Beyond neurophenomenology: A review of Colombetti’s *The Feeling Body*

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Abstract

I review *The Feeling Body: Affective Science Meets the Enactive Mind* by Giovanna Colombetti (Cambridge, Massachusetts: MIT Press, 2014, 288 pages, $40.00 hardcover). In this book Colombetti draws on the enactive theory of organismic embodiment and its key concept of sense-making in order to critically evaluate various aspects of mainstream affective science, including basic emotions and alternative constructionist approaches, as well as the cognitivist approach to emotion and appraisal theory. She defends and develops a dynamical systems approach to emotions and emphasizes the need for including more first-person methods of consciousness science in mainstream affective neuroscience. These are valuable contributions to affective science, and they also advance enactive theory. Colombetti’s proposal goes further than standard neurophenomenology in that she appeals to the bodily basis of feeling, thereby requiring a new sort of neuro-physio-phenomenology. Even more radically, she allows that all living beings are essentially affective beings, even those without a nervous system, and that emotional forms could be co-constituted by more than one person.

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1. Introduction

Colombetti’s (2014) book *The Feeling Body: Affective Science Meets the Enactive Mind* is a welcome addition to the tradition of enactivism that was inaugurated by Varela, Thompson and Rosch (1991) and continued by Thompson (2007) and many others (e.g. Di Paolo, Rohde, & De Jaegher, 2010). Nowadays there is a veritable diversity of “enactive” approaches that share some commonalities but also disagree with each other on a number of key issues (e.g. Cappuccio & Froese, 2014; Ellis & Newton, 2010; Hutto & Myin, 2013; Noë, 2004; Stewart, Gapenne, & Di Paolo, 2010). For instance, there are disputes about the extent to which we should admit talk of inner mental representations, and about whether perceptual experience is better conceived of as an internal construction or a direct relation with an environment. Thus, it is important to highlight that when Colombetti talks about the “enactive mind” in the title of her book she is specifically referring to the enactive theory of mind first proposed by Varela and colleagues (1991), and that is continuing to be developed by a new generation of researchers after his death (McGann, De Jaegher, & Di Paolo, 2013). The novelty of her proposal lies in its thematic focus. Leaving aside current philosophical debates about mental representation and perceptual experience, Colombetti is interested in exploring the enactive notion of living and lived embodiment.
Following on from Thompson's (2007) synthesis of that enactive approach, this book can be seen as the third monograph in that tradition. Colombetti makes at least three important contributions. First, she systematically unpacks several theoretical implications of organismically embodied sense-making, which is a concept that was introduced into enactivism by Weber and Varela (2002) and has since become a cornerstone of further developments (Di Paolo, et al., 2010). Second, Colombetti develops these implications into a more appropriate theoretical framework for affective science, thereby further expanding the interdisciplinarity of enactivism and in turn confronting its theories with additional empirical data. Third, on the basis of this encounter between affective science and the enactive mind, Colombetti critically reviews the methods and results of the neurophenomenology research program, which was introduced into the enactive approach by Varela (1996) and has continued to be developed since then in a variety of guises (e.g. Bockelman, Reinerman-Jones, & Gallagher, 2013; Petitmengin & Lachaux, 2013; Thompson, 2006, 2007).

Colombetti’s critique of mainstream affective science seems to me to be right on target, as are her detailed suggestions for improvement, i.e. that the field needs to tone down its intellectualism and instead pay more systematic attention to the dynamics and phenomenology of living and lived embodiment. Specifically, she makes a critique of basic emotions and of alternative constructionist approaches; presents a defense of a dynamical systems approach; critically evaluates the mainstream cognitive approach to emotion and of the related appraisal theory; and disapproves of mainstream affective neuroscience’s tendency of neglecting first-person methods. These are certainly useful contributions to the field of affective science, but since that is not my area of expertise I will not say more about it here (although I will return to issues surrounding the use of first-person methods and their integration with the dynamical systems approach in the form of neurophenomenology). Instead I will primarily highlight the several ways in which Colombetti challenges the general brain-centrism of mainstream cognitive science. The alternatives she proposes are pushing the boundaries of enactivism itself, and point to exciting prospects of future developments. I also point to some recent work that resonates with her general proposal.

2. The affective body: An enactive theory of embodiment

One of the virtues of Colombetti’s book is that it offers an extended exposition of the enactive account of embodiment. Since the emergence of embodied cognitive science in the ‘90s, a variety of different approaches to embodiment have been on offer. Typically, the concept of embodiment is loosely taken as a system’s physical instantiation, and no essential distinction is made between the “body” of a robot and an organism. The enactive approach stands out for being one of the few embodied approaches that insists that organismic embodiment differs in essential ways from that of robots and other artificial systems (Froese & Ziemke, 2009). In particular, living beings’ self-production under far-from-equilibrium conditions is taken as providing the key to understanding some of essential characteristics of life and mind (for one closely related approach to cognitive science, see interactivism (Bickhard, 2009)). The enactive approach also stands
out for arguing that the precarious mode of organic existence is not a contingent side-effect of life on earth, which could in principle be removed by downloading minds into an artificial paradise of pure logic (as some computationalists fondly believe). On the contrary, precariousness is at the root of sense-making as such, where sense-making is taken as a rough-and-ready definition of mind: a process of meaningfully relating to an environment.

Starting from this bio-phenomenological foundation of enactivism, Colombetti highlights an implication that is crucial for affective science: "The mind, as embodied, is intrinsically or constitutively affective; [...] Affectivity [...] refers broadly to a lack of indifference, and rather a sensibility or interest for one’s existence” (p. 1). This thesis about the mind is not limited to the case of humans. It is intended as a general thesis about life as such: “all living systems – even the simplest ones – are affective; hence the term primordial affectivity” (p. 2). In other words, primordial affectivity is the originary capacity to be sensitive to one’s existence in the world, and as such it is a necessary condition for specific emotions and moods to appear. Primordial affectivity is not to be equated with what we consciously experience from the first-person perspective as affective, although again it is a necessary precursor for having such an experience.

Colombetti derives two radical hypotheses from the basic concept of primordial affectivity relating to states of mind that supervene on less and more than an individual person’s nervous system. In fact, the hypotheses are so radical that they would have been unthinkable in the cognitive sciences not too long ago, and they continue to be challenging even for enactivism. After discussing these two hypotheses in the next two sections, I finish with some general methodological comments and offer some conclusions.

3. Affective sense-making without neurons

First, Colombetti directly confronts mainstream neuro-centric thinking by boldly claiming that sense-making in general and specifically primordial affectivity “is not meant to depend on the nervous system alone. Rather, it is enacted by the whole organism, and indeed even by organisms that lack a nervous system” (p. 21). This will be a welcome move for life-mind continuity theorists who have a predilection for thinking about the possibilities of bacterial and plant cognition, because Colombetti’s notion of primordial affectivity helps to elucidate what such a minimal mind is like. Yet this same claim will seem utterly bizarre to most other cognitive scientists – including perhaps to advocates of other strands of enactivism, who complain that this "autopoietic enactivism" tends to over- anthropomorphize basic living systems (Hutto & Myin, 2013).

Personally, I am sympathetic to the idea that living beings without a nervous system are also situated in an environment that is meaningful for them, for example with regard to making sense of what to approach and what to avoid. But Colombetti does not say much about how exactly we should imagine “what it is like” to be such a creature, apart from affirming that we are dealing neither with completely mindless mechanism nor with full-blown awareness but rather something in between (see also Beaton (2013) who raises a related concern).
But then what is this in-between ground of being, if there even is something to be like it at all? Can there be phenomenality without awareness? Even the classical phenomenological notion of pre-reflective awareness, such as when we are completely absorbed in smooth coping, seems to aim too high to do justice to this primordially affective being-there. This is an interesting area for future research in the area of basic minds and minimal cognition.

The intriguing issues involved in considering the possibilities of sense-making without neurons can also be explored from our own first-person perspective. For example, is there a subtle phenomenological difference that we could become aware of, at least in principle, so as to distinguish between a physically absent limb and a completely deafferented limb? Of course, it would be possible to do so contextually, for example by differences in the weight on the rest of the body. But if we could control for all the relevant confounds, would we be able to notice differences in lived embodiment from the inside, so to speak?

I also find it insightful to think about which kind of method could help us to differentiate two competing theses about the feeling body. Do we need to extend neurophenomenology to neuro-physio-phenomenology, as Colombetti argues so persuasively, because the nervous system is not limited to the brain but is in fact distributed throughout the entire body? Or is it rather because the body’s living tissue in general, even in the absence of local neurons, also contributes to sense-making and therefore to the phenomenology of what it is like to be us? Given Colombetti’s notion of primordial affectivity even in the absence of neurons, she seems to be suggesting the latter possibility, although the details of that more radical alternative remain unclear. My gut feeling is that our living flesh as such is indeed partially constitutive of our lived embodiment, but more work needs to be done to properly explain how this is the case.

4. The feeling body: socially extended

Second, Colombetti easily sidesteps mainstream cognitive science’s restriction to individualist thinking by following the dynamical systems approach to affective science to what it naturally suggests, namely that there is no problem with the possibility that “emotional episodes can span two or even more organisms” (p. 68). This idea of “spanning” goes beyond that known as emotional contagion, at least as traditionally conceived. In other words, if sense-making is intrinsically affective, why shouldn’t the same apply to participatory sense-making (Di Paolo, et al., 2010)? The point is that an emotional episode can be genuinely shared by being interactively co-constituted by two or more persons:

Importantly, an organism can become coupled to another one (or other ones) via continuous reciprocal influences. In this case, we can talk of emotion forms instantiated by two (or more) organisms together in their coupling, with attractors that pull all organisms simultaneously into a specific interactive pattern. (Colombetti, 2014, p. 70)

Note that this does not mean that one person directly experiences the other’s feelings as if they were their own, as Colombetti clarifies in reference to the work
of Stein on the phenomenology of empathy (p. 174). That would be a confusion of two distinct first-person perspectives, which may appear in some cases of psychopathology (Lysaker, Johannesen, & Lysaker, 2005). Normally the fact that another person is involved in jointly giving rise to the emotion form will provide that episode with a distinctively social feel.

I neither “lose myself” in the others nor incorporate the others’ experience into mine in a sort of extended awareness of myself. Rather, I retain an awareness of myself and the others as distinct subjects. At the same time, however, I am also aware, via basic empathy, that the others’ feeling is the same as mine. [...] It is as if the others’ feelings, which I usually experience as nonprimordial (i.e., as belonging to them and not to me), have lost their nonprimordial character and become “live to me” like my own feelings. (Colombetti, 2014, p. 181)

Shared feelings thus have an especially direct expression and impression and for the subjects involved. But even in the case of perceiving another’s feelings that are not shared, Colombetti observes that the experience is normally much more direct than has been allowed by mainstream perspectives. The other is primarily perceived as a bodily locus of subjectivity and sensations (what Husserl called a Leib) rather than as merely a physical object (a Körper): “we usually just perceive life and subjectivity in the other’s body” (p. 173). I am in agreement with this direct perception hypothesis (Froese & Leavens, 2014), and I find that the notion of primordial affectivity helps to better explain its foundation. Essentially, if the mind is completely separated from the living body and hidden in the brain, as held by traditional cognitive science, then it is difficult to explain how mind could be directly perceived in the body’s expressions. An intermediate theory of mind seems to be necessary to make sense of the otherwise meaningless mechanical movements. But if we accept that bodily expression is itself realizing a genuinely mental process, then it is no longer that surprising that we can directly perceive emotions in others’ bodily expressions (Stout, 2012).

Colombetti’s proposal is highly unusual when viewed from the perspective of mainstream social cognition research, which continues to resist the constitutive potential of interaction dynamics and prefers to locate the impact of engaging others within the mechanisms of individual brains (Gallotti & Frith, 2013). Yet according to the dynamical systems approach to cognition there is in principle nothing mysterious about the possibility that two or more interacting organisms, conceptualized as nonlinearly coupled systems, mutually transform each other’s attractor landscapes (Froese, Gershenson, & Rosenblueth, 2013). For example, the dimensionality of the neural system can become reduced or expanded, thus giving rise to previously inaccessible forms. This opens up the possibility of a neurophenomenology of the socially extended feeling body (Froese & Fuchs, 2012), which is needed to gain a better understanding of how variations in the coupling of brain dynamics during inter-personal interaction is correlated with the varieties of intersubjective affectivity.

This is a new possibility for future research that Colombetti did not consider in her book, but which quite straightforwardly follows from her views and from the
ongoing unfolding of the central principles of enactivism. Moreover, the latest
developments within affective neuroscience seem to point in a similar direction.
For example, Pessoa (2013) has tightly integrated perception, cognition, and
emotion, which Colombetti also unifies in enactivism’s key concept of sense-
making. And both emphasize that the spatial extension of these processes is not
reducible to specific brain regions and neuroanatomical connectivity. For me this
is suggesting an interesting convergence of insights that will turn upside down
the classical scientific concept of the human as an essentially monadic reasoning
machine (Froese, in press).

5. From neuro-phenomenology to neuro-physio-phenomenology to neuro-
physio-socio-phenomenology

Colombetti criticizes Varela’s neurophenomenological research program for its
brain-centrism and more specifically for having neglected the feeling body and
emotional experiences. I agree with her for the most part, in particular about
Varela’s internalism, at least in the context of his neurophenomenology, which
has also been criticized by others (Beaton, 2013). But I am less sure about the
supposed lack of consideration of the foundational nature of affectivity. On the
contrary, Varela explicitly argued that affect is the foundational dimension of
subjective existence. Specifically, in a paper co-authored with Depraz, he defends
a position that is remarkably similar to Colombetti’s.

This paper represents a step in the analysis of the key, but much-
neglected role of affect and emotions as the originary source of the living
present, as a foundational dimension of the moment-to-moment
emergence of consciousness. In a more general sense, we may express
the question in the following terms: there seems to be a growing consensus
from various sources—philosophical, empirical and clinical—that emotions cannot be seen as a mere ‘coloration’ of the cognitive agent,
understood as a formal or un-affected self, but are immanent and
inextricable from every mental act. (Varela & Depraz, 2005, p. 61)

Colombetti does not refer to this paper in her book, so I cannot know for certain
what she makes of Varela and Depraz’ arguments1. Nevertheless, there is clearly
an important yet unrecognized convergence of ideas here, which becomes
especially evident in Depraz’ more recent continuation of this research. Already
in 2008 she proposed to shift current attempts to integrate neurobiology and
phenomenology from the traditional brain-centered model to a heart-centered
model (Depraz, 2008). And these ideas of a new kind of neurophenomenology
centered on the physiology of the heart and the phenomenology of the emotions
are continuing to be further developed by Depraz and colleagues (e.g. Desmidt,
Lemoine, Belzung, & Depraz, 2014). This is not the place to go into the details of
that line of work, but it shows a remarkable resemblance to the “neuro-physio-
phenomenology” research program envisioned by Colombetti (see Ch. 6). In the
future both authors should take each other’s work into account.

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1 To be fair, Colombetti (along with Thompson) edited the special issue in which the paper by
Varela and Depraz appeared, so we can assume that she approves of its content in general.
There is another convergence of ideas that I would like to highlight. Colombetti places the chapter detailing her methodological proposal for a neuro-physiophenomenology before the chapter on feeling others, which means that she does not discuss how to expand the proposed method to deal with specifically social situations. However, as I mentioned above, it would be insightful to extend the method even further, namely to include our embodied engagement with others. Neuroscience is already moving into this direction, including a greater concern for emotional engagement during social interaction (Schilbach et al., 2013), but more methodological work needs to be done, especially to include physiological and first-person phenomenological data. We may call this a neuro-physio-socio-phenomenology for lack of a better term, although now the name of the method is indeed getting unbearably extended. In any case, the possibility of this method was already implicit in Colombetti’s recognition that dynamic emotion patterns could potentially be co-constituted by two or more individuals.

I am not aware of any experiment employing something like a neuro-physio-socio-phenomenology to its full extent, but there are several promising studies that point in the right direction. For example, we know that interaction between people can lead to inter-subject synchronization in all the dimensions of neuro-physio-phenomenology, including inter-subject brain dynamics (Dumas, Nadel, Soussignan, Martinerie, & Garnero, 2010), heart beats (Vickhoff et al., 2013), and social awareness of each other (Froese, Iizuka, & Ikegami, 2014a). What is still missing is a study that integrates all of these dimensions into one comprehensive investigation of affective being-with-others. In particular, while the importance of social context for the emergence of certain emotion forms cannot be denied, it is still being questioned to what extent the experience of emotional episodes can be collectively realized and genuinely shared (Krueger, 2014). Some preliminary work in this direction, based on the analysis of subjective reports about minimal embodied dyadic interaction (Froese, Iizuka, & Ikegami, 2014b), suggests to me that collectively constituted emotional forms are possible.

6. Conclusions

With this emergence of a neuro-physio-socio-phenomenology everything is as it should be. We are approaching an era in which cognitive science is forced by the irreducible complexity of its field of investigation to expand its scope to human existence in all its facets. The human mind cannot be abstracted away from our concretely felt and lived being-embodied-in-the-world-with-others.

In one of his last papers Varela (2000) analyzed the history of cognitive science in terms of how its various paradigms conceived of our encounters with others. According to cognitivism the other is primarily an external problem to be solved, for embodied-embedded cognitive science the other provides an affordance for inter-action, while according to recent versions of enactivism interactions with the other become a form of inter-being: “the other and I are a common ground, a joint tissue which is tangibly present in empathy and affect, which offer a possible level of analysis if we avail ourselves of the means to do so” (p. 87). Varela envisioned these “means” to be precisely the kind of method that we also
found to be the most probably next step in the ongoing convergence of new ideas and methods in affective science: “the neuro-phenomenological perspective is extended to include as foundational its intersubjective, empathic-affective dimension” (p. 86). Yet Varela also made it explicit that he had no illusions that these profound changes would take hold quickly in a cognitive science that is for the most part still too deeply rooted in cognitivist brain-centered individualism. Fortunately however, following the inspiring work of Colombetti, Depraz and many others, it is evident that indeed the times are changing.

References


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