeš finds a large amount of overlap as a result of his comparison between the characteristics of experience and properties of constructivism: "[T]he unavoidable role of the observer, the circularity, and dissolution of borders between observation and construction, between the observed, observer, and observation, etc." (§41). On the one hand, this points to constructivism "as a suitable candidate for a functional framework for research on experience" (ibid), while on the other hand, it transforms constructivism from meta-science into an empirical research discipline (§42).

« 6 » I am somewhat puzzled by Kordeš's articulation of the main aim of his target article:

“The aim of the present article is to argue that any research of experience necessarily calls for a constructivist epistemological foundation. At the same time, radical constructivism (as a set of epistemological ideas) requires empirical grounding.” (§5, my emphases)

This statement appears to be much too strong. I consider Kordeš's suggestion to see radical constructivism as an epistemological framework for empirical research on experience as an interesting and potentially fruitful proposal that may bring new insights, but it seems to me he does not provide support for his bolder claim, i.e., that it requires empiri-

cal grounding. I understand his suggestion of empirical grounding more as a possible remedy, if one thinks constructivism needs "refreshment" (§21).

« 7 » Sebastjan Vörös deals with the question of how to reconcile phenomenology and cognitive science in a similar way:

“This paper purports to show that the issue of the naturalisation of phenomenology is merely the flip side of a complementary process of the phenomenalisation of nature. The introduction of phenomenology into cognitive science is thus not merely a quantitative addition to and extension of a pre-determined framework of natural sciences, but involves a qualitative transformation of our fundamental understanding of nature and science: cognitive science-cum-phenomenology represents a leap from the first-order science of observed systems (consciousness as an object in the world) to the second-order science of observing systems (consciousness as a *sine qua non* of the self and the world).” (Vörös 2014: 96)

« 8 » He stresses that introspectionism remains caught in the natural attitude and thus in a dualist subject-object structure while phenomenology tries to surpass the subject-object split in a non-dualist way. Phenomenology thus not only radically modifies cognitive science but also brings about major changes in our "*modus vivendi*" (ibid: 101). Vörös's and Kordeš's proposals share many features in common, e.g., the rejection of metaphysical realism, the acceptance of the second-order science of observing systems, a non-dualist epistemological approach, and personal transformation of the researcher. I see the main novelty of Kordeš's proposal in his putting forward a framework that will be able to make sense of the data gathered by methods obtained via empirical phenomenology, although these may not provide intersubjectively verifiable invariants.

« 9 » In general, Kordeš's main concern seems to be how to proceed in scientific investigation without appealing to scientific realism (§44). He suggests radical constructivism provides an answer, albeit a fairly complicated one:

“[What] matters is not to match an ontic world, but to fit into the experiential one, in the sense of being able to avoid whatever obstacles or traps it

might present. Taken out of the biological context and applied to cognition, this means that 'to know' is not to possess true representations of reality, but rather to possess ways and means of acting and thinking that allow one to attain the goals one happens to have chosen.” (Glaserfeld 2001: 9)

« 10 » As von Glaserfeld acknowledges, "a model of the construction of knowledge could be designed without making ontological claims about what is known" (Glaserfeld 2001: 10). Kordeš rightly observes that it is quite difficult to stick to such considerations in everyday situations, where one usually employs a "realistic" attitude (§46). In science, on the other hand, one can turn to instrumentalism and regard concepts and theories not as "true" or "false" but as useful instruments for systematizing, classifying, and predicting phenomena. Radical constructivism employing instrumentalism replaces "truth" with "viability" (Riegler 2012: 246), and thus points to the modified role of knowledge, "from 'true' representation to functional fit" (Glaserfeld 2001: 9).

« 11 » Kordeš is worried that, by accepting the agnostic stance on the mind-independent world, there is a possibility we would never reach invariant results (§52). I find this question quite tricky. On the one hand, I understand that someone who accepts Husserl's ideas about consciousness and phenomenological analysis is not (unlike introspectionists) interested in the individual "experiential atoms" but in the invariant structures of experience that are not irredeemably private. On the other hand, if one accepts radical constructivists' idea of the primacy of experience (cf. Ernst Mach, Ernst von Glaserfeld) and the role history plays in forming experience, then Kordeš's worries might turn out to be correct. Maybe this points to the limits of the scientific approach, and clears the path for other modes of knowing?

« 12 » Let me conclude this brief commentary with one last remark about constructivism as a potential epistemological framework. In his paper "Constructivism," Alexander Riegler summarizes different constructivist approaches. For example, biological approaches emphasize: "(1) the primacy of the cognitive system and (2) its organizational closure" (Riegler 2012: 239). Examples are taken from biology and neuroscience:

“Rudolfo Llinás [2001] expressed the primacy of the cognitive system in very clear sentences: ‘[al] though the brain may use the senses to take in the richness of the world, it is not limited by those senses; it is capable of doing what it does without any sensory input whatsoever’ [...] ‘we are basically dreaming machines that construct virtual models of the real world.’” (ibid.)

Is such an understanding compatible with the constructivist epistemological framework employed by Kordeš? Is the solution a more formal interpretation of radical constructivism, as suggested by Riegler (2012: 246)?

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On the Necessity of Foundations, Intersubjectivity and Cognitive Science

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> Upshot • I discuss three of the target article’s topics that I find either problematic or important. First, I discuss a potentially dangerous consequence of claiming that empirical phenomenology necessarily calls for a constructivist foundation. Second, I consider the threat to intersubjective validation and the related problem that the author does not specify what technique(s) one should use for training and collecting data in research on experience. Third, I briefly touch upon the question of the integration of empirical phenomenology and cognitive science.

« 1 » One of the main goals of the target article is to show that research on experi-

ence needs a constructivist epistemological foundation (§5). However, its author is not entirely clear on how strong this claim is meant to be. I argue that if we take his claim in a stronger sense (i.e., that constructivist epistemology is a necessary condition of empirical phenomenology), we run into the potential danger of being contrary to one of the main tenets of empirical phenomenology, namely the attitude of reduction.

« 2 » On the one hand, in the abstract the author states that empirical phenomenology “requires,” “necessarily calls for” (§5), and “needs” (heading before §22) a constructivist epistemological foundation (stronger senses of the claim); on the other hand, he goes on to maintain that constructivism is a “suitable candidate for a functional framework for research on experience” (§41), the latter being a weaker claim for two reasons. Firstly, it could be interpreted as merely a call for a better theoretical starting point for research on experience, but not as something indispensable to empirical phenomenology, which the stronger sense of the claim seems to imply. Secondly, being a suitable *candidate* does not entail “requirements” or “necessity.” The claim that a constructivist epistemological foundation is necessary for research on experience seems, on the other hand, to suggest that constructivist epistemology is something we must take for granted, something we cannot subject to doubt.

« 3 » The problem here is not principally of a terminological nature. The way we understand this claim bears on the project of empirical phenomenology as a whole, since the stronger sense of the claim can potentially be contrary to one of the basic tenets of empirical phenomenology, i.e., the *attitude of reduction*,

“a sudden, transient suspension of beliefs about what is being examined, a putting in abeyance our habitual discourse about something, a bracketing of the pre-set structuring that constitutes the ubiquitous background of everyday life.” (Varela 1996: 336f)

The main goal of cultivating the attitude of reduction is thus to bracket the habitual “thought patterns” and suspend one’s unreflected presuppositions. But what is habitual here is related to one’s theoretical back-

ground and presuppositions, and depends on one’s habits, attitudes, beliefs and expectations – be it the habits, attitudes, beliefs and expectations of a natural scientist or those of an empirical phenomenologist.

« 4 » The danger of taking constructivist epistemological foundations as necessary for empirical phenomenology lies in potentially taking these foundations for granted, i.e., as an implicit presupposition one does not, and perhaps even should not, doubt. What empirical phenomenology in my opinion needs is openness to, and awareness of, its own theoretical (epistemological and otherwise) foundations and presuppositions. Only then could it become a science that, at its core, would deny the notion of “unshakable foundations” (potentially) implied by the stronger sense of the claim.

« 5 » The author, for instance, allows for the possibility that accepting empirical phenomenology into constructivism entails the possibility of upgrading, refreshing (and ultimately changing?) its epistemological (and other theoretical) foundations (as, for example, §21 could be read). Bringing the constructivist epistemology into empirical phenomenology could in this way be interpreted as a call for a more appropriate theoretical starting point for research on experience than that provided by the realism-based cognitive science, but not as something that is indispensable for empirical phenomenology.

« 6 » The second issue of the article I want to touch upon briefly is intersubjective validation, which is threatened by empirical phenomenology. Firstly, I must emphasize that I fully agree with the author’s claim (§§39, 52, 58) that empirical phenomenology should not blindly presuppose, or forcibly strive for, intersubjective agreement or invariants of experience as a starting point for its research endeavours. Presupposing that one’s research must necessarily lead to intersubjective agreement could lead one to conclude falsely that one’s results are similar to the results of other researchers, make generalizations (interpretations) coinciding with one’s expectations and possibly even posit dogmatic beliefs about what one should find when researching experience – a conclusion empirical phenomenology must avoid at all costs. Researchers can thus

only hope that investing time, energy and resources into studying experience will lead to some kind of experiential invariants.

« 7 » On the other hand, if it turned out that researchers of experience did not even agree “on the description of the experiential phenomenon” (§39), empirical phenomenology would, in my opinion, become nothing more than personal “science” of experience – this is, I feel, something the author and many others (e.g., Petitmengin 2006; Varela 1996) would like to avoid. However, hopes can also be deceiving, and one must take the author’s call for bracketing expectations of obtaining intersubjectively verifiable invariants seriously.

« 8 » The possibility that we could never reach intersubjective agreement in studying experience is, indeed, great. But one must stress that even realism-based cognitive science (including its sub-disciplines, such as psychology and neuroscience) cannot claim to have fully grown into a proper intersubjective science (not even in the sense of §39). For example, research by Carroll Izard nicely shows that the phenomenon of emotion is not a “unitary concept” (Izard 2010: 363), and that researchers (mainly in the fields of psychology and neuroscience) do not agree on its definition and description. Similar problems can be found in metacognition (e.g., Beran et al. 2012) and decision-making research. Taking a close look into the latter, one quickly discovers that researchers are not exactly speaking about the same phenomenon, even though they all use the term “decision-making.” Ap Dijksterhuis et al. (2006), for example, conceive of decision-making as choosing between alternatives; Gary Klein, Roberta Calderwood & Anne Clinton-Cirocco (2010) as a sort of intuitive recognition that does not include comparing alternatives and choosing between them; Hauke Heekeren, Sean Marrett and Leslie Ungerleider (2008) talk about perceptual decision-making that is closer to sensory discrimination than deliberation about options. Even in neuroscience, arguably the most objective and intersubjective among the “sciences of the mind,” one finds there is no agreement as to whether cognition and emotions are separate phenomena (e.g., Pessoa 2008) – that is, no agreement on what constitutes the purported research subject in cognitive neuroscience.

« 9 » Thus, what holds potentially for empirical phenomenology also holds – at least to a certain degree – for realism-based cognitive science. One could add that empirical phenomenology, being a science-in-the-making, is in a better position, since it remains open to the uncertainties that realism-based cognitive science is desperately trying to sweep under the rug. One of the aspects of Kordeš’s proposal is precisely to find a way of surpassing these problems that plague cognitive science, i.e., to “ground” (and potentially transform) concepts of the mind experientially. I cannot resist adding that if we had invested as many resources in experiential research as we have had in neuroscientific research in the last two decades, problems and puzzles of experience research would at least be much clearer than they are today.

« 10 » The threat to intersubjectivity stems from a more practical problem of the target article. In conclusion, the author suggests “systematic, meticulously recorded gathering of samples” (§62) as a starting point of empirical phenomenology that might or might not lead to intersubjective results. The suggestion of starting with gathering data is not problematic in itself. What is missing from the author’s account, if the project of empirical phenomenology is to take off from the ground and not remain a theoretical endeavour, is a specification of training technique(s) that would allow one to carry out phenomenological reduction and specification of criteria for doing it properly. For the collection of the first-person (phenomenal) data seems to necessarily presuppose the researcher to be well trained in phenomenological reduction and be able to bracket her natural attitude (§§55f). If, on the other hand, phenomenological reduction is not successfully carried out, the data gathered cannot count as phenomenal data, but merely as data gathered by naive, armchair introspection (see e.g., §30), and therefore as invalid from the perspective of empirical phenomenology. Hence, specifying these practical matters would be necessary for different researchers even to be able to claim that their results are intersubjective or not. Alternatively, the author should explain why the explication of basic techniques and criteria is *not* a necessary starting point of an empirical project such as empirical phenomenology.

« 11 » Finally, even though the author’s proposal is more or less solely a call for appropriately epistemologically grounded empirical science of experience, one cannot help but wonder how empirical phenomenology – as opposed to its naturalized version – could be applied to cognitive science. The question is pertinent for two reasons. Firstly, cognitive science, as was argued for, and shown, by many (cf. Froese, Gould & Barrett 2011; Petitmengin et al. 2013; Strle 2013; Vörös 2014), urgently needs to allow rigorous research of experience to become its integral part. Secondly, most qualitative approaches to studying experience do not “fully adopt the phenomenological attitude” (§29), and empirical phenomenology grounded in constructivism is claimed to be a better candidate for research on experience than its naturalized version (§42). And although the author does not seem to be opposing naturalizing phenomenology or phenomenologizing natural sciences¹ (§42), this begs the question as to why attempts should not be made to try and integrate empirical phenomenology with cognitive science.

« 12 » What this question presupposes is that experience is not all there is to mind (i.e., that experience is not identical to the mind) – a claim with which the author might possibly disagree (e.g., in §20). Secondly, the question presupposes that other fields of research (e.g., neuroscience) can tell us something about the mind that empirical phenomenology alone cannot. Let me provide two examples. Firstly, molecular processes in the brain are not accessible to our conscious experience as such, but knowledge about them provides us with information about how the mind functions and can be used as a means for alleviating certain mental disorders. But it is hard to imagine how one could acquire this knowledge purely by research on experience, however rigorous. Secondly, standard sciences of the

1 | It is not clear whether the author means phenomenologization of natural science or phenomenologization of nature that “entails not only the re-conceptualization of the notion of nature, but also, if not primarily, the radical transformation of being and our *experiential relation to nature*” (Vörös 2014: 104) – a proposal that at least in some points seems very close to what the project of empirical phenomenology implies.

mind (such as psychology) can contribute to our knowledge about how minds work, even though they are limited in their scope and are often unaware of the fact that they “tell more than they can know” (to paraphrase Richard Nisbett & Timothy Wilson 1977). Take, for example, the research programme of heuristics and biases (Tversky & Kahneman 1974), which has shown that, under certain conditions, most people make certain errors of judgement in the domain of logic and probability. Of course, this knowledge is not about experience, but is still arguably a type of knowledge about the mind; and as long as researchers do not try to extend it beyond its limits, I believe classical cognitive science should be accepted as a valid – if limited – source of knowledge about the mind.

« 13 » How such science is to be reconciled with fundamentally different empirical

Phenomenology as Critique, Discovery, and Justification

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> **Upshot** • Consistent with constructivism, phenomenology attempts to ground knowledge in an understanding of subjectivity. Although the phenomenological method can serve as a source of new insights and important critique of the conventional modes of understanding, the method’s effectiveness in the context of justification remains problematic.

« 1 » A constructivist perspective highlights the role of a skilfully engaged subject in the formation of any account (Riegler 2005). With regard to perception, for instance, such a perspective highlights the observer’s sensorimotor and conceptual skills, and the history of acquiring those skills, in enabling perceptual experience (Rock 1983). With regard to scientific research, this perspective highlights the role of researchers who are not only engaged with what they study but are also skilfully participating in culturally and historically situated traditions

phenomenology is a very hard problem that is most probably not only epistemological, but also ontological in nature. The question, of course, is whether bringing empirical phenomenology into cognitive science (or cognitive science in empirical phenomenology for that matter) is even possible. If it is, how would merging the two transform cognitive science – for it would seem this is bound to happen, since cognitive science could not remain a realism-based science of the trivial? More radically, is empirical phenomenology the only possible science of the mind? It would be interesting to see whether the author would even consider bringing together cognitive science (transformed?) and empirical phenomenology and how, if at all, such an endeavour would be possible without losing the character of a non-trivial science.

of research (Gergen 1985; Noë 2012: 37; Riegler 2001). These insights might not always engender separate programmes of research, but they do bring new understanding of existing programmes (Fernandez-Duque & Johnson 1999, 2002; Müller 2008). What is proposed by Urban Kordeš, is a distinct programme of research that would employ the phenomenological method. Here, I join Kordeš in defending phenomenology as a source of critique and discovery, particularly one that is compatible with constructivist assumptions. It seems much less clear, however, whether phenomenology can play a role in defending and verifying new insights in the intersubjective domain of rationality, i.e., the context of justification.

Phenomenology as critique

« 2 » Subjectivity tends to conceal itself in disclosing the objects of experience, and this includes concealment of a perspective, a set of assumptions, and a set of skills. Objects and events appear as they do, not as achievements of subjectivity. When I use a computer mouse cursor, my attention is often not focused on the cursor, or my hand, but on the object of my action, e.g., a folder or a document file. In a sense, the mouse cursor is concealed, because my extensive practice with it relegates it to the background of my

« 14 » Notwithstanding the problems and issues of the target article, Kordeš’s attempt to create a genuine, non-trivial science of experience is a welcome move that is much needed, both in the context of experience research as well as in the context of a (new?) science of the mind.

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experience (Noë 2012; cf. Heidegger 1962: 99). Thus, I am largely unaware that the responsiveness of the cursor to my movement could, in principle, be magnified, reduced, or reversed. I am similarly unaware that the plane on which my hand moves is perpendicular to the plane on which the cursor moves. Using tools and technology involves extension of my sensorimotor agency (Gozli & Brown 2011), but it also involves relegating new parts of the perceptual world to the background of experience. Phenomenology offers a way of coming to contact with what is often concealed, the origins of experience, and understanding how my experience, which might seem independent of my perspective, my assumptions, and my skills, is in fact their outcome.

« 3 » The tradition of phenomenology also points out how subjectivity tends to conceal itself in disclosing the outcomes of the natural sciences. Edmund Husserl (1970) traced the origin of the scientific concealment of subjectivity to Euclid and Galileo, whose great achievements yielded descriptions of space and matter that could be grasped without sharing the describer’s perceptual viewpoint. When I discuss my research with colleagues, the discussion relies on the use of a set of shared concepts, assumptions, and skills that themselves rarely

become the focus of attention. By concealing my subjective point of view, they conceal how the research results are a product of an extensive set of concepts (that could themselves be revised), assumptions (that could be challenged), and participation within a historically situated research tradition (that could have been otherwise). The analyses of Diego Fernandez-Duque and Mark Johnson (1999, 2002), for instance, flesh out this point in the experimental psychology of attention. They demonstrate how my investigations are, to a great extent, shaped by my a priori conceptions of what I investigate. By explicating the relationship between subjectivity and research outcomes, phenomenology can bring out concrete instances of constructivist principles. This aspect of Kordeš's proposed programme seems particularly exciting, if not necessary.

« 4 » Furthermore, the phenomenological critique reveals how subjectivity has been mischaracterized and marginalized in the natural sciences. In a recent analysis, Wolfgang Fasching (2012) wrote how contemporary researchers continue to think of subjectivity primarily in terms of qualia, i.e., the ineffable and private aspect of experience, the something-it-is-likeness, while leaving out another essential aspect of subjectivity, namely its directedness or about-ness (see also, Zahavi 2005, 2007). The latter is what is termed *intentionality* in the phenomenological tradition, and it is a concept that carries metaphysical consequences. Namely, similar to Heidegger's (1962) *dasein* or Gibson's (1979) *affordance*, the concept of intentionality challenges the subject-object (or, mind-world) dichotomy and the debate between realism and idealism (Zahavi 2003: 71). On the one hand, considering consciousness as directed to objects and events that themselves transcend consciousness seems to lead to a form of realism. On the other hand, considering objects and events in relation to, or founded on, acts of consciousness seems to lead to a form of idealism (Zahavi 2003). Given the metaphysical non-neutrality of phenomenology, it is worth asking whether it is compatible with constructivist idealism. And, if not, does this pose a problem for Kordeš's proposal?

« 5 » Regardless of the philosophical implications of intentionality, it is rather clear that treating subjectivity only as a se-

ries of private, ephemeral, unreliable, and inexpressible qualia sustains the Cartesian legacy, the separation between consciousness and the world (Husserl 1970). This treatment also sustains the assumption that if there is something about consciousness that is irreducible to non-conscious processes, it is the realm of qualia and not intentional character of consciousness (Zahavi 2005, 2007). Indeed, this stands in contrast to the aim of phenomenology, which is to see beyond the particular and inessential characteristics of experience and capture structural and invariant characteristics of experience (Husserl 1999: §34; Zahavi 2003). Thus, not every turn to subjectivity is a turn to the tradition of phenomenology. Further, in developing his programme, Kordeš will have to explicate whether he adopts the emphasis on intentionality, structure, and essence that is characteristic of the phenomenological tradition, or whether he adopts a more wholesale view of subjectivity. At present, I detect an inclination toward the latter option (§§18f).

Phenomenology as discovery

« 6 » Although the distinction between discovery and justification is not clear-cut in contemporary philosophy of science, the distinction is useful, and indeed seems almost compulsory, in discussing the unique scope of the phenomenological method. The core of my argument is that the utility of the method might be confined to the context of discovery.

« 7 » A key factor that makes phenomenology a process of discovery is the very first step in the method, namely the *phenomenological reduction*, which involves suspension of the so-called *natural attitude* (Husserl 1999: §15). Within a given research framework, for instance, the phenomenological reduction means suspending what the framework considers relevant and irrelevant, and suspending the causal assumptions within the framework. The reduction, in principle, can enable us to discover new meanings. Of course, as Kordeš states, there is no single, agreed-upon procedure for performing the reduction (§25). But setting aside the procedural problem, another objection we face has to do with the utility of discussing the phenomenological method in discussing research outcomes. One could ask whether

the phenomenological method is compulsory for achieving a given outcome. One could point to several thinkers, e.g., William James (Schuetz 1941), whose insights are very much in alignment with the tradition of phenomenology, without explicitly referring to a phenomenological method. For the audience of our research, why should it matter how our insights are achieved? Why should it matter that they were the outcome of the phenomenological method? Let me clarify this with an example from research on visual perception.

« 8 » Since the beginning of the cognitive sciences movement, research on visual perception has been largely confined to the study of the neural and cognitive responses that are thought to demarcate the "visual system." Furthermore, the study of visual perception has largely been confined to examining how this visual system responds to sensory input, i.e., what is actually present. This approach runs contrary to the phenomenological tradition, which has long argued that perception is an embodied activity (Husserl 1999: §53) and is not confined to what is sensorially present, but involves a history and an anticipated future (ibid: §19). I believe reiterating the insights of Husserl regarding the nature of perception, and for that matter any new phenomenological insight, will have minimal impact in the experimental traditions. Illustrating the embodied nature of visual perception, i.e., that the body is not separated from the visual system, one has to demonstrate in concrete terms the failure of the conventional approach. For instance, one has to show that the relationship between the body and objects of vision can make qualitative differences in visual perception (e.g., Gozli, Ardron & Pratt 2014; Huffman et al. 2015), or that considering the temporally extended nature of visual perception can more effectively account for certain patterns of behaviour (e.g., Gozli, Aslam & Pratt 2015; Gozli et al. 2013). These findings do not require suspension of the conventional approach, even though they involve demonstrating the limits and failures of the approach, i.e., the operative natural attitude, to accommodate certain intersubjectively verifiable phenomena.

« 9 » The crucial point here is that our insights, whether or not they are achieved through the phenomenological method,

cannot be decisively defended unless they can show the limits, failures, or inconsistencies of a natural attitude. It seems unfeasible to ask the audience of our research to perform the phenomenological or eidetic reduction, but it is not unfeasible at all to find the consequences of our eidetic reductions within the natural attitude. Regardless of whether or not we can have consensus about one particular phenomenological method, we must continue to fight our epistemic battles within the natural attitude. We are required to meet the audience of our research where they are, and that tends to be the natural attitude. Of course, the natural attitude is not fixed, and is continuously revised, partly in response to new eidetic reductions that receive intersubjective support. This is why phenomenology, as a source of critique and discovery, presents itself as an *infinite task* (Husserl 1970).

Phenomenology as justification

« 10 » The all-embracing phenomenological method, therefore, comes at a cost. As a matter of definition, the phenomenological reduction suspends all assumptions about causality and existence, prohibiting the discovery of new causal connections. Similarly, we cannot test new theories using the phenomenological method. Whatever insight we gain has to be demonstrated and defended within the natural attitude. Where does this leave us, with regard to Kordeš's proposed programme? I suspect we have two options. First, we can combine constructivist phenomenology with an existing empirical research programme. Shaun Gallagher's (2003) and Karl Müller's (2008) ideas pertain to this option. It is worth considering that choosing this option could mean phenomenology will have little or no role in the context of justification.

« 11 » The second option, which in my view is more in line with what Kordeš is proposing, requires changing our criteria of justification (§53). If we must accept the phenomenological method as a method of intersubjective verification, then the means of establishing verification will have to involve elements such as empathy and trust. A discussion of research, in such a context, will have to be something other than a battle between inconsistent perspectives and contrasting positions. It most likely

will not involve attempts at eliminating the specificity of subjective viewpoints. It will have to involve careful (and patient) attention to differences. It will have to involve bringing subjectivity to the foreground and understanding its various ways of correspondence to how the world is disclosed. In short, the independence of constructivist phenomenology, as a research programme, requires a pluralistic philosophy of science, and a science that is aware of its foundations in subjectivity. Whether or not Kordeš's proposed programme will find such a welcoming philosophical ground in a community of researchers is a question for the future.

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Notes on the Coupling between the Observer and the Observed in Psycho-Phenomenology

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Translated by John Stewart

> **Upshot** • This commentary supports the view of the target article concerning the interest of taking into account the coupling between the observing scientist and the subject, and applying it in particular to the study of subjective experience. I propose to identify three aspects of coupling: (a) the technical conditions of coupling between the observer and the subject being observed in order to guide introspection; (b) the requirements for coupling between the scientist and social transmission during the experiential learning of non-inductive aid to introspection; (c) the essential coupling of the reflexive application of the tool to itself, i.e., the explicitation of explicitation.

« 1 » The article by Urban Kordeš is very interesting in its project of deploying a constructivist viewpoint, including the necessary interaction between the observing scientist and the observed subject, in the study of subjectivity. This is the domain of the study of lived experience. This commentary supports this perspective; it will attempt to identify and to clarify various facets of the coupling involved, on the basis of my own experience with the "explicitation interview"¹ (Vermersch 1994, 2012).

A tacit presupposition: Everybody is competent to practice introspection

« 2 » There is a presupposition, rarely formulated explicitly but implicitly shared by philosophers ever since the beginnings of Western philosophy and more recently by psychologists, according to which every human subject, by the simple fact of possessing a reflexive consciousness, is thereby automatically competent not only to know his/her own experience but to describe it accurately. It is rather as though supposing that the simple fact of having a voice is amply sufficient to enable one to sing in an expert way; or that by the simple fact of having eyes and hands, it is trivial for one to draw a portrait. However, this is not the case, either for drawing a portrait or for "drawing lived experience."

« 3 » This implicit presupposition is a major consequence of the lack of circularity between research and its object of study. In fact, scientists do not know much about the competence of conscious subjects concerning introspection. What they do find is that with their carefully predefined protocols, the spontaneous descriptions they obtain are poor in quality, overloaded with superfluous comments concerning the context and the circumstances, but almost vacuous when it comes to actual mental acts and the

1 | The term "entretien d'explicitation," was initially translated into English as "explicitation interview"; then, several years ago, Claire Pettimengin proposed to translate it as "elicitation interview." However, shortly afterwards, I discovered – when searching on the internet – that the term "explicitation interview" was already widely used in the USA, and so we have come back to this usage.

way in which lived experience unfolds. For a long time now, I have trained scientists in the practice of self-explicitation; it is revealing that the initial attempts at description are mostly very short and disappointing. For four years, I conducted a workshop on “practical phenomenology” in Paris with Nathalie Depraz and Francisco Varela and a regular group of participants engaged in research. The principle was to engage in a specific experience; to observe oneself; and then to describe the lived experience. It turned out that the descriptions of the lived experience were very poor, even for people having long practical experience in meditation (B3). The fact is that the practice of introspection requires:

- Considerable know-how concerning ways of accessing one’s passive memory by means of a deliberate act of recall (B5, B6); and
- An eidetic knowledge of the structure of lived experience, making it possible to realize what is missing from the descriptions (B2).

« 4 » If the lack of spontaneous competence is finally admitted, either one concludes that there is not much to be obtained by introspection (even supposing that such a thing exists!); or else that if one seriously wishes to develop a psycho-phenomenology or an empirical phenomenology, then *it is essential to assist the subject in his/her act of introspection*. The subject herself is the only person who can describe her own lived experience (as stated in §52 of the target article), no-one could possibly do it for her; but at the same time, it is very difficult if not impossible to do it all by oneself. This means, then, that the observer must actively engage herself in the experimental setup, in order to compensate for the limits of the subject. By agreeing to do this, one clearly transgresses a formal prohibition in conventional experimental methodology, i.e., the strict definition, *a priori*, of the experimental protocol, which is supposed to be identical for each of the subjects. If the observer aids the subject in real time, during the actual description of the lived experience, she will have to improvise questions according to expert rules, in order to help the subject to give a detailed account of her lived experience.

Will the aid provided by the observer not bias the collection of the data?

« 5 » The reply to this second question is highly technical. It requires an excellent degree of knowledge, based on practical experience, of the subjective effects of the questions that are asked (Vermersch 1994). The technique of the “explicitation interview” has been conceived and developed entirely in order to intervene actively in guiding the subject, *without* inducing any particular content.

« 6 » To sum up on this point, it is not possible to intervene appropriately in the subjectivity of another person if the observer does not have great expertise concerning her own subjectivity and the effects that she induces by her words.

How can one become an observer who knows how to help without inducing false content?

« 7 » Let us suppose that it is indeed possible to help the subject to re-live her past experience, and to describe it in detail, without getting sidetracked into secondary comments on the context or the circumstances and without inducing or unduly influencing the content of the responses. The key point then is not the technique considered in the abstract; what becomes crucial is to know the practical methods whereby an observer can become such a mediator, both highly active via her questions and listening capacities and fully respectful of what the subject may have to say.

« 8 » One thing is abundantly clear: the observing scientist must undergo specific training! In fact, it is not a question of following a course or reading a book; rather, the apprentice observer must, by her own practice, undergo the experience of guiding another subject, of being guided herself, of commenting on the transcription of this guiding, all this with several different people and on a variety of topics (activities that are mental, material, spatial, verbal, etc.), so as to discover something of the variety of subjectivity, both in other people, and within her own responses to different interviewers. The coupling between the observing scientist and the observed subject involves a radical transformation of the observer herself (e.g., §§40f); this occurs by means of an

apprenticeship and by practice. To sum up, subjectivity can only be studied by means of an expert subjectivity.

What are the conditions for a transformation of this order to exist?

« 9 » If we take another step back, to enlarge the perspective: What is needed for it to be possible to train an observer in this way? There is a need for a social transmission, i.e., the fact that others before have developed these techniques, and have developed teaching methods (in the broad sense) concerning their acquisition through practice. And in this way, the predecessors can propose ways of exploring, of discovering and of practicing self-knowledge exercises that the trainee would probably not have invented herself.

The explicitation of explicitation: V1, V2, V3. The tool becomes an object of study by using it

« 10 » The explicitation interview, as a non-inductive mode of interaction, was certainly invented by me; but in addition it was immediately applied to itself. Right from the start, the creation of an association of co-researchers (GREX, Groupe de Recherche sur l’EXplicitation) made it possible to explore the explicitation of explicitation, and to refine the technique.

« 11 » In order to speak of the practice of explicitation interviews, and to clarify them, we have had recourse to a formal notation of the various registers of lived experience (B1):

- The first level of lived experience, which is the object of study, is called the “reference experience,” noted as V1;
- Then, the moment when the experience is relived and explicitly described is in itself a distinct lived experience; since it occurs secondarily, it is noted V2.

« 12 » Finally, if one wishes to study the process of triggering a relived experience, perlocutionary effects and so on, it becomes necessary to elicit the acts accomplished in V2; this occurs as a third step (V3) that aims specifically at the acts in V2 and no longer directly at V1. This is because the lived experience that is elicited in V2 has two layers: the first concerns the acts accomplished in V1 that are the object of reliving the experience – this is the content; the second concerns the acts that are actually accomplished at the

time of the explicitation. It is these latter acts that are the object of elicitation during a V3 interview, in order to better understand the practice of explicitation itself.

« 13 » However, by setting up this system of notation, we create a database on subjectivity concerning the practice of stimulating intentions, the effects of words on guidance and the maintenance of focused attention, the various forms of memory and recall.

« 14 » Husserl himself clearly recognized that in order to develop phenomenology, it would be necessary to engage in the phenomenology of phenomenological practice itself; but in fact he did not advance very far in this direction. This idea of a coupling between the tool and the study of its actual deployment seems to me to be crucial in order to evaluate the research methods mobilized in the study of subjectivity. Now one cannot correctly study subjectivity without studying the subjectivity deployed in the means of studying subjectivity. Or yet again, subjectivity can only be properly targeted by a subjectivity that is itself expert, educated, conscious of what it does to the subject when it intervenes. And for that, the tool itself must become an object of study, which leads to a virtuous circle since in order to study the tool it must be used! I cannot study subjectivity without also studying the way in which my own subjectivity aims at subjectivity.

« 15 » From this point of view, the experiments carried out by Nisbett & Wilson (1977) and those who have followed, are exemplary in their total ignorance of subjectivity, all the while pretending to study it and to be able to come to conclusions (they claim that the subject does not have access to her own subjectivity, “there you are, we have shown it!”). Now it is sufficient to add into the experimental protocol an *a posteriori* guidance by an elicitation interview concerning the lived experience of the decision-making for the results to be massively reversed (cf. the replication of these experiments by Petitmengin et al. 2013, and in the same vein another replication realized under another paradigm by Camila Valenzuela-Moguillansky, Kevin O’Regan and Claire Petitmengin 2013); in this case, the subjects detect the trick employed by the experimenter and are able to provide a fine-grained description of how they made their choices.

Blog entries

- B1. “Understanding V1, V2, V3 notation in the practice of the explicitation interview” by Pierre Vermersch, 2015. <http://wp.me/p4AqKY-45>
- B2. “The universal structure of all lived experiences (continued)” by Pierre Vermersch, 2015. <http://wp.me/p4AqKY-42>
- B3. “How to describe the lived-experience for research: Meditation, meditators, explicitation-interview?” by Pierre Vermersch, 2015. <http://wp.me/p4AqKY-40>
- B4. “The explicitation interview as limits exceedings!” by Pierre Vermersch, 2015. <http://wp.me/p4AqKY-4L>
- B5. “Explicitation interview and memory (1)” by Pierre Vermersch, 2015. <http://wp.me/p4AqKY-3o>
- B6. “Explicitation interview and memory (2)” by Pierre Vermersch, 2015. <http://wp.me/p4AqKY-3x>

Pierre Vermersch, Psychologist, CNRS (1971, 2005). In 1986 he invented the explicitation interview technique; in 1991 he created the association GREX and the journal *Expliciter*, <http://www.grex2.com>.

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Intersubjectivity in the Study of Experience

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> **Upshot** • I propose that getting the empirical study of subjective experience off to a good start requires an intersubjective approach, in both theory and method, where intersubjectivity is understood not in the standard science way of verification by others, but rather as participation in the investigation of how experience transforms when examining it together. I argue that this will greatly help do justice to and respect experience’s special transforming and transformative nature.

« 1 » In his target article, Urban Kordeš brings to bear radical constructivism’s epistemological framework on transcendental phenomenology, and calls for combining the two into an empirical constructivist investigation of experience. Experience is the ideal study-subject for radical constructivism, and the latter’s epistemology should be able to undergird transcendental phenomenology’s empirical side.

« 2 » Currently, subjective experience is empirically studied in close connection with cognitive science. But, according to Kordeš, the validity criteria of standard science prevent experience from being researched in such a way as to do justice to its nature. Experience is characterized by several aspects (§36). The two most important ones are, firstly, when investigating it, experience at the same time underlies the framework of the research, is the object of investigation, and is the “observing eye.” Secondly, experience changes all the time, also – and especially – when investigating it. This special nature of experience in terms of its “ungobehindableness”¹ and its transformation under scrutiny make it too intangible, too shifty a subject for natural science, with its concern for stability and objectivity.

« 3 » A constructivist epistemology is pertinent to the empirical investigation of experience, because of its premise that the act of observing changes what is being observed. Conversely, experience by its nature alters when being observed, and thus forms the ideal subject of a constructivist investigation. Hence Kordeš’s proposal for bringing constructivism and phenomenology together in an empirical science of experience.

« 4 » But Kordeš also puts forward a double-edged worry about the specification and possible future of such a science (§43f). On the one hand, if experience changes while being researched, this means that the person whose experience is being researched also changes. Experience research thus always has an existential counterpart. Not only does the experience change, so does the person. On the other hand, how can research on experience give us intersubjectively verifiable results? How can we expect to draw conclusions on universal or

1 | “Experience is die *Unhintergebarkeit* — the ‘ungobehindable’” (Thompson 2004: 394).

generalized characteristics of this evasive thing that is lived experience?

« 5 » Kordeš's prudent first step for constructivist experience research consists in the "systematic, meticulously recorded gathering of samples," without fear of the "fluidity and uncertainty" of experience (Heinz von Foerster's "non-trivial") (§62).

« 6 » But I wonder if the proposed research programme could not get off to a more ambitious start.

« 7 » Indeed, following natural science's standards of validation will cause researchers to walk blindly past experience's observer-dependent, and transformative nature. Research on the subjective certainly deserves better than a "methodological toolbox based on eliminating the subjective element" (§36). However, there is one element of standard science that escapes Kordeš's critical eye: its idea of intersubjectivity. This – intersubjectivity as the verification of findings by others – is rightly there to safeguard the validity, repeatability, and generalizability or universality of findings. But in the case of examining experience, intersubjectivity understood in this narrow way may not be sufficiently sophisticated to do the job.

« 8 » Apart from the transforming and the transformative, existential nature of experience, we also know that experience changes when we interact with others. There are participatory aspects to experience: it is not purely individual, but transforms in and through engagements with others, it transforms *intersubjectively*. The "observer" of experience is often an other, whether it is someone close to us (a parent, friend, partner), or more distant (a reader, an audience). An observer of our experiences is more often than not a co-experiencer. We are not unaffected by each other's experiences. Several authors suggest that experience is intersubjective (Thompson 2001, 2005; Stawarska 2008a, 2008b; Satne & Roepstorff 2015). Even if basic experience or the minimal self is considered purely self-immanent (e.g., Henry 1973; Zahavi 1999), at less minimal levels self and experience are modulated and inflected by others (Stawarska 2009; Di Paolo 2015, 2016), and even basic self-affection can be argued to be intersubjectively affected (de Haan 2010; Cuffari & Jensen 2014; Kyselo 2014; De Jaegher 2015).

« 9 » What are the implications of this for the empirical investigation of experience? What would a broadly construed intersubjective method for empirically studying experience be like – one that heeds the constructivist, phenomenologist, and intersubjective points?²

« 10 » Well, to begin with, its research object, rather than "experience," should perhaps be: "how experience is transformed through investigating it together with others." How can this experiential transformation and its investigation be done?

« 11 » We need to imagine better ways to engage multiple persons in the investigation of experience. Other ways to intersubjectively validate such research could be by systematically elaborating the experience together. This entails having an experience together, processing it together, and analysing it together. Experience could, for instance, be further transformed together in a systematic way. Such an intersubjective process of transforming experience then coheres with the transformative nature of experience, doing justice to it and respecting it as a phenomenon, while also, at the same time, offering a way to probe that process itself, through and with others. Having a protocol or manual for the systematic transformation, investigation, and recording of such an investigation will ensure repeatability. A method based on these principles already exists and is being continuously further developed (Pieper & Clénin 2010; see also the TESIS summer school, <http://tesis2012.wordpress.com/programme/prisma-workshop>).

« 12 » Nathalie Depraz (2012) shows how a second-person approach to studying experience lies in between and makes contact with both the first-person and the third-person requirements of an empirical study of experience, and thereby aims beyond each of them. The second person, she says, opens up at once to

- empathy, or a close relation to first-personal experience through strong affective resonance, and

2| Of course, it remains to be seen whether Kordeš agrees that a deeper notion of intersubjectivity is compatible with the constructivist empirical project as he proposes it.

- heterophenomenology, in the sense of an "objective," participative yet distant observation.

« 13 » Add to this the ideas of the enactive theory of intersubjectivity. The most pertinent points of this are, first, its premise that experience is both a topic and a tool for investigation (Di Paolo, Rohde & De Jaegher 2010). Second, its non-trivial notion of embodiment, connected to the concept of autonomy – i.e., the particular, living, and lived processes of precarious self-production and self-distinction, in their energetic and material workings – determine a creature's perspective, and what makes sense to it (Di Paolo 2005; Thompson 2007). Third, its conception of social interaction processes as autonomous, i.e., as taking on a life of their own, while not destroying the autonomy of the individuals engaging in them (De Jaegher & Di Paolo 2007; De Jaegher, Di Paolo & Gallagher 2010). And fourth, conceiving social understanding as participatory sense-making, or the way in which agents engaging in interactions with each other participate in each other's sense-making in and through moving together, i.e., affecting each other mutually (De Jaegher & Di Paolo 2007).

« 14 » Taking these enactive principles into account, an intersubjective method for the empirical study of subjective experience can be – *literally*, not just textually – embodied in participative research. The intersubjective modulation and co-investigation of experience can rest on principles of how individual and interactional autonomy interplay with each other and play out when engaging in transformative processes together.

« 15 » The full toolbox for studying experience, then, includes ways to study experience with others, to do so systematically, and in line with the idea that the researcher is transformed, as Kordeš suggests, in a non-trivial research strategy that includes observation, intersubjectivity, and transformation (§37). I propose that these three elements, like the object of study, the "observing eye," and the framework of research are all intertwined and mutually support each other.

« 16 » Pierre Vermersch (1999) hints that we may need a better theory of intersubjectivity if we want to have a better science of experience. I would add to this that we need an intersubjective methodology,

not in the simple verification sense, but in the transformative sense. This, I think, will certainly make a “transformation science” of experience possible. For researchers to “become methodologically calibrated instruments” (§55) forms part of this. Taking the enactive logic of values being determined by a creature’s embodiment and self-organization to its logical conclusion also means that researchers should become participants (though in the right circumstances – not in every piece of research: research on functional elements of cognition is still justified, and will not require this kind of approach). Perhaps even, the existential, unsettling involvement that researchers may shy away from (§54) may be easier to bear if it is done together with others and it is clear that *all* participants/researchers in such an experiment will be transformed.

« 17 » Thus, while the author’s proposal to start with systematically gathering samples, or to do the “butterfly collection stage of scientific development,”³ is necessary and important, we may already have ways to detect patterns emerging in the samples too, especially if we dive into the collecting together. My point is that, when Kordeš says that “the person whose experience is being observed can no longer be treated as a mere subject – she must become a researcher herself (or at least a co-researcher)” (§61), this means not only that she cannot just passively have her experience examined, but also has to accept being transformed in the process (this is the sense of “becoming a researcher” here), but also that she will *inevitably* have to be “a co-researcher” (*ibid.*, my emphasis). After all, a systematic investigation of subjective experience is by its very nature always-already a systematic investigation of the transformations undergone by the experiencing body/person as we attempt to probe it from the first, second, and even third personal perspectives.

« 18 » For investigating experience then, Goethe’s poetic science could perhaps be re-envisioned as a co-poetic science. Or – with a more poetic description – as a convivial science of experience. Convivial not in the sense of “happily living together,” but in the rawer sense in which life is basic to the en-

active understanding of sense-making: with its needful freedom, its precariousness, and its throes and thrusts, all the more so when living and experiencing with others.

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The Many Faces of Experience

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> **Upshot** • The priority Kordeš gives to empirical phenomenology in the empirical assessment and grounding of constructivism stems from a restrictive conception of experience that has been questioned by other proponents of what he calls the “phenomenological attitude.”

« 1 » In his rich target article, Urban Kordeš argues for the need for an evolution of constructivism, and defines a very concrete possibility of evolution: instead of being confined to a meta-scientific stance, it would be time for constructivism to become more empirical and practical, up to the point of becoming an “empirical research discipline” (§42). In virtue of what is sometimes named a *fusion* (§30, §61) and in other places a *complementarity relation* (§59) between constructivism and first-person/second-person studies (or *empirical phenomenology* (§30)) on lived experience, constructivist ideas might be grounded

and tested empirically, and constructivism could offer an appropriate epistemological framework for these studies.

« 2 » I will not discuss here the suggestion of using constructivism as an epistemological framework for first-person/second-person studies on lived experience, since I am in basic agreement with it. As Kordeš notes, these studies still often rely on objectivist presuppositions, such as the idea that lived experience is a substance waiting to be discovered, undisturbed by the observer and by the very process of observation and description. Proponents of these studies hasten to look for invariants and repeatability, without taking the time to question the very orthodox picture of scientific inquiry they take for granted in order to defend the scientific respectability of their approach. As Kordeš acknowledges, Claire Petitmen- gin and Michel Bitbol (2009) might be considered as the first defenders of the suitability of assuming a non-objectivist stance when one studies consciousness using first-person and second-person methods.

« 3 » My commentary will be targeted at the unclear character of what Kordeš means by “experience” when he defines constructivism as an epistemological position that would be in need of empirical testing. If his reasoning is valid (as he believes it is, §6), I am afraid it is at the expense of important theoretical ambiguities on the meaning of “experience.” For Kordeš, most constructivists would have arrived at what he calls “the phenomenological attitude,” namely “the view that experience is primary” (§§18, 21, 22). Very well, but what is experience here? He does not explicitly answer the question. He rather quotes various authors who, beyond their dismissal of objectivism, realism and scientism, have nevertheless entertained *different* conceptions of experience and knowledge. Quoting Francisco Varela (himself leaning on Edmund Husserl), we learn that “experience” is “human experience,” and that it has a “direct, lived quality” (§18). Agreed. According to the phenomenological attitude as Kordeš defines it, experience is not only the *terminus a quo*, but also the *terminus ad quem* of knowledge, since for Kordeš the phenomenological attitude includes the endorsement of the idea that it is impossible to “rationally know a reality beyond our experience” (§20). There is

3 | With thanks to Marek McGann, in a personal communication, for the phrase.

a potential idealist or even solipsist understanding of experience here, if experience is confined to what individuals live, perceive and think in their heads.

« 4 » When presenting the phenomenological attitude, Kordeš refers to a specific debate within the constructivist community, concerning the (disputed) existence of a mind-independent reality to which mental structures would adapt (§20). I do not think *this* debate is crucial for defining what experience *is*. In order to better understand what Kordeš means by “experience,” I have preferred to focus on an orthogonal debate expressed by William James and John Dewey a long time ago: there are *single-barrelled* and *double-barrelled* understandings of “experience.” For the latter authors, “experience” is a double-barrelled process: it includes *how* men know, think, act and live, but also *what* they do, think, act and live (James 1912: essay 1; Dewey 1925: ch.1). Subjects and objects are woven together in experience as a primary process. Typically, single-barrelled views on experience rather prefer to see experience as a set of sensations, *sense data* or ideas produced in an individual subject (passive or active). Both options agree with Kordeš that experienced reality is the only area that can be researched (§20) and reject the realistic interpretation of lived experience Kordeš refers to in §46, but they will substantially diverge on the nature of this experienced reality: is it primarily a matter of mental structures or not?

« 5 » In all honesty, not being a member of the constructivist community, I do not know how much Ernst von Glasersfeld’s constructivism is taken, by self-proclaimed constructivists, as *the* defining form of constructivism. Be that as it may, since Kordeš often strategically refers to von Glasersfeld in his paper (see for instance §20 and §41), I have used the latter as a guide for better guessing what he could exactly mean by “experience.” Arguably, I take it that von Glasersfeld – and Kordeš – endorse single-barrelled conceptions of experience that identify experience with a subjective and mental phenomenon (it is “in the heads of persons”), this experience being the exclusive material from which knowledge and the world we consciously live in is constructed (see for instance the opening lines of von Glasersfeld, 1995). Kordeš seems to

share these tenets. Referring to other scholars, he attributes to constructivism the idea that “the mental world – or the experienced reality – is actively constructed” (§2). What is experienced, but especially for me here *experience itself*, corresponds to the mental world. And indeed, at times, Kordeš generously equates – “on the experiential side” – “phenomenal world,” “mental world” and “experienced reality” (footnote 3). The “mental world” is notably composed of sensations: He agrees that the phenomenological attitude encompasses for instance Ernst Mach’s phenomenalism, which is very puzzling, if one takes the time to notice all that separates Mach’s theory of perception from Husserl’s: Husserl never agreed with the idea that perceptual experience and its noematic pole could be reduced to a set of private *sense data*.

« 6 » The mentalistic conception of experience has been discussed and criticized by many philosophers that did *not* come from scientist, objectivist or realist quarters (that is, they did not want to posit that the “what” of experience is a mind-independent reality; and they did not see the mind as a passive receiver or mirror). Some of them are even mentioned and quoted by Kordeš, without taking into account the fact they would importantly diverge with his understanding of experience. For instance, phenomenology (from Husserl to Maurice Merleau-Ponty) puts into question (in virtue of the very idea of intentionality) a primary distinction between an inside (which would be the place of experience and phenomenality) and an outside (be it knowable or not). The phenomenological *epoché* Kordeš mentions (§§46f) is anything but an investigation of a mental realm that would harbour lived experience. Similarly, one of the main virtues of Varelian enaction is to acknowledge the importance of (lived) experience without confining it to a “pre-given *inner world*” (Varela, Thompson & Rosch 1991: 4; my emphasis), and without embracing the picture according to which “the mind *on its own* constructs the world” (ibid.; my emphasis). For Kordeš, “the object of constructivist research might not lie in parts of the world but in the very process of its enactment” (§47). That is promising, but his enactment is for instance much narrower than Varela’s, since it only takes place

inside of us: enactment is reduced to a set of mental processes. As I read Kordeš, it is *from* and *in* these mental processes that cognized reality emerges: we are no longer in the game of co-creation or of co-construction that he attributes to second-order cybernetics (§8).

« 7 » These contrasts and distinctions can finally bring me to express the main point of this commentary: the methodological propositions and the practical turn Kordeš wants to insufflate into radical constructivism depend on strong theoretical commitments on experience that are not very explicit in his argument. *If* the “primacy of experience” comes with the idea that experience is what happens in our individual minds, *then* it makes sense to argue that constructivism should be primarily tested in virtue of first-person/second-person studies on the ways individual consciousnesses construct their own worlds, or in other words in virtue of what he calls “empirical phenomenology.” But it is misleading to see this practical turn as a coherent consequence of what Kordeš calls “the phenomenological attitude,” an attitude that would have been embraced by “most constructivists,” but also by phenomenologists and enactivists: not because the latter would be reluctant to take a practical turn or would discuss, in a conservative fashion, the legitimacy of “empirical phenomenology,” but because the phenomenological attitude, as Kordeš understands it, comes with a narrow sense of experience, turning it into a subjective, internal and mental phenomenon. *If* experience is not understood as an inner and mental domain (be it constructed or not) from which the world would be enacted, I do not see why first-person and second-person empirical studies on consciousness would have a privilege or priority over, let us say, anthropology for studying how human experience and its objects are concretely constituted, and for empirically assessing the relevance of constructivist proposals. For instance, in order to assess the contribution played by observers and *observations* in the constitution of phenomena precisely, you do not need to start by considering what subjects live *in foro interno*: instrumented, embodied and enculturated, observation is not in our heads, and yet it is not a brute objective fact either.

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What Kind of Epistemic Activity is Expert Introspection?

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> Upshot • A constructivist epistemology might help us better understand what kind of knowledge expert introspection cannot deliver. Indeed, there are well-known trade-offs with regard to the insights that can be gained through introspection. If trivialization is to be avoided, then it should be assumed that, contrary to standard science, introspection just is not a declarative kind of knowledge.

« 1 » In spite of its very name, there is no *a priori* reason to think that the purpose of an epistemology such as constructivism is to always say anything “constructive” about phenomenology. In other words, a constructivist epistemology in this context might also serve as a kind of negative inquiry by helping us better understand that which can *not* be known in phenomenology or what *kind* of knowledge phenomenology cannot bring about. There is no shame in such a task (cf. Immanuel Kant’s *Critique of Pure Reason*); on the contrary, knowledge can sometimes increase dramatically once proper boundaries are set that avoid wasting time in blind, hopeless research.

« 2 » This should apply no matter what particular version of epistemic constructivism we consider, even though it could be argued that constructivism is already in the business of telling us what cannot be known,

namely, a mind-independent reality. But it is not clear that all versions of constructivism are committed to the latter statement. Radical constructivism, for instance, is rather *agnostic* with respect to the existence of an external reality (Riegler 2012), therefore it should not even be in a position to say whether it is knowable or not. In contrast, all versions of constructivism seem to assume the participatory activity of the subject in the construction of the object of knowledge and thus the following remarks should apply to all of them.

« 3 » In this vein, the author provides a timely comparison between quantum physics and psychology. He shows that the former has already been faced with the critical situation where the observer’s intervention is not only unavoidable but cannot escape being factored into the very phenomenon under study. As an example, he advances the collapsing of the wave function by the act of measurement (§11). There is, however, another case that might shed a different light on the analogy between quantum physics and phenomenology and that is Werner Heisenberg’s uncertainty principle. Very roughly, this principle states that there is a correlation – a trade-off – between what can be known simultaneously about two different properties of a particle, e.g., its momentum and its position. The more precise our measuring of the particle’s position, the less precise our estimation of its momentum and vice versa. This principle is of paramount importance and has profound consequences for our understanding of quantum-level reality. However, for the present purpose, my focus goes to its epistemological significance, which, as already stated, revolves around the way it defines *boundaries* for knowledge. This “negative” task is, of course, positive and so could be that of constructivism with regard to “non-trivial” phenomena such as introspection.

« 4 » The following are two already known issues that seem to suggest there is something akin to Heisenberg’s principle going on in phenomenology. First, the complementarity, or trade-off, between online, survival-relevant sensorimotor coordination and what I will call “expert introspection,” to refer in an expedient albeit admittedly abusive way to either Buddhistic meditation, Varela-style phenomenological training, and Husserlian bracketing or *ep-*

oché. It seems clear that many skillful physical activities require full concentration by the agent, or “absorbed coping” (Dreyfus 1993). Think of a professional football player during a match, or a sniper in the battlefield. Is it thinkable that such an agent’s current sensorimotor transactions can maintain the required degree of coordination if the agent performs at the same time a mental act such as *epoché*? Claire Petitmengin and Michael Bitbol (2009) have answered that it is a mistake to think that this would be a problem. On the contrary, they argue, introspective attitudes do not in any way disrupt the perceptual processes involved in sensorimotor coordination, nor “freeze” them, but rather “liberate” them, as in allowing the mind to amplify and access a deeper degree of intimacy with the perceptual experience. They even cite work showing that motor coordination can improve thanks to awareness of our bodily experience (Petitmengin & Bitbol 2009: 266). While there is no denying that naive sensorimotor transactions can benefit from a more acute and refined bodily sensitivity, this might come as a collateral effect of introspection, and it is not clear that it is constitutive of it. The point is that, despite Petitmengin and Bitbol’s efforts to show that introspective acts or attitudes are not disruptive, one cannot help but suspect that, putting it very crudely, a sniper on the battlefield just cannot afford to “bracket” his natural attitude. It is not at all clear either that simply possessing a more acute awareness of the environment, which certainly takes place in the case of expert snipers, amounts to anything like bracketing. As far as we know, not many successful snipers are acquainted with Edmund Husserl’s work nor with meditation techniques. In short, there seems to be an insurmountable difficulty in the idea that a sniper’s effectiveness while engaging a threatening target can benefit from shifting his awareness to the *experience* of engaging a threatening target. A constructivist epistemology might prepare the ground for empirical research on the differences and trade-offs between a sniper’s perception in the midst of battle and a Buddhist monk’s experience while meditating relaxedly under the trees.

« 5 » The second trade-off concerns reflexivity. As the author suggests, performing phenomenological exercises to inquire into

our conscious experience introduces an irreducible *transformation*. However, since we are facing a case of pure reflexivity, where “experience observes itself,” the transformation alters observer and observed. The trade-off, thus, consists in the fact that the very transformation puts the *original* experience out of reach. We can have an original, naive experience, but we cannot inquire into it without the expert introspective skill that comes with phenomenological transformation. Or else, we can obtain the skill and inquire into our experience, but it is not the original experience anymore. Therefore, our phenomenological inquiry is, by definition, the inquiry of conscious experience *under a mental state of epoché*. It can be claimed that this last trade-off rests on the assumption that the naive observer is interacting with a real world, and that such an assumption is utterly wrong (Petitmengin & Bitbol 2009). After all, an epistemology such as radical constructivism claims precisely that the naive observer is as much constructing her perceptual realm as the trained phenomenologist (Riegler 2012). Nevertheless, even if the assumption is wrong, the fact remains that the naive and the experienced observers engage in a *different* kind of construction or enaction. They – and therefore their experience – differ, yet the naive observer’s experience cannot be studied thoroughly as she lacks the training phenomenologists (e.g., Varela 1996) claim to be indispensable.

« 6 » This trade-off will not dissolve either when the scientific effort of phenomenology is guided by a constructivist epistemology to grasp the very process of construction or enaction as the author proposes, since, again, a naive enactive process must be assumed to differ from an expert one. In short, the process of becoming an expert introspectionist reduces the precision with which we can know what it is like to be a naive, non-expert introspectionist.

« 7 » As the author warns, the project of a first-person endeavor such as phenomenology could fail to satisfy some of the most important aspects of mainstream scientific research, such as intersubjectivity and reproducibility. The author remains somewhat vague on how a constructivist epistemology can actually help phenomenology overcome these issues, yet, as I argue in this commentary, maybe the actual help consists merely

of setting the boundaries of what phenomenology can achieve as a form of epistemic activity. On the other hand, a constructivist take on the activity of expert introspection such as phenomenology could reveal that the activity is radically different *in kind* from scientific research. This is clearly already suggested by the author when he writes that

“Acquiring knowledge about experience is not so much about creating a categorical system as about expanding awareness to reach ever more subtle skills of bracketing the natural attitude and enhancing meta-experience (the experience of experience).” (§36)

« 8 » Yet it would seem that the ambition persists that introspective research obtain the credentials to be considered a regular scientific endeavor:

“The new strategy we are searching for should, similarly to standard science, strive for stable, intersubjective patterns.” (§39)

« 9 » But this need not be so. The kind of insight that an expert introspectionist gains on her conscious experience need not be tantamount to science’s kind. To be sure, this is not to say that it is worthless, but simply that the modality of such knowledge cannot serve the same function as scientific knowledge. The idea is that introspective knowledge might belong to the so called “know-how” or “procedural” kind of knowledge, whereas scientific knowledge is expected to be of the “know-that” or “declarative” kind. Indeed, procedural knowledge is typically dynamical and enacted, whereas declarative knowledge is “frozen” and passive. The consequences of this fact can be very deep and the marriage between constructivist epistemology and phenomenology proposed by the author appears to be a natural way of exploring them. However, rather than “bracketing” its expectations with regard to how well introspection will fare when compared to the results of standard science, as the author proposes (§62), a constructivist epistemology may need to be even more radical and “bracket” the very comparison with science itself. Perhaps expert introspection should proceed without complexes as if it was to conscious experience what, say, coaching is to sports.

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Constitution: Epistemological and Ontological

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> **Upshot** • Kordeš’s target article proposes to link constructivism and phenomenology, to their mutual benefit. In order to further this endeavour, this commentary suggests that it is important to distinguish two levels of constitution: the epistemological and the ontological. This may serve to clarify difficulties about achieving intersubjective validation.

« 1 » The target article by Urban Kordeš proposes to link constructivism and phenomenology, to their mutual benefit. At several points, Kordeš refers to the process of *constitution* (§39 note 5, §§47, 51). It is relevant here to distinguish between the *epistemic* constitution of a scientific discipline and the *ontological* constitution of the object-matter itself. Epistemic constitution is the process whereby a community of scientists elaborate the theoretical concepts, the guiding principles and the set of empirical methods of the scientific discipline in question. Ontological constitution is the gesture whereby scientists define the very domain of existence of the phenomena that are to be investigated. I propose to elaborate on this distinction, and to explain how it may help in the endeavour proposed by Kordeš.

« 2 » As I have argued elsewhere about cognitive science (Havelange 2010), phenomenology renews and displaces these questions of constitution. On one hand, phenomenology redefines epistemic constitution as the *intentional constitution of objects*, and seeks to elucidate the rules underlying this process (Husserl 1982). This constitution is “static” in the sense that it consists of a descriptive analysis of the intentional consciousness as it actively constitutes its perceptual and ideal objects. This static constitution is transversal, referring to transcendent objects of experience (“worldly” objects, or “external” objects in non-Husserlian terms); of course, this constitution is always dynamic in the sense that it takes into account the temporality of lived experience as intentional.

« 3 » On the other hand, Edmund Husserl reformulates ontological constitution in terms of “genetic” constitution, i.e., as the historical formation of different types of acts in the apperception of subjectivity; the aim is to elucidate the transcendental laws of motivation and succession of lived experiences, as opposed to the laws of causal explanation proper to the natural sciences (Husserl 1989). Genetic constitution thus deals with immanent lived experiences, and introduces a reflexive dimension with respect to static constitution. However, the elucidation of a genetic constitution can only ever be carried out on the basis of the lived experience of intentional objects. This is why it is vain to ask whether one should privilege static or genetic constitution; they entertain a circular relation and are inseparable (Depraz 2000). The question is rather to examine the relationship between an epistemic constitution (redefined by phenomenology as the static constitution of intentional objects), and an ontological constitution redefined as the historical formation and construction of different types of immanent acts.

« 4 » What then is the relation between “static” constitution and “genetic” constitution in the development of Husserl’s thought? Initially, at the stage of static constitution, Husserl considered that phenomenological enquiry was situated at a more fundamental level than scientific research, and provided the latter with its basic concepts (Husserl 1973, 1982). But this primacy was shaken by two concomitant factors: one

negative, the other positive. On one hand, when the features of temporality, of the living body, and the facticity of worldly objects were taken into account, this shattered the project of establishing an over-riding constitution, without any remainders, of its objects by a sovereign transcendental subjectivity; an absolute constitution turns out to be radically impossible. On the other hand, this very impossibility both renders possible, and demands, a genetic constitution that undermines the primacy and the principled precedence of phenomenology with respect to the sciences. The genetic constitution elaborated by Husserl in the framework of the “way of psychology” and the “way of the life-world (*Lebenswelt*)” requires taking into account the constitutive role of the living body, of worldly objects, and historical traces in all their facticity. The frontiers between “phenomenological psychology” and psychology, between “phenomenological sociology” and sociology, are thus anything but watertight. In this way, there emerges a hermeneutical cross-reference between static constitution and genetic constitution.

« 5 » How may these considerations contribute to Kordes’ proposal? In his text, he repeatedly refers to the issue of intersubjective validation (§§31, 34, 38, 52, 56, 58, 60, 62, and most insistently in §39). On the face of it, intersubjective agreement may seem to be an epistemological issue. However, the point I want to make is that for epistemological agreement to be even on the cards, there is a pre-condition: the *ontological* constitution of the various partners must be commensurate. In *Crisis* (Husserl 1970), Husserl himself expresses concern about the extreme diversification and fragmentation of lived-worlds in contemporary Europe, which produce a profound crisis not only in the sciences, but also in life itself. One can add that even within a single society, in a given territory, there are radical differences in the way individuals build their lived-worlds. To illustrate this point, Daniel Stern (1990) imaginatively evokes the lived-world of an infant, which is quite different from that of an adult; feminists will be quick to point out that women and men have quite different experiences of life; and socially, the lived-world of a corporate financial speculator has virtually nothing in common with that of an adolescent in a derelict suburb.

And to drive home the point, the lived experience of a natural scientist in a given discipline is actually highly specific and in its way very peculiar (cf. Latour & Woolgar 1979); it certainly has no ontological privilege.

« 6 » To sum up: epistemologically, the attempt to construct a shared, intersubjective world-view can always be undertaken. However, a pre-requisite for possible success is that the subjects concerned should share a common ontological constitution of their lived-world. Given the immense diversity of the lived-worlds that are accessible to human beings, this is anything but trivial; and so the eventual failure to achieve intersubjective “validation” should not be a cause for undue dismay.

Véronique Havelange’s research, carried out at the Technological University of Compiègne, deals with the foundations of the mind sciences under their various guises: that of the classical human and social sciences embodied in the debate between *explaining* (*erklären*) and *understanding* (*verstehen*); and, more recently, that of cognitive science. This research involves a joint interrogation of cognitive science and phenomenology, radically different from the project of “naturalizing phenomenology” entertained by first-generation cognitive science.

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Author's Response

Persevering with the Non-Trivial

Urban Kordeš

> Upshot • The response starts with a clarification of certain points that commentators found insufficiently articulated and then goes on to discuss some of the suggested solutions, all of which are seen as welcome improvements to the original proposal. The need for establishing a research environment acknowledging and nurturing the non-trivial character of experience is emphasised.

Who needs whom?

« 1 » The central proposition of the target article is the idea that constructivism and empirical phenomenological research might complement each other. The former provides an epistemological framework, while the latter adds the area of research along with its methodological guidelines.

« 2 » **Olga Markič** and **Toma Strle** question the strength of both sides of the proposition. In the target article, I refer to the pioneers of constructivism in order to demonstrate the high probability that their expectations actually strive towards the establishment of an empirical science (§§6–8). By analysing the overlap of radical constructivism and Edmund Husserl's phenomenology, I further show that (a) they agree in taking an agnostic stance towards the existence of an independent external world, and that (b) the research of experience manifests signs of unavoidable non-triviality, which is precisely where the stronghold of constructivism lies. This does not imply that the only way to continue theoretical research in the area of constructivism is its merger with phenomenology; however, I do hope that I have shown convincingly enough that such a joint venture might benefit both areas and allow a new research project, one that could, in my opinion, prove to be very interesting, if not necessary. Thus, rather than stating an absolute necessity, the claim points out parallels that imply a *possible* next step – one that might benefit both areas.

« 3 » **Strle** does, however, make a very relevant point in §3 when he observes that the implementation of the “official” epistemological foundation could turn against the basic methodological directive of the

proposed research project (the reduction of assumptions about the researched phenomenon). I see the proposed move towards the empirical research precisely as a remedy for the danger of rigidity that usually accompanies established schools of thought.

« 4 » Talking about progressing towards the empirical does not imply the exclusion of theoretical examination. One of the (many) challenges for the project of empirical phenomenology lies exactly in finding a point of intersection between reduction as a philosophical examination and reduction as an empirical introspective technique, the big question in this regard being *where* exactly is this point located and *how* both sides might inform each other. To use **Davood Gozli**'s distinction (§§2–5 and §10f): empirical research has to have an ability to criticise philosophical claims (and *vice versa*). The remaining question is whether both sides (empirical and theoretical) have the potential to justify each other. **Pierre Vermersch** and **Hanne De Jaegher** seem to be optimistic in this respect. Personally, I share their opinion and expect constructivism to be able to make good use of empirical phenomenology as a gateway to empirical research, while at the same time taking advantage of it to re-examine and refresh its own concepts, as pointed out in my target article in §21, 47.

What is being researched?

« 5 » **Pierre Steiner** and **Gozli** wonder what I mean by “experience.” **Steiner** is not sure whether I aim at a single-barrelled or double-barrelled view (**Steiner** §4), while **Gozli** (§5) poses a similar question from the point of view of distinguishing between a “wholesale” view of experience and the “phenomenological” view (i.e., are we interested merely in qualia and essences, or in the intentional character of experience as well?).

« 6 » I support a view of experience that is as “wholesale” as it gets, but – and this is essential – from the perspective of phenomenological reduction of beliefs about what is being experienced. The intentional character is one of experience's most prominent features, so there can be no doubt that it is an area worth researching (where applicable); this does not, however, mean the research of objects that appear to be the cause of particular experience. Christian Beyer illustrates this point with the following example:

“If one is hallucinating, there is really no object of perception. However, phenomenologically the experience one undergoes is exactly the same as if one were successfully perceiving an external object.” (Beyer 2015)

For Husserl, even a hallucination is intentional, i.e., it is

“an experience ‘as of’ an object [...] Therefore, the (adequacy of a) phenomenological description of a perceptual experience should be independent of whether for the experience under investigation there is an object it represents or not.” (ibid)

« 7 » Reporting on experience answers the question “what is it like?” and not “what is it?”. To quote Beyer again,

“Phenomenological description is concerned with those aspects of the noema that remain the same irrespective of whether the experience in question is veridical or not. Thus, our phenomenologist must not employ – he (or she) must ‘bracket’ – his belief in the existence of the perceptual object.” (Beyer 2015)

« 8 » **Gozli** describes the situation perfectly:

“Subjectivity tends to conceal itself in disclosing the objects of experience, and this includes concealment of a perspective, a set of assumptions and a set of skills. Objects and events appear as they do, not as achievements of subjectivity.” (§2)

What we do when taking up a phenomenological perspective is “bracket” our beliefs about the existence of the object of experience and focus instead on the observation of experience as it presents itself, i.e., on the process that our own subjectivity usually conceals from us.

« 9 » Francisco Varela sees the attitude of reduction as “a sudden, transient suspension of beliefs about what is being examined” (Varela 1996: 336). I disagree with the “sudden.” Rather, I see the adoption of the phenomenological attitude as an intent to pay attention to the “how” of experiencing, and a move away from the natural current of consciousness that tends to conceal this aspect. The gesture of reduction is probably

never entirely complete. What is of utmost importance, however, is *the adoption of new intent* (e.g., instead of following one's train of thoughts, one observes how thoughts rise, are felt, etc.). As stated by Varela (1996) and Natalie Depraz, Varela and Pierre Vermersch (2003), and as emphasised in the target article, this is a gesture that is not very easy to acquire (it is, in a way, "unnatural") and needs to be trained. If we consider deepening the ability to bracket the natural attitude as an asymptotic process, one can expect that the results of research based on such technique can be very diverse: from the observation of "ephemeral" (Gozli §5) qualia to – after a longer period of in-depth examination – a clearer view of the essential and invariant structures of consciousness.

« 10 » In his commentary, Vermersch points out the self-referential nature of such research. Describing the training process, he emphasises the "coupling between the tool and the study," and the importance of reflecting upon it: "[O]ne cannot correctly study subjectivity, without studying the subjectivity deployed in the means of studying subjectivity" (§15; Vermersch 2009).

« 11 » Vermersch's insight highlights the circular interwovenness between the observer and the observed in the study of experience – the characteristics that have been addressed by several other commentators, in most detail by Martin Fultot. He writes about a "trade-off" between the level of training of the researcher and that which she is able to research. It seems that Husserl himself was already struggling with similar issue, which Beyer describes as a "two-horned" dilemma:

“If, on the one hand, the phenomenologist leaves the 'natural attitude' and brackets his corresponding existence-belief, he cannot at the same time perform the perceptual experience he wishes to investigate. (This is the first horn of the dilemma).” (Beyer 2015)

Husserl is aware that what Beyer calls existence-belief is an integral part of (everyday) experience, but if,

“our phenomenologist makes use of that belief, then he is bound to violate the constraints put upon him by the local *epoché*: he cannot but fail to assume the phenomenological attitude. (This is the second horn).” (ibid)

« 12 » Beyer quotes Husserl's three possible solutions to this dilemma, from which a version of the first one (recalling experience outside *epoché*; Beyer 2015) is methodologically analysed in works of Vermersch and Claire Petitmengin under the heading of "practical phenomenology" (Vermersch §3; Vermersch 2009; Petitmengin 2006). A detailed inspection of other proposals for solving the "dilemma" would go beyond the scope of this response, but what is essential (and what is mentioned in commentaries by both De Jaegher and Gozli) is that it is precisely in handling this circular mutual coupling – which is inevitably encountered in the research of experience – that the constructivist framework is of most use.

« 13 » The circular relation (the virtuous circle) between observation and the observed, which is problematic from the realistic point of view (a dilemma or a trade-off), is expected, understood and fits perfectly in the constructivist framework. As stated in the target article:

“[O]bservation is not to be seen as a distortion of the image of the phenomenon such as it 'really' is. Instead, it is one of the factors in the construction of the phenomenon through an interactive process.” (§60)

« 14 » Fultot translates Husserl's "two-horned" dilemma into a problem of differences in research approaches of a naive and a phenomenology-trained observer. There is little doubt that the adoption of a phenomenological attitude changes experience: if nothing else, it changes the area of experience that is being attended to. As mentioned above, in a constructivist context, we can expect the properties of the observer and the manner of observation to influence the observed. While the difference between the experience of a naive and a trained observer is a good example of such an influence, one has to, in order to understand experience fully as a non-trivial process, realise that the described coupling can be found everywhere. When Fultot says: "[W]e can obtain the skill and inquire into our experience, but it is not the original experience anymore" (§5) the question arises: [W]hat exactly is the "original experience"?

« 15 » If a perfectly naive observer asks about her experience, this very act (an at-

tempt at introspection) will influence her experiential landscape. The resulting answer (a given belief about her "original" experience) depends on the individual punctuation,⁴ the observer's anticipation connected to her conceptual framework and the concrete communication situation in which the question is posed (as demonstrated by the theory of participatory sense-making, e.g., De Jaegher 2015).

« 16 » To illustrate the dilemma, Fultot makes use of the analogy of the uncertainty principle. In the target article, my original intention was to refer to quantum mechanics merely as an example of how physics applied trivialisation strategy in order to tackle the elusive characteristics that came with the new research field. By contrast, in Kordeš (2015), I offered an analysis of the solutions cognitive science could borrow from quantum mechanics, with one of the most prominent positions being given to Heisenberg's uncertainty principle. Kordeš (2015) also uses the metaphor of the uncertainty principle to describe a trade-off, but not the one between "original" and observed experience. As mentioned above, constructivism does not view the observer's properties influencing results as a trade-off, but rather as a basic feature of the construction of the experiential realm (just as quantum mechanics decided to exchange the term "variable" – denoting a property of *the world* – with the term "observable" – which denotes a property of *the observed*). In my view, the trade-off emerging in the research of experience is connected to the necessary selection of the horizon of observation: the belief about what we are experiencing at a given moment is enacted, and in this enactment a given

4| The term "punctuation" attempts to convey the active role of observer in organising the experiential field. It is used here in a sense, similar to that introduced by Benjamin Whorf, later widely used by Gregory Bateson, and Paul Watzlawick. Watzlawick, Janet Bavelas and Don Jackson (1967: 56), of analysing how actors perceive "communicational situation," explaining that "punctuation organizes behavioural events" (Watzlawick et al. 1967: 56). In the case of enaction of experience, punctuation can be seen as individual and situation-specific way of organising experiential elements.

perspective is adopted at the expense of all other possible perspectives.

« 17 » Being aware of the difference between a naive observer of experience and a trained one is no more important than being aware of the difference between any two naive observers – a difference emphasised by **Véronique Havelange**. (Or even between two temporally diverse points of observation made by the same observer.) I share **Havelange's** concern and see no assurances that even the trained observers would inhabit overlapping life-worlds with overlapping “ontological constitutions” (**Havelange** §5). The participation in a community of active researchers of experience would, however, explicate the differences in members' horizons (in the sense of adopted perspective of observation of the experience), which would in turn enable their alignment.

« 18 » The discussion about the non-trivial nature of experience reminds us once again of the sword of Damocles hanging over the proposed research project: the question of whether a research framework, fluid enough to accommodate non-trivial phenomena might lead to intersubjective science. It is the question as to whether empirical research of experience might eventually lead to intra- and inter-subjective asymptotes. Most of the authors from the broader area of phenomenology are confident that this will be the case. Varela (1996), for example, expects phenomenological inquiry to lead to invariants, whereas Vörös (following Zahavi) concretises this aspiration, expecting findings of “*essential structures and conditions of possibility of specific types of experience*” (Vörös 2014: 98).

« 19 » Discussing the target article's proposal, **Fultot** and **Gozli** abandon the possibility of such an outcome, while **Markič** and **Havelange** are cautiously sceptical. As stated in the target article, it is quite possible that this might be an appropriate stance (at this point, such scepticism seems more constructive than presupposing invariants and the possibility of intersubjective verification in advance, which inevitably leads to trivialisation). Nevertheless, I would advise not to give up too quickly; not before thorough empirical research is attempted. **Fultot** notices that “the naive observer is as much constructing her perceptual realm as the trained phenomenologist” (**Fultot** §5). We could ex-

trapolate this claim into an expectation that this construction of the perceptual realm is precisely that which – once we manage to identify it inside our experiential field – will represent the intra- and inter-subjective invariant structure.

Which perspective?

« 20 » When I speak about empirical phenomenology, I aim specifically at doing first-person empirical research. By this I mean the research of experience as it manifests itself through the gesture of *epoché* enriched by theoretical epistemological reflection. Usually, the adjective “empirical” refers to the natural sciences. By using it in the phrase “empirical phenomenology,” I emphasize the possibility of data-gathering research, but not within the framework that is based on the presupposition of triviality of the researched phenomenon. I argue that a different kind of empirical research is also possible – one that allows the space for the non-trivial characteristics of the researched phenomenon to be acknowledged. In the case of the proposed research project, this means that exploration is based on phenomenal data and does not shy away from the self-referential (and other non-trivial) characteristics associated with the research experience, i.e.:

- the need for an individualized approach to training researchers (elaborated by **Vermersch** in his commentary, which – I hope – offers at least a partial answer to **Strle**); and, even more importantly,
- the need to account for the fact that the results of the research are enacted in an interplay between the observer's horizon, her expertise in detection and reporting, and – as **De Jaegher** rightfully remarks – the social interactional context.

« 21 » If the non-trivial nature of experience is acknowledged by resorting to constructivist epistemology, the adoption of the phenomenological attitude ensures that experience is perceived as a primary “ungobehindable” milieu (**De Jaegher** quoting Thompson 2004: 394) into which we are existentially thrown without any chance of escape. First-person research explores experience in a way that does not imply the presupposition of an external world. Therefore, statements such as “if experience is confined

to what individuals live, perceive and think in their heads” (**Steiner** §3) are meaningless from the perspective of phenomenological reduction. However, strictly insisting on the first-person perspective by no means implies negation of the existence or the outstanding importance of third-person research areas.

« 22 » **Steiner** remarks: “I do not see why first-person and second-person empirical studies on consciousness would have a privilege or priority over, let us say, anthropology ...” (§7) The question of which perspective (first- or third-person) is more valuable for the understanding of cognition and consciousness is a major issue in cognitive science. So far, a majority seems to prefer third-person studies (because, if nothing else, they are based on a more solid methodological basis), and at this point I do not wish to argue against such a perspective. Undoubtedly, anthropological, psychological and, of course, neurophysiological studies of cognition are of utmost importance.

« 23 » The proposed empirical first-person research project does not share Husserl's ambition to construct an underlying science that would present a basis for all other sciences but rather a desire to build a strong structure on the first-person side of the explanatory gap. In line with Varela's neurophenomenology proposal, such a structure should be constructed in parallel to its third-person complement.

« 24 » This leaves open the question of the relationship with the opposite pole. Varela – it would appear – nurtured two ideas: continual exchange between both perspectives (as implemented in his project of enactivism) and parallel building from both sides of the explanatory gap with both sides potentially informing each other (both being methodologically completely independent, and neither determining the validation rules for the other). In the proposed project, I argue for the second option. It is important that the first-person research side be constructed *independently* of the third-person one. This is the only way to enable the acknowledgement and nurturing of the non-trivial character of the research field. **Gozli's** reflections on the scope of this kind of research (critique yes, justification no) are very relevant, but perhaps they come a bit too early. In the “butterfly collection stage” of the development (**De Jaegher** §17) of the

research initiative, we should rigorously examine the collected samples and let the results of the analysis inform the direction and scope of the development.

Towards a community of empirical phenomenological researchers

« 25 » The proposed research project suggests that we should persevere in acknowledging and nurturing non-triviality as well as in maintaining the first-person perspective, with the phenomenological attitude as the basic mode of research. Collaboration in the interpersonal space of a research community, however, calls for a descent from this attitude. Here, the adoption of the natural attitude is probably necessary. Nevertheless, a non-trivial science must approach collaboration in a way that enables space for the non-trivial:

- It has to take into account the fact of differences between life-worlds of collaborators (Havelange).
- Entering the interpersonal field plays a major role in the enaction of results (as pointed out by Gozli, Steiner, and especially De Jaegher).

« 26 » In the target article, I call for an open attitude that also includes a continuous self-examination of the researchers' own positions and agendas, and, even more importantly, presuppositions. Vermersch, the inventor of the elicitation interview technique and a veteran in the area of second-person research offers an optimistic vision

and a well-adjusted and elaborate system of this kind of work, the use of which I see as one of the building blocks for the proposed research project. Gozli ends his commentary by considering the possibility of re-evaluating the concept of justification, which would include changing the organisation of the scientific community. De Jaegher's proposal puts this on firmer ground. Her reference to the TESIS initiative (§11) indicates that a similar undertaking might be underway already.

« 27 » I imagine the beginning of the proposed project as involving the establishment of a group of researchers, practicing phenomenological reduction, while at the same time aligning their skills in reporting phenomenological data. The theory of participatory sense-making (De Jaegher & Di Paolo 2007) appears to be the ideal contender for understanding the role of the communication situation in the enactment of knowledge. On the other hand, the proposed research community working on the alignment of the horizons of exploring experience seems to be ideal for testing and complementing the theory of participatory sense-making.

« 28 » The social process of the construction of knowledge (and meaning) pointed out by this theory can be seen as an essential component of the proposed project at two levels:

- It would appear that any enaction of knowledge and/or belief (even one that

does not occur in the context of interpersonal communication) might be perceived as a back-and-forth communication process. If this assumption is correct, the research community trained in the observation of experience should closely examine the process of enaction of knowledge and the role of the experienced communication situation in this process.

- The second level, where the participatory enaction of knowledge appears to be most prominent, is the enaction of (intersubjective) knowledge in the context of communication within the scientific community. Reflection of this process might be crucial.

« 29 » The ideal research environment would be able to acknowledge the non-trivial nature of the research phenomenon in question and at the same time allow the members to "become conscious differently" (Petranker 2003) as the research progresses. I agree with Gozli's final remark that such an environment will have to avoid "attempts at eliminating the specificity of subjective viewpoints" but instead rely on "careful (and patient) attention to differences" (§11). This nurturing atmosphere, however, should be framed by relentless reflection and critical examination at every step of the way.

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Combined References

- Barinaga M. (2003) Buddhism and neuroscience: Studying the well trained mind. *Science* 302: 44–46. ► <http://cepa.info/2417>
- Beran M. J., Brandl J. L., Perner J. & Proust J. (eds.) (2012) *Foundations of metacognition*. Oxford University Press, Oxford.
- Beyer C. (2015) Edmund Husserl. In: Zalta E. N. (ed.) *The Stanford encyclopedia of philosophy*. <http://plato.stanford.edu/archives/sum2015/entries/husserl>
- Bitbol M. (2012) Neurophenomenology, an ongoing practice of/in consciousness. *Constructivist Foundations* 7(3): 165–173. ► <http://constructivist.info/7/3/165>
- Bitbol M. (2014) Making sense of non-sense in physics: The quantum Koan. In: Cappuccio M. & Froese T. (eds.) *Enactive cognition at the edge of sense-making*. Palgrave Macmillan, Basingstoke: 61–80. ► <http://cepa.info/2477>
- Bitbol M. & Petitmengin C. (2013) A defense of introspection from within. *Constructivist Foundations* 8(3): 269–279. ► <http://constructivist.info/8/3/269>
- Christoff K., Gordon A. M., Smallwood J., Smith R. & Schooler J. W. (2009) Experience sampling during fMRI reveals default network and executive system contributions to mind wandering. *PNAS* 106 (21): 8719–8724.
- Cuffari E. C. & Jensen T. W. (2014) Living bodies: Co-enacting experience. In: Müller C., Cienki A., Fricke E., Ladewig S., McNeill D. & Tessedorf S. (eds.) *Body-language-communication: An international handbook on multimodality in human interaction*. Volume 2. De Gruyter Mouton, Berlin: 2016–2025.
- de Haan S. E. (2010) The minimal self is a social self. In: Fuchs T., Sattel H. & Henningsen P. (eds.) *The embodied self: Dimensions, coherence, and disorders*. Schattauer, Stuttgart: 12–18.
- De Jaegher H. (2015) How we affect each other. Michel Henry's "pathos-with" and the enactive approach to intersubjectivity. *Journal of Consciousness Studies* 22(1–2): 112–132.

- De Jaegher H. & Di Paolo E. A. (2007) Participatory sense-making: An enactive approach to social cognition. *Phenomenology and the Cognitive Sciences* 6(4): 485–507. ► <http://cepa.info/2387>
- De Jaegher H., Di Paolo E. A. & Gallagher S. (2010) Can social interaction constitute social cognition? *Trends in Cognitive Sciences* 14(10): 441–447.
- Dennett D. (1991) *Consciousness explained*. Little, Brown & Co., Boston MA.
- Depraz N. (2000) When transcendental genesis encounters the naturalization project. In: Petitot J., Varela F. J., Pachoud B. & Roy J.-M. (eds.) *Naturalizing phenomenology. Issues in contemporary phenomenology and cognitive science*. Stanford University Press Stanford: 464–489.
- Depraz N. (2012) Empathy and second-person methodology. *Continental Philosophy Review* 45(3): 447–459.
- Depraz N., Varela F. J. & Vermersch P. (2003) On becoming aware: A pragmatics of experiencing. John Benjamins, Amsterdam.
- Dewey J. (1925) *Experience and nature*. Open Court, Chicago.
- Di Paolo E. A. (2005) Autopoiesis, adaptivity, teleology, agency. *Phenomenology and the Cognitive Sciences* 4(4): 97–125. ► <http://cepa.info/2269>
- Di Paolo E. A. (2015) Interactive time-travel: On the intersubjective retro-modulation of intentions. *Journal of Consciousness Studies* 22(1–2): 49–74.
- Di Paolo E. A. (2016) Participatory object perception. *Journal of Consciousness Studies*. In: Press.
- Di Paolo E. A., Rohde M. & De Jaegher H. (2010) Horizons for the enactive mind: Values, social interaction, and play. In: Stewart J., Gapenne O. & Di Paolo E. (eds.) *Enaction: Toward a new paradigm for cognitive science*. MIT Press, Cambridge MA: 33–87. ► <http://cepa.info/2413>
- Dijksterhuis A., Bos M. W., Nordgren L. F. & van Baaren R. B. (2006) On making the right choice: The deliberation-without-attention effect. *Science* 311(5763): 1005–1007.
- Dreyfus H. L. (1993) Heidegger's critique of the Husserl/Searle account of intentionality. *Social Research* 60(1): 17–38.
- Fasching W. (2012) Intentionality and presence: On the intrinsic of-ness of consciousness from a transcendental-phenomenological perspective. *Husserl Studies* 28(2): 121–141.
- Fernandez-Duque D. & Johnson M. L. (1999) Attention metaphors: How metaphors guide the cognitive psychology of attention. *Cognitive Science* 23(1): 83–116.
- Fernandez-Duque D. & Johnson M. L. (2002) Cause and effect theories of attention: The role of conceptual metaphors. *Review of General Psychology* 6(2): 153–165.
- Foerster H. von (1976) Objects: Tokens for (eigen-)behaviors. *ASC Cybernetics Forum* 8(3–4): 91–96. ► <http://cepa.info/1270>
- Foerster H. von (1991) Through the eyes of the other. In: Steier F. (ed.) *Research and reflexivity*. Sage Publications, London: 63–75. ► <http://cepa.info/1729>
- Foerster H. von (2003) Ethics and second-order cybernetics. In: Foerster H. von, *Understanding understanding*. Springer, New York: 287–304. Originally published in: Ray Y. & Prieur B. (eds.) (1991) *Systèmes, Ethique, Perspectives en thérapie familiale*. ESF editeur, Paris: 41–55. ► <http://cepa.info/1742>
- Froese T. (2010) From cybernetics to second-order cybernetics: A comparative analysis of their central ideas. *Constructivist Foundations* 5(2): 75–85. ► <http://constructivist.info/5/2/075>
- Froese T., Gould C. & Barrett A. (2011) Re-viewing from within: A commentary on first- and second- person methods in the science of consciousness. *Constructivist Foundations* 6(2): 254–269. ► <http://constructivist.info/6/2/254>
- Gallagher S. (2003) Phenomenology and experimental design toward a phenomenologically enlightened experimental science. *Journal of Consciousness Studies* 10(9–10): 85–99.
- Gergen K. (1985) The social constructionist movement in modern psychology. *American Psychologist* 40(3): 266–275.
- Giorgi A. (1970) *Psychology as a human science*. Harper & Row, New York.
- Glanville R. (1982) Inside every white box there are two black boxes trying to get out. *Behavioural Science* 12(1): 1–11. ► <http://cepa.info/2365>
- Glaserfeld E. von (1974) Piaget and the radical constructivist epistemology. In: Smock C. D. & Glaserfeld E. von (eds.) *Epistemology and education*. Follow Through Publications: Athens GA: 1–24. ► <http://cepa.info/1324>
- Glaserfeld E. von (1991) Knowing without metaphysics: Aspects of the radical constructivist position. In: Steier F. (ed.) *Research and reflexivity*. Sage Publications, London: 12–29. ► <http://cepa.info/1420>
- Glaserfeld E. von (1995) *Radical constructivism: A way of knowing and learning*. Falmer Press, London.
- Glaserfeld E. von (2001) The radical constructivist view of science. *Foundations of Science* 6(1): 31–43. ► <http://cepa.info/1536>
- Gozli D. G., Ardron J. & Pratt J. (2014) Reduced visual feature binding in the near-hand space. *Attention, Perception, & Psychophysics* 76(5): 1308–1317.
- Gozli D. G., Aslam H. & Pratt J. (2015) Visuospatial cueing by self-caused features: Orienting of attention and action-outcome associative learning. *Psychonomic Bulletin & Review*. Online first.
- Gozli D. G. & Brown L. E. (2011) Agency and control for the integration of a virtual tool into the peripersonal space. *Perception* 40(11): 1309–1319.
- Gozli D. G., Goodhew S. C., Moskowitz J. B. & Pratt J. (2013) Ideomotor perception modulates visuospatial cueing. *Psychological Research* 77(5): 528–539.
- Grandin T. (1996) *Thinking in pictures: Other reports from my life with autism*. Vintage, New York.
- Havelange V. (2010) The ontological constitution of cognition and the epistemological constitution of cognitive science: Phenomenology, enaction and technology. In: Stewart J., Gapenne O. & Di Paolo E. A. (eds.) *Enaction*. MIT Press, Cambridge MA: 335–359. ► <http://cepa.info/2466>
- Heekeren H. R., Marrett S. & Ungerleider L. G. (2008) The neural systems that mediate human perceptual decision making. *Nature Reviews Neuroscience* 9(6): 467–479.
- Heidegger M. (1962) *Being and time*. New York: Harper & Row. Originally published in German as: Heidegger M. (1927) *Sein und Zeit*. Niemeyer, Tübingen.
- Henry M. (1973) *The essence of manifestation*. Translated by G. Etzkorn. Nijhoff, The Hague. French original published as: Henry M. (1963) *L'essence de la manifestation*. PUF, Paris.
- Huffman G., Gozli D. G., Welsh T. N. & Pratt J. (2015) Hand position influences perceptual grouping. *Experimental Brain Research* 233(9): 2627–2634.
- Hurlburt R. T. (1979) Random sampling of cognitions and behavior. *Journal of Research in Personality* 13(1): 103–111.

- Hurlburt R. T. (1997) Randomly sampling thinking in the natural environment. *Journal of Consulting and Clinical Psychology* 65: 941–949.
- Hurlburt R. T. (2009) Iteratively apprehending pristine experience. *Journal of Consciousness Studies* 16(10–12): 156–188.
- Hurlburt R. T. & Heavey C. L. (2006) Exploring inner experience: The descriptive experience sampling method. John Benjamins, Amsterdam.
- Husserl E. (1970) *The crisis of European sciences and transcendental phenomenology*. Translated by David Carr. Northwestern University Press, Evanston IL. German original published in 1936.
- Husserl E. (1973) *Logical investigations*. Translated by J. N. Findlay. Routledge, London. German original published in 1900; 2nd revised edition 1913.
- Husserl E. (1982) *Ideas pertaining to a pure phenomenology and to a phenomenological philosophy*. First book: General introduction to a pure phenomenology. Translated by Fred Kersten. Nijhoff, The Hague. German original published in 1913.
- Husserl E. (1989) *Ideas pertaining to a pure phenomenology and to a phenomenological philosophy*. Second book: Studies in the phenomenology of constitution. Translated by Richard Rojcewicz & André Schuwer. Dordrecht, Kluwer. German original published in 1952.
- Husserl E. (1999) *Cartesian meditations: An introduction to phenomenology*. Nijhoff, The Hague. German original published in 1950.
- Husserl E. (2012) *Cartesian meditations: An introduction to phenomenology*. Springer, New York.
- Izard C. E. (2010) The many meanings/aspects of emotion: Definitions, functions, activation, and regulation. *Emotion Review* 2(4): 363–370.
- James W. (1912) *Essays in radical empiricism*. Dover, New York.
- Johansson P., Hall L., Sikström S. & Olsson A. (2005) Failure to detect mismatches between intention and outcome in a simple decision task. *Science* 310(5745): 116–119.
- Kant I. (1998) *Critique of pure reason*. Ttranslated and edited by Paul Guyer & Allen W. Wood. Cambridge University Press, Cambridge MA
- Killingsworth M. A. & Gilbert D. T. (2010) A wandering mind is an unhappy mind. *Science* 330: 932.
- Klein G., Calderwood R. & Clinton-Cirocco A. (2010) Rapid decision making on the fire ground: The original study plus a postscript. *Journal of Cognitive Engineering and Decision Making* 4(3): 186–209.
- Kordeš U. (2005) A peaceful coexistence of epistemologies – Philosophy from the constructivist's point of view. *Kybernetes* 34 (1/2): 295–305. ▶ <http://cepa.info/2369>
- Kordeš U. (2015) A better metaphor for understanding consciousness? *Interdisciplinary Description of Complex Systems* 13(4): 525–533. ▶ <http://cepa.info/2512>
- Kyselo M. (2014) The body social: An enactive approach to the self. *Frontiers in Psychology* 5: 986. ▶ <http://cepa.info/2517>
- Lah A. & Kordeš U. (2014) One cannot “just ask” about experience. In: Markič O., Strle T., Kordeš U. & Gams M. (eds.) *Kognitivna znanost/Cognitive Sciences*. Proceedings of the 17th international multicference “Information Society – IS 2014.” Volume C. Inštitut Jožef Štefan, Ljubljana: 36–39. ▶ <http://cepa.info/2370>
- Latour B. & Woolgar S. (1979) *Laboratory life: The social construction of scientific facts*. Sage, Beverly Hills CA.
- Llinás R. R. (2001) *I of the vortex*. MIT Press, Cambridge MA.
- Luhmann N. (1995) *Social systems*. Stanford University Press, Stanford. German original published in 1984.
- Manen M. van (1997) *Researching lived experience. Human science for an action sensitive pedagogy*. The Althouse Press, London.
- Maturana H. R. (1988) Reality: The search for objectivity or the quest for a compelling argument. *The Irish Journal of Psychology* 9 (1): 25–82. ▶ <http://cepa.info/598>
- Metzinger T. (2003) *Being no one*. MIT Press, Cambridge MA.
- Müller K. H. (2008) Methodologizing radical constructivism: Recipes for RC-designs in the social sciences. *Constructivist Foundations* 4(1): 50–61. ▶ <http://constructivist.info/4/1/050>
- Müller K. H. & Riegler A. (2014) Second-order science: A vast and largely unexplored science frontier. *Constructivist Foundations* 10(1): 7–15. ▶ <http://cepa.info/1148>
- Nisbett R. E. & Wilson T. D. (1977) Telling more than we can know. Verbal reports on mental processes. *Psychological review* 84(3): 231–259.
- Noë A. (2012) *Varieties of presence*. Harvard University Press, Cambridge MA.
- Pais A. (1982) Max Born's statistical interpretation of quantum mechanics. *Science* 218: 1193–1198.
- Parnas J. & Gallagher S. (2015) Phenomenology and the interpretation of psychopathological experience. In: Kirmayer L., Lemelson R. & Cummings C. (eds.) *Re-visioning psychiatry: Cultural phenomenology, critical neuroscience, and global mental health*. Cambridge University Press, Cambridge: 65–80. ▶ <http://cepa.info/2397>
- Pessoa L. (2008) On the relationship between emotion and cognition. *Nature Reviews Neuroscience* 9(2): 148–58.
- Petitmengin C. (2006) Describing one's subjective experience in the second person: An interview method for a science of consciousness. *Phenomenology and the Cognitive Sciences* 5(3): 229–269. ▶ <http://cepa.info/2376>
- Petitmengin C. & Bitbol M. (2009) The validity of first-person descriptions as authenticity and coherence. *Journal of Consciousness Studies* 16(10–12): 363–404. ▶ <http://cepa.info/2377>
- Petitmengin C., Remillieux A., Cahour B. & Carter-Thomas S. (2013) A gap in Nisbett and Wilson's findings? A first-person access to our cognitive processes. *Consciousness and Cognition* 22(2): 654–669. ▶ <http://cepa.info/931>
- Petranker J. (2003) Inhabiting conscious experience: Engaged objectivity in the first-person study of consciousness. *Journal of Consciousness Studies* 10: 3–23. ▶ <http://cepa.info/2415>
- Pieper B. & Clénin D. (2010) *Verkörperte Selbst- und Fremdwahrnehmung sozialen Handelns. Eine leib-orientierte praktisch-theoretische Forschungsperspektive*. In: Böhle F. & Wehrich M. (eds.) *Die Körperlichkeit sozialen Handelns. Soziale Ordnung jenseits von Normen und Institutionen*. Transcript-Verlag, Bielefeld.
- Riegler A. (2001) Towards a radical constructivist understanding of science. *Foundations of Science* 6(1): 1–30. ▶ <http://cepa.info/1860>
- Riegler A. (2005) The constructivist challenge. *Constructivist Foundations* 1(1): 1–8. ▶ <http://constructivist.info/1/1/001>
- Riegler A. (2012) *Constructivism*. In: L'Abate L. (ed.) *Paradigms in theory construction*. Springer, New York: 235–256. ▶ <http://cepa.info/446>
- Rock I. (1983) *The logic of perception*. MIT Press, Cambridge MA.

- Satne G. & Roepstorff A. (2015) Introduction: From interacting agents to engaging persons. *Journal of Consciousness Studies* 22(1–2): 9–23.
- Schlipp P. A. (1998) *Albert Einstein, philosopher-scientist*: Harper & Row, New York.
- Schuetz A. (1941) William James' concept of the stream of thought phenomenologically interpreted. *Philosophy and Phenomenological Research* 1(4): 442–452.
- Searle J. R. (1992) *The rediscovery of the mind*. MIT Press, Cambridge MA.
- Stawarska B. (2008a) Feeling good vibrations in dialogical relations. *Continental Philosophy Review* 41(2): 217–236.
- Stawarska B. (2008b) "You" and "I," "here" and "now": Spatial and social situatedness in deixis. *International Journal of Philosophical Studies* 16(3): 399–418.
- Stawarska B. (2009) *Between You and I. Dialogical Phenomenology*. Ohio University Press, Athens OH.
- Stern D. N. (1990) *Diary of a baby*. Basic Books, New York.
- Stern D. N. (2004) *The present moment in psychotherapy and everyday life*. W. W. Norton, New York.
- Strle T. (2013) Why should we study experience more systematically: Neurophenomenology and modern cognitive science. *Interdisciplinary Description of Complex Systems* 11(4): 376–390. http://indec.su/2013/indec_s_11_4.pdf
- Thompson E. (2001) Empathy and Consciousness. *Journal of Consciousness Studies* 8(5–7): 1–32. <http://cepa.info/2364>
- Thompson E. (2004) Life and mind: From autopoiesis to neurophenomenology. A tribute to Francisco Varela. *Phenomenology and the Cognitive Sciences* 3: 381–398. <http://cepa.info/1137>
- Thompson E. (2005) Empathy and human experience. In: Proctor J. (ed.) *Science, religion, and the human experience*. Oxford University Press, New York: 262–286. <http://cepa.info/2359>
- Thompson E. (2007) *Mind in life: Biology, phenomenology, and the sciences of mind*. Harvard University Press, Cambridge MA.
- Tversky A. & Kahneman D. (1974) Judgment under uncertainty: Heuristics and biases. *Science* 185(4157): 1124–1131.
- Umpleby S. (2001) What comes after second order cybernetics? *Cybernetics and Human Knowing* 8(3): 87–89. <http://cepa.info/1879>
- Umpleby S. (2010) From complexity to reflexivity: The next step in the systems sciences. In: Trapp R. (ed.) *Cybernetics and systems*. Austrian Society for Cybernetic Studies, Vienna: 281–286. <http://cepa.info/891>
- Valeznuela-Moguillansky C., O'Regan J. K. & Petitmengin C. (2013) Exploring the subjective experience of the "rubber hand" illusion. *Frontiers in Human Neuroscience* 7: 659. <http://journal.frontiersin.org/article/10.3389/fnhum.2013.00659>
- Varela F. J. (1996) Neurophenomenology: A methodological remedy for the hard problem. *Journal of Consciousness Studies* 3(4): 330–349. <http://cepa.info/1893>
- Varela F. J. (1999) The specious present: A neurophenomenology of time consciousness. In: Petitot J., Varela F. J. & Pachoud B. (eds.) *Naturalizing phenomenology: Issues in contemporary phenomenology and cognitive science*. Stanford University Press, Stanford CA: 266–315. <http://cepa.info/2081>
- Varela F. J. & Shear J. (eds.) (1999) *View from within: First-person approaches to the study of consciousness*. Imprint Academic, Exeter.
- Varela F. J., Thompson E. & Rosch E. (1991) *The embodied mind. Cognitive science and human experience*. MIT Press, Cambridge MA.
- Vermersch P. (1994) *L'entretien d'explicitation [The explicitation interview]*. ESF, Paris.
- Vermersch P. (1999) Introspection as practice. *Journal of Consciousness Studies* 6(2–3): 17–42. <http://cepa.info/2513>
- Vermersch P. (2009) Describing the practice of introspection. *Journal of Consciousness Studies* 16 (10–12): 20–57. <http://cepa.info/2416>
- Vermersch P. (2012) *Explicitation et phénoménologie [Explanation and phenomenology]*. PUF, Paris.
- Vörös S. (2014) The uroboros of consciousness: Between the naturalisation of phenomenology and the phenomenologisation of nature. *Constructivist Foundations* 10(1): 96–104. <http://constructivist.info/10/1/096>
- Vörös S. & Markič O. (2014) Photograph of the soul: Towards a critical neuroscience. *Teorija in praksa* 51(5): 811–831.
- Watzlawick P., Bavelas J. B. & Jackson D. D. (1967) *Pragmatics of human communication. A study of interactional patterns, pathologies, and paradoxes*. Norton, New York.
- Wellmon C. (2010) Goethe morphology of knowledge, or the overgrowth of nomenclature. *Goethe Yearbook* 17: 153–177.
- Zahavi D. (1999) *Self-awareness and alterity. A phenomenological investigation*. Northwestern University Press, Evanston IL.
- Zahavi D. (2003) *Husserl's phenomenology*. Stanford University Press, Stanford CA.
- Zahavi D. (2004) Phenomenology and the project of naturalization. *Phenomenology and the Cognitive Sciences* 3(4): 331–347. <http://cepa.info/2375>
- Zahavi D. (2005) Intentionality and experience. *Synthesis Philosophica* 20(2): 299–318.
- Zahavi D. (2007) Killing the straw man: Dennett and phenomenology. *Phenomenology and the Cognitive Science* 6: 21–43.