

subject-object duality is by no means exceptional. In fact, it occurs over and over again in our everyday lives, and we just need to be attentive to perceive it; the phenomenological *epoché* and the systematical redirection of attention in the context of the microphenomenological interview both favor such awareness.

« 25 » In some cases, however, the process of co-constitution of subject and object is, so to speak, frozen for a few seconds, and its unfolding can then be observed easily. These are cases of extreme surprise, which are often compared to a clap of thunder in a calm sky (Bitbol 2017). At the beginning, we are just startled; we are dumbfounded by the pure experience of an unclassified novelty. This sudden experience is undifferentiated, stunning, and omnipresent; it feels like a percussion. It is so massive that we do not even make a distinction between what is happening to us and what happens in the world; we are in a non-dual state that does not allow the use of personal pronouns

such as “we.” But then, things settle and the noise recedes into the past. We become aware of this new situation, we analyze it, and try to classify it. *This* was a loud clap of thunder and *I* heard it. In other words, we start reflecting on the initial experience. We ascribe it to an entity of the world (the thunder) and, since we can posit ourselves in front of it, we are no longer drowned in it. We have become self-aware subjects of our experience.

« 26 » This little narrative of an extreme surprise also clarifies the workings of the co-constitution of subject and object. This co-constitution is inextricably connected with time. The primordial unity unfolds in an all-pervasive present; but the detachment of an object from this lived unity is tantamount to letting a fraction of it slip into the past. We can summarize these remarks by saying that “time” is a name given to the process of self-externalization by which the duality between the inner life and the outer world arises (Henry 1996).

« 27 » This being granted, it looks just absurd to seek the origin of the pure non-dual experience in some residue of it left in the past (such as neurobiological objects). The “hard problem” is thus seen as the name of an archetypal misunderstanding.

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Varela as the Uncanny

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> **Upshot** • Why has the neurophenomenological approach not been adopted as a common and even obligatory tool in the study of consciousness? I suggest that the problem with the neurophenomenological approach is its effectiveness on the one hand and its almost impossible demands from the scientist on the other: One cannot accept the neurophenomenological approach without rejecting not only the paradigm of cognitive science, but the scientific paradigm as a whole.

« 1 » As one who has been following Claire Petitmengin's work for the last ten years or so, it is very clear (to me at least) that she is one of Francisco Varela's most profound students. Fundamentally, it is not merely that Petitmengin has succeeded in

uncovering Varela's revolutionary intentions in his ground-breaking paper “Neurophenomenology: A methodological remedy for the hard problem” (Varela 1996), but she has taken the neurophenomenological project a step further both on the theoretical level and on a pragmatic level; by so doing Petitmengin reinvents and redefines the neurophenomenological project anew.

« 2 » In this commentary I do not intend to criticize Petitmengin's target article – which I find extremely important. Instead, I would like to present the following questions which are more general in nature:

- a Why, up until now, has the neurophenomenological approach not been adopted as a common and even obligatory tool in the study of consciousness?
- b What should be done in order for the neurophenomenological approach to be recognized as a useful and even necessary tool in the study of consciousness?

The answers to these questions go over and beyond Thomas Kuhn's (1996) well-known criticism which is relevant to any scientific field.

« 3 » Essentially, the problem with the neurophenomenological approach is neither its value nor its effectiveness as a pragmatic tool in the study of consciousness. Indeed, regardless of the philosophical implications of the neurophenomenological project, as Antoine Lutz and Varela (Lutz et al. 2002) have shown, the neurophenomenological approach is useful (at the very least) for it allows us to improve our analysis of the data that has been collected on a neuronal level (Lutz 2002; Lutz & Thompson 2003). Indeed, according to the neurophenomenological approach,

“first-person accounts of the phenomenology of mental processes can provide additional, valid information about these externally uncontrollable aspects of mental activity, and [...] this information can be used to detect significant patterns of dynamic activity at the neural level.” (Thompson, Lutz & Cosmelli 2005: 45)

« 4 » The problem, then, is not due to the ineffectiveness of the neurophenomenological approach as a methodological tool. The problem, so I would suggest, is

rooted in a much deeper layer. Fundamentally (and quite surprisingly one might add), the actual problem with the neurophenomenological approach is its effectiveness on the one hand and its almost impossible demands from the scientist on the other, indeed “the price to pay is heavier than most people are willing to concede” (Varela 1996: 331).

« 5 » Varela’s demands from the scientists are radical – maybe too radical. To be more specific, one cannot accept the neurophenomenological approach without rejecting not only the paradigm of cognitive science (along with its assumptions), but rejecting the scientific paradigm as a whole. Nothing less. In the rest of this commentary I will try to explain this claim.

« 6 » Our ability (and our need) to differentiate between subject and object stands in the very core of the scientific paradigm. Thus, the subject-object dichotomy is in a way a pre-assumption of the whole scientific project. Varela asks us to give up this subject-object dichotomy.

« 7 » Clearly, Varela is not the first to call for such a revolution. Yet, the problem is that Varela’s demands were put forth by a scientist who believed in science and tried to save it from itself. His call for revolution is an outcome of deep scientific crisis, not, however, merely a philosophical crisis but rather a crisis that has seeped and leaked into the lab. I will explain.

« 8 » Whereas David Chalmers’s 1995 paper, “Facing Up to the Problem of Consciousness,” exposes the weaknesses of cognitive science as a paradigm and rephrases some old problems in a wider context of physicalism, Varela’s paper tells us something else: the hard problem in the study of consciousness is a result of illness that stands in the very core of scientific thought from its very start. Thus, it is our obsession, both as scientists and philosophers, to separate between the subject on the one hand and the object on the other hand, that is responsible for the emergence of the hard problem in the study of consciousness. This problem, however, is just the tip of the iceberg.

« 9 » If we accept that we, humans, are part of nature, and if we accept that our subjective experience is, in a way, supposed to be an objective fact about “reality,” then

the hard problem in the study of consciousness is in fact a hard problem in science altogether. In that sense, Varela keeps reminding us

- a that this problem cannot be ignored and
- b that this problem is an outcome of an incorrect starting point of the scientific paradigm as a whole.

In other words, Varela’s new paradigm is not restricted to the study of consciousness or even, to be more specific, to the field of cognitive neuroscience. Instead, Varela’s mission statement forces us to reconsider the dichotomist principles according to which there is an object in the world that can be studied independently of the subject, and as if we, subjects, can be examined as pure objects (e.g., introspection and fMRI).

« 10 » Varela’s demands could be more easily ignored if he were a philosopher such as Edmund Husserl. However, Varela is responsible for a series of studies (Varela 1999b; Lutz et al. 2002) that show, at least on the level of mild neurophenomenology, that his approach is effective.

« 11 » With this in mind, one must wonder how it has come about that a vast majority of researchers are systematically ignoring the neurophenomenological project? The (sad) answer, I would like to suggest, is that these researchers *have no alternative but to ignore Varela’s pragmatic program*. Indeed, it is not for nothing that Varela has used the term “remedy.” Quite often, the patient tends to repress and to deny the problem – having said that, it is very clear that Varela’s demands of the scientists to confront their illness is not an easy task indeed.

« 12 » Varela produced a sense of the uncanny, which is a Freudian concept (“unheimlich” in the German original) where something that is familiar to us becomes foreign and frightening (or is within a class of frightening things), which leads us back to what is known and familiar (Freud 1959). To rephrase it, the uncanny is the feeling that within our home, where it should be calm and safe, stands the most frightening thing.

« 13 » For the scientist, Varela represents the uncanny. *It would be easy to dismiss Varela’s neurophenomenological project if it were not such an effective tool* – how-

ever, because it is such an effective tool it became a threat to any scientist who grew up on the dichotomist subject-object view.

« 14 » I would like to finish with a short comment: I do not agree with the notion according to which there are only two different kinds of neurophenomenological approach: mild and radical. As I see it, there is a tension between mild neurophenomenology and radical neurophenomenology. Like Petitmengin, I am a philosopher who is engaged in empirical studies in order to confront the hard problem in the study of consciousness. Moreover, like Petitmengin, I find Varela’s neurophenomenological approach the most effective tool in the study of consciousness. As a philosopher, I argue in favor of radical neurophenomenology (Ataria 2017). Yet, when I engaged in empirical studies (Ataria, Dor-Ziderman & Berkovich-Ohana 2015; Dor-Ziderman et al. 2016), I found that in order to be able to create a fruitful dialogue with neuroscientists I had no choice but to employ mild neurophenomenology. Now, let us return to the question of *what should be done in order for the neurophenomenological approach to be recognized as a useful and even necessary tool in the study of consciousness?* The sad answer is to employ mild neurophenomenology while continuing to dream about radical neurophenomenology. There is, however, a positive alternative: ignore your fear and go for radical neurophenomenology.

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