

## Neurophenomenology: Ontological Remedy for the Hard Problem?

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**> Abstract** • We offer an empirical reflection on certain assumptions maintained by neurodialectics as envisaged by Zaslavski, specifically, the possibility of continuity between first- and third-person accounts. Stemming from empirical analysis, we further question the attempts at excavation of concealed ontological principles underlying Varela's work.

### Introduction

« 1 » Nicolas Zaslavski draws compelling parallels between Hegel's dialectics and the project of neurophenomenology. He echoes Francisco Varela's (1996) hope that neurophenomenology will open up the "ontological region" (§26) in which we can observe a "fluid processuality binding together its components to give birth to a (neurodialectically) achieved whole" (ibid). The newly introduced term *neurodialectics*, in which the thesis-antithesis dynamics is played out through the relationship between first- and third-person accounts, points towards the expectation of an ontological ground for the project of neurophenomenology. Neurodialectics is supposed to lead to not merely correlation, but "*moments of the neurodialectical unity*" (§27) in the form of seamless continuity.

« 2 » Unfortunately, in neurophenomenological praxis, seamless continuity of the two types of accounts has rarely been achieved. In our commentary, we will attempt to shed empirical light on Zaslavski's endeavor to provide ontological ground to neurophenomenology. We hope to demonstrate that while some of the aspects of Varela's concept of neurophenomenology, such as mutual informing through constraints,

can indeed be observed in empirical attempts, other aspects often taken for granted in theory – e.g., the continuity between the two accounts – have as of yet not been observed in empirical praxis.

« 3 » In our commentary, we discuss whether Varelian groundlessness is similar to dialectics only in form or in structure as well. Also, we examine the difference between the open-endedness of the continuous groundless metamorphosis between seemingly opposing accounts and the goal-oriented nature of dialectics. Additionally, we question the attempts at excavation of concealed ontological principles underlying Varela's work.

### The problem with continuity

« 4 » Within the framework of empirical research, we consider neurophenomenological projects to be those that *collect* both first- and third-person data, and *treat* them as epistemologically equal (Petitmengin 2017). The link between the two viewpoints is therefore not one validating the other, but their mutual constraints. As Varela, on Zaslavski's interpretation, predicted, such constraints would lead to seamless continuity of data.<sup>1</sup> We will attempt to use an empirical example from our own ongoing research on working memory to point out that such a notion of seamlessness is desirable, but remains pragmatically problematic.

« 5 » Visuospatial working memory (VSWM), as a functionalist construct, has traditionally been studied within the cognitivist paradigm, correlating task-performance measures with neuroimaging or electrophysiological measurements (for reviews consider D'Esposito & Postle 2015; Eriksson et al. 2015). Under this approach, neuroimaging studies in particular have yielded a considerable amount of intersubjective variability, which is for the most part unproblematically accepted as part and parcel of experimental paradigms (Wager & Smith 2003) and is usually explained away as signal noise (McGonigle et al. 2000; Smith et al. 2005). In our ongoing study, we set out

1 | To the authors of the commentary, the idea of seamless continuity entails the requirement that the two types of data refer to the *same* cognitive phenomenon and are rendered as *integratable descriptions*.

to test the hypothesis that the intersubjective variability in fMRI data is related to different participants experiencing the performance of an identical task in different ways.

« 6 » *Method*: Our co-researchers (Kordeš & Demšar 2018) are asked to solve a change-detection task in which they have to memorize a stimulus and then decide whether the second stimulus is the same (Rouder et al. 2011). Stimuli are composed of four oriented lines, presented in parallel for 2.5 seconds. We employ partial report procedure, which limits the array of possible responses to *identical* and *different* (Luck & Vogel 1997; Alvarez & Cavanaugh 2004). We are gathering co-researchers' reaction times and response accuracy. While co-researchers are performing the task, they are asked to provide phenomenological descriptions of their experience. They are randomly prompted to report their experience by means of a micro-phenomenological interview (Petitmengin 2006). In what follows, we briefly outline two examples of very different phenomenological descriptions.

« 7 » *Example 1*: The co-researcher (male, 25) intended to solve the task analytically. This led him to articulate the descriptions of the way the stimulus appeared to him in active inner speech. During the delay, he experienced anticipation. He recognized the second stimulus as identical through comparing the description with the symbols on screen.

« 8 » *Example 2*: The co-researcher (female, 24) reported experiencing the existential feeling (Ratcliffe 2008) of unburdened detachment. She glanced at the stimulus, believing that after the delay, the answer would be available to her. During the delay she waited, experiencing an awareness of something having been imprinted onto her. When the second stimulus appeared, she passively perceived it as being identical.

« 9 » The two examples presented above point to a difference in phenomenologies accompanying the situation that would appear (and could be measured as) identical in terms of co-researchers' behavior. Solving the same task with the same experimental conditions is paralleled with divergent experience, thus – we conjecture – elucidating intersubjective variability in neuroimaging. In this way, first- and third-person data do constrain each other: first-person data indi-

cate what behavioral data *do not* represent (i.e., experiential signatures of visual working memory), thereby pointing to the insufficiency of behavioral data in accounting for neuroimaging data. Ronald McIntyre anticipates this development:

“Behaviorism, functionalism, and computationalism, for example, have all had little success in dealing with the fact (or apparent fact) that qualitatively distinct mental states can be behavioristically, functionally, and computationally equivalent.” (McIntyre 1999: 434)

« 10 » While mutual constraints can be recognized as a solid part of our methodological situation, there are many reasons why it is difficult to conceive of a continuity between first- and third-person data. One of the consequences of mutual constraints in our study was the replacement of the construct of “working memory” with the construct of “working-memory-task-solving strategy.” Whereas our study provides phenomenological accounts of solving a visual working-memory task, these have not been synthesized into the knowledge of *how visual working memory works*, much less the triangulated knowledge that would encompass both first- and third-person viewpoints.

« 11 » Our findings indicate that first- and third-person data exhibit incompatibilities to the point where we can no longer claim that they refer to the same cognitive phenomenon. It seems that many neurophenomenological studies, as well as philosophical considerations, fail to notice this lack of continuity between both types of accounts.

« 12 » In everyday *Lifeworld*, the two perspectives are indeed continuous, woven into the “seamless braid” (§26). According to phenomenological tradition, this may be because we are thrown into an unreflective acceptance of the natural attitude. The conflict only emerges when the everyday natural attitude is scrutinized in phenomenological reflection. There “is a difference between being aware of oneself as a causally determined known object, as a part of the empirical world, and being aware of oneself as a knowing subject, as [...] the limit of the world” (Zahavi 2004: 335). This difference becomes apparent in phenomenological reduction, which “is simply the requirement always to abide by the sense of the proper

investigation, and not to confuse epistemology with a natural scientific (objectivistic) investigation” (Husserl 1984: 410, quoted in Zahavi 2004: 337).

« 13 » Taking this into consideration, the two accounts hardly speak towards seamless continuity. It might be that it is precisely the adoption of a phenomenological attitude that, by providing a new type of data (first-person data), opens an explanatory divide between the two types of accounts. While third-person accounts require the *adoption* of a natural attitude, first-person accounts require *bracketing* of that exact attitude. The problem of continuity of data is a problem that the naturalistically oriented typically ignore (for examples, consider Churchland 1989 and Crick 1994), while phenomenological philosophers consider it almost irredeemable (Zahavi 2004). Breaking from both of these traditions, Varela acknowledged this problem – and offered neurophenomenology as a solution.

« 14 » Neurophenomenology (as the authors of this commentary understand it) suggests bridging the explanatory divide by cultivating *empirical* research on both sides, each respecting its own epistemological attitude. Equal participation in such bridging is possible only if neither side is deemed epistemologically superordinate; i.e., is not ascribed a higher level of validity, and by extension, the capacity to validate the other account.<sup>2</sup>

« 15 » Neurophenomenology can be seen as a region allowing both types of accounts to continuously (and groundlessly) attempt “neurodialectical unity” (§27). The direction and the manner of this unfolding is steered by empirical findings on both sides and is as such a *methodological* problem.

« 16 » Granted that neurophenomenology is conceived as an attempt at solving metaphysical problems through empirical research, it would be engaging to see a philosophy direction that is informed by em-

2] Neurophenomenology in the broad sense of including both first- and third-person viewpoints has become increasingly widespread. It seems, though, that these attempts have difficulties establishing a seamless continuity of data, thereby resorting to epistemological superordination of either of the two viewpoints (for examples, consider Lutz et al. 2002; Gallagher 2007, 2012).

pirical attempts at bridging the explanatory divide (Q1).

### The ontological remedy?

« 17 » Even beyond discussions regarding the continuity of data, the praxis of empirical research might prove beneficial for understanding Varela’s idea of groundlessness. It seems to us that praxis-informing-theory is well-aligned with Varela’s intention in conceiving neurophenomenology.

« 18 » It may be that the ontological underpinnings, sought by Zaslowski, might be closer to our grasp than it seems, as Sebastian Vörös and Michel Bitbol hint by quoting Wittgenstein:

“The aspects of things that are most important for us are hidden because of their simplicity and familiarity. (One is unable to notice something – because it is always before one’s eyes.)” (Wittgenstein 1968: §129, quoted in Vörös & Bitbol 2017)

« 19 » Further, Varela, Evan Thompson, and Eleanor Rosch state that:

“[g]roundlessness [...] is to be found not in some far off, philosophically abstruse analysis but in everyday experience. Indeed, groundlessness is revealed in cognition as ‘common sense’ [...]” (Varela, Thompson, & Rosch 1991: 144)

What then, if the “ontological region” has always been hiding in plain sight, interwoven in our *Lifeworld*, as well as in our research experience?

« 20 » Assuming the above, the philosophical challenge is to sharpen the theory’s view and understanding of praxis as it gives itself to the cognizing subject and/or empirical researcher. Varela does so by shifting attention to an investigation of patterns in metamorphoses between the opposing types of accounts. He expects the ontological solutions to be found in the midst of empirical work. Neurophenomenology, after all, was meant to be a methodological remedy.

« 21 » As Zaslowski (§26) notes, one of the characteristics of the observed pattern of metamorphoses undergone by living organisms is their capacity for “laying down [...] a path in walking” (Varela 1987: 63 quoted in Thompson 2007: 13), that is, their ability to constantly define their own directedness. In spite of compelling evidence for the

comparison between neurophenomenology and Hegelian dialectics, this might be the point of difference between the two. Hegel indeed sees the micro-dynamics of dialectics as “course generating itself,” but only to quickly assume the view from nowhere and delineate a greater purpose for the dialectical path:

“[a]s each category implicitly contains the force of self-contradiction, it will be reconciled or sublated in the long run to craft a higher form of unity towards a grand collective synthesis in the Absolute.” (Reyes 2014: 120)

From this point of view, Varela’s groundlessness, by its renouncement of the view from nowhere and thereby the absolute, is self-sufficient and complete.

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