

abstract distinction. Panabstractism takes abstract relations to be a fundamental feature of the world as we perceive it. In this, it has some features in common with structural realism, which claims that the modal (or nomological) structure of the world is “ontologically fundamental, in the sense of not supervening on the intrinsic properties of a set of individuals” (Ladyman & Ross 2007: 130). Instead of viewing structure as primary and endorsing a kind of eliminativism of the physical, as structural realists do, panabstractism posits an interdependence between and co-constitution of (our concepts of) the abstract and the concrete, remaining neutral on the question of ontological priority.

« 11 » Whereas Bitbol calls consciousness “concrete” (§20), panabstractism views it as something that arises from and may ultimately be explicable by the abstract relations that are necessarily a constitutive part of concrete physical matter: existence as a physical object, whether in a posited mind-independent world or within experience, requires and is often defined in terms of the obtaining of certain abstract relations (see interview mentioned in Footnote 1 for further details). Conversely, abstracta cannot exist independently of the physical matter or objects (or perceptions thereof) from which they are or have been abstracted. Even abstract relations between abstract concepts, including mathematical relations, depend ultimately on the objects from which they were once abstracted² as well as, to be recognised as such, on the biological beings capable of identifying them as such.

« 12 » Panabstractism is an alternative to panpsychism with the advantage that it allows for a kind of proto-consciousness to have existed for as long as anything has been in existence, yet without positing anything mysterious or counterintuitive. It is uncontroversial to say that abstract relations pervade physical matter, or at least the objects we perceive in conscious experience, whether they correspond to anything in an external world or not. For ex-

ample, the transformation of water into ice has been found to correlate with a change in the precise hydrogen-oxygen-hydrogen bond angle within H₂O molecules, which is 104.45°C in liquid water but 109°C in ice (Jurendic & Pavuna 2012: 85). The change in bond angle and the change of state occur together, with a full scientific explanation incorporating information about both the type of perceived physical change (liquid to solid) and the structural relational information regarding changes within the molecule.

« 13 » Panabstractism accepts the same epistemic constraints as Bitbol’s position; only conscious experience is directly accessible, and it can be embraced without relinquishing the claim that lived experience is ontologically prior. Within conscious experience, however, we can differentiate conceptually between concrete objects and abstracta, recognising their interdependence and co-constitution. The distinction between the concrete and abstract allows us to set aside the mind/body dichotomy and focus on how consciousness might have developed from increasingly complex structures of abstract relations within and between living organisms, culminating in self-reference. I propose this approach, which I have only outlined very briefly, here, as an alternative way of addressing the hard problem.

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References

- Bitbol M. (2020) A phenomenological ontology for physics: Merleau-Ponty and QBism. In: Wiltche H. & Berghofer P. (eds.) *Phenomenological approaches to physics*. Springer, Cham: 227–242. ► <https://cepa.info/6933>
- Jurendic T. & Pavuna D. (2012) On fractal geometry for water implosion engineering. *Water* 4: 82–89
- Ladyman J. & Ross D. (2009) *Every thing must go: Metaphysics naturalized*. Oxford University Press, New York.

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Panqualityism as a Critical Metaphysics for Neurophenomenology

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> Abstract • I examine Michel Bitbol’s proposal of a metaphysical counterpart of neurophenomenology, arguing that such a metaphysics should address the issue of the origin of consciousness. This can be accomplished through panqualityism, which conceives of the subject and object of experience as grounded in a flow of pre-phenomenal qualities. I conclude by framing this view in terms of a critical metaphysics that is consistent with the pragmatic and existential dimension of neurophenomenology.

Neurophenomenology versus metaphysics

« 1 » Francisco Varela proposes neurophenomenology as a methodological remedy to the hard problem of consciousness, i.e., the problem of explaining how conscious experience arises and what its relationship with the natural world is. In contrast to the search for a metaphysical solution to this problem (e.g., by adding an “extra ingredient” to the furniture of the world that is described by physics, as in David Chalmers’s “naturalistic property dualism,” Chalmers 1996), Varela argues that we must develop a disciplined investigation of lived experience, establish-

2 | Had only one formless, indivisible thing ever existed in perception, how could we have developed the concepts two or three, let alone the concepts of geometry, multiplication, fractions or square roots?

ing a correlation between phenomenological accounts of the structure of experience and neuro-cognitive accounts of brain processes (Varela 1996: 343). Varela conceives of neurophenomenology as a methodological development of the enactive approach introduced in *The Embodied Mind* (TEM; Varela, Thompson & Rosch 1991). This approach brings into question the search for an “absolute ground [...] that might by virtue of its ‘own-being’ be the support and foundation for everything else” (TEM: 143). In the light of the Madhyamaka teachings, the authors of TEM connect this metaphysical foundationalism to the “grasping attitude” that is the fundamental source of existential suffering for human beings.

« 2 » In the target article, Michel Bitbol stresses the continuity between the anti-metaphysical attitude of TEM and Varela’s neurophenomenology. At the same time, he acknowledges that this attitude can be unsatisfying in the eyes of those who are concerned with the question of the metaphysical relationship between consciousness and nature. This anti-metaphysical aspect of the enactive approach and neurophenomenology can be an obstacle to its dissemination as a fruitful method for the rigorous investigation of the brain-experience correlation.

Bitbol’s metaphysical counterpart to neurophenomenology

« 3 » Then, Bitbol puts forward a metaphysical counterpart of neurophenomenology that is, nonetheless, faithful to its fundamental tenets and, especially, to its pragmatic and existential dimension. The proposed metaphysics is centered on the acknowledgment of the embodied character of lived experience and is based on Maurice Merleau-Ponty’s “intra-ontology” (§21), which conceives of the manifestation of phenomena as the result of a self-splitting of the *flesh*. With the latter concept, Merleau-Ponty refers to a primal ontological dimension that is the “locus and origin of the process of objectification” (§33).

« 4 » At first sight, Bitbol’s proposal seems to be close to a form of neutral monism – the view first developed by authors such as Ernst Mach (1914), William James (1912), and Bertrand Russell (1921, 1927) – which conceives of mind and matter as both grounded on a metaphysical dimension

that precedes both and is therefore neutral to the mental/physical distinction. Bitbol, too, stresses that, in common with neutral monism, his proposal has a “monistic ontology and ternary structure (mind, matter and their unique source)” (§42). At the same time, Bitbol wants to differentiate neurophenomenology from the various forms of neutral monism, because of “Varela’s unambiguously phenomenological stance” (§28).

« 5 » However, contrary to Bitbol’s opinion, his view seems to me to be closer to a form of neutral monism than he wants to admit. Indeed, I argued that *panqualityism*, which is a form of neutral monism, is a promising way of developing phenomenology and neurophenomenology (Pace Giannotta 2020b, 2021).

The primacy of lived experience

« 6 » To support this idea, I would now like to discuss the reason given by Bitbol for setting aside a neutral monist reading of neurophenomenology. The main reason is Varela’s idea that “Lived experience is where we start from and where all must link back to, like a guiding thread” (Varela 1996: 334). However, one can ask: is this “primacy of lived experience” just *epistemological* (in the sense that knowledge “necessarily emerges from our lived experience,” Varela 1996: 336), or is it also *metaphysical*, in the sense of being a doctrine about an ultimate or fundamental reality? Understanding the primacy of lived experience in metaphysical terms would lead phenomenology to an idealistic outcome. In §14 Bitbol acknowledges the objection repeatedly made to Edmund Husserl’s phenomenology after its “transcendental turn,” in that it amounts to a form of “dogmatic idealism.” In particular, the problem is that, within the transcendental phenomenological inquiry, the world turns out to be the correlate of the constitution by transcendental consciousness. Then, by identifying “pure conscious life” with “the whole of absolute being” (Husserl 1980: 51, cited in §13), transcendental subjectivity seems to turn into a metaphysical principle that constitutes all reality.

« 7 » This is a problem with Husserl’s phenomenology that could also trouble Varela’s view, if we take literally his claim that “by ‘Being’ one must understand nothing else than *experience*” (Bitbol 2012: 165, empha-

sis in the original).¹ An answer to this issue could be that phenomenological transcendental idealism is a form of *correlationism*, claiming that we must confine ourselves to the fundamental subjective-objective correlation and that it does not make sense to ask about something that is placed beyond it. This position seems to be consistent with Varela’s view as expressed in TEM and reprised in Varela (1996: 339), with its focus on the “fundamental correlation” between the subjective and the objective.

The origin of consciousness: Genetic phenomenology and panqualityism

« 8 » However, the problem of this position is that it leaves no place for asking about the metaphysical origin of consciousness or, better still, the origin of the *concrete conscious being*. In this way, this view clashes with the idea, defended on the other hand by Varela, that neurophenomenology can shed light on the “natural biological basis” of lived experience (Varela 1999: 267). This statement points to the possibility of “naturalizing” consciousness and phenomenology without, however – and this is crucial – firstly assuming a specific, i.e., objectivist, conception of nature (as is done by most of the current forms of naturalism, see Pace Giannotta 2021). In my view, there is therefore a tension in Varela’s thought between the asserted primacy of lived experience and the possibility of investigating the natural origin of consciousness within a non-objectivist, broadened and “phenomenologized” conception of nature.

« 9 » This is why neutral monism is an option that is worthy of being considered as a metaphysical counterpart of phenomenology and neurophenomenology. The guiding thread for developing this view is to ask about the genesis of the subject-object correlation, and therefore about the genesis of the concrete conscious subject and of its correlate, i.e., the world. To be more precise, this is a question that is tackled by Husserl’s “genetic phenomenology,” which, as Bitbol states, goes “beyond structure towards dy-

1 | Bitbol paraphrases this passage from Varela (1976: 66): “By *being* here I mean, for the purpose of this discussion, the same as experience, sense-of-self or *direct-knowledge*.”

namics" (§57) and thus sheds light on the genesis of the concrete field of manifestation.

« 10 » In particular, in the writings on genetic phenomenology, Husserl develops an inquiry into the "genesis of constitution" (Husserl 2001: 641) that is, at the same time, the genesis of "monadic individuality," i.e., the concrete conscious subject (Husserl 2001: 635). In my view, Husserl's genetic phenomenology comes very close to a form of neutral monism. This is because it investigates the process of constituting objects that is, at the same time, the constitution of a subject of experience, i.e., the *co-constitution* of subject and object in the cognitive process. In particular, my proposal of a neutral-monist development of genetic phenomenology (Pace Giannotta 2020b, 2021) is to conceive of the "primal impressions" that are at the heart of inner time-consciousness as based on pre-phenomenal qualities that, when structured in certain ways (namely, when they acquire the threefold structure impression-retention-protention), give rise to a field of consciousness and its objectual correlate. This inquiry can thus reveal the common genesis of subjectivity ("monadic individuality") and its objects out of fundamental, pre-phenomenal qualities. In particular, panqualityism (Feigl 1971; Chalmers 2016; Coleman 2015, 2016) is a version of "Russellian monism" or "panprotopsychism" (Chalmers 2016) that conceives of qualities as the fundamental elements of a reality that, under certain circumstances, give rise to a subject's experience.² Panqualityism can face the question of the genesis of consciousness without leaving the phenomenological stance (i.e., by starting from the investigation of lived experience), claiming that "before" consciousness arises there is a flow of qualities, understood as "unsensed sensa" (Chalmers 2016: 42) or "unexperienced qualia" (ibid: 49), i.e., "qualitative without being yet phenomenally qualitative" (Coleman 2015: 84). When these qualities come to be structured in certain ways, in the sensorimotor interaction between the

nervous system of living creatures and their surrounding environment, a field of consciousness correlated to a world arises. This process of structuring of fundamental qualities can be investigated in the light of Varela's neurophenomenology of time consciousness (Varela 1999). According to Varela (1999: 273), the attainment of a state of transient synchrony by an assembly of neurons, which is modulated by the sensorimotor interaction of the organism with the environment, leads to the emergence of a cognitive act that has an incompressible duration, i.e., the "specious present" with its three-part structure: impression-retention-protention. In the light of panqualityism, we can conceive of the components of this process, i.e., the constituent neurons with their intrinsic rhythms that interact with the environment, as flows of pre-phenomenal qualities.

« 11 » This approach is consistent with the enactivist and neurophenomenological claim, based on the Madhyamaka, that subject and object are *codependently originated* (e.g., TEM: 226). However, instead of framing this view in anti-metaphysical terms (as happens in TEM), it is possible to frame it in terms of a neutral and processual metaphysics, which conceives of subject and object as codependently arising from a flow of fundamental qualities, thus addressing the issue of the origin of consciousness.

« 12 » Concerning this point, however, Bitbol claims that, from the neurophenomenological standpoint, "the issue of the physical and neurophysiological origin of consciousness is a non-starter, a question that does not even have to be formulated" (Bitbol 2012: 169). This is because, usually, this question presupposes a conception of the physical domain as a "fundamental Being." I agree that this objectivistic and physicalistic assumption is a non-starter for phenomenology and neurophenomenology, but I stress that one can drop this assumption in order to investigate, nevertheless, the genesis of a field of manifestation with its subject-object structure, thus discovering a neutral qualitative process that grounds both the mental *and* the physical. In my view, this conception is also consistent with Merleau-Ponty's concept of the *flesh* (Merleau-Ponty 1963), which refers to a fundamental being that is qualitative and whose becoming and "self-splitting" generates a field of manifestation.

Panqualityism as a critical metaphysics

« 13 » An objection to this proposal could be that neutral monism (hence panqualityism) "requires one to adopt a 'God's eye viewpoint' located somewhere above both *psychè* and *physis*" (§17). However, it would be so if this view claimed that we could obtain absolute knowledge of all reality. However, neutral monists such as Mach, James and Russell claim, in various ways, that we cannot have such absolute knowledge (e.g., Coleman 2015: 98). In this view, our knowledge of the fundamental qualities is limited to what we can experience given our biological makeup (e.g., human beings cannot have access to the fundamental qualities that make up the experience of the bat, which perceives through echolocation, and its correlated *Umwelt*). Furthermore, one can add that both ordinary and scientific objects are the correlates of a process of constitution that also depends on relatively *a priori* conditions (Parrini 1998; Pace Giannotta 2020a). This is a constructivist aspect of the conception of knowledge as constitution that is compatible with panqualityism and can make of it a "critical metaphysics" that is situated within the limits of our knowledge (Kant 1990, cited in §10), in contrast with the objectifying epistemic attitude that turns the objects of cognition into something substantial and permanent. In this way, panqualityism, developed as a critical metaphysics, is consistent with Bitbol's claim that a metaphysical position about consciousness should be "traced back to basic epistemic attitudes and basic experiences" (§9).

Conclusion

« 14 » I stress again an important aspect of Bitbol's proposal in its faithfulness to the "latent message of neurophenomenology" (§9), which leads us to a shift "from discourse to ways of being" (§9). This is a pragmatic and existential dimension of Varela's view (Bitbol 2017: 151; Bitbol & Antonova 2016: 356; Pace Giannotta 2017; Petitmen- gin 2017: 146; Vörös 2017: 150). Varela (1996: 336) likens the pragmatics of the phenomenological reduction to the mindfulness-awareness meditative practice. This is conceived of as a transformative practice that can free the meditator from the existential suffering that derives from the ordinary

2 | This view is based on Russell's (1927) claim that physics describes just the structural properties of objects of scientific inquiry, without telling us anything about their intrinsic or categorical properties. According to Russell, however, in the case of our nervous system, we also have direct knowledge of its intrinsic qualities.

attachment to the concepts of a substantial self and of a substantial world. However, in my view, the source of the “grasping attitude” and the associated “Cartesian anxiety” (TEM: 140–143) is not the search for a metaphysical foundation *per se* but a certain metaphysics, that derives from our ordinary objectifying attitude and assigns a privilege to the concepts of *substance* and *permanence* (what Johanna Seibt 2013 refers to as “substance metaphysics”). On the contrary, I conceive of panqualityism as a processual and neutral metaphysics. Even if it aims at discovering the ground of the subject–object and mind–world correlation, it finds a ground that is not “substantial” and “absolute.” Therefore, this view is compatible with an understanding of the impermanence and emptiness of any substantial reality of the self and the world that is at the basis of the pragmatic and existential dimension of neurophenomenology.

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References

- Bitbol M. (2012) Neurophenomenology, an ongoing practice of/in consciousness. *Constructivist Foundations* 7(3): 165–173. ► <https://constructivist.info/7/3/165>
- Bitbol M. (2017) Phenoneurology. *Constructivist Foundations* 12(2): 150–153. ► <https://constructivist.info/12/2/150>
- Bitbol M. & Antonova E. (2016) On the too often overlooked radicality of neurophenomenology. *Constructivist Foundations* 11(2): 354–356. ► <https://constructivist.info/11/2/354>
- Chalmers D. J. (1996) *The conscious mind*. Oxford University Press, Oxford.
- Chalmers D. J. (2016) Panpsychism and panprotopsyism. In: Bruntrup G. & Jaskolla L. (eds.) *Panpsychism: Contemporary perspectives*. Oxford University Press, New York: 19–47.
- Coleman S. (2015) Neuro-cosmology. In: Coates P. & Coleman S. (eds.) *Phenomenal qualities: Sense, perception, and consciousness*. Oxford University Press, Oxford: 66–102.
- Coleman S. (2016) Panpsychism and neutral monism: How to make up one's mind. In: Bruntrup G. & Jaskolla L. (eds.) *Panpsychism: Contemporary perspectives*. Oxford University Press, Oxford: 249–282.
- Feigl H. (1971) Some crucial issues of mind-body monism. *Synthese* 22(3/4): 295–312.
- Husserl E. (1980) *Ideas pertaining to a pure phenomenology*. Martinus Nijhoff, Amsterdam. German original published in 1913.
- Husserl E. (2001) *Analyses concerning passive and active synthesis: Lectures on transcendental logic*. Edited by Anthony J. Steinbock. Springer, Dordrecht.
- James W. (1912) *Essays in radical empiricism*. Longman Green & Co, New York.
- Kant I. (1900) *Dreams of a spirit-seer*. Swan Sonnenschein & Co, New York. German original published in 1766.
- Mach E. (1914) *The analysis of sensations, and the relation of the physical to the psychical*. Translated by C. M. Williams, revised by Sidney Waterlow. The Open Court Publishing Company, Chicago. German original published in 1906.
- Merleau-Ponty M. (1963) *Le visible et l'invisible*. Gallimard, Paris. English translation: Merleau-Ponty M. (1968) *The visible and the invisible*. Edited by Claude Lefort Translated by Alphonso Lingis. Northwestern University Press, Evanston IL.
- Pace Giannotta A. (2017) Varela on the pragmatic dimension of phenomenology. *Constructivist Foundations* 13(1): 78–81. ► <https://constructivist.info/13/1/078>
- Pace Giannotta A. (2020a) Phenomenology, empiricism and constructivism in Paolo Parrini's positive philosophy. In: Buongiorno F., Costa V. & Lanfredini R. (eds.) *Phenomenology in Italy. Authors, schools, traditions*. Springer, Dordrecht: 161–178.
- Pace Giannotta A. (2020b) Qualitative relationism about subject and object of perception and experience. *Phenomenology and the Cognitive Sciences*, Online first. <https://doi.org/10.1007/s11097-020-09710-1>
- Pace Giannotta A. (2021) Autopoietic enactivism, phenomenology and the problem of naturalism: A neutral monist proposal. *Husserl Studies*, in press.
- Parrini P. (1998) *Knowledge and reality: An essay in positive philosophy*. Kluwer, Dordrecht.
- Petitmengin C. (2017) Enaction as a lived experience: Towards a radical neurophenomenology. *Constructivist Foundations* 12(2): 139–147. ► <https://constructivist.info/12/2/139>
- Russell B. (1921) *The analysis of mind*. George Allen & Unwin, London.
- Russell B. (1927) *The analysis of matter*. George Allen & Unwin, London.
- Seibt J. (2013) Process philosophy. In: Zalta E./N. (ed.) *The Stanford Encyclopedia of Philosophy*. <https://plato.stanford.edu/archives/fall2013/entries/process-philosophy/>
- Varela F. J. (1976) Not one, not two. *Coevolution Quarterly* 12: 62–67. ► <https://cepa.info/2055>
- Varela F. J. (1996) Neurophenomenology: A methodological remedy to the hard problem. *Journal of Consciousness Studies* 3(4): 330–349. ► <https://cepa.info/1893>
- Varela F. J. (1999) The specious present: A neurophenomenology of time consciousness. In: Petitot J., Varela F. J., Pachoud B. & Roy J. M. (eds.) *Naturalizing phenomenology*. Stanford University Press, Stanford CA: 266–314. ► <https://cepa.info/2081>
- Varela F. J., Thompson E. & Rosch E. (1991) *The embodied mind: Cognitive science and human experience*. MIT Press, Cambridge MA.
- Vörös S. (2017) Enacting enaction: Conceptual nest or existential mutation? *Constructivist Foundations* 12(2): 148–150. ► <https://constructivist.info/12/2/148>

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