Enacting Enaction: A Dialectic Between Knowing and Being

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> **Context** · The notion of "enaction," as originally expounded by Varela and his colleagues, was introduced into cognitive science as part of a broad philosophical framework combining science, phenomenology, and Buddhist philosophy. Its intention was to help the researchers in the field avoid falling prey to various dichotomies (mind/body, self/world, self/other) bedeviling modern philosophy and science, and serve as a "conceptual evocation" of "non-duality" or "groundlessness": an ongoing and irreducible circulation between the flux of lived experience (being) and the search of reason for conceptual invariants (knowing). > **Problem** · It seems that, within the burgeoning field of "enactivism," these far-reaching dimensions of the original proposal are often either dismissed or simply ignored. For this reason, the article tries to answer the following questions: Does the move away from the original exposition of enaction matter? What, if anything, has been lost along the way? What are the implications of the elements that have been discarded? > **Method** · By drawing on some of the less well-known works of Varela, we spell out and elucidate some of the more radical aspects of the notion of enaction and the broader philosophical framework into which it was originally embedded. > **Results** · We argue that this broader philosophical framework is of utmost importance, as it shows that enaction is only one part of the multi-layered "change in the context" that Varela felt was needed to successfully instantiate a move towards the non-dual. This "change of context" involves not only a change in the way we think about dualities, but also a change in the way we experience them. The role of new scientific metaphors, such as enaction (but also autopoiesis, embodiment, etc.), is to function as conceptual evocations of this back-and-forth exchange between knowing and being. However, if this overall framework is discarded, as is often the case in contemporary accounts, enaction loses its radical impetus and becomes mellowed down to yet another version of naturalized epistemology. > **Implications** · Taking the notion of enaction seriously implies a radical shift in our conceptions of science and knowledge, as it encompasses a theoretical and existential move away from a detached observer to embedded and engaged cognizer. Thus, our manner of thinking can no longer be considered in isolation from our manner of being, which indicates a deep interconnection between epistemology and ethics, and may entail profound changes in the definition of the aims, methods, and values of the research community: self-transformation as a consequence of, and condition for, understanding. > **Constructivist content** · The target article advocates a critical approach to realist presuppositions in contemporary science and philosophy, and emphasizes a deep interrelation between being and knowing, between ethics and epistemology. > **Key words** · Anti-metaphysics, enaction, ethics, lived experience, neurophenomenology, non-duality.

Introduction: Familiarity breeds neglect

«1» When neglected aspects of Francisco Varela's work are mentioned, what usually comes to mind is some perceptible *lack*: an interesting conceptual or experimental thread was started in the past, but, for some reason or other, it has never been taken up and woven into full-blown theoretical and empirical fabric. The buds of an idea never came to bloom: the link with the past has been severed, and there is something *missing* in the present.

«2» But there is yet another type of neglect, one arguably more insidious because harder to detect. It is a neglect that has sedimented in the *guise of continuity*: "common knowledge" and habituated glance assure us that there has been *no break* between a given idea as originally conceived and its subsequent developments, yet what is there is only its verbal shell, with its contents hollowed out. We have become so familiarized with a certain notion that its profound, if tacit, metamorphoses elude us. In the words of Ludwig 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). Because there is

no visible lack, we overlook the lack of the (original) vision. The situation is reminiscent of the blind spot in our visual field: not only do we not see (the blind spot), but "*we do not see that we do not see*" (Maturana & Varela 1998: 19; italics in the original).

«3» The tentative investigation proffered in this article deals with a neglect of this second kind. Instead of focusing on one of the aspects from Varela's oeuvre that have faded into obscurity (for more on that see the editorial and other contributions in this issue), we intend to focus primarily on a concept that has recently become mainstream – *enaction*. By embedding the notion of enaction into a broader framework

of Varela's thought, we will argue that it carries extremely radical and far-reaching implications, ones that put into question certain well-entrenched and seemingly self-evident presuppositions about the nature of scientific inquiry and its relation to our lived experience. Our wish is that, by bringing to light the dimensions of enaction that are usually skimmed over by many proponents of the so-called "enactivist" movement, [1] we might spark discussion on the topic, as well as instigate fresh research into the latent capacities of Varela's original construal. In other words, instead of letting "enaction" become engulfed in a framework erected on the modern epistemic "blind spot," we would like to show how it can be used to make us aware of our own blindness and perhaps even help us cure it.

A single thought: Not one, not two

« 4 » Martin Heidegger suggested that all great thinkers have only a single thought that they struggle to express, hoping that, one day, it may "stand still like a star in the world's sky" (Heidegger 1975: 4). Faced with the multifarious and ever-evolving work of Varela, one is tempted to dismiss Heidegger's idea as foolhardy; however, a closer inspection reveals that the great "thinker of Being" may not have been that far off the mark.

1 | It should be noted at the very outset that "enactivism" is by no means a unified, homogenous school of thought, and that individual authors differ significantly in how strongly, if at all, they subscribe to Varela's original ideas. Some scholars such as John Stewart and Evan Thompson could be said to be (at least in principle) aligned with Varela's original conceptions, whereas certain other authors such as David Hutto, Richard Menary and Eric Myin, diverge from them almost entirely. Due to the enormous complexity of the field, an in-depth account of similarities and differences between individual approaches would take us too far astray; however, see Vörös, Froese & Riegler (2016) for a comprehensive overview of varieties of enactivism, coupled with a portrayal of the con- and divergences between their main epistemological and metaphysical tenets.

« 5 » In fact, it is not by accident that we evoke Heidegger here, for he, as well as several other thinkers from the phenomenological tradition (most notably Edmund Husserl [at least in some of his moods] and Maurice Merleau-Ponty), contributed greatly to what seems to have been Varela's main philosophical concern: to find not only a *conceptual-theoretical* but also, or even more so, an *existential* way out of the puzzles into which the post-Cartesian philosophical and scientific thought has entangled itself. Or to revert to Wittgenstein once more, Varela tried to "show the fly [i.e., contemporary philosopher/scientist] the way out of the fly-bottle [i.e., metaphysical and epistemological webs she has enmeshed herself into]" (Wittgenstein 1968: §309). But – what webs? And why such urgency?

« 6 » Following his method of systematic analysis and radical doubt, René Descartes (2008) found epistemic certainty ("ground") in what he felt was the indubitable realm of subjectivity, but has thereby abstracted it from an equally indubitable contact with his (corporeal, natural, social) "life world." Thus, an *epistemic wound* inadvertently opened, one that has not yet fully healed and has separated the (cognitively underprivileged) "lived experience," in which I, as an *embodied agent*, seem to be intimately and meaningfully intertwined with the world, from the (cognitively privileged) "theoretical attitude," where I, as a *disembodied observer*, seem to be separated from my embodied self, the world, and the others. Later, especially with the rising prominence of scientific inquiry, the burden of certainty has often shifted from the subjective pole ("I") to the objective pole ("world"), but all such manoeuvres were conducted – uncritically or, as Husserl was wont to say, *naively* – against the background of this gaping wound, which has led to a progressive estrangement of science and philosophy from the "life world," the (non-dualist) world of lived experience.

« 7 » In his rich oeuvre, Varela tried to find remedy for the epistemic wound inflicted by modernity. Piercing through what, at first glance, looks like layers upon layers of different, even disparate projects, a keen eye soon alights on a common theme – on that "one idea" (Varela 2002) Varela had been constantly struggling to express.

The core of this "single thought" consisted of an attempt to erect a coherent framework for a radical "move towards non-dual thinking" (Varela 1999b: 85), to develop *a non-dual ontology and epistemology* that would avoid falling prey to *various dichotomies* (mind/body, self/world, and self/other) bedevilling post-Cartesian thought. To this end, Varela proved to be unabashedly eclectic, and drew on a wide variety of authors, sources, and traditions: in addition to phenomenology, he was also strongly influenced by second-order cybernetics, constructivist philosophy, and – to the chagrin of many – Buddhist philosophy. However, despite their heterogeneity, what all these sources had in common was that, to him, they provided valuable means to both initiate, and flesh out, the said *move towards the non-dual*.

« 8 » Varela put forward one of the most cogent and comprehensive outlines of his general motive as early as 1976 in a fairly unknown paper called "Not One, not Two" (Varela 1976). There, he lays the (groundless) grounds for his "non-dualist" framework, which can be said to have remained – with some minor modifications and changes of emphasis – the "guiding star" throughout his career. Although he starts off by discussing the particularities of the mind-body problem, he soon broadens his perspective to include "dualities quite generally," i.e., whole/parts, being/becoming, system/environment, observer/observed, etc. (ibid: 62–64). His main contention is that to change our *perspective* on the mind-body problem (and other dualities, for that matter) there needs to be a corresponding "change in *the context* in which the problem is seen to arise" (ibid: 62; our emphasis). By a "change in the context" Varela means (at least) three things:

a a change in the *logic* used to talk about dualities;
b a change in the *scientific ideas* and *metaphors*; and
c a change in the *cultural conceptions* about the *accessible* (and, we may add, *permissible*) *experiences*, which, as will be shown, encompasses an effective *mutation of one's being* (one's existential attitude) (ibid.).

Before proceeding to the last two aspects (b and c), which are arguably most relevant

for our purposes, a few short words on the first (logical) aspect are necessary. This brief explication is important not only because it lays the groundwork for subsequent developments, but also because it situates Varela's later work squarely in the (second-order) cybernetic tradition,[2] a fact that is all too often overlooked by contemporary commentators (but see e.g., Froese 2011).

« 9 » Drawing on reflections about recursivity and circularity of self-organizing systems that were in vogue at the time, Varela wanted to develop a general (semi) formal framework that would enable us to think and talk about "the ways in which pairs (poles, extremes, modes, sides) are *related* and yet remain *distinct*" (Varela 1976: 62). At the heart of this framework, which Varela termed "Star cybernetics" or "cybernetic (post-Hegelian) dialectics" (ibid: 64), was a set of statements (he called them *Star* [*] *statements*) containing "a built-in injunction (heuristic, recipe, guidance) that can tell us *how* to go from duality to trinity" (ibid: 62). In other words, such statements provide us with instructions on how to move from the two (seeming) opposites (*duality*) to a broader framework where the two opposites are conceived as complementary parts of a single process determining, and being determined by, a new emergent (second-order) whole (*trinity*).

« 10 » In Varela's shorthand, *-statements take the form:

❝the it/the process leading to it.❞ (Varela 1976: 62)

where *the it* stands for "any situation (domain, process, entity, notion) which is holistic (total, closed, complete, full, stable, self-contained)," while *the processes leading to it* refer to "the corresponding processes (constituents, generators, dynamics)" (ibid: 63). In cybernetic dialectics, two entities (processes, etc.) which, when observed on the *same* level, look like *polar opposites* are thus made, when observed from a *higher* level, into two *complementary parts* whose dynamics constitutes, and is being constituted by, a new emergent entity (process, etc.):

2| In fact, in the 1976 article, Varela is even introduced as "cybernetician Francisco Varela."

❝In each case, the dual elements become effectively complementary: they mutually specify each other. There is no more duality in the sense that they are effectively related: we can contemplate these dual pairs from a metalevel where they become a cognitive unity, a second-order whole.❞ (ibid: 64)

« 11 » Varela maintained that, because of the "imbrication of levels" – "the hierarchical arrangements of whole systems (strata of stability, levels of orders)" (ibid.) – this dialectical (self-referential) movement is not a case of *circulus vitiosus*, but rather a case of *circulus fructuosus* (Varela 1978, 1981, 1984). It is correct that, in this dialectical whirlpool, there is no "firm and immovable" ground on which to base one's cognitive edifice – one "can neither touch bottom with [one's] foot nor swim back to the surface" (Descartes 2008: 17) –, but the fact that "the it" and "the processes leading to it" *bridge across levels* and *mutually specify* one another, makes the on-going circularity/recursivity operative and productive.

Non-duality in word: Enaction

« 12 » As already mentioned, a modified logic – cybernetic dialectics – was only the first aspect of the overall "change of context" that Varela felt was needed for transcending dualist thinking. However, its fundamental dynamics served as a formal framework – as a *guiding Star* [*] – for the other two aspects. Thus, in his later work Varela was predominantly concerned with two broad agendas: first, to show that, when applied to various problem domains within different scientific fields (cell biology, immunology, neuroscience, etc.), dialectical thinking can give rise to fruitful and stimulating new scientific models and metaphors (second aspect); second, to demonstrate how the new logic and scientific metaphors not only improve our ability to *understand* and *express* certain types of experience and thereby expand the range of permissible experiential categories, but also help *instigate*, and thus *make available*, profound changes in our existential attitudes on a broader (personal and societal) level (third aspect). Let us look at each of these aspects in turn

(we will deal with the second aspect in this, and the third aspect in the next section).

« 13 » Already in his 1976 paper, Varela tried to show how his newly proposed dialectical logic might modify our conceptions of the subject/object and mind/body dichotomies. Thus, regarding the first dichotomy, he contends that, instead of giving in to the "temptation to take these terms [observer/observed, describer/described, subject/object] as opposing dualities," they should be treated not as "effectively opposed, but rather [as] *moments of a larger* whole which sits on a metalevel with respect to both terms" (ibid: 65; our emphasis). To make such a shift in perspective, however, it is important to consider that "whatever [an observer] describes (sees, perceives, understands) is a reflection of his actions (perceptions, properties, organization)," and that the two "poles" are, in fact, "mutually revealing" (ibid.). Varela calls this "larger [emergent] whole" a "conversational domain," and draws an analogy with "species interaction" to make his point. Just as, for instance, the pair "predator/prey" does not convey two opposing poles, but stands for two integral (complementary) elements of a stable *ecosystem*, in which "there is complementarity, mutual stabilization, and benefits in survival for both" (ibid: 64), so the pair "observer/observed" does not denote an unsurpassable dichotomy, but rather a stable *conversational pattern*, i.e., a conversational domain consisting of "stable patterns and relations that constitute units of observable behaviour" (ibid: 65). So, instead of subject/object (observer/observed, etc.), we get a new Star:

conversational pattern [the it]/
participants of the conversations [the processes leading to it].

« 14 » According to Varela, the mind-body problem needs to be recast along the same lines: the "mind," which is normally seen as the opposite of the "body," is in fact a "conversational pattern" emerging from the "bodies," i.e., "processors of the participants," which gives rise to the following sub-Star:

mind [conversational pattern]/*bodies* [processors of the participants].

« 15 » Note that the corporeal side of the sub-Star is *pluralized*, suggesting that it encloses not only *my* body, but also the bodies of *others* (ibid: 66), which is another way of saying that the process is, at its very core, *intersubjective*.

« 16 » Throughout his career, Varela tried to deepen and expand these preliminary reflections, carving out the idea of "conversational domain/pattern" by means of various freshly minted or creatively re-interpreted "bridge notions" (Varela 2002; more on that later): autopoiesis, autonomy, emergence, embodiment, and finally, enaction. Although one could argue that all these concepts, spanning different levels and domains, form a densely interwoven whole, an all-encompassing analysis of Varela's conceptual odyssey would take us too far afield. Thus, in what follows, we focus mostly on how these terms relate to the central object of our inquiry, namely that of enaction.

« 17 » One of the most comprehensive overviews of Varela's later work can be found in another little-known text, "Steps to a Science of Inter-Being," published just one year before his untimely death (Varela 1999b). In it, Varela structures his portrayal around four "key points," three of which – those dealing with changes in the prevailing *scientific metaphors* for consciousness, mind, and cognition – will be covered in this section, while the last one – the one dealing with the *pragmatics* of (lived) experience – will be the topic of the next section. Any reader who keeps abreast of current developments in cognitive science is likely to find the first three points surprisingly familiar. However, as we will see shortly, it is precisely this "familiarity" that makes us overlook their genuine radicality. The three points are as follows.

« 18 » *Embodiment* (slogan: "The mind is not in the head"; ibid: 72–74). The idea of embodiment stands as an alternative to the *computer metaphor* of the mind that has long been prevalent in cognitive science, and has given rise to a unified research programme called "cognitivism." In the cognitivist view, the mind is like *software* running on *hardware* encompassing (primarily) the brain and (secondarily) the rest of the body. Correspondingly, cognition is said to consist of an *algorithm-based manipulation of brain-instantiated symbols* that *represent* discrete features of a mind-independent (pre-existing) world. In contrast, the idea of *embodiment* denotes that the mind and cognition are not so much a matter of skull-encased "computations of symbolic representations" (Varela 1992: 238), but rather a matter of recurrent, practical engagement of the *whole, living organism* with its *environment*. The mind, then, is a dynamic (semi-stable) pattern spanning the brain-body-environment boundaries, while cognition is "something that you bring forth by the act of handling, the fact of doing it actively" (Varela 1999b: 73), and consists in an *ongoing active coupling* between the organism and its world. In this view, the criterion for cognition is no longer "a successful representation of an external world which is pre-given, usually as a problem-solving situation," but rather the ability, within broad limits, "to *pose* the relevant issues to be addressed at each moment of our life," where these relevant issues are not pre-given, but "*enacted* or *brought forth* from the background" (Varela 1992: 250). There is no world-independent mind cognizing a mind-independent world; instead, there is the living (embodied, acting) organism that determines, and is determined by, its realm of salience/meaning (its "world"): "you and the object are co-emerging, co-arising" (Varela 1999b: 73).

« 19 » *Emergence* (slogan: "The mind neither exists nor does it not exist"; ibid: 75–80). The notion of emergence is intended as a means for breaking the deadlock between reductionist and dualist conceptions of the mind-brain/body interrelation. However, unlike most emergentist theories, Varela, drawing on his previous work on autopoiesis (Maturana & Varela 1980, 1987) and autonomy (Varela 1978, 1981), invests "emergence" with a decidedly *bilateral twist*. In other terms, if most emergentists opt for a non-reductionist version of physicalism, Varela ascribes no ontological priority to physical "parts" over biological or mental "wholes." Namely, his contention is that the relation between *local patterns* (constituents and their interactions) and *global states* (emergent whole) needs to be understood *recursively* (self-referentially): "parts" give rise to, and thus determine, the whole; and concomitantly, the whole delimits, and thus determines, its "parts" (Varela 1999b: 76). Note, further, that "parts" here need not be construed as "(material) components" that form some sort of a "topologically closed system" (as in the case of the autopoietic mechanisms of a single cell, where the cell's metabolic network creates a topological boundary in the form of its membrane), but can be understood as any kind of network of interrelated processes (elements, functions, parameters, etc.) whose interactions lead to the emergence of an "organizationally closed system." Thus, in the domain of human cognition, Varela suggests that the relevant local processes, which lead to the emergence of a global entity referred to as the mind/self, consist of transiently correlated sub-sets (ensembles) of neurons that arise from, and are modulated by, sensorimotor patterns involved in our ongoing embodied actions. The emergent global entity constitutes "an individual, or a cognitive unity," which is "neither independent of these local interactions nor reducible to them" (ibid: 75), but is *enactively emergent*: the elements and the whole co-determine each other (ibid: 77).

« 20 » *Intersubjectivity* (slogan: "This mind is that mind"; ibid: 81–85). Finally, "intersubjectivity" provides an alternative to the notion of the mind as a (semi)solipsistic, skull-encased ghost that is severed from – both inaccessible to, and unable to access – other minds. In Varela's view, the mind and cognition are fundamentally intersubjective; they are permeated by affective (pre-reflective, dynamic) dimensions, and thus intrinsically *empathic*: the subjectivity of the other does not have to be reconstructed rationally, as some of the more cognitivist-based accounts would have it after Descartes, but is given to me on a more fundamental, pre-reflective level. Just as in the case of the "mind-world" duality, so the "me-other" duality turns out to be *generatively enactive*: "being a 'me' and constituting a 'you' are concomitant events," they co-determine each other (ibid: 80). Me, other, and the world are inextricably intertwined in an "empathic mesh" (Varela 1996a: 340).

« 21 » Cognition, then, is said to be
- *enactively embodied*,
- *enactively emergent*, and
- *enactively generative (intersubjective)*

(Varela 1999b: 74, 79, 81). Thus, in Varela's later work, the notion of "enaction" becomes the central metaphor for expressing, in the field of cognitive science, a fruitful circularity at the heart of cybernetic dialectics, the role of a conceptual bridge for three main dualisms haunting the (post-)Cartesian metaphysics:

- self-world,
- self-body, and
- self-other.

To underline its circular, dialectical nature Varela employs a plethora of (evocative) phrases: "co-emerging," "co-arising," "co-implication," "co-determination" (ibid: 73), "mutual determination," "circulation," being engaged in a "non-dual relationship," and "mutually constrain[ing]" (ibid: 82). They all indicate that, ultimately, the mind is, in the memorable phrase of Douglas Hofstadter, a *strange loop* (cf. Varela 1984), or, if we revert to Heidegger again, an *un-ground* or *groundless ground* (cf. Varela, Thompson & Rosch 1991). And given that this "knotty dialectic" (Varela 1991: 79) is said to characterize the circular nature of all living systems, and that therefore cognizing and living are, if not identical (cf. "to live is to know," Maturana & Varela 1998: 174), at least structurally, organizationally, and dynamically isomorphic, it can be said that enaction constitutes the very core of *bio-logic* – the (non-dual) logic of the living.

Non-duality in flesh: Neurophenomenology

« 22 » However, this is only half of the story. If what has just been said applies to the organization of living, cognizing beings *in general*, it must also apply to *us* who *embody* this selfsame organization. In other words, a shift towards a non-dual logic and new scientific metaphors entails, and – in a certain sense – presupposes (see next section), yet another, and arguably most fundamental dialectical twist – a "funny kind of flip," as Varela calls it (Varela 1978: 82) –, which involves a constant shifting of perspective between *knowing* (theorizing about) the nature of the living and *being* (living-through) this very same nature. Thus, already in 1976, Varela speaks of a seeming tension between "being," which he

understands as "experience, sense-of-self or direct knowledge," and "knowledge," which refers to "description, nomological net, logical discourse" (Varela 1976: 66). In line with his overall style of inquiry, he points out that, in order to turn this most fundamental of all dichotomies into a dialectical Star, there must be a "balance (stability, complementarity)" between the two, which would reveal how they "mutually specify each other," and that "every knowledge requires a certain level of experience and vice versa":

❝ My view is this: if we are to have an understanding of mind [cognition, etc.] from the point of view expressed here […], and if this is going to be a viable alternative, this knowledge has to balance with a corresponding being. [… T]he fact [is] that a *change in experience* (being) is as necessary as *change in understanding* if any suturing [of] the mind-body (and other) dualisms is to come about. ❞ (ibid: 67; our emphasis)

« 23 » But how are we to achieve this "change and unfoldment of human experience"? Varela elaborates:

❝ As long as we experience ourselves mainly as individualities, this knowledge is not forthcoming, or I do not believe it will be fruitful. […] Translated: [what is required is] an expansion of experience, a redressing of the balance between knowledge and being. Traditions in the East have accumulated *subtle know-hows* to further such transformations in experience. ❞ (ibid., our emphasis)

« 24 » What is needed, then, is to find a way to fruitfully connect changes in our *knowledge* of life and mind with the corresponding changes of *experience*. And this is precisely the central theme of the fourth, and last, "key point," which Varela terms *circulation* (slogan: "Consciousness is a public affair"; Varela 1999b: 81–85) and is based on the intuition that "the depth inherent in direct, lived experience permeates the natural roots of the mind" (ibid: 82). The goal behind this intuition is to establish an efficient back-and-forth exchange between third-person (scientific) analyses and first-person (phenomenological) investigations, an exchange that places both parties on an equal footing and shuns "the

extremes of […] neuro-reductionism and some ineffability of consciousness" (ibid.). This, in turn, requires that Socrates' famous dictum "The unexamined life is not worth living" be taken seriously, and that explicit and rigorous *pragmatics* (know-how) be developed for a *detailed examination of lived experience*. In short, what is needed is an "experiential neuroscience" (ibid), and the first (tentative) steps in this direction were taken by Varela when he proposed a novel research programme called *neurophenomenology* (Varela 1996a).

« 25 » The main motive behind the neurophenomenological project is to enact the final aspect of Varela's overall strategy, i.e., to pave the way and establish a *methodological* "meeting point" for *theoretical* aspects – new logic (cybernetic dialectics), new scientific metaphors (enaction) – and *experiential* aspects – new standards for culturally accessible and acceptable modes of being. On a more narrow scale, neurophenomenology is meant as a research platform that would enable, in concrete experimental settings, an ongoing circulation between *scientific research* (inspired primarily, but not exclusively, by embodied/enactive conceptions of the mind) and *experiential expertise* (drawing on introspectionist, phenomenological, and [particularly Buddhist] contemplative traditions):

❝ To make further progress [on the question of mind-body duality] we need cutting edge techniques and analyses from the scientific side, and very consistent development of phenomenological investigation for the purposes of the research itself. ❞ (Varela 1996a: 343)

The idea is that, by developing and implementing reciprocal methodologies for bringing the two aspects closer together, we may, both conceptually and experientially, find "meaningful bridges" between the two (ibid: 340), and thus arrive at a "corpus of well-integrated knowledge" (ibid: 343).

« 26 » On a broader scale, however, the implications of Varela's research programme are much more radical. Neurophenomenology takes previous theoretical/conceptual reflections one step further and tries to develop the pragmatic means for *enacting the enaction*, for making the dialectical non-duality a matter of lived expe-

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rience (Varela 1996a: 346). As Varela points out, it is one thing to have a *scientific, third-person conception* of "mind and world as mutually overlapping" (ibid: 346), but it is something very different to have a *lived, first-person experience* of this non-dual intertwining (Thompson 2004). In this view, the sustained cultivation of the experiential know-how, which is an integral part of neurophenomenology, modifies and gradually undermines "the basic subject-object duality" – it "opens into a field of phenomena where it becomes less and less obvious how to distinguish between subject and object" (Varela 1996a: 339). Put differently, by offering a platform for a disciplined unfoldment of experience, neurophenomenology enables us to not only *think* the dialectical in-between – the "vital betwixt" (Vörös & Gaitsch 2016) – but actually *live* it (Bitbol 2012; Bitbol & Antonova 2016; Vörös 2014). Instead of trying to find a *theoretical fix* to (conceptually) *solve* the mind-body problem, it offers a *pragmatic remedy* by (existentially) *dissolving* the *impression* of there being a problem in the first place. The interplay of knowledge and being thus cannot be subsumed under yet another conceptual (theoretical) Star, but requires a living manifestation of the *practical (existential) Star*[3] (see Petitmengin 2017 and Bitbol & Petitmengin 2017 for a more in-depth account of mild and radical aspects of neurophenomenology).

3| Although for Varela, "meditation" seems to have been the "method of choice" when it came to cultivating existential (trans)mutation (Varela, Thompson & Rosch 1991, cf. Vörös 2014), other practices have been suggested, from psychoanalysis (Cohen & Varela 2000) to Alexander technique (Stuart 2013). Also, it was not Varela's goal to find and/or prescribe a one-size-fits-all method, but rather to instigate an open-ended exploration, implementation, and (hopefully) institutionalization of practices and strategies for examining one's lived experience cultivating practical/embodied modes of knowing.

Enacting enaction: Between thinking and being

« 27 » Let us now weave together different threads of Varela's thought, and discuss, in brief, how "enaction" is to be understood in light of this dialectic between knowing and being. The first thing to note is that, for Varela, it is *circularity all the way down*:

❝ All this boils down, actually, to a realization that although the world does look solid and regular, when we come to examine it there is no fixed point of reference to which it can be pinned down; it is nowhere substantial and solid. The whole of experience reveals the co-dependent and relative quality of all knowledge. ❞ (Varela 1979: 275)

« 28 » In bringing forth the "contextual change" for moving "beyond the [subject/object, mind/body, me/other] split" (Varela 1996a: 339), the development and implementation of non-dual ways of *thinking* can only take us so far; if they are not rooted in a non-dual way of *living* they are bound to miss the target. The non-dual dialectical logic helps us *express* and *evoke* the non-dualist existential stance, yet the latter *grounds* and *gives rise to* the former:

❝ But this is not a betrayal of science: it is a necessary extension and complement. Science and experience constrain and modify each other as a dance. This is where the potential for transformation lies. ❞ (ibid: 347)

« 29 » Metaphors, such as "enaction," play a key role in this ongoing circularity. To see why this is so, it may help to draw a parallel with Heidegger's method of "formal indication" (*formale Anzeige*). Aware of the pitfalls underlying the use of metaphysically laden concepts such as "substance," "mind," "subjectivity," etc., Heidegger tried to come up with a method for "the choice of proper concepts in a philosophical investigation" (Overgaard 2005: 151). The main criterion in devising appropriate terminology is that it should perform a double function: "[i] keep undesired [metaphysical] connotations at bay, and at the same time [ii] indicate the itinerary we must follow in order to reach the right phenomenological description of the matter at hand" (ibid: 152). Put differently, the goal is to substitute traditional concepts for terms that are *formal*, i.e., "sufficiently 'empty' of content" so as to avoid classical interpretations, but at the same time rich enough to *indicate* – point towards – phenomena under investigation.

« 30 » It would seem that something similar is at work in Varela's use of "bridge-notions" or "conceptual passages." These are, as Amy Cohen Varela points out, intended as "metaphors" for dealing with the "three-dimensionality" of phenomena (Varela 2002). What is characteristic of these metaphors is their *amphibian* nature: while being *formally* rooted in the verbal/conceptual, their function is essentially *indicative/performative*. In other words, they are *existentially pregnant "conceptual evocations"* of the irreducible and ultimately groundless circularity, and as such, must not be transformed into a conceptual "ground (a resting point, a nest)":

❝ Concepts such as embodiment or structural coupling are concepts and as such are always historical. They do not convey that at this very moment – personally – one has no independently existing mind and no independently existing world. […] In particular, the view of cognition as embodied action (enaction), although it stresses the interdependence of mind and world, tends to treat the relationship between those (the interaction, the action, the enaction) as though it had some form of independent actual existence. ❞ (Varela, Thompson & Rosch 1991: 228)

« 31 » As *conceptual embodiments* of the on-going circularity, these newly coined metaphors must not close in on themselves, but rather "point beyond [themselves] to a truer meaning of groundlessness" (ibid: 252f). As such, they span the diaphanous line between thinking and doing, theorizing and being, and basically *enact* what they *talk about*. Where Varela departs from Heidegger, however, is in giving priority to *scientific* metaphors: this is, at least in part, a reflection of his own professional background, but also an expression of his firm belief that the language of science has the greatest impact on our current thinking (Varela 1987: 62).

« 32 » Let us develop these ideas further by focusing on the question why the (scientific) metaphor of "enaction" can be said to be a more appropriate "conceptual evocation" of the experience of non-duality than

the cognitivist metaphors of "representation" and "computation," as this may not be obvious at first sight. Indeed, it would seem that, despite its opposition to cognitivism, once enaction is transformed into an alternative *theory* of cognition (i.e., enacti*vism*), it becomes, just like the former, incorporated into a naturalized epistemology, which entails the removal of the actual experiencing subject from its objectified field of study. In other words, like all experiencing subjects of naturalized epistemologies, the enactivist subject takes on, implicitly, the position of an unnoticed meta-subject contemplating, from the *outside*, the natural process she is trying to describe. Then, just like in cognitivist conceptions, it would seem that the only way the enactivist meta-subject can compensate for the lack of an authentic *living character* in its descriptions, is to replace it with an objectified *pseudo-subject* (namely, an objectified biological organism interacting with its environment). This, in turn, seems to deny any role to lived experience in the described nature, and leave intact the split between the observer and the observed we were so eager to surpass.

« 33 » However, there are two important differences between the cognitivist and the enactivist approach (at least in its original Varelian conception). The first difference relates to how the two naturalized epistemologies (cognitivist vs. enactivist) deal with the issue of the meta-subject's identification with her objectified pseudo-subject. To begin with, unlike the cognitivist pseudo-subject, the enactivist pseudo-subject is endowed with characteristics that make it possible for a genuinely sentient and intentional meta-subject to undertake such identification. The central among these characteristics is that the naturalized pseudo-subject, instead of just being a bundle of mechanisms interposed between the sensorial input and behavioural output, is capable of taking on the role of the (*effective, sense-bestowing*) "*origin.*" What do we mean by that? The enactive pseudo-subject, it will be remembered, stands for a living organism engaged in an ongoing sensorimotor coupling within its environment. What makes this coupling unique, however, is that, in order to survive, i.e., to preserve itself as an autonomous unity/whole, the enactive pseudo-subject actively "carves out"

or – as Varela used to say – "brings forth" its domain of salience, i.e., it (co)constitutes its environment. The enactive pseudo-subject can thus be said to have a *standpoint* – it is an effective origin of the meaning- or sense-bestowing activity –, and is in this regard functionally similar to a hermeneutist capable of "bringing forth meaning from a background of understanding" (Varela, Thompson & Rosch 1991: 149). As a consequence, the meta-subject who recognizes herself as capable of bestowing meaning and originating actions, sees – reflectively (discursively), but even more so *empathically* (affectively) – in the enactive pseudo-subject an obvious anchor of self-identification. By contrast, no such anchoring takes place in the case of the cognitivist pseudo-subject, since the latter is just a "computational intersection" between inputs and outputs with no standpoint, no historicity, and no sense-bestowing abilities. Saying that a biological organism is a *subject,* and identifying with it, mostly through pre-reflective, empathic resonance, does not give rise to any conflict in the enactive paradigm, whereas, in the cognitivist paradigm, the conflict is obvious. The scientist, as a historically situated living being actively engaged in meaning-bestowing activities, is existentially susceptible to the evocations of the enactivist metaphor, and is thus able to *feel herself into* (*sich einfühlen*) the objectified pseudo-subject.

« 34 » But the story does not end here. Namely, for this empathic identification to occur at all, the enactive approach must already presuppose a constant synergy between the content of the theory and the mode of being of the theoretician. This synergy consists of two opposite yet complementary movements. On the one hand, the notion of enaction expresses the possibility that neither self nor world has a substantial foundation (ground), since they are understood as dynamically co-arising. This evokes, in the lived experience of the enactivist theoretician, the phenomenological discovery that both her own self and the appearing elements of her environment are ultimately groundless – mutually co-arising and constantly shifting. On the other hand, what motivated the enactivist theoretician to formulate a relational naturalized epistemology in the first place was the all-pervasive doubt about the firm foundations

she experienced after a careful phenomenological inquiry. The notion of enaction, then, stands for a conceptual embodiment of a *dialectical symbiosis* between the theoretical and experiential subject as pertaining to the insight into the groundlessness of phenomena, and as such, already "points beyond" the naturalized framework into which it has been operationally incorporated. *With* and *through* it, the "bifurcation of nature" (i.e., the split between the knower and the known), famously denounced by Whitehead in 1929 (Whitehead 2004), becomes sewn together again – not only conceptually, but at the very place where this epistemic wound opened in the first place, namely in the field of lived experience. If, however, this broader dialectical, existential horizon is overlooked or discarded, if the notion of "enaction" is uncritically embedded into a naturalist framework and "closes in on itself," as seems to be the case with many contemporary enactivist approaches, it loses most, if not all of its philosophical and transformative force. These naturalized enactivist models may expand the limits of the naturalized pseudo-subject so as to include its body and parts of its (natural and social) environment, but the dualism between the observer (meta-subject) and the observed (pseudo-subject), together with the overall edifice of scientific praxis on which it is built, remain unaltered.

Two wings of a bird: Science and ethics

« 35 » To see how far-reaching the implications of such a multi-layered conception of enaction can be, we propose, in this last section, to focus on a topic where the effects seem to be especially pertinent: the interrelationship between science and ethics.[4]

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4 | In a short exposition that follows, we focus mostly on the *individual aspects* of ethics and morality. It should be stressed that, by doing so, we are in no way trying to diminish the importance of *social and political dimensions* involved in the topic (quite the opposite, we believe they are of *utmost relevance*), but merely that, for reasons of space, the issue needed to be postponed to a later date. We are grateful to the anonymous reviewer for bringing this up.

« 36 » We have seen that, according to Varela, no amount of theorizing will disentangle us from the old dualist pitfalls if it is not grounded in an appropriate *existential attitude*. Hence, *reflection*, for Varela, does not consist solely in cultivating our ability to reason, but also in *cultivating our whole manner of being*. The last Star – the Star between "knowing" and "being" –, as we have said, is not a matter of conceptualizing, but of disciplined unfolding of lived experience. Varela was very radical in this respect. He took the idea of knowledge culminating in a different way of being very seriously, and in his 1976 paper even made this point by reverting to the metaphor of the "speechless finger":

> [T]he proposed paradigm is quite unique: it contains a limit for itself by containing its being-balance; at a [certain] point description can only become a speechless finger containing, rationally, the complement of its rationality." (Varela 1976: 67)

« 37 » In addition to similar allusions from the Buddhist canon ("finger pointing at the moon"), Varela may also be referring to a well-known section from Aristotle's *Metaphysics* where the author criticizes Heraclitean philosophy. To a certain extent, Varela seems to share the view of one of the most radical among the Heraclitean philosophers, Cratylus, who, according to Aristotle,

> did not think it right to say anything but only moved (his) finger, and criticized Heraclitus for saying that it is impossible to step twice into the same river; for he thought one could not do it even once." (Aristotle 2016: IV 1010a 12–15)

Of course, if Varela endorsed such a radical view that would mean that he had completely given up on modern science. However, things are much more complex and interesting.

« 38 » What Varela's "speechless finger" seems to be pointing at is the "tipping point" between the contemplative and the scientific stance: we are called upon to identify domains in which a narrowly *scientific/objectivist stance* becomes a hindrance to knowledge acquisition, and to complement it, where appropriate, with a *contemplative/phenomenological stance*. In Varela's opin-

ion, this extreme flexibility of attitudes is tantamount to establishing new knowledge patterns in which each mode of knowing (participatory and objectifying, immersive and disengaged) implies its own self-transcendence. Further, Varela's thrust can be seen as a radical overturn of the historical tendency in modern Western philosophy of disentangling knowledge from the existential transformation of the knower. Epistemological standards of modernity are based on a presupposition that the subject can reach the truth without undergoing radical self-transformation; this, however, stands in stark opposition to the Ancient and Medieval standards, according to which the subject had to make herself capable, even worthy, of recognizing the truth by undergoing some sort of *ascesis* (Foucault 2001: 17). In Varela's epistemology, silent ascetic practice turns out to be indispensable in trying to reach the most essential truth about ourselves, namely the lived non-duality of being and knowing. Note that this move does *not* entail a *regression* to *pre*-modern epistemic stratagems, but is rather an attempt to identify the "neuralgic points" in the *modern* conceptions of science, truth and knowledge. As such, it aims to erect a *post*-modern epistemic framework that would overcome these limitations by establishing "meaningful bridges" (fruitful back-and-forth exchanges) between complementary approaches rooted in the exploration and cultivation of lived experience.

« 39 » Now, in order to become part of the new and expanded scientific framework, this flexibility of attitudes must be embedded into a *collectively shared culture*. This is what Varela had in mind when he wrote that the new epistemological paradigm "implies a disciplined commitment from a community of researchers," and "requires us to leave behind a certain image of how science is done and to question a style of training in science which is part of the very fabric of our cultural identity"; for him, such a change represents "a call for transforming the styles and values of the research community itself" (Varela 1996a: 338, 347). In short, the adjustment of the entire scientific community cannot be obtained "on the cheap": scientists can no longer satisfy themselves with talking the talk (theorizing about enaction), but must learn to *walk the walk* (enacting enac-

tion). In more specific terms, the adjustment of the scientific community can no longer be restricted to inviting "specialists" of contemplative disciplines (say, highly trained Buddhist monks) into laboratories and turning them into their objects of study. Nor can it be reduced to simply asking neuroscientists to engage in meditation training in order to perceive, from within, what it is like to experience meditative states of consciousness. Instead, the goal is to help researchers attain and maintain, through their own first- and third-person investigations, the *enhanced state of being* that was so familiar to Varela: a complete merging of contemplative stance and intellectual-cum-experimental activity; a mindful dynamics of empirical research that completely transfigures the aims, problems, meanings, and conclusions of its own inquiry. It should purport to establish a community of mindful researchers who suffuse their scientific work with mindfulness, instead of leading two separate lives, one on the cushion, the other in the laboratory.

« 40 » Such understanding of science has far-reaching implications, as it calls into question a deeply entrenched belief (myth?) that knowledge, technology, and ethics can be severed from one another. For Varela, the idea of such dissociation appears absurd and self-defeating. Life as the dialectical dance of being and knowing is *one*, so all of its creations, be it in action or in contemplation, in modifying nature or in relating to other human beings, must partake of this oneness and be consistent with it. In this view, ethics and science are deeply intertwined, and stand for two complementary aspects of our dynamic being-in-the-world:

> [T]o the extent that we move from an abstract to a fully embodied view of knowledge, *facts and values become inseparable.* To know is to evaluate through our living, in a creative circularity." (Varela 1992: 260)

« 41 » Science, then, is not, and cannot be value-free: cognizing – be it of an amoeba or cognitivist scientist – is suffused with (proto)norms pertaining to its unique mode of being. There is, as we have said, no "neutral resting place" in this dialectical scheme, which is why (changes in) *matters of epistemology* are intertwined with (changes in) *matters of ethics*:

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" There is in this paradigm a strong sense of the observer coming to the foreground, a concern with man's capacity for reality rather than particular forms of realities. […] At the center is the explicit recognition of *responsibility* for what is understood, inescapably reflected by what [it] is that we have *decided* to see and understand. " (Varela 1976: 66)

« 42 » However, this does not bear only on the scientific side of the equation: Varela's anti-foundationalist conception of life and cognition also has profound implications for the prevalent views on ethics (Varela 1999a, 2000). According to the "common-sense view" in the West, a given behaviour is ethical only if it can be shown to be the end result of an explicit moral judgment. The latter, in turn, is said to be derived either from solemn prescriptions ushered forth by an absolute omnipotent Being; from rational axi-

oms (e.g., Kant's categorical imperative); or from tacit societal values (e.g., the utilitarian criterion of the maximization of pleasure). Moreover, it is usually maintained that moral judgment bears on how a separate person (ego) behaves towards other, equally separate persons (egos). Therefore, the standard view of ethics is doubly foundationalist: it is *externally* foundationalist in the sense that it is based on a theological, rational, or social foundation; but it is also *internally* foundationalist because moral judgments bear on intrinsically existing moral subjects. In his reflections on the topic, Varela does away with both foundationalisms.

« 43 » Concerning the *external* foundations, Varela says the following:

" [A] wise (or virtuous) person is *one who knows what is good and spontaneously does it*. […] This [view] stands in stark contrast to the usual way

of investigating ethical behavior, which begins by analyzing the intentional content and ends by evaluating the rationality of particular moral judgments. " (Varela 1999a: 4).

« 44 » To a certain extent, the ability to *do good spontaneously* can be considered an in-born gift; but to a much larger extent, it is the fruit of training and education. Just like any other skill, this "ethical know-how" can be cultivated with the help of exemplars and disciplined practice rather than by means of explicitly formulated prescriptions. According to Varela, being good means having a disposition to act skilfully in accordance with the requirements of a specific situation, with no need for moral theorizing. The conception of ethics in terms of know-how thus naturally coincides with the enactive view of cognition. In the enactivist view, knowledge means concrete, embodied, and lived skills

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for active coping with a constantly changing environment, rather than a representation of a static world. Similarly, ethics encompasses concrete, embodied, and lived relational skills in an ever-changing community, rather than a closed set of stereotyped prescriptive statements enforced by fear or conformism.

« 45 » But as already noted, Varela went even further, dispensing even with the *internal* foundation for ethics. Indeed, according to Varela, "ethical know-how is the progressive, first-hand acquaintance with the virtuality of the self" (ibid: 63). In other terms, one becomes an ethical human being by progressively becoming aware of a certain (positive!) *lack* that characterizes both one's own self and the self of others. This may sound strange, but the explanation is simple: without a substantial self, there is no motivation to guard oneself against the other selves. If the experience of one's own identity co-emerges with that of somebody else, it becomes obvious that this bilateral relation has to be made harmonious and conducive to the blossoming of both poles. Moreover, as Varela insisted, if a human being is not compared to some idealized representation of herself, but taken as she shows up in the moment of the relational co-emergence, then tenderness and receptivity spontaneously arise (for there is no generalized judgment about her "essence" that would blind us to the fragility she manifests at this very moment).

« 46 » However, *experiencing* the lack of substantiality of the self is, again, not something that can be gained "on the cheap." For us to become aware of this dynamic lack underlying our ordinary sense of self, a deep self-transformation must occur. According to Varela, this self-transformation involves

the experience of *śūnyatā*. *Śūnyatā* is usually translated as "emptiness," but Varela convincingly opts for a more powerful alternative: *openness*. Openness here means that no crystallization occurs during the interrelation of my-self and other selves, it means the recognition of their co-definition at the very moment when this interrelation takes place, the receptivity to every single change, every single rebirth, every fresh instantaneous experience of *interbeing* – of being-woven-with-the-other. This is why Varela insisted that *śūnyatā* – the loss of foundations and the exquisite sensitivity of radical openness – is "inseparable from compassion, as the two sides of a coin or the two wings of a bird" (ibid: 68).

Conclusion: Calmness of wonder

« 47 » The purpose of this article was to show that there is more than meets the eye when it comes to "enaction," and that, underneath its familiar veneer, lie depths ignored or forgotten. There is thus no need to *further radicalize* enaction, an endeavour that has become quite popular in some quarters of academia; instead, what is needed is *to take a step back* and *see what was lost along the way*. In other words, genuine radicality of enaction can be attained by reviving the impetus of Varela's original proposal and eliminating the blind spot that one encounters in many, if not most, contemporary enactivist approaches. This, in turn, implies a hermeneutical struggle to understand, improve, and implement the multifaceted framework into which the notion was originally embedded. As pointed out, the main idea behind this framework

was to "let the fly out of the (dualist) bottle," and consisted of the non-dualist reappraisal of three interrelated domains: logic, (scientific) metaphors, and (lived) experience. As a member of the second domain, the metaphor of enaction stands for one of Varela's "bridge notions" spanning non-dual thinking and non-dual being. What makes enaction in its original guise so radical is the fact that it not only *speaks the non-dualist language*, but also *evokes (points towards) the non-dualist being*. As such, it is situated on the crossroads of knowing and being, which has profound implications for many presuppositions about the nature of, and relationship between, truth, knowledge, experience, etc. We have tried to skim the surface by focusing only on one such aspect, namely the interrelation between science and ethics.

« 48 » These last reflections, touching upon such topics as non-self, compassion, and *śūnyatā*, also cast fresh light on the "ultimate Star" that the concept of "enaction" is said to embody. Cutting across all the levels we have traversed on our short journey, this ultimate Star that Varela was so eagerly trying to express and enact throughout his life is one of cultivating an open, appreciative, and compassionate stance towards the "generative precariousness" of life in all its manifestations: the welcoming of "what bursts forth by itself," the embracing of the unpredictability and novelty as not something to be feared, but something to marvel at (Varela 2002). In short, it is the radical acceptance of the groundlessness of our existence amidst what Heidegger calls the "calmness of wonder," of thinking and living the ceaseless interplay of knowing and being.

40

Open Peer Commentaries

on Sebastjan Vörös and Michel Bitbol's "Enacting Enaction"

Enaction Without Hagiography

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> Upshot • Vörös and Bitbol provide a helpful account of the depths of enaction but their hagiographic rhetoric and neglect of important historical facts and recent developments work at cross-purposes to their account.

« 1 » Sebastjan Vörös and Michel Bitbol are to be commended for their helpful account of the concept of enaction. As they emphasize, the motivation behind this concept has been to articulate a non-dual mode of thinking that can generate new scientific research and philosophical investigations, while being rooted in existential transformation. "Non-dual" means beyond dichotomies such as mind and body, self and world, subject and object, organism and environment, and nature and nurture; it also means a mode of thinking that seeks to perform what it describes and to describe what it performs. In *The Embodied Mind*, Francisco Varela, Eleanor Rosch and I described this way of thinking as one that tries to create a "circulation" between cognitive science and human experience (Varela, Thompson & Rosch 2016: lxi).

« 2 » "Enaction" was the key word we used to create this circulation. As Vörös and Bitbol explain, the word was never meant to be just a theoretical term that referred to perception-action coupling, embodied action, autonomous agency, and so forth – the cluster of ideas that are now taken to define "enactivism" as a theoretical framework in cognitive science. Rather, the word "enaction" was also always intended to be perfor-

mative – to be a way to put into play the realization that cognition and experience have no ground beyond their own accumulated history of embodied action. "Enaction" was meant to express this realization not only in the ongoing work of science and philosophy but also in the existential setting of our own lived experience. Thus, the word was also used evocatively, to evoke an orientation or sensibility that would change how we think about and relate to our own minds in science and everyday life.

« 3 » As Vörös and Bitbol discuss, these multifaceted meanings and purposes of the concept of enaction sometimes have been missed. In some hands, enaction has been flattened into another theoretical "ism." (For my part, I have tried to avoid using the terms "enactivism" and "enactivist," preferring instead simply to speak of the "enactive approach.") Vörös and Bitbol have done an important service in reminding everyone of the deeper and imbricated layers of enaction.

« 4 » Vörös and Bitbol are also to be praised for their presentation of how the concept of enaction fits into the rest of Varela's work. Especially insightful is how they relate enaction to his early paper, "Not One, Not Two" (Varela 1976), which can be used as a metonym for his thought altogether. I remember reading this paper with wonder and fascination when it was first published in *Coevolution Quarterly*, just after I met Varela at the "Mind in Nature" conference organized by my father, William Irwin Thompson, and Gregory Bateson at the Lindisfarne Association (see Thompson 2004). I scrutinized the paper intensively again as an undergraduate student at Amherst College, trying to map the relations between it and Madhyamaka philosophy, which I was studying at the time.

Varela and I had had many conversations about Madhyamaka, and it was exciting as a young student to try to work out the connections. I make these personal comments to convey my happiness in seeing Vörös and Bitbol highlight "Not One, Not Two."

« 5 » I write this commentary not just to praise, however, but also to criticize. Vörös and Bitbol's target article has a hagiographic rhetoric that hinders rather than helps the enactive approach. The article is so full of reverence that it neglects both important historical facts about the formation of the enactive approach and important developments since Varela's death.

History versus hagiography

« 6 » The concept of enaction, specifically its presentation in *The Embodied Mind*, was the result of an intensive collaboration, taking place over several years, first between Varela and me, and then also with Eleanor Rosch. Needless to say, Varela is the *sine qua non* for the enactive approach. Nevertheless, the concept of enaction and its presentation emerged from a collaboration between a neurobiologist, a philosopher, and a cognitive psychologist, all of whom shared a commitment to contemplative practice and to the importance of the Buddhist philosophical tradition. An article with the title "Enacting Enaction" should acknowledge this history, instead of giving the impression that Varela was the sole parent of enaction. I take issue with these words from Footnote 1:

" individual authors differ considerably in how strongly, if at all, they subscribe to Varela's original ideas. Some scholars such as John Stewart and Evan Thompson could be said to be (at least in principle) aligned with Varela's original conceptions […]. "

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As just mentioned, enaction has three parents. For example, the passage that Vörös and Bitbol quote in §30 from *The Embodied Mind* (Varela, Thompson & Rosch 2016: 228) was originally drafted by Eleanor Rosch. Furthermore, to describe me as "aligned" with Varela's "original conceptions" is odd and inappropriate. First, the conceptions we are discussing were in part authored by me, and I have continued developing them by myself and in collaboration with others. So, my relationship to them is not one of mere alignment. Second, and more importantly, the value of the conceptions today does not reside in whether they remain aligned with Varela's thought from two decades ago but rather in how they have been developed over the years, the work they do now, and the work they can do in the future through further development.

« 7 » Vörös and Bitbol end their target article by calling attention to the "depths ignored or forgotten," to "what was lost along the way," and to what can be attained by "reviving the impetus of Varela's original proposal and eliminating the blind spot that one encounters in many, if not most, contemporary enactivist approaches" (§47). I have already commented on how the "original proposal" came from collaborative work and should not be affixed solely to Varela's name. Certainly, some so-called "enactivists" have used the word "enaction" to their own ends that bear little or no resemblance to the enactive approach as we proposed it in *The Embodied Mind* and as it was developed subsequently by Varela and the other researchers mentioned below. Nevertheless, I must disagree with the claim that the depths of enaction have been ignored or forgotten and lost along the way. Important advances have been made by various researchers across a range of disciplines; I will give examples shortly. The main reason I object to Vörös and Bitbol's neglect of this work (they cite none of it) is that it fosters a cultish image of Varela rather than calling attention to the living legacy of his ideas. He is presented not as an inspiring figure for a rich, multifarious, and evolving lineage of research, which now includes new and younger scientists and scholars who did not know or meet him, but rather as a singular figure whose deeper message has

been mostly unheard, misunderstood, or ignored. Such an image is hagiographic, not scientific.[1]

Research guided by enaction

« 8 » I turn now to research inspired by and attuned to the full meaning of enaction. I begin by calling attention to Vörös and Bitbol's important point that

66 enaction […] stands for a conceptual embodiment of a *dialectical symbiosis* between the theoretical and experiential subject […] and as such, already 'points beyond' the naturalized framework into which it has been operationally incorporated. 99 (§34)

Vörös and Bitbol here are concerned with the relationship between the actual experiencing subject ("experiential subject") and the subject as represented in a scientific model of cognition ("theoretical subject"). In the enactive approach, the theoretical subject is the embodied agent, understood as a sense-making being that enacts (brings forth) its own world of meaning (relevance). The experiential subject, however, is not just the referent of the scientific model, but also the "meta-subject" who enacts the mapping between its own self-experience (including its experience of other beings) and its objectified model of the subject as an embodied agent. One of the central features of the enactive approach (which it shares with second-order cybernetics) is that it strives to remain mindful of this reflexive mapping and its concrete situatedness in the life-world. In *The Embodied Mind*, we called this whole situation the "fundamental circularity," and we

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1| The target article's repeated and fulsome invocation of Martin Heidegger exacerbates its hagiographic tone. Heidegger, though an important philosopher, was reprehensible ethically and politically. The relationship between his philosophy and his Nazism and anti-Semitism remains a complicated question for Heidegger scholarship (Farin & Malpas 2016). Varela was well aware of the question of the "Heidegger affair," and in his later work he drew much more from Husserl and Merleau-Ponty (contrary to what §5 suggests). It is striking that the target article, especially in its final section on ethics, makes no mention of these issues concerning Heidegger.

called the attitude of being mindful of the fundamental circularity, "embodied reflection" and "mindful, open-ended reflection" (Varela, Thompson & Rosch 2016: 30f). Vörös and Bitbol write that the enactive "meta-subject" is able to identify reflectively and empathetically with the enactive theoretical subject, because both are understood in terms of "sense-making," that is, as bringing forth meaning through embodied action. This understanding points beyond any naturalized framework, because naturalism is only one moment or turn in the fundamental circularity – the one in which the experiential subject reflectively inscribes itself into nature in the form of its own objectified scientific models. Such a moment or turn, however, cannot account for the fundamental circularity as such (the ongoing dialectical symbiosis between the experiential and the theoretical subjects). In philosophical terms, naturalism overlooks and cannot account for the necessary conditions of its own possibility.

« 9 » The reason that I call attention to these ideas, which sharply distinguish "enaction" as a non-dual and transcendental style of thought from "enactivism" as a naturalistic philosophy, is that, far from having been ignored or forgotten, they have been central not only to my own work (Thompson 2007, 2011, 2015) but also to Ezequiel Di Paolo's (see especially Di Paolo 2005, 2009, in press). For example, we both discuss them extensively in relation to Hans Jonas's statement that "life can be known only by life" (Jonas 1966), which is another way of expressing the fundamental circularity and dialectical symbiosis between the experiential and the theoretical subjects.

« 10 » Let me mention a few other examples of research guided by the full meaning of enaction. I have already mentioned Di Paolo but his work deserves special mention. Di Paolo has done an enormous amount to extend and enrich Varela's ideas about autopoiesis, autonomy, and sense-making, as well as to foster new work on enaction (see, e.g., Di Paolo 2005, 2009, in press). His work covers the important themes of life-mind continuity, social cognition, play, and habits (Di Paolo, Rohde & De Jaegher 2010). It deploys "enaction" not just as a theoretical term but also as an open-ended performative and evocative notion.

« 11 » Some of this work, specifically the development of the idea of social enaction as "participatory sense-making," has been done in collaboration with Hanne De Jaegher (De Jaegher & Di Paolo 2007; De Jaegher, Di Paolo & Gallagher 2010), who deserves mention in her own right for her theoretical and pragmatic phenomenological work on intersubjectivity and social enaction. I call attention especially to her creation of a systematic, hands-on method for investigating the experience of interacting with others, in which "researchers of social understanding are themselves one of the best tools for their own investigations" (De Jaegher et al. 2017: 491). This work is clearly animated by the full meaning of enaction as requiring not just a change in how we think but also in how we experience.

« 12 » Another important methodological advance is the "phenomenological interview" created by Simon Høffding and Kristian Martiny (2016). This qualitative interview method responds directly to Varela's call for better pragmatics in the investigation of experience in phenomenology and cognitive science. It advances beyond the "microphenomenological interview" ("entretien d'explicitation") favoured by Michel Bitbol and Claire Petitmengin (2013a). Whereas the explicitation method rests on the problematic assumption that one is recapturing or re-enacting the already elapsed prereflective experience, rather than constructing a new experience (which, of course, may have its own value), Høffding & Martiny's "phenomenological interview" explicitly understands that the experience produced by the interview is co-generated by the interviewer and the interviewee. In short, whereas the explicitation interview retains a kind of retrospective reification, the phenomenological interview is fully enactive.

« 13 » Let me also mention Miriam Kyselo's important work applying enaction to understanding the self in the cases of locked-in syndrome (Kyselo 2013; Kyselo & Di Paolo 2013) and schizophrenia (Kyselo 2015).

« 14 » Finally, I would like to call attention to an older paper by Eleanor Rosch, on concepts (Rosch 1999), which deserves the same kind of attention that Vörös and Bitbol give to Varela's writings.

Enaction and Buddhist philosophy

« 15 » Vörös and Bitbol write as if the link between Buddhism and cognitive science via enaction is a finished product, rather than a work in progress, and as if it raised no problems of its own. As I discuss in my Introduction to the new edition of *The Embodied Mind* (Varela, Thompson & Rosch 2016), however, our presentation of enaction in relation to Buddhist philosophy and mindfulness practice has limitations that can now be seen in hindsight and in the light of the accumulated experience of the past few decades (see also Thompson 2017[2]). For example, we uncritically depict Buddhist philosophy as based directly on meditation or as deriving directly from meditative experience, whereas the relationship between the two is far more complicated conceptually and historically. Our mode of presentation uncritically belongs to what scholars now call "Buddhist modernism" (Sharf 1995; McMahan 2008). My point here is not to criticize Buddhist modernism *per se*, but rather to indicate that it is a problem area that requires careful critical reflection, something that is lacking in *The Embodied Mind* and in Varela's thought. Acknowledgement of this problem area is missing from Vörös and Bitbol's target article too; instead, they uncritically repeat the Buddhist modernist perspective. The new edition of *The Embodied Mind* also includes a new Introduction by Rosch. She helpfully distinguishes between "Phase 1 Enaction," which refers to how enaction has been taken up in cognitive science, and "Phase 2 Enaction," which highlights the non-dual perspective of concern also to Vörös and Bitbol. She relates both phases of enaction to the boom of interest in mindfulness practices and the neuroscience of meditation. It is unfortunate that Vörös and Bitbol do not consider these new reflections on enaction. Their neglecting them creates an impression of enaction as a static idea rather than an evolving mode of thought and practice requiring critical vigilance.

2| As well as my entries "The embodied mind: an introduction," "The embodied mind in hindsight," "The enactive approach," and "Mindfulness and the enactive approach" on *The Brains Blog*, http://philosophyofbrains.com.

« 16 » Finally, I must mention a glaring problem that Vörös and Bitbol completely avoid in their final section on ethics (§45). They are correct that the enactive view of cognition lends support to considering the importance of ethical know-how. They go on, however, to make a stronger and problematic claim: "If the experience of one's own identity co-emerges with that of somebody else, it becomes obvious that this bilateral relation has to be made harmonious and conducive to the blossoming of both poles." But the consequent is not obvious at all. Consider bilateral relations in which each party recognizes that its identity is dependent on the other's identity, while extreme inequity and harm exist in their relationship (as in Hegel's master-slave dialectic or the relationship between the torturer and the tortured).

« 17 » Vörös and Bitbol continue:

> Moreover, as Varela insisted, if a human being is […] taken as she shows up in the moment of the relational co-emergence, then tenderness and receptivity spontaneously arise […]. (§45)

Once again, the consequent does not obviously follow. It is far from clear that there is a necessary connection between the realization of groundlessness and the spontaneous arising of compassion (the suggestion otherwise is another limitation of some passages in *The Embodied Mind*). On the contrary, one could argue that the reason that both wisdom (or insight) and compassion always have to be cultivated in tandem is that there is no entailment from one to the other; each one is *sui generis*, though they can and must inform each other. In the context of Buddhist philosophy, the precise relationship between "emptiness" (*śūnyatā*) and compassion (*karunā*) is a complicated and difficult issue on which there has been a range of views. Does compassion reside within emptiness or is it an adornment? To put the question another way, does the fundamental nature of mind – its "clarity" and "emptiness" or "openness" – already include compassion, or is compassion something extra? There is widespread disagreement about how to answer these questions across the full range of Buddhist philosophy and contemplative practice systems. Buddhist modernism has been largely oblivious to these

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issues. Varela's book, *Ethical Know-How* (Varela 1999a), also neglects them (as does Varela 1999b). Vörös and Bitbol uncritically do the same thing. They repeat Varela's ideas without subjecting them or the substantive and difficult issues that they raise to critical analysis. This is another way in which their article is hagiographic.

« 18 » In conclusion, Vörös and Bitbol have done an important service in bringing the depths of enaction into view. Unfortunately, their hagiography works at cross-purposes to this aim.

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"Dialectical Dance" and "Dialectical Star": What Exactly Are We Talking About?

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> Upshot • In this commentary, though I agree with most of Vörös and Bitbol's statements about Varela's work, I ask the authors both for a clarification regarding their concept of dialectic and whether their understanding of this concept should lead us to accept their view according to which no further attempt to "find a *theoretical fix* […] to *solve* the mind-body problem" is needed (§26).

« 1 » Sebastjan Vörös and Michel Bitbol provide us with a substantial attempt to understand the work of Francisco Varela, from its very beginning (or almost) until its latest developments, in a consistent manner. I was also happy to read their target article because they put forward the concept of "dialectic" and try to understand Varela's work from it. However, while I am glad about this philosophical move, I also think that substantial work regarding their notion of "dialectic" is still needed if they want their attempt to be completely understandable and meaningful. *Dialectic* is indeed probably one of the most difficult and polysemuous concepts in the whole history of metaphysics[1] and I found myself lacking a substantial definition of this concept I could rely on by reading their article. Given that they made it the key concept of their analysis to understand Varela's "genuine radicality" (§47), one legitimately expects a proper conceptual undertaking with regard to the dialectic.

« 2 » One can nevertheless find general indications of what they mean by dialectic. They describe the "dialectical (self-referential) movement" as an "operative and productive" "on-going circularity/recursivity" (§11). One can, moreover, read indicative metaphors like the "dialectical Star" (§22) or "the dialectical dance of being and knowing" (§40), but they seem insufficient (what do these expressions exactly *mean*?). Also, one could say that the content of their concept of dialectic is provided by their progressive analysis of Varela's work, which can implicitly be understood as the description of what they mean by "dialectic" (see especially §§22, 25, 26 and 34). The problem is that implicit statements, metaphors and general definitions leave us still far from a properly philosophical concept. Moreover, even if I simply relied on a reconstruction of their concept of dialectic, a much more important issue needs to be resolved. This issue is twofold.

« 3 » First, dialectic is not only a very difficult concept to define but also, as Renaud Barbaras shows, a very problematic one: in his early work, Merleau-Ponty tried to "solve" the "issue of […] embodiment"

with a "dialectical perspective," the problem being that "dialectic comes here to fill the gap between what is to be thought and the series of dualities from which we try to think it […], in doing so, it conceals a difficulty rather than solving it" (Barbaras 2001: 158; my translation). In other words, we could raise the objection to the authors, with Barbaras, that, without a clearly defined concept of dialectic that shows precisely how their enacted enaction does better than being "the clue of a problem, the name of what is to be thought," it is "not a solution" (Barbaras 2008: 367; my translation). How do they convince us that their notion of "dialectical movement" is more than the simple "clue of a problem"? The question being, in my opinion, an undoubtedly legitimate one, given that Varela's conception of cognition as a co-emergence (§§18, 45), which Vörös and Bitbol write about, is in a certain sense a rephrasing of Merleau-Ponty's conception[2] of embodiment, which is precisely what Barbaras is criticizing here.

« 4 » Second, let us take for granted that Vörös and Bitbol's concept of dialectic can answer the problem pointed out by Barbaras. As they conceive it, "*enacting the enaction*" (§26) leads to "a constant synergy between the content of the theory and the mode of being of the theoretician" (§34), this synergy is what allows neurophenomenology to be "transformative" (ibid.), and then, consequently, "the non-dual dialectical logic helps us *express* and *evoke* the non-dualist existential stance" (§28), this "non-dualist existential stance," as "the lived non-duality of being and knowing," (§38) appearing to be the crux of the matter.

« 5 » Indeed, as they write: "The interplay of knowledge and being […] cannot be subsumed under yet another conceptual (theoretical) Star, but requires a living manifestation of the *practical (existential) Star*" given that we just "*dissolve[ed]* the *impression* of there being a ['hard'] prob-

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[1] There are indeed huge differences between the ways "dialectic" is conceived by, among others, Aristotle, Immanuel Kant, Georg Hegel, Maurice Merleau-Ponty or Theodor Adorno, and none of these conceptions seems to be the one Vörös and Bitbol endorse.

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[2] I am of course not the only one to point this out and to emphasize that this is not surprising, given that Varela, Evan Thompson and Eleanor Rosch explicitly claim to be Merleau-Pontyean at the beginning of their well-known *The Embodied Mind* (1991); on that point, see Étienne Bimbenet (2011: 239) or Shaun Gallagher and Dan Zahavi (2012: 5).

lem" about lived experience (§26). In other words, the interpretation of Varela's work by Vörös and Bitbol here would leave us with something Bitbol characterizes otherwise as an "unknown generativity," or "the vertigo of knowing ourselves as an intangible and groundless *self*" (Bitbol 2014: 683; my translation). This "unknown generativity" can be specified with what he wrote with Elena Antonova:

❝Varela's position cannot be rendered as either a dualist metaphysics, or a monist metaphysics, or any kind of theory, but as a non-dual and a-ontological *way of being*.❞ (Bitbol & Antonova 2016: 355; emphasis original).

« 6 » My question here would be: what are the reasons why we should accept this "intangible" characterization of the self Vörös and Bitbol's interpretation of Varela's work purportedly leads us to? Why should we abandon the project of finding a new "conceptual […] Star" for it? Because, as they seem to think, our (non-dual) "*existential attitude*" (§36) reached through this process shows us so? Because the "dialectical (self-referential) movement" led us to "*dissolv[e]* the impression of there being a problem" in our lived experience? (See also Bitbol 2014.) But does not this dissolution and this non-dual attitude tell us something about the problem and about self or consciousness themselves (see Kirchhoff & Hutto 2016)?

« 7 » There are two options here: we can accept, as Barbaras first points out, that we cannot completely overcome this kind of contradiction because of the way our language and concepts are shaped (Barbaras 2008: 345; Bitbol 2014); or, we can try, as Barbaras does, to nevertheless elaborate the issue further, simply by being well aware that our vocabulary will always be more "abstract" than the phenomena we try to conceive of (ibid).

« 8 » In other words: if Varela engaged us in a transformative dialectical process, I do not see why it should stop here and not be pursued further and constrain (to speak like Varela 1997) philosophical concepts to fit this "non-dual […] *way of being*." Renouncing a new "theoretical (conceptual) Star" appears to me an arbitrary and incorrect decision from a dialectical point of

view. If the philosophical conception Vörös and Bitbol are trying to develop claims to be a genuinely dialectical one, they should consider the option according to which, when our concepts might right now not fit the (non-dual) "existential attitude," this does not mean that the dialectical process cannot take us one step further and help us to do better with concepts guided by this non-dual attitude (as Barbaras does in his own way; it is also exactly what Hegel[3] did – Pierre-Jean Labarrière 1979 is clear on that point). One clue that there are still further problems that need to be considered lies in Bitbol and Antonova's statement: "a-ontological *way of being*." This statement is obviously contradictory, for ontology is, as everybody knows, the science of *being* as such. In this respect, something cannot be "a-ontological" and at the same time be characterized as a "way of *being*," for this is clearly an ontological statement.

« 9 » I therefore fully agree with Michael Kirchhoff and Daniel Hutto:

❝If Varela (or his interpreters) insists that his view is a purely methodological or practical one, as opposed to a metaphysical view, then he gets the logic wrong. For by positing that conscious experience is irreducible, Varela is making a metaphysical claim.❞ (Kirchhoff & Hutto 2016: 348).[4]

« 10 » This is, according to Kirchhoff and Hutto, the reason why Varela, with Thompson, moved further and pursued "the idea of reciprocal causality between phenomenal consciousness and neural dynamics" (Kirchhoff & Hutto 2016: 351). The whole article and the commentaries are undeniably important for the matter at stake in this commentary. The way I suggest pursuing the dialectic move indicated by Vörös and Bitbol, which Varela engaged us in – as well as being in a certain sense in line with Kirchhoff and Hutto's reading of Varela – could be a way to genuinely understand the evolution of Varela's latest work.

3| Diana Gasparyan (2016: 357) offers an interesting development about Hegel being close to Varela.

4| Note that Bitbol and Antonova's claim was a response to Kirchhoff and Hutto, but the answer is not satisfactory because contradictory if left as is.

« 11 » I would add that Bitbol and Antonova missed Kirchoff and Hutto's point with their response: I do not think Kirchhoff and Hutto would disagree when Bitbol and Antonova write that Varela leaves us with nothing but "an immanent domain of lived experience" (Kirchhoff & Hutto 2016: 355). This is because their point is simply to note that statements of this kind are metaphysical ones (as well as that "dialectic" is a metaphysical concept), *unlike* Varela himself thought, therefore leaving a tension in his own work. Or, at least, if I do not render their idea correctly, this is what their article and response made me think (see also their response ibid: 371). Why is this "immanent domain of lived experience" necessarily a metaphysical claim? Because – and here we are back to what some philosophers like Jacques Derrida called the very beginning of philosophy – it obviously has to *exist* in one way or another (to be – precisely – lived) and this very *existence*, or its modalities, is what we can ask about, therefore asking a *metaphysical* question.[5] Consequently, it is legitimate to engage in a philosophical inquiry into statements of this kind – the best example being Barbaras's phenomenology (see below) –, but this does not mean that these statements are wrong: what is incorrect is to take them for a-metaphysical statements.

« 12 » Barbaras can help us, writing clearly again here. He indeed ends up with a philosophical position very close to Vörös and Bitbol's about the "groundlessness[6]" (§48) of subjectivity or the "lack that characterizes [the] self" (§45):

❝The subject does not feel himself as lacking of himself […]: he exists as this very lack, which amounts to saying that it is through and by this lack that he seizes himself.❞ (Barbaras 2008: 308; my translation)

5| Indeed, as Zahavi writes, "metaphysics is concerned with questions of existence; it is concerned with the question of what it means for an object to be real, actual, to exist" (Zahavi 2003: 15). The whole article can be read for the issues I am engaging with here for it discusses the "metaphysical neutrality" of phenomenology.

6| Even though Barbaras would probably reject being straightforwardly categorized as a philosopher of "groundlessness."

« 13 » The difference being that, instead of giving himself up to some kind of "intangible" character in what was just written, Barbaras takes the philosophical inquiry one step further, as indicated by the following claim put forth a few lines earlier:

"This [kind of] formulation, apparently contradictory is an invitation to overcome this ontological presupposition regarding the subject (simply identified to substance) and to recognize the uniqueness of its *sense of being*." (Barbaras 2008: 307; my translation, emphasis added)

« 14 » In other words, it is not because what we discovered in our lived experience seems contradictory that we cannot keep trying to think philosophically about it, and, as Barbaras (2008) does, keep asking about the "sense of being" of subjectivity. Barbaras is well aware that language will never be in a position to completely fit this unique "sense of being" of the subject (ibid: 345), but pursuing the issue philosophically appears to me, even if enormously difficult, better than giving in on account of some alleged intangibility. Note that, even if Bitbol managed to show that Barbaras, despite his efforts, is still trapped "within a dualist framework" because he chose "life" to think about awareness (Bitbol 2014: 298; my translation), this only dismisses Barbaras's (2008) solution, "life" as "desire," and not the – still relevant – question he asks regarding subjectivity as a "lack," namely, "the question of the sense of being of the subject," that is to say, the question asking what it does precisely mean, ontologically speaking, for the subject, to exist as a "lack" (ibid: 302).

« 15 » To conclude, I would note that this question seems to me a legitimate one even from the Varelian perspective. Ironically, one could say that the authors "have become so familiarized with a certain [aspect of a] notion" (§2) that they forgot[7] that neurophenomenology was, admittedly, a "*pragmatic remedy*" to "the mind-body problem" (§26) but was also Varela's "provocative" and "rather specific line of naturalization [of phenomenology]," (Varela 1997: 356), and yet, according to Thomp-

son, "naturalizing phenomenology, for Francisco, always implied a corresponding phenomenological reconceptualization of nature" (Thompson 2004: 392).[8] Moreover, as Zahavi relates:

"Most revealing of all […] is perhaps a reply given by Varela to a question I had posed to him at a meeting in Paris in 2000: The volume *Naturalizing phenomenology* was only intended as the first part of a larger project. The second complementary volume, which unfortunately was never realized due to Varela's untimely death, was planned to carry the title *Phenomenologizing Natural Science*." (Zahavi 2013: 39)

« 16 » To be clear: I am not sure Varela would agree with the way Vörös and Bitbol stopped the dialectical process when they reached the non-dual attitude, for these are clear indications that he wanted to pursue the philosophical enquiry. The best argument for this claim being in my opinion that Thompson's 2007 book, which tries to "establish a deep continuity of life and mind" (Thompson 2007: 127), a project that is obviously a way to pursue the dialectical move, was "originally […] supposed to be co-authored with Francisco Varela" (ibid: xi).[9]

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7 | Even though they mention the theme of naturalism.

8 | It seems that things were different in 2014 since Sebastjan Vörös wrote a good paper about this point (Vörös 2014); note that the questions I asked here about "dialectic" could also be asked about this 2014 article's use of the concept of dialectic.

9 | See also (Kirchoff & Hutto 2016b: 371) for a comparable analysis with which I am in line.

Enacting Science: Extending Enaction Beyond the Content of a Theory

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> Upshot · In general agreement with the target article, I relate Vörös and Bitbol's elucidation of Varelian philosophical roots of enaction to a discussion of enaction put forward by Varela's co-authors Rosch and Thompson in their introductions to the revised edition of *The Embodied Mind*. I align Vörös and Bitbol's multi-layered understanding of enaction to Rosch's distinction between its "phase 1" and "phase 2" accounts. I consider the implications of the relationship between the *pseudo-subject* and the *meta-subject* of the enactive account of mind for the general enactivist conception of science and scientific knowledge.

« 1 » In their target article, Sebastjan Vörös and Michel Bitbol put forward a critical examination of the notion of "enaction" in relation to the wider philosophical framework of its initial exposition. The concept of enaction was introduced into cognitive science by Francisco Varela, Evan Thompson, and Eleanor Rosch in their 1991 book *The Embodied Mind*. Having since been taken up and developed by various contemporary "enactivist" approaches to understanding cognition and the mind, enaction – contrary to what might be expected from the title of this issue – seems to be far from a "neglected aspect of Varela's work": if anything, it could instead be characterized as one of Varela's most acknowledged contributions to the field of cognitive science. However, as Vörös and Bitbol maintain, it is exactly the *overt familiarity* of the notion that has brought about, alongside the proliferation of enaction, a curiously *covert neglect* of its original philosophical roots. Namely, while different enactivist strands of research and lines of thought have been eager to embrace the concept of enaction, many versions of the present-day enactivism are guilty of overlooking the depth of enaction's philosophical motivations and the radicality of its implications.

« 2 » Vörös and Bitbol argue that recognizing the depth and radicality of enaction requires one to take into account the philosophical framework that embedded the initial introduction of the concept, and go on to inquire back into this framework by drawing upon some less well-known works of the late Varela. Enaction, the authors suggest, needs to be comprehended in relation to Varela's broader quest of overcoming various dualities (of subject and object, mind and body, self and other, etc.), which have traditionally constrained the ways in which we can theorize about and empirically investigate cognition and the mind. Conceived a part of Varela's pursuit of the overall change in the conceptual context within which these classical dualities arise in the first place, the scientific metaphor of enaction is claimed to offer more than a particular *theory* of mind and cognition: as the authors maintain, it also serves as a conceptual evocation that points beyond the way the mind and cognition are *thought* about to the way they are *experienced* and *lived*.

« 3 » In exploring the philosophical roots of enaction by focusing specifically on Varela's thought, the target article stays in line with the topic of this special issue. At the same time, however, it appears to steer away from *The Embodied Mind*, and also leaves unmentioned other sources relevant for understanding philosophical foundations and implications of enaction, most notably Thompson's (2007) subsequent elaboration of the enactivist approach, which can be considered a development of the theory of enaction initially proposed in 1991.

« 4 » Nevertheless, reflections on enaction put forward by Varela's co-authors, Thompson and Rosch, in their introductions to the revised edition of *The Embodied Mind*, seem to be largely compatible with and supportive of the examination offered in the target article. Similarly to Vörös and Bitbol, both Thompson (2016) and Rosch (2016) point to philosophical losses involved in the uncritical incorporation of enactivist ideas into the objectivist scientific frameworks of cognitive science and argue for the importance of retaining original non-objectivist philosophical roots of enaction as an active context of theorizing and researching the mind.

« 5 » Describing it as a "philosophy that is shape shifting into science," Rosch (2016: l) stresses that enaction runs the risk of losing its relevance for lived experience and capacity for existential transformation – all the more easily when the "shape shifting," as is often the case, consists in enactivist ideas being taken over by the theories of reductionist materialism. Crucially, genuine *collaboration* between science, phenomenology, and Buddhism, envisioned in the initial proposal for enactivism, is only possible when all three sides are considered to be equal partners in the conversation – and is impeded when the scientific side acts as a conqueror by merely assimilating experience or aspects of Buddhist practice and thought.

« 6 » Further, Vörös and Bitbol's multi-layered conception of enaction seems to be consistent with Rosch's (2016) own clarification of the concept. Acknowledging the confusion entailed in the initial exposition of enaction in *The Embodied Mind*, Rosch suggests that enaction can be understood in two stages. In its "phase 1" (ibid: xxxix), enaction presents a *theory of cognition*, established around the core idea of the living body as a self-organizing and self-maintaining sense-making system that gives rise to a co-dependent origination of cognition and the world. Making use of the conceptual bridges across the apparent gaps between the *mind*, the *body*, and the *world* (summarized, in their Varelian form, in §§13–21 of the target article), enaction as a philosophical account and scientific program stresses the fundamental interdependence of all three poles in question. It describes cognition as embodied action and argues for the inseparability and mutual specification of the cognizing subject and the cognized world (Rosch 2016; Varela, Thompson & Rosch 2016).

« 7 » There is, however, also a second stage of understanding enaction. As Rosch describes, "phase 2" enaction relates to the non-dual awareness of groundlessness (see Varela, Thompson & Rosch 2016: Chapter 10) that can be brought about by meditative and contemplative practices. Reaching beyond the conceptual realm of philosophical and scientific theories, this existential transformation, in which the mind is "simply present and available" (Rosch 2016: xl), is

said to encompass "another mode of knowing not based on the observer and observed" (ibid: xxxix).

« 8 » Phase 1 and phase 2 enaction, as characterized by Rosch, resemble the conceptualization of the second (§§13–21) and the third (§§22–26) aspect of Varela's "change of context" for transcending dualist thinking proposed in the target article. The distinction between the two phases also seems to be in line with Vörös and Bitbol's emphasis of the "*amphibian* nature" (§30) of the concept of enaction, whereby enaction is argued to entertain not only a *conceptual*, but also a *performative* function, pointing beyond its formal theoretical roots towards an experiential transformation that entails the non-duality of both *thinking* and *being* (phase 2).

« 9 » Enaction, then, is not only a theoretical framework for non-dualist ways of knowing, but also bears within itself a transformative potential leading the knower towards a non-dualist way of being. But what exactly is it that endows enaction, construed as a theory of cognition, with the capacity for implying such existential transformation? What makes the metaphor of enaction a concept more suitable for evoking the non-duality of experience compared to the cognitive realist concepts of "representation" or "computation" (§32)? As explained by Vörös and Bitbol, the difference lies in the way in which the enactive meta-subject can "*feel herself into*" (§33) the pseudo-subject of the enactivist account of cognition. Whereas the theoretical pseudo-subject of the *cognitivist* account is described as a "computational intersection" (ibid), abstracted from its body, history, and meaning, the *enactivist* pseudo-subject is emphatically characterized as an embodied, historically situated, and sense-bestowing living being. Only the "enactively" cognizing pseudo-subject of the enactive theory (but not the "computationally" cognizing cognitivist one) offers to the experiencing cognizing scientist – as she is putting forward the theory in question – an anchor for discursive and, for Vörös and Bitbol even more crucially, affectively emphatic self-identification.

« 10 » As the target article shows, the enactive reassessment of the cognitive subject as an embodied and experiencing cognizer that brings forth a co-dependent

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world of meaning and value bears far-reaching implications for the relationship between epistemology and ethics. In a demonstration of the profound interrelation between matters of knowing and matters of being in the context of scientific inquiry, Vörös and Bitbol argue for the inseparability of epistemic achievements from the existential transformation of the knower (§38). Calling for the importance of complementing the "*scientific/objectivist stance*" with the "*contemplative/phenomenological stance*" in scientific inquiry (§38), Vörös and Bitbol – as they are themselves explicit about – focus predominantly on "*individual aspects* of ethics and morality" (Footnote 4). In fact, even when the pursuit of existential self-transformation as a condition for and consequence of scientific understanding becomes, as envisioned by Varela, embedded in the "*collectively shared culture*" (§39) of the scientific community, the attainment and preservation of such an "*enhanced state of being*" (ibid) seems to, in the last instance, rest upon the awareness and skill of individual researchers.

« 11 » I want to conclude the commentary by considering the implications of the target article for our more *general* conception of science and scientific knowledge. How might the impossibility of a neutral and value-free science, recognized by Vörös and Bitbol (§§40f), be reflected beyond the level of the concrete individual in our views on the scientific *theory*? What do Varela's claim that "[t]o know is to evaluate through our living" (§40) and his call for the "explicit recognition of *responsibility* for what is understood" (§41) have to say, on a more abstract level, about the nature of scientific understanding?

« 12 » I propose that the parallel between the cognizing *pseudo-subject* of the enactive account of mind and cognition and the cognizing *meta-subject* – i.e., the scientist – putting forward this very enactive account, described in §33, not only bears on the individual meta-subject's ethical responsibility for existential transformation, but also, and quite directly, points to a requirement of a particular *non-objectivist* conception of science and scientific knowledge. As pointed out by Thompson (2016: xxvii), science can be conceived as a "highly refined distillation of our embodied sense-

making," and scientific knowledge as an "expression of the relation between our embodied cognition and the world that it purports to know." From the sense-making of concretely embodied organisms, however simple, to the heights of theoretical abstraction, all cognition is a manifestation of a fundamental interdependence between the knower and the known. Recognizing the impossibility of separating the observer and the observed as an inherent feature of all epistemic processes, a consistent (and *consistently*) enactive cognitive science is thus called to reflexively extend the idea of enaction beyond the *content* of its accounts of mind and cognition to encompass these same accounts' *epistemological foundations*.

« 13 » As a community of researchers, cognitive science then seems to be responsible for its understanding of the mind and cognition not only by virtue of its scientists' individual responsibility for their existential transformation, but also by virtue of being called to consistently apply the idea of enaction to its own scientific endeavors. In this way, the enactive conception of science urges cognitive science to recognize the intrinsic reflexivity of its field (Stewart 2001), to explore alternative non-objectivist epistemological frameworks for investigating mind and lived experience (e.g., Kordeš 2016), and to remain open to elucidating, challenging, and potentially changing its own theoretical presuppositions. As a valuable example of the last point, the target article presents an important contribution to understanding the concept of enaction and its implications for researching the mind in the context of cognitive science.

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The Elusive Blueprint for Building Bridges

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> **Upshot** · I consider the lack of clear guidelines for groundless non-dualist research proposed by Vörös and Bitbol's interpretation of Varela's programme. I attempt to clarify a mode of being that this kind of research calls for, and propose that understanding such a research-oriented existential attitude might replace the need for a detailed research "technique." I reflect upon the ethical implications of research-oriented being.

Introduction

« 1 » Sebastjan Vörös and Michael Bitbol re-examine Francisco Varela's "one idea" (§7), the idea that they see as uniting Varela's broad and eclectic opus – the attempt to free science and philosophy from the clutches of duality. The authors present this attempt through an analysis of Varela's concept of enaction. In their eyes, this concept should not be read as the foundation of a philosophical project, but as a new model connecting the life-world with its theoretical explanation (i.e., the world of science), *being with knowledge*. The target article's second part focuses on the self-referential mutual influence of the changing attachment to the idea of self, ethical stance and the ethical propositional position.

« 2 » Since I almost entirely share the authors' position (see Kordeš 2016), this commentary will be, as Freud would put it, a narcissism of small differences. Accepting the basic theses of the target article, I would like to point out some potential loose ends, mostly pertaining to the technical side of executing the proposed project. It may turn out that these details are not that insignificant and that they might be hiding a possible solution for the problem pointed out by the authors: "for some reason or other, [Varela's proposal] has never been taken up and woven into full-blown theoretical and empirical fabric" (§1).

The devil in the details

« 3 » Indeed, why has it not (yet) been taken up fully? One possible answer could

be a lack of details, by which I mean a lack of methodological and technical guidelines on how the project of building bridges is to be implemented. It seems as if the authors deliberately avoid this discussion. This is also indicated by the conspicuous absence of one of the most detailed (though eclectic and incomplete) descriptions of the act of researching being, Natalie Depraz, Varela and Pierre Vermersch's *On Becoming Aware* (2003), from the broad opus of works by Varela referenced in the target article.

« 4 » In the target article, the discussion of the practicalities of implementing Varela's programme is relegated to a footnote (i.e., Footnote 3). There the reader learns that Varela's "method of choice" was meditation, but that he did not want to prescribe a one-size-fits-all solution. The mentioned alternatives show a surprisingly broad range of ways for attending to the mind (not necessarily experience) that supposedly produce the desired results.

« 5 » But what exactly are those results? The target article clearly shows that a theoretical analysis of the concept of enaction is not enough. For the implementation of Varela's plan it is necessary to build a bridge between being and knowledge from the side of being as well. The article is ambiguous about the specific purpose of a being-centered praxis, offering several possible answers that are not necessarily consistent with one another.

« 6 » The authors explain how the process of enacting our world/experience must be understood as groundless and "as dynamically co-arising. This evokes, in the lived experience of the enactivist theoretician, the phenomenological discovery" (§34). If the "being" side of the circle is ipso facto always present, is it then only necessary for us to notice this presence? Is the purpose of this praxis "cultivating practical/embodied modes of knowing" (Footnote 3) that would enable a constant awareness of this co-arising?

« 7 » The target article sometimes gives the impression that the task of the being-centred praxis is more active, that it serves as the implementation of propositional knowledge in being, a "living manifestation of the *practical (existential) Star*" (§26)? Is this "manifestation" the attainment of a special and "*enhanced state of being*" (§39)?

« 8 » Another possible reading allows for an understanding of the target article as an appeal towards an exploratory and open-ended intent of the praxis of being. As "exploration, implementation, […] of practices and strategies for examining one's lived experience" (Footnote 3). I propose that, in order to stay within the spirit of scientific endeavour, as an open-ended system of constructing knowledge, this is the only acceptable solution.

« 9 » Varela's great insight was that, when researching the living, the mind and – most importantly – experience, facing groundlessness is inescapable. The authors propose the enaction of this groundlessness through an "efficient back-and-forth exchange between third-person (scientific) analyses and first-person (phenomenological) investigations" (§24). Personally, I am having trouble understanding why the "scientific" and the "phenomenological" investigations are separate. The authors do not seem to indicate a separation between science and philosophy (or phenomenology as one of philosophy's main parts), so the only remaining interpretation seems to be a break-up between science and experience.

« 10 » As far as the field of experience research is concerned, this division needs to be reconsidered. Instead I propose seeing the first-person perspective (and with it, the life-world of the researcher) as part of empirical *scientific* research on experience (or "empirical phenomenology," Kordeš 2016). This kind of research incorporates the groundless and constructivist circle, pulling itself up by its bootstraps. Similar to classic science, we ceaselessly commute between enacting data and enacting theories. In the case of groundless science, we commute between knowing and being, both being part of the same scientific process, in exactly the same manner as experiment and theoretical calculations are parts of the same physics.

« 11 » Such an understanding of experiential research (contemplative science?) has its own characteristics. It requires us "to leave behind a certain image of how science is done" (§39). Thus, being becomes a research laboratory and so demands a particular attitude – an attitude of openness, an "I don't know" attitude and an attitude of allowing experience to unfold. This attitude is not without consequences, for in research-

ing her own experience, the researcher almost certainly undergoes a personal transformation.

« 12 » On the side of knowing, expectations need to change as well. A contemplative researcher, upon entering the constructive circle, accepts the participatory nature of her findings and therefore knowledge. The idea of those findings being a representation of a pre-existing phenomenon has to be bracketed. They are enacted, i.e., neither copied from the outside world, nor solipsistically invented – "not one, not two" (Varela 1976). Accepting knowledge as enacted means accepting that the act of observing (the mode of being) is an inseparable part of what is observed and therefore of knowledge. The contemplative researcher becomes responsible for her knowledge.

Competing perspectives of being-centered research

« 13 » The target article evades the explanation of how *the authors themselves* bridge the gap between being and knowing. If that is to be the central point of the presented idea – and the authors certainly advocate this – then omitting reports of a personal being-centred praxis and the consequential experience is problematic.

« 14 » The omission of the authors' experiential report reduces the discussion to armchair philosophy and makes it, to some extent, naïve. This approach could be blamed for the lack of attention the authors devote to the underlying characteristics of the researcher's position in areas where the interconnectedness of the observer and the observed cannot be ignored, i.e., the constant shift between the position of a detached observer and the position of being an inseparable part of the phenomenon. Bitbol and Claire Petitmengin (2013b) stress this unavoidable shifting and quote Niels Bohr describing how quantum physicists encountered the same dilemma. They talk about an

" analogy between: (i) the situation of an introspector who wishes to observe herself by splitting into a subject part and an object part, and (ii) the situation of an experimenter in quantum mechanics who is (instrumentally and interpretationally) intermingled with microscopic phenomena, yet wants to observe them. " (Bitbol & Petitmengin 2013b: 178)

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« 15 » In the target article the authors opt for a more idealistic version, describing the expected ideal state of the self-transformation (§46), disregarding the regular experiential companion of the being-centred researcher – the constant challenge of navigating between the two experiential positions

What kind of attitude?

« 16 » If we wish to conduct science that includes being, we have to adopt a research-oriented stance, a research-oriented mode of being. It seems then, that Varela's reluctance towards prescribing a technique is sensible – but not necessarily for the reasons presented by the target article. Instead of prescribing a technique for being, it seems more sensible to think of an existential attitude that encompasses openness, acceptance and responsibility for the (results of the) reflective act.

« 17 » This does not mean that we should not learn from the broad range of known reflective techniques (among which, mindfulness-related meditation techniques seem closest to adhering to the above-stated principles, as already noted by Varela). However, to use any ready-made technique is very questionable, for by doing so, we automatically subscribe to the expectations set by the conceptual framework from which the technique originates (Kordeš & Markič 2016). As a practitioner of vipassanā and Zen meditation and as someone with great affection towards these Buddhist practices, I can clearly notice how encounters with Buddhist teachers and practices strongly "pull" the practitioner towards a very specific kind of discoveries and – even more – towards a very specific kind of ethical know-how. I am not a Buddhist scholar myself, but I have the impression that within the various systems of Buddhist training, there does not seem to exist a space for critical reflection on the foundations of Buddhist practice. This does not mean, of course, that there are not many Buddhist teachers who are open towards possibilities outside their ideological credo (the Dalai Lama being the most prominent example).

« 18 » The target article's discussion on ethics builds on presuppositions from the Buddhist canon. Let us take, for example, Varela's quoted claims that "ethical know-

how is the progressive, first-hand acquaintance with the virtuality of the self" (§45) for which the self-transformation that involves experience of śūnyatā is necessary (§46). The idea of the illusory nature of the self permeates the entire Buddhist ethos and is familiar to practitioners of Buddhist meditations. However, it is against the spirit of science as an open-ended process to prescribe the goal of the research process, however right it might sound.

« 19 » While the target article is very informative, this is perhaps slightly diminished by its narrow focus on only Varela's opus. There are already some contemporary considerations that view the potential of enactivism in a similar way, including the discussions on the possibilities of science, attempting to incorporate being and knowing,[1] such as Evan Thompson's and Eleanor Rosch's fresh takes on enactivism in the foreword to the revised edition of *The Embodied Mind* (Varela, Thompson & Rosch 2016) or the proposal, described in Kordeš (2016). There I argue that genuinely open-ended, participatory (and I can add now – ethical) research should nurture openness, even in face of the possibility of losing intersubjective agreement. This would enable each observer to allow herself to explore her unique experiential landscape, whether such exploration meets the expectations of "expanding experience" (Varela 1976, in §23) or not.

« 20 » This does not mean that contemplative research will not – as every other science – strive for stable, intersubjective patterns (or "invariants"; Varela 1996a: 337). However, adherence to this standard should not be a necessary condition for results to be accepted. And even more importantly, the freedom of potential pioneers of such research should not be restricted by a predetermined finishing line.

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Saying What Cannot Be Said

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> Upshot · Setting up a dialectic between knowing and being poses an uncomfortable challenge to our usual way of doing science. As a modest contribution to the new collective culture we need, this commentary shares a few Zen koans, and three Taoist stories.

Introduction

« 1 » This is a remarkable target article. If fully understood, it will be unpalatable to a majority of normal scientists. Let me try and explain.

« 2 » The concept of enaction, if applied reflexively, means that each and every one of us, every day of our life, "brings forth" our own particular world of lived experience. What is at stake is quite simply our very existence, the essential quality of our most intimate experience – and our own personal responsibility for what we make of ourselves. The authors, Sebastjan Vöros and Michel Bitbol, argue that taking the notion of enaction seriously implies a radical shift in our conceptions of science and knowledge, as it encompasses a theoretical and existential move away from a detached observer to embedded and engaged cognizer. For convenience, I will label this the "existential" stance.

« 3 » Now this poses a problem. Normally, science is supposed to be "objective," and the straightforward way to objectivity,

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1 | As well as some very old ones, like Goethe's idea of a mutual co-development of researcher and the researched (Wellmon 2010).

the one we have all been trained in, is just to eliminate anything even remotely "subjective." However, the "existential stance" is openly and avowedly subjective; moreover, this is not a peripheral feature that can be easily dispensed with; it is at the very heart of Francisco Varela's original conception of enaction.

« 4 » So. however much we may regret it, there is thus a genuine *reason* why enaction is so often defused by converting it into a much safer research programme of what has been called "4E cognition" (Menary 2010). The "4Es" are: embodied, embedded, extended and enacted cognition. This is a smart move (if one is indeed trying to defuse Enaction so as to get back into the comfort zone of "normal" science), for the following reason. Francisco Varela himself envisaged enaction as the framework for a possible paradigm in cognitive science, and others have attempted to follow up on this (Stewart, Gapenne & Di Paolo 2010). Now, in any such attempt, the notions that cognition is embodied, embedded (it is more usual to say "situated") and extended undeniably play key roles. So, as a proponent of enaction I cannot protest against the association of enaction with Richard Menary's first three "Es." However, what I can and do disagree with is adding in "enacted" as an ancillary element at the end of the list. In my view, these three Es are *subservient* to the over-riding theme of enaction. Mixing them up indiscriminately, in the way that is done by proponents of the "4Es," leads to missing the wood for the trees.

What is to be done?

« 5 » As the authors note in §39, Varela wrote that the new paradigm "requires us to leave behind a certain image of how science is done and to question a style of training in science which is part of the very fabric of our cultural identity"; for him, such a change represents "a call for transforming the styles and values of the research community itself." And as the authors further note in §41, the "ethical know-how" we need can be cultivated, just like any other skill, with the help of exemplars and disciplined practice rather than by means of explicitly formulated prescriptions. In the remainder of this commentary, I would like to propose a modest contribution to the formation of this new

collectively shared culture by way of two exemplars, Zen koans and Taoist stories. I will deliberately not comment or try to explain them. It is like a joke: if you do not get it first time round, explaining "why" it was funny will not help; so, I will just leave you with the exemplars to ponder.

Zen koans

« 6 » A part of our problem with enaction comes from the hiatus between our habitual forms of intellectual/scientific discourse, and the existential core we want to get at; we need to learn to "walk the walk" rather than "talking the talk" (§39). Koans are designed to do exactly this, by providing phrases that cleverly resist any attempt at purely intellectual understanding. Classic examples of koans are:

- What is the sound of one hand clapping?
- What is the colour of wind?

« 7 » Here are some more examples from http://www.ramaquotes.com/html/koans.html:

> There is no beginning and there is no end. Some days there's not even a middle.

> A religious person is trapped by religion. A perfect person is trapped by perfection. An occultist is trapped by the occult. A human is trapped by the human. A squirrel is trapped by squirrel traps.

> Plan not to plan.

> If a tree falls in forest and there's no one there to watch it, did it really fall? Well, it really doesn't matter. If you weren't there, it's not of no consequence.

Taoism

« 8 » Taoist texts pose formidable problems of translation. One of the main difficulties comes from the recurrent use of terms such as "emptiness," "non-being," "non-action," "invisible" and so on, which can easily give the Western reader the impression that Taoism is a form of quietism, consisting of mystical contemplation far removed from the material world and its concerns. Joseph Needham (1969) goes to considerable lengths to dispel this sort of misunderstanding; he pays particular attention to the Chinese term *wu wei*. The word *wei*, to a first

approximation, means "action"; the word *wu* has the meaning of a negation, an absence; thus, at first sight, *wu wei* would seem to mean "non-action." But Needham explains that *wu* is not a simple, passive negativity; it is better translated by a positive attitude, "deliberately abstaining." And *wei,* properly understood, is not simply "action," but rather "violent action, against the course of nature." It is revealing to explain this by the example of water (fluid and transparent, water is one of the Taoists' favourite metaphors). The nature of water is to run downhill. Thus, an excellent example of *wei* would be to obstinately insist on trying to make water run *uphill*. It is easy to understand that if one misguidedly persists in trying to make water run uphill, the sanction will be to exhaust oneself for nothing. *Wu wei* now takes on a completely different meaning: if one "voluntarily abstains from action against the course of nature," it is in no wise in order to remain passive and inactive; quite the contrary, it is with the aim of acting *effectively,* elegance coming as a bonus. I will now illustrate this by three stories.

Story A

« 9 » Ting, the butcher of King Hui, was cutting up a bullock. Every blow of his hand, every heave of his shoulder, every tread of his foot, every thrust of his knee, every sound of the rending flesh, and every note of the chopper, were in perfect harmony – rhythmical like the *Mulberry Grove* dance, harmonious like the chords of the *Ching Shou* music.

« 10 » "Admirable," said the prince, "Yours is skill indeed!"

« 11 » "Sir," said the cook, laying down his chopper, "what your servant loves is the Tao, which is higher than mere skill. When I first began to chop up oxen, I saw before me the entire carcasses. After three year's practice I saw no more whole animals. Now I work with my mind and not my eyes, my spirit having no more need of control by the senses. Following the natural structure, my chopper slips through the deep crevices, slides through the great cavities, taking advantage of what is already there. My art avoids the tendinous ligatures, and much more so the great bones. An ordinary cook changes his chopper once a year, because he hacks. A good cook needs a new chop-

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per once a month, because he cuts. But I have had this chopper for nineteen years, and although I have cut up many thousands of bullocks, its edge is as if fresh from the whetstone. For where the parts join there are interstices, and since the edge of the chopper has no thickness, one can easily insert it into them. There is more than enough room for it…. Nevertheless, when I come to a complicated joint, and see that there will be some difficulty, I proceed with caution. I fix my eyes on it. I move slowly. Till by a very gentle movement of my chopper, the part is quickly separated, and yields like earth crumbling to the ground. Then standing up with the knife in my hand I look around and pause with an air of triumph. I wipe my chopper and put it in its sheath."

« 12 » "Excellent," cried the prince. From the words of Ting the Cook we may learn how to nourish (our) life." (Translation from Needham 1969).

Story B

« 13 » On the edge of a wood, Confucius came across a crippled hunchback who was catching crickets on the end of a stick as easily as if he could crouch and pick them up off the ground. Confucius admires his skill, and enquires as to his Tao. "For years, replies the hunchback, I practiced balancing balls on the end of my stick without letting them fall: when I manage to balance two balls, I still miss some crickets; when I manage to balance three balls, I only miss one out of ten; when I get to five balls, I catch the crickets as if I were simply picking them up." (Translation from Jullien 2007).

Story C

« 14 » Confucius was walking beside a terrifying cataract, "a hundred yards high with the foam spreading in every direction; neither giant turtles nor alligators nor fish could swim there." Suddenly, Confucius sees a man lolling in the water and, believing that the unhappy individual is trying to commit suicide, sends a disciple to follow the current and try and help him out. Great was Confucius' astonishment to see the man step calmly out of the water a hundred yards further down, shake his loose hair to free it of the water, and to saunter on down the bank quietly humming to himself. As was his wont, Confucius questioned the swimmer as to his *Tao*. The latter replies that he has no tao: "I follow the whirlpools and let myself come back with the eddies; I simply follow the *tao* of the water and don't do anything myself. If I have no *tao* of my own, it is because I wed the *tao* of the water by conforming to its changes: I slip into the vortex of the current and slip out again by letting myself ride on the crest of the wave. There is not even need of a slim board to surf on the wave: by letting oneself be breathed in by the flow, one is then simply breathed out; by entrusting oneself to the surge of the flow without opposing any resistance, one finds oneself given back without sustaining any damage." (Translation from Jullien 2007).

Conclusion

« 15 » We are faced with a challenge, because what I have called the "intellectual stance" cannot be properly expressed in conventional intellectual terms. Zen koans and Taoist stories share the property of pondering the question: "what does one do when one does not know what to do?" In this way, they open up fresh possibilities for enacting enaction.

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Authors' Response
Not Hagiography but Ideational Biography: In Defense of Existential Enaction

Sebastjan Vörös & Michel Bitbol

> **Upshot** • First, we argue that our contribution was not meant as a mythization of Varela's work, but rather as a Varelian-inspired existential reconstrual of enaction. Second, we expand and elaborate on the notion of dialectics and the role of Buddhist philosophy. Third, we briefly formulate three main domains (theoretical, empirical, educational) of investigation for enacting enaction.

« 1 » Every epoch has its preferred written forms of encapsulating and transmitting knowledge. Modern scholarly articles are one such form, which, although sharing many family resemblances with its predecessors, embodies a unique *stylized* mode of presentation, interpretation, and argumentation. As such, it is not only more accommodating to certain topics and certain ways of expressing them, but also significantly predetermines the contours of our epistemic landscape – what I will, should, and can take on as my subject matter so as to meet the socially endorsed criteria for what constitutes a well-formed vehicle of knowledge – much as a geographical landscape is likely to contribute to the layout and organization of a given city. We mention this because, despite all its merits, the scholarly article – like any other mode of academic exchange – has its disadvantages and its epistemic blind spots. In view of its limited length, its reviewing process, and its format constraints, its sensitivity to shared prejudice and latent academic paradigms is exceptionally strong. Would there be an Edmund Husserl, a Martin Heidegger or a Ludwig Wittgenstein if contemporary scholarly articles were the sole arbiter as to what counts as epistemically (and existentially) relevant? And can there be one now?

« 2 » However, the aim of these preliminary reflections is not to compare ourselves with these giants or demote the significance of the academic article, but to thematize the implicit, yet nontrivial horizons into which it is submerged and which it reflectively (co)creates. We do this as it

gives us the opportunity to express our gratitude for the platform offered by the journal *Constructivist Foundations*, which enables one to expand and elaborate on certain underdeveloped ideational fragments in light of the invaluable feedback from open peer commentaries.

« 3 » To begin with, it is perhaps important to reiterate what our target article was (not) about. Its main goal was to *bracket the self-evidentiality* that seems to pervade the contemporary discourse on "enaction"; to unearth the *conceptual sediments* – the proto-ideas and ideational fragments of past thought-styles (particularly Francisco Varela's threefold strategy, as recounted in Varela 1976) – that mold and invigorate the meshwork of its meanings; and, finally, to *elucidate some implications* of these overlooked dimensions by indicating how they might impact certain fields (most notably, science and ethics). This, in itself, was a formidable task, one that brought us to the very limits of what can be formally incorporated into a single article. And as it required some heavy-duty archaeological/hermeneutical digging in conceptual bowels – *always* a messy endeavor! –, we decided, deliberately, to focus most of our efforts on Varela's work and, consequently, to refrain from engaging, either comparatively or critically, with the important contributions of his colleagues (most notably, Evan Thompson and Eleanor Rosch) and some representative examples of what we termed "enactivism" (a diluted construal of what Varela, Thompson and Rosch originally meant by "enaction").

« 4 » However, although we still feel these omissions to be warranted from a pragmatic point of view, we agree with the commentators that some points could be explicated more thoroughly (e.g., the role played by Thompson and Rosch in the genesis and subsequent development of the notion), and are therefore glad to see that Ema Demšar (§3), Urban Kordeš (§19) and Evan Thompson (§§6f) have not only pointed out this unfortunate gap, but have even filled it with valuable content. Thompson's contribution is especially informative in this respect, as it not only serves as a reminder that the term "enaction" has not one, but "three parents" (§6), but it also offers a comprehensive portrayal of some contemporary empirical work – particularly work carried out by

Ezequiel Di Paolo, Hanne De Jaegher, and Miriam Kyselo (§§9–13) – that could be characterized as being in line with the "existential" account of enaction presented in our target article. As Varela himself pointed out, "[i]deas appear as movements of historical networks in which individuals are formed, rather than vice versa," and tracing a genesis of a given idea is like "making *a fold in history* where men and ideas live because we are points of accumulations among the social networks in which we live" (Varela 1996b: 408; our emphasis). For this reason, we are glad to see our ideational archaeology merged with vaster empirical and conceptual horizons.

« 5 » Despite these welcome additions, however, we take issue with some aspects of Thompson's otherwise lucid commentary. First, a minor point: although we cannot deny that we have forgone explicit references to contemporary work in the field, let us reiterate that this was done – as mentioned in Footnote 1 (which Thompson quotes in §6) – primarily for pragmatic reasons. Further, towards the end of that very same footnote, we draw the reader's attention to Vörös, Tom Froese and Alexander Riegler (2016). In their overview of varieties of enactivism they use, as their conceptual anchor, precisely the notion of "enaction" as originally developed in *The Embodied Mind* (TEM; Varela, Thompson & Rosch 2016), and then go on to examine the notion's subsequent transmutations and their epistemological and metaphysical implications. They argue that there are some authors – among them, Thompson and Di Paolo – who continue to implement and develop some of the radical aspects of the notion, whereas others construe it in a philosophically much more circumscribed manner (see especially ibid.: 194f).

« 6 » However, we were genuinely surprised to see Thompson labeling our contribution "hagiographic" (§§5, 7, 17, 18). To begin with, our almost exclusive focus on Varela's work was not meant to "foster a cultish image of Varela" (§7), but to portray an *ideational biography*, literally: *a life story of an idea* (*not* of a term/word). Let us be clear on this: as Thompson himself points out, "Varela is the *sine qua non* for the enactive approach" (§6), and many of the notions and metaphors that have found their way

into the notion of enaction and constitute its horizon of meaning – including the idea of co-determination, middle way, autonomy, sense-making, natural drift – can be traced back to his papers from the 1970s and 1980s. However, the reason why we think these ideational sediments merit careful examination is *not* because, as Thompson seems to suggest, we would like to stir debates about primacy and/or authorship, but because they, as we try to articulate in the target article, contribute significantly to its more radical dimensions. This, we feel, is all the more pertinent, as some of these aspects were not articulated clearly enough in TEM, a fact also acknowledged by Rosch, who, in her editorial to the revised edition, notes that "twenty years of emails from confused readers" have convinced her to start her exposition with a "clarified version of enaction" (Rosch 2016: xxxviii).

« 7 » For this reason, although we agree that there now exists a "rich, multifarious, and evolving lineage of research" that draws its inspiration from Varela (§7), we fail to see why it would be "hagiographic" to maintain that some aspects of his work *have* been overlooked and/or watered down. This is all the more surprising since a similar refrain seems to reverberate not only through many of Thompson's older writings, but also through Rosch's (2016) and Thompson's (2016) recent introductions. The main difference is that we tried to thematize these omissions mainly from the perspective of Varela's lesser-known works, but this does not alter the fact that – as Demšar (§§4 ff) aptly points out – our reflections are largely congruent with those of Thompson and Rosch.

« 8 » What is more, the call for "enacting enaction" is actually an attempt to elaborate upon Thompson's views expressed in one of his older articles where he maintains that the central theme of TEM – "the need for back-and-forth circulation between scientific research on the mind and disciplined phenomenologies of lived experience" – has not yet been fully absorbed (Thompson 2004: 382).

« 9 » Curiously enough, however, there are reasons to think that Thompson himself was perhaps uneasy with some of the most daring implications of this oft-shunned central theme. He admits as much when, in an-

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other article, he writes that in the late 1980s when he and Varela were working on TEM,

"Varela introduced into his work the terminology of organisms 'enacting' and 'bringing forth' their worlds, rather than representing them […]. This way of talking worried me – precisely for its not fully worked-out suggestion of some kind of idealism or constructivism. So whenever Varela would write that the organism enacts its world, I would try to rewrite the sentence to say that a world is brought forth or enacted by the structural coupling of the organism and its environment." (Thompson 2011: 120)

« 10 » Here, we see a blurring of one of the distinctions that was central to Varela's thought: that between the perspective of *the organism itself* and the perspective of *the observer*. From Varela's (and Maturana's) point of view – and Thompson generally agrees with this –, the two descriptions are supposed to be *intertranslatable*. The main difference is that the first one, the one apparently preferred by Varela, accentuates the *world* (umwelt or domain of meaning brought forth by the organism), while the other one, the one apparently preferred by Thompson, accentuates the *environment* (the surrounding world of the organism *brought forth* by the observer). This seemingly minute distinction, however, is crucial for the point we are trying to make in the article: that taking enaction seriously implies that scientists themselves should become aware that their theories, models, etc., about the environment, are parts of their own umwelten – of worlds of meaning they themselves enact – *and* start reinterpreting and restructuring their undertaking accordingly. In other words, the point was, as mentioned in the target article, to readdress the question as to what it would mean to not only talk the talk (theorizing about enaction), but *walk the walk* (enacting enaction) – to see how seriously we are willing to take the central theme of TEM, and what, exactly, this would entail not only on a theoretical, but on a concrete, day-to-day level (level of scientific practice, etc.).

« 11 » The feeling that Thompson remains uneasy with some implications of the conceptions he co-authored and co-elaborated with Varela is reinforced by the case of neurophenomenology. Whereas Varela for-

mulated neurophenomenology with the intention of instigating a radical change in existential stance and allowing a lived dissolution of the "hard problem" of the alleged physical origin of consciousness, Thompson seems to favor a milder version of neurophenomenology, construed as an asset for an improved neurocognitive science that has not completely freed itself from the spell of physicalist metaphysics (Bitbol 2015). This is part of the reason why we advocate a "back-to-Varela" movement: not as the hagiography of a past icon, but in order to stand on his shoulders, to recover some of his lost boldness, and thereby to see farther into our future.

« 12 » This issue about neurophenomenology brings us to §12 of Thompson's commentary, which is devoted to Høffding's and Martiny's phenomenological interview (a theme that, incidentally, is not addressed in our target article). This latter method is presented as a new kind of approach to investigating lived experience, "advancing beyond" the microphenomenological interview. In fact, as it is modestly and rightly presented by the authors themselves, this kind of interview is essentially an elaboration and a philosophical reinterpretation of the microphenomenological interview. It is an interesting contribution to an ongoing debate aimed at improving collectively the method. This debate is practiced regularly in Paris (around Claire Petitmengin and one of us) with participants from all over the world, *including* Høffding and Martiny. Indeed, our strategy is cooperation rather than the claims of priority that are commonplace in academia. As for the issue of reenactment of experience, which is the *only* philosophical sticking point that differentiates the two varieties of phenomenological interviews, it cannot be treated only theoretically, but phenomenologically. A vast majority of human beings have experienced the uncanny global resuscitation of a past situation by "concrete memory," whenever similar sensory and emotional circumstances spontaneously trigger it. The introductory phase of a microphenomenological interview only aims at creating a favorable context for this remarkable process. Once this is done, the reenacted experience serves as a background against which a description is indeed "co-generated" by the interviewer

and the interviewee (as we already acknowledged in Bitbol & Petitmengin 2013b). If such an experiential background were not permanently constraining the "co-generated" description, the latter would just be arbitrary. But its non-arbitrariness has clearly been demonstrated by, e.g., Claire Petitmengin et al. (2013).

« 13 » We now move on to more specific topics that seem to have been insufficiently addressed in our target article. We will focus on two such topics: dialectics and Buddhist philosophy. To begin with, Nicolas Zaslawski feels that "substantial work regarding [our] notion of 'dialectic' is still needed" if the term is to be "completely understandable and meaningful" (§1). For Zaslawski, this encompasses two things:

a a more precise explication of the notion is required (§3); and

b an explanation needs to be provided as to why we should give up on the prospect of finding new conceptual tools for expressing the (fundamental) dialectic between knowledge and being (§§4–6).

« 14 » As for (a) – a more precise explication of "dialectics" – let us try to elaborate a bit on our admittedly brief sketch (§§9–11) of Varela's "cybernetic (post-Hegelian) dialectic" (Varela 1976). Varela points out that the two main features of "cybernetic dialectic" are:

▪ *asymmetry*, i.e., the two terms that are dialectically interrelated *extend across levels*, with one term emerging from the other; and

▪ *self-reference*, i.e., the terms are interrelated as depicted by *Star statements*: "the it/the process leading to it" (ibid.: 64).

Thus, the two terms that are traditionally construed as being opposed to each other – predator/prey, observer/observed – are now conceived as constituent ingredients of the right half of the Star statement ("the process leading to it"), whereas the emergent whole – ecosystem, conversational pattern – constitutes the left half of the statement ("the it"). The resulting dynamics is *circular* – "the process" gives rise to "it," whereas "it" enables "the process" to operate, etc. –, yet is not vicious, but *operative/fruitful*.

« 15 » The lack of "viciousness" becomes apparent when one ceases to see the dialectic from an external observer's position as a quasi-static "mechanism," and rather re-im-

merges in the dynamics of a person engaged with the dialectic. According to a partly disengaged phenomenological description of such dynamics, the noema (or mental structure) of the "it" guides the noesis (or mental processes), and is reciprocally supported by these processes as long as existential viability ensues. This has the same form as Varela's Star statements, with two items (noesis as "process," noema as "emergent whole") and a circular relation between them. But from the standpoint of the subject who undergoes this dynamics:

- the noema partakes of the noesis since it is dynamically maintained by it (not two),
- sudden changes of the guiding noema may occur if the noetic process is experienced as existentially non-viable (not one).

The non-viciousness of the circle is ensured by its permanent re-creation in lived experience, and by the permanent test of existential viability.

« 16 » As for (b) – why we should give up on looking for conceptual tools for expressing the (fundamental) dialectic between knowledge and being – it all boils down to what we mean by language and concepts. It is not so much that our vocabulary is too abstract (§7), but rather that, more often than not, we construe language as a system that is, somehow, *outside* of this ongoing dialectic between knowing and being. This, however, is false: language cannot, as it were, describe the dialectic, but it can *evoke* and *express* it. What is more, it is not only the case that language can do that, but that it *must* do that: as Zaslawski correctly points out, quietism (at any level) would be "an arbitrary and incorrect decision" (§8). Language is, in fact, one of the foremost embodiments of this (fundamental) dialectic, as it straddles both poles: it is a medium of theoretical knowledge, yet also a manifestation of the rawest fibers of vitality (Maturana's idea of "languaging" captures this nicely). Now, given that this dialectic between being and knowing is fundamentally a historical process, so is our attempt to express – to "language" – its dynamics by verbal means that are unique for a given historical and cultural setting.

« 17 » The second topic that seems to have been inadequately addressed by our target article pertains to Buddhist philoso-phy. Here, we turn back to Thompson once again, who mentions two such elucidatory lacunae. First, he feels that our construal of Buddhism neglects some important recent developments in the field of Buddhist studies – usually promulgated under the heading of "Buddhist modernism" –, which call into question the notion that meditation practice provides a (conceptually, culturally, etc., unmediated) *via regia* to exploration and modification of experience. Our reply would, again, be that one cannot tackle all problems at once: although we were aware of this issue – in fact, one of us published several papers on the topic (Vörös 2016a, 2016b, 2016c) –, we never explicitly engaged with it, as it seemed tangential to our main topic. Briefly put, our view on this issue is similar to the one defended by Rosch (2016: xli ff) and, possibly, Thompson himself (2016: xxiii), namely that the proponents of Buddhist modernism make a good point in insisting that ethical, cultural, etc. dimensions of the Buddhist tradition need to be taken into account when engaging in any type of meditation-related research, but go much too far when they claim – as does, for instance Robert Sharf (1995) – that the whole discourse of experience is inherently non-sensical. The topic basically boils down to whether one thinks that such practices are exhausted by the discursive networks into which they are embedded, or – and this is the option we side with – whether they provide pragmatic means for engaging, in an existentially meaningful way, with our everyday experience.

« 18 » A related issue brought up by Thompson (still pertaining to Buddhist philosophy) is that we have insufficiently addressed the complex relationship between non-duality (groundlessness) and compassion. Here, we must agree that our portrayal gives the impression that the two are seamlessly interrelated, i.e., that by engendering one we immediately engender the other, although we are aware that things are not as straightforward. We do think, however, that the experience of non-duality is a necessary, albeit not sufficient, component of all-pervading compassion, one that (groundlessly) grounds the experience of inter-being, of harmonious co-being with the other. Again, as in the previous paragraph, it all boils down to the question of how willing we are to give credence to the claim that contemplative practice enables us to modify our lived experience in the direction of egolessness and thus greater openness towards the other. The path, we all agree, is thorny and winding, but still – is it, in principle, out of reach?

« 19 » We close our response with three commentaries that are similar to one another, not only in that they are in general agreement with the main message of our target article, but also in that they consider the implications of enaction for science and scientific practice. Demšar, for instance, outlines the implications that the relationship between the pseudo-subject and meta-subject, as depicted in §33 of the target article, has for the "*non-objectivist* conception of science and scientific knowledge" (§12), and argues that this calls for an exploration of "non-objectivist epistemological frameworks for investigating mind and lived experience" (§13). This is closely aligned to ideas put forward by Kordeš, who extends the debate into empirical waters: although "almost entirely shar[ing] the authors' position" (§2), he feels that the target article lacks clear "methodological and technical guidelines" on how to implement Varela's program (§3), especially an "explanation of how *the authors themselves* bridge the gap between thinking and knowing" (§13), which reduces it to "armchair philosophy" and renders it, from the pragmatic point of view, "naïve" (§14). In addition to theorizing about enacting enaction, one also needs a strategy about how to go about doing it. This, in turn, resonates well with John Stewart's contribution, where, instead of a run-of-the-mill scholarly discussion, we are presented with a set of Zen koans (§6) and Taoist short stories (§7), which indicate different ways of embodying and expressing knowing, and could therefore help in the project of enacting enaction.

« 20 » All these additions point to various aspects of what needs to be done if this call for "enacting enaction" is to be put, well, in action. First, and in line with Demšar's suggestion, there is a lot of *theoretical work* that requires further attention. In particular, we feel that a debate should be reopened concerning the very fundamental epistemological and metaphysical presuppositions of scientific inquiry, where various positions are brought to the table and carefully scru-

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tinized. These topics have, so far, been dealt with mostly tangentially, and even then on the level of knee-jerk slogans rather than on the level of serious discussion.

« 21 » Further, and in line with **Kordeš**'s proposal, such theoretical reflections need to be put in an ongoing dialogue with methodological and empirical issues, especially in relation to the epistemological underpinnings of first-person inquiries. Here, it should be noted that our article was intentionally "theoretical," and had no pretense at addressing these concrete issues. **Kordeš** (§3) is therefore, to a certain extent, correct in saying that we "deliberately avoid

[…] discussion" on the topic. However, we agree that this needs to be remedied, and the grounds laid by Kordeš (2016) seem like a promising step in this direction.

« 22 » Finally, and in line with **Stewart**'s indications, the cumulative weight of such theoretical and empirical reflections (re) open the question about the scope and validity of different types of knowledge. Note that this is not only a theoretical, but a very practical question: What will the future academia look like? Let us assume that "enaction" does indeed become a new paradigm, as many maintain it should. What exactly would this mean about *what* and *how* we

teach at schools and universities? The examples, set by Zen koans and short Taoist stories may seem strange, even fantastic, to some, but they touch upon something important: that there might be valid and pertinent modes of knowing that escape the ideal of explicit (propositional) knowledge (uncritically) favored by our current academic and scientific milieu, and that pave the way to unconventional pedagogies.

Combined References

Aristotle (2016) Metaphysics. Hackett Publishing, Indianapolis.

Barbaras R. (2001) Merleau-Ponty et la psychologie de la forme. Les Études Philosophiques 2(57): 151–163.

Barbaras R. (2008) Introduction à une phénoménologie de la vie. Vrin, Paris.

Bimbenet É. (2011) Après Merleau-Ponty. Vrin, Paris.

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) La conscience a-t-elle une origine? Flammarion, Paris.

Bitbol M. (2015) Review of "Waking, dreaming, being: Self and consciousness in neuroscience, meditation, and philosophy" by Evan Thompson. Journal of Mind and Behavior 36: 101–112.

Bitbol M. & Antonova E. (2016) On the too often overlooked radicality of neurophenomenology. Constructivist Foundations 11(2): 354–356. ► http://constructivist.info/11/2/354

Bitbol M. & Petitmengin C. (2013a) A defense of introspection from within. Constructivist Foundations 8: 269–279. ► http://constructivist.info/8/3/269

Bitbol M. & Petitmengin C. (2013b) On the possibility and reality of introspection. Kairos, Revista de Filosofia & Ciência 6: 173–198. ► http://cepa.info/2298

Bitbol M. & Petitmengin C. (2017) Neurophenomenology and the microphenomenological interview. In: Velmans M. & Schneider S. (eds.) The Blackwell companion to consciousness. Second edition. Wiley & Sons, Chichester: 726–739. ► http://cepa.info/4120

Cohen A. & Varela F. J. (2000) Facing up to the embarrassment: Psychoanalysis and cognitive neuroscience. Journal of European Psychoanalysis 10–11. ► http://cepa.info/2084

De Jaegher H. & Di Paolo E. A. (2007) Participatory sense-making: An enactive approach to social cognition. Phenomenology and the Cognitive Sciences 6: 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 Science 14: 441–447.

De Jaegher H., Pieper B., Clénin D. & Fuchs T. (2017) Grasping intersubjectivity: An invitation to embody social interaction research. Phenomenology and Cognitive Sciences 16: 491–523. ► http://cepa.info/4350

Depraz N., Varela F. J. & Vermersch P. (2003) On becoming aware: A pragmatics of experiencing. John Benjamins, Amsterdam.

Descartes R. (2008) Meditations on the first philosophy. Oxford University Press, Oxford. Latin originally published in 1641.

Di Paolo E. A. (2005) Autopoiesis, adaptivity, teleology, agency. Phenomenology and the Cognitive Sciences 4: 429–452. ► http://cepa.info/2269

Di Paolo E. A. (2009) Overcoming autopoiesis: An enactive detour on the way from life to society. In: Magalhaes R. & Sanchez R. (eds.) Autopoiesis in organizations and information systems. Elsevier, New York: 43–68. ► http://cepa.info/2366

Di Paolo E. A. (in press) The enactive conception of life. In: Newen A., Gallagher S. & de Bruin L. (eds.) The Oxford handbook of 4e cognition: Embodied, embedded, enactive and extended. Oxford University Press, New York NY.

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. A. (eds.) Enaction: Towards a new paradigm for cognitive science. MIT Press, Cambridge MA: 33–87. ► http://cepa.info/2413

Farin I. & Malpas J. (eds.) (2016) Reading Heidegger's black notebooks 1931–1941. MIT Press, Cambridge MA.

Foucault M. (2001) L'herméneutique du sujet. Editions du Seuil, Paris.

Froese T. (2011) From second-order cybernetics to enactive cognitive science: Varela's turn from epistemology to phenomenology. Systems Research and Behavioural Science 28(6): 631–645. ► http://cepa.info/449

Gallagher S. & Zahavi D. (2012) The phenomenological mind. Routledge, London. ► http://cepa.info/4356

Gasparyan D. (2016) Not to avoid but legitimize: Why the gap could be natural for the enactive world. Construc-

56

tivist Foundations 11(2): 356–358.
► http://constructivist.info/11/2/356

Heidegger M. (1975) The thinker as a poet. In: Heidegger M., Poetry, language and thought. Translated by A. Hofstadter. Harper & Row, New York: 1–14.

Høffding S. & Martiny K. M. (2016) Framing a phenomenological interview: What, why, and how. Phenomenology and the Cognitive Sciences 15: 539–564.
► http://cepa.info/4346

Jonas H. (1966) The phenomenon of life: Toward a philosophical biology. University of Chicago Press, Chicago IL.

Jullien F. (2007) Vital nourishment: Departing from happiness. Zone Books, New York.

Kirchhoff M. D. & Hutto D. D. (2016) Never mind the gap: Neurophenomenology, radical enactivism, and the hard problem of consciousness. Constructivist Foundations. 11(2): 346–353.
► http://constructivist.info/11/2/346

Kordeš U. (2016) Going beyond theory: Constructivism and empirical phenomenology. Constructivist Foundations 11(2): 375–385.
► http://constructivist.info/11/2/375

Kordeš U. & Markič O. (2016) Parallels between mindfulness and first-person research into consciousness. Asian Studies 4(2): 153–168.
► http://cepa.info/4036

Kyselo M. (2013) Locked-in syndrome and BCI: Towards an enactive approach to the self. Neuroethics 6: 579–591.
► http://cepa.info/4343

Kyselo M. (2015) The enactive approach and disorders of the self: The case of schizophrenia. Phenomenology and the Cognitive Sciences 15: 591–616. ► http://cepa.info/4344

Kyselo M. & Di Paolo E. A. (2013) Locked-in syndrome: A challenge for embodied cognitive science. Phenomenology and the Cognitive Sciences 14: 517–542.
► http://cepa.info/4343

Labarrière P.-J. (1979) Introduction à une lecture de la phénoménologie de l'esprit. Aubier, Paris.

Maturana H. & Varela F. J. (1980) Autopoiesis and cognition: The realization of the living. Reidel, Boston.

Maturana H. & Varela F. J. (1998) The tree of knowledge: The biological roots of human understanding. Shambala, Boston MA.

McMahan D. (2008) The making of Buddhist modernism. Oxford University Press, New York.

Menary R. (2010) Introduction to the special issue on 4E cognition. Phenomenology and the Cognitive Sciences 9: 459–463.
► http://cepa.info/2284

Needham J. (1969) Science and civilization in China. Cambridge University Press, Cambridge.

Overgaard S. (2005) Being there: Heidegger's formally indicative concept of "Dasein." The New Yearbook for Phenomenology and Phenomenological Philosophy V: 145–163.

Petitmengin C. (2017) Enaction as a lived experience: Towards a radical neurophenomenology. Constructivist Foundations 12(2): 139–147.
► http://constructivist.info/12/2/139

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

Rosch E. (1999) Reclaiming concepts. Journal of Consciousness Studies 6: 61–77.
► http://cepa.info/4342

Rosch E. (2016) Introduction to the revised edition. In: Varela F. J., Thompson E. & Rosch E., The embodied mind: Cognitive science and human experience. Revised edition. MIT Press, Cambridge MA: xxxv–lv. ► http://cepa.info/4380

Sharf R. H. (1995) Buddhist modernism and the rhetoric of meditative experience. Numen 42: 228–283.

Stewart J. (2001) Radical constructivism in biology and cognitive science. Foundations of Science 6(1–3): 99–124.
► http://cepa.info/3634

Stewart J., Gapenne O. & Di Paolo E. (eds.) (2010) Enaction: Toward a new paradigm for cognitive science. MIT Press, Cambridge MA.

Stuart S. A. J. (2013) The union of two nervous systems: Neurophenomenology, enkinaesthesia, and the Alexander technique. Constructivist Foundations 8(3): 314–323.
► http://constructivist.info/8/3/314

Thompson E. (2004) Life and mind: From autopoiesis to neurophenomenology. A tribute to Francisco Varela. Phenomenology and Cognitive Sciences 3: 381–398.
► http://cepa.info/1137

Thompson E. (2007) Mind in life: Biology, phenomenology, and the sciences of mind. Harvard University Press, Cambridge.

Thompson E. (2011) Living ways of sense-making. Philosophy Today 55 (Supplement): 114–123. ► http://cepa.info/2291

Thompson E. (2015) Waking, dreaming, being: Self and consciousness in neuroscience, meditation, and philosophy. Columbia University Press, New York NY.

Thompson E. (2016) Introduction to the revised edition. In: Varela F. J., Thompson E. & Rosch E., The embodied mind: Cognitive science and human experience. Revised edition. MIT Press, Cambridge MA: xvii–xxxiii.
► http://cepa.info/4379

Thompson E. (2017) Looping effects and the cognitive science of mindfulness meditation practices. In: McMahan D. & Braun E. (eds.) Meditation, buddhism, and science. Oxford University Press, New York: 47–61.

Varela F. J. (1976) Not one, not two. CoEvolution Quarterly 12: 62–67. ► http://cepa.info/2055

Varela F. J. (1978) On being autonomous: The lessons of natural history for systems theory. In: Klir G. (ed.) Applied systems research. Plenum Press, New York: 77–85.
► http://cepa.info/2058

Varela F. J. (1979) Principles of biological autonomy. Elsevier, New York.

Varela F. J. (1981) Autonomy and autopoiesis. In: Roth G. & Schwegler H. (eds.) Self-organizing systems: An interdisciplinary approach. Campus Verlag, Frankfurt: 14–24.
► http://cepa.info/2063

Varela F. J. (1984) The creative circle: Sketches on the natural history of circularity. In: Watzlawick P. (ed.) The invented reality: Contributions to constructivism. W. W. Norton, New York: 309–325. ► http://cepa.info/2089

Varela F. J. (1987) Laying down a path in walking. In: Thompson W. I. (ed.) Gaia, A way of knowledge. Lindisfarne Press, Hudson NY: 48–64. ► http://cepa.info/2069

Varela F. J. (1991) Organism: A meshwork of selfless selves. In: Tauber A. I. (ed.) Organism and the origins of self. Kluwer Academic Publishers: 79–107. ► http://cepa.info/1959

Varela F. J. (1992) Whence perceptual meaning? A cartography of current ideas. In: Varela F. J. & Dupuy J.-P. (eds.) Understanding origins. Boston studies in the philosophy and history of science: 235–263.
► http://cepa.info/2074

Varela F. J. (1996a) Neurophenomenology: A methodological remedy for the hard problem. Journal of Consciousness Studies 3: 330–335. ► http://cepa.info/1893

57

Varela F. J. (1996b) The early days of autopoiesis: Heinz and Chile. Systems Research 13(3): 407–417. ► http://cepa.info/2077

Varela F. J. (1997) The naturalization of phenomenology as the transcendence of nature: Searching generative mutual constraints. Alter, Revue de Phénoménologie 5: 355–385. ► http://cepa.info/2013

Varela F. J. (1999a) Ethical know-how: Action, wisdom, and cognition. Stanford University Press, Stanford. ► http://cepa.info/2119

Varela F. J. (1999b) Steps to a science of interbeing: Unfolding the dharma implicit in modern cognitive science. In: Watson G., Stephen B. & Claxton G. (eds.) The psychology of awakening. Samuel Waiser: York Beach ME: 71–89. ► http://cepa.info/4118

Varela F. J. (2000) Pour une phénoménologie de la Sunyata. In: Depraz N. & Marquet J.-F. (eds.) La gnose, une question philosophique. Cerf, Paris: 121–148.

Varela A. C. (2002) One idea: On the path of F. J. Varela. European Journal of Psychoanalysis 14: 001. ► http://cepa.info/4244

Varela F. J., Thompson E. & Rosch E. (1991) The embodied mind: Cognitive science and human experience. MIT Press, Cambridge MA.

Varela F. J., Thompson E. & Rosch E. (2016) The embodied mind: Cognitive science and human experience. Revised edition. MIT Press, Cambridge MA.

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. (2016a) Buddhism and cognitive (neuro) science: An uneasy liaison. Asian Studies 4(1): 61–80.

Vörös S. (2016b) Mindfulness de- or recontextualized? Traditional Buddhist and contemporary perspectives. Taiwan Journal of East Asian Studies 13(1): 1–34.

Vörös S. (2016c) Sitting with the demons: Mindfulness, suffering, and existential transformation. Asian Studies 4(2): 59–83.

Vörös S., Froese T. & Riegler A. (2016) Epistemological odyssey: Introduction to special issue on the diversity of enactivism and neurophenomenology. Constructivist Foundations 11(2): 189–204. ► http://constructivist.info/11/2/189

Vörös S. & Gaitsch P. (2016) Desire and/or need for life? Towards a phenomenological dialectic of the organism. In: Tønnessen M., Armstrong K. & Rattasepp S. (eds.) Thinking about animals in anthropocene. Lexington Books, Lanham MD: 89–106. ► http://cepa.info/4245

Wellmon C. (2010) Goethe's morphology of knowledge, or the overgrowth of nomenclature. Goethe Yearbook 17: 153–177.

Whitehead A. N. (2004) The concept of nature. Cambridge University Press, Cambridge. Originally published in 1929.

Wittgenstein L. (1968) Philosophical investigations. Basil Blackwell, Oxford.

Zahavi D. (2003) Phenomenology and metaphysics. In: Zahavi D., Heinämaa S. & Ruin H. (eds.) Metaphysics, facticity, interpretation. Kluwer Academic Publishers, Dordrecht: 3–22.

Zahavi D. (2013) Naturalized phenomenology: A desideratum or a category mistake? Royal Institute of Philosophy Supplements 72: 23–42.

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