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VARELA'S THEORY OF THE EMERGENT SELF BASED ON A HEGELIAN–ZIZEKIAN SUBJECT MODEL

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Abstract: Autopoietic enactivism views the self as a diachronic identity that arises from repeated bodily, neural and environmental couplings; however, its account leaves a tension between phenomenal and computational selves. This paper explores whether a Hegelian–Zizekian theory of subjectivity can help resolve this contradiction without reintroducing the idea of an essential soul. By reconstructing the concepts of "positing the presuppositions" and "substance is subject" in Hegel, and then comparing them with Varela's operational closure and embodied coupling through a comparative reading, this article develops the spectral subject as a retrospective, empty point of self-relation. The analysis finds a structural homology in the self-referential loops and accounts for an ungrounded beginning in both theories, but there is a decisive difference in where each places the subject: Varela links it to the organised identity that emerges from the loop, whereas the Hegelian–Zizekian model locates it in the emergent mediation that the loop presupposes and effaces. This distinction reframes the apparent conflict between reduction and autonomy as a relationship between material organisation and a non-substantial mediating function. It also provides a conceptual extension for neurophenomenology: first-person and biological descriptions can be compared at their points of divergence, and psychoanalytic symptom-reading serves as a tentative interpretive model. The proposal clarifies enactive selfhood while maintaining its embodied and non-dualist features.
Keywords: Autopoiesis; Enactivism; Selfhood; Hegel; Zizek; Emergence; Neurophenomenology

1 INTRODUCTION

Recently, several studies have begun to explore enactivism in conjunction with mechanistic explanation, phenomenology, organismic purposiveness and selfhood [1-4]. Studies of adaptive perception and biological autonomy extend this debate through Hegelian purposiveness, habit, and freedom [5-9]. A critical evaluation has also pointed out that the explanatory claims of enactivism have not yet been fully addressed [10]. Given the above reasons, the question is how a self can emerge from operational closure without being reduced to a neural object or left as an unexplained phenomenal residue.

Varela's autopoietic approach situates cognition in living organisation: a system produces its components, maintains a boundary and couples with an environment that acquires meaning through its activity [11-12]. In the account of selfhood, repeated sensorimotor and neural interactions form operationally closed loops, and their organisation gives rise to diachronic identity [13-14]. Although computational models have dissociated consciousness from symbol processing, the connection between phenomenal identity and its biological or computational foundation remains underexplored. Zizek's reading of Varela as structurally Hegelian explicitly addresses the relationship between autopoietic recursion and subjectivity [15]. The above tensions are reduction, freedom and objectivity; neurophenomenological criticism also points out the gap between first-person experience and third-person description [16]. Chinese scholarship on the transcendental subject and transcendental materialism has raised a related controversy [17]. Research on autopoiesis has also distinguished organisational closure from social extensions and structural changes [18-19].

Here, it is regarded as a relationship between subject and substance, not a choice between a substantial soul and a biological mechanism. This paper reconstructs Hegel's account of reflection and the retrospective positioning of presuppositions, and then follows Zizek's account of parallax and the empty point of self-relation. Based on this, it is necessary to set up a spectral subject that is logically required for a self-organising loop but does not exist in a stable form within that loop. The comparison shows that both theories have similar structures of recursion in generating selfhood, but they place the subject at different places. Then, emergence is interpreted as a kind of mediation between bodily organisation and first-person identity. Finally, there is a limited implication for neurophenomenology: the divergence between first-person and biological descriptions may serve as interpretive clues for the organisation of self-relation, rather than measurements of an invisible entity. The comparison is conceptual, not empirical; therefore, no neural test or direct identification of subjectivity with a biological mechanism has been made. Varela's embodied commitments are retained in this frame, and the explanatory work is attributed to an emergent relation. Therefore, both the contribution and the limitations of the philosophical supplement are clarified.

2 VARELA'S AUTOPOIETIC SELF: CONTRIBUTIONS AND TENSIONS

2.1 Autopoiesis, Coupling, and Sense-Making

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Varela's account starts at the level of cells. A semi-permeable membrane separates a cell from its surroundings, and an internal metabolic network produces components that maintain the membrane and the network itself. The boundary and metabolism are mutually enabling; the membrane regulates material exchange, and metabolic activity continuously renews the conditions for this boundary. Autopoiesis refers to this recursive self-production and is not a fixed set of parts [12, 18]. The organisation can remain unchanged despite changes in its material structure through coupling with the environment [11, 14].

For Varela, this organisation is also cognitive in a minimal way because it provides a viewpoint of meaning. A nutrient has no organism-independent meaning for a cell; its significance depends on the organised capacity of the cell to respond to it. The familiar example of bacteria moving along a sucrose gradient shows how environmental conditions become meaningful through the organism's activities. Cognition is therefore neither an independent internal representation nor a property added after biological organisation. It is realised through the continuous interaction of organisms and their environments [12-13]. Accounts of autopoiesis have since explored how this organisational idea relates to broader biological and social forms [18-19].

2.2 The Embodied Self as Nested Operational Closure

Varela has extended the above description to multicellular organisms. The self is not assigned to a single neural module; rather, it arises from recurrent relations among sensorimotor activity, interneuronal networks and the wider bodily engagement with the environment. A sensorimotor coupling links receptors and effectors; an operational loop links that coupling with interneuronal dynamics; and finally, a relation connects the operating loop with the identity that emerges from it. As shown in Figure 1, these are nested relationships. Continuously coordinate them to create a sense of self over time and regulate behaviour through perception. Therefore, the self is both a product of body organisation and a reason for the continuous organisation of life activities by the organism [11, 13-14].

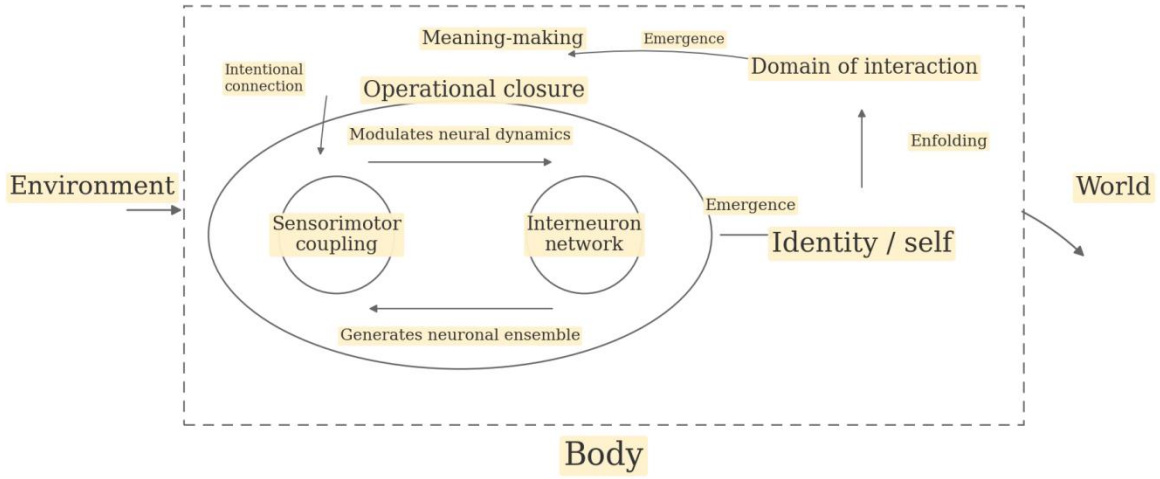


Figure 1 The Body–Self Coupling Structure in Varela's Autopoietic Theory

The model also modifies the description of the organism-environment relationship. Evolution is not seen as external selection pushing an organism toward a fixed optimum. Natural drift highlights history-dependent paths enabled by self-organising networks and structural coupling. The organism and its environment limit each other; thus, the identity of the organism is formed in this process [13].

2.3 Unresolved Tensions in the Account of Selfhood

The theory also has a conceptual problem. Varela does not accept the cognitivist split between conscious experience and unconscious symbolic computation, but he also describes the self as the effect of a biological operational loop. The phenomenal self refers to the first-person field of experience; the computational self is the organisation through which information processing and behaviour are explained. To identify the former with the latter risks reductionism; to keep them separate leaves their relationship unexplained. Critiques of neurophenomenology have also pointed out the difficulty of connecting first-person descriptions with third-person accounts without simply erasing the difference [10, 16].

The same ambiguity is present in the discussion of reducibility, freedom and objectivity. It is said that the self has no independent substance, and therefore an irreducible account of emergence is supported; however, its conditions are described in biological terms, and thus it may seem entirely reducible to those conditions. Freedom is connected with open-ended embodied coupling; if coupling is only a complex causal process, then this account may be accused of falling back into biological determinism. Likewise, the self is denied a separate objective foundation but is still described through the objective circulation of organism and environment. The article considers these to be related aspects of a single unresolved problem, not three separate empirical failures.

Varela's appeal to Buddhist no-self provides one answer: the felt substantial self may arise from self-grasping rather than an enduring entity [13]. The present argument does not deny this insight. Rather, it asks whether identifying the phenomenal self as illusory leaves the relationship between experience and biological organisation intact. The problem is not whether there is a constant inner substance; rather, it is what connects an organised process with the first-person identity that is attributed to it.

3 A HEGELIAN–ZIZEKIAN MODEL OF SUBJECTIVITY

3.1 Positing Presuppositions and Retrospective Time

Hegel's theory of reflection can be used to describe this mediating relation. Essence does not present itself as an immediately given foundation in the Doctrine of Essence. It relates to itself through negation; each moment is first set up directly and then displaced by the movement that produced it. If the process were unrelated to a beginning, it would be an indeterminate circle otherwise. Hegel introduced the idea of a presupposition for this reason. What seems to have come before the movement is only identifiable by the result of the movement; thus, the result retrospectively sets the condition that it merely appeared to follow [20].

This relation is often referred to as "setting forth the preconditions". A potential condition has been in effect from the start, but it is only after the process unfolds that it becomes specific. The beginning is thus not an independently observable first event or a simple fiction. It is a condition reconstructed by the movement that depends on it. Hegel's study of essence, identity and infinity distinguishes this self-referential movement from a linear series that continually refers its ground to another external point [20-21]. Scholarship on the logic of appearance also highlights the function of negation and reflection in this structure [22].

3.2 Substance as Subject and the Spectral Subject

The formula "substance is subject" alters the position of the subject. In the usual way of representation, a knowing subject is placed outside an object and tries to grasp it. Hegel's account follows the failure of this separation; thus, the subject enters the content, loses the position of an independent foundation, and reappears as the form that organises the relations of the content. The subject is not a fixed thing behind the process. It is the self-differentiating movement through which the process becomes intelligible as a whole. The repeated cycle of certainty and its negation, etc., is the fundamental path of experience in the Phenomenology [23].

Zizek's reading highlights the emptiness or "spectrality" of the subject. It is not located at a single point in the circuit, nor is it an added substance that drives the circuit from outside. It refers to the self-relation required by the circuit but cannot be presented as one of its stable contents. As shown in Figure 2, this relationship is a self-referential movement around an organisational gap. The loop repeatedly returns; the subject is the effect and ground of the loop, not a component placed on it [15, 24-25].

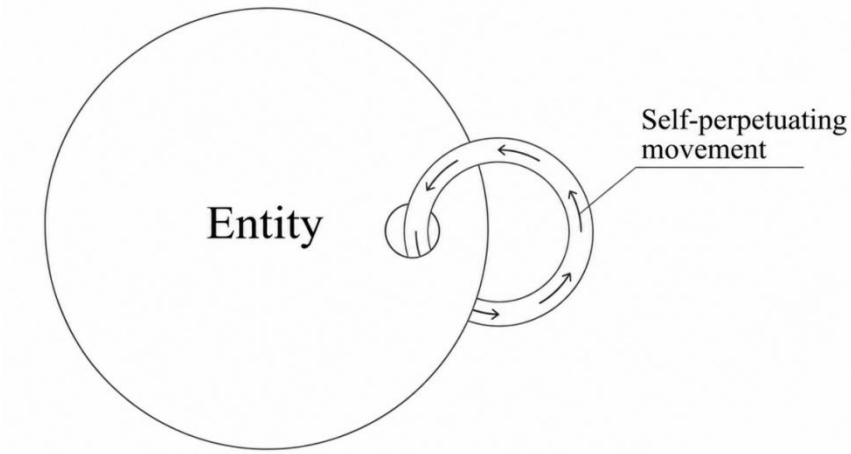


Figure 2 A Hegelian Model of the Self-Referential Subject

3.3 Parallax and Retrospective Necessity

Zizek's idea of parallax extends the model by distinguishing two views of the same situation. Several results may be possible before an event, but once one occurs, it seems as though it was bound to happen all along. The event does not simply reveal a pre-existing full-fledged fate. It changes how we understand the previous circumstances and retrospectively sets one possibility as the condition for the result. The subject can thus be described as the difference between the field of contingent possibilities and the necessity attributed to the actualised outcome [15].

Figure 3 shows the above parallax structure. One perspective presents a field of possibilities, and another yields a definite result. The subject is not a third object between them; rather, it is the difference through which the same situation can be understood in both ways. Thus, the function of the spectral subject in this comparison is to indicate the

mediation that must occur for a process to appear both materially conditioned and irreducible to a list of its conditions [24-25].

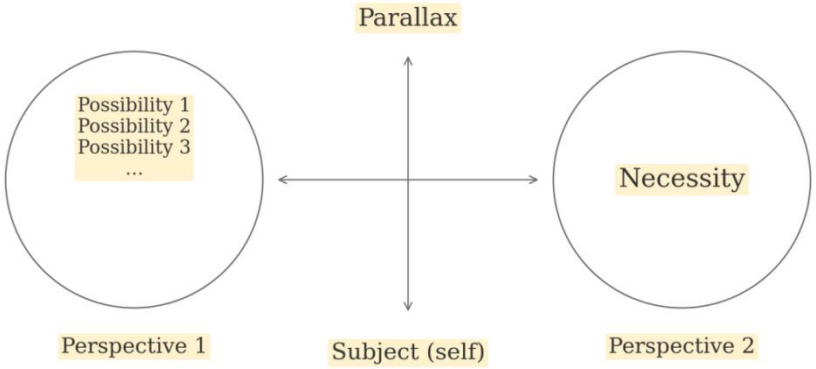


Figure 3 Zizek's Parallax Subject Between Contingency and Necessity

4 STRUCTURAL HOMOLOGY AND DIFFERENCE

4.1 Recursive Loops and the Problem of a Beginning

Varela and Hegel are similar in that both speak a language of self-reference. Both accounts take a recursive structure as the basis for producing identity. Autopoiesis is a system in which the processes that sustain the organism depend on components generated by the same organisation. In the Hegelian model, each moment of subjectivity is based on a movement that cannot be regarded as an external foundation. The beginning is difficult to isolate in both cases; an autopoietic identity is already at work in a coupled process, and the Hegelian presupposition only appears determinate in retrospect. Varela's account of biological autonomy provides a systemic vocabulary for the former, and the Hegelian account offers a logic of retrospective determination for the latter [12, 20, 26].

Therefore, the nested couplings in Figure 1 can be seen as a set of related circuits, each having an initial stage that is only understood through its continued operation. Action changes the environment at the sensorimotor level to affect subsequent perception. Recurrent activity at the neural level conditions the coupling and modifies neural dynamics. At the level of identity, a new sense of self modifies the operating loop from which it arises. Varela's model treats these relations as mutually sustaining; the present interpretation adds that each circuit presupposes a condition not presented as a stable first element.

4.2 The Subject as an Interface Effect

Another place of homology is how a process becomes available for experience. Varela describes selfhood as an effect of an organised whole and an interface for integrating first-person experience with biological activity. It does not make the self equivalent to a single neural function. The Hegelian–Zizekian model also positions subjectivity in the relationship that connects a multiplicity into a self-referential unity. Recently, there have been many discussions on the enactive approach and Hegelian purposiveness; at the same time, differences among biological autonomy, phenomenological description and dialectical logic remain [6-8].

Figure 4 shows the above relationship. The body-physiological basis and the phenomenal identity can be considered two perspectives of an autopoietic organisation. Emergence refers to the mediation between them, not a new object inserted between matter and experience. The diagram does not claim that a subject can be identified independently from the organism. It indicates the interpretive thesis that the unity of the organisation and the first-person self are connected by a process that is necessary but does not appear as an independent component. The account still holds for biological embodiment and denies that all explanatory relations must be reducible to a single level.

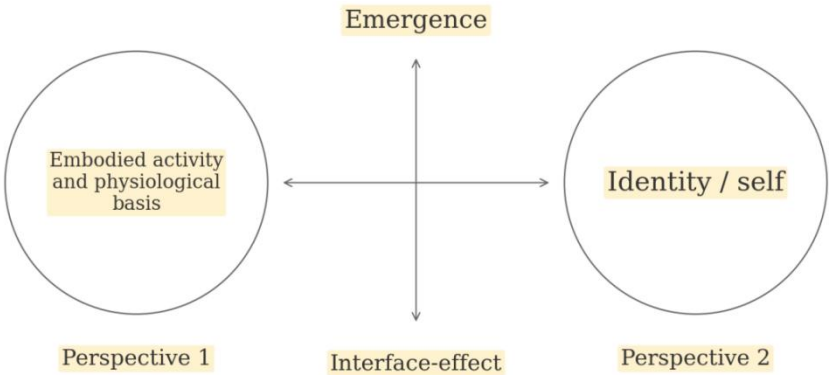


Figure 4 The Emergence of the Self in Varela's Autopoietic Account

4.3 Why the Two Models Locate the Subject Differently

Homology cannot eliminate the essential difference. Varela tends to identify the self with the organised identity that arises from continuous coupling. The spectral-subject model, however, places subjectivity in the presupposed mediation that the operation of the loop both requires and effaces. According to the first view, selfhood is the stable, diachronic identity formed through interaction. Second, the subject is the gap between the process and its retrospectively established identity. Therefore, Figure 2 and Figure 4 have the same kind of recurrence but do not place the subject at the same position in that structure.

The above distinction explains how the article uses the term "spectral". The subject is not a ghostly substance or an immaterial agent that interferes with biology. It is a name for the non-substantial relation by which material organisation becomes available as a first-person unity. Varela's account retains the body-environment loop but risks treating first-person identity as its final effect; the Hegelian–Zizekian interpretation treats the mediation that enables this effect as the subject itself. In this reading, emergence is neither an additional physical cause nor an unexplained miracle. It indicates a difference in the organisation's self-relation.

5 EMERGENCE AS SELF AND IMPLICATIONS FOR NEUROPHENOMENOLOGY

5.1 Emergence as an Internal Difference

Emergence, in common usage, refers to a property that appears as if it were not present before [27]. The philosophical claim presented here is narrower: the emergent self is not a hidden object that can be pinpointed at a specific time among bodily events. It is the difference between the organisation as a network of interacting components and the same organisation experienced as a unified first-person identity. Identity is a real effect of organisation, but it is not an independent substance. Mediation is a condition for intelligibility; however, it cannot be added to the inventory of biological components.

The interpretation of the above tensions has been altered. The self is materialistically conditioned, but these conditions do not exhaust the meaning of first-person unity; it is autonomous in that its organisation regulates ongoing activity, yet this autonomy does not require an uncaused will; and it is objectively embodied without being a thing separate from its relations. These are not proofs that the tensions have vanished. They are distinctions among the organisation, its phenomenal articulation, and the mediating relation through which one is understood in terms of the other. Recent enactive research on natural purposiveness, habit and freedom provides some points for comparison, but it does not confirm the interpretation presented here [3, 6, 8-9].

5.2 A Methodological Implication

The above account also provides some limited support for neurophenomenology. Varela's approach seeks reciprocal constraints between detailed first-person descriptions and scientific accounts of bodily or neural processes. If the relationship between these descriptions is mediated rather than reducible, direct agreement cannot be the only meaningful outcome. Discrepancies in the descriptions may indicate where the assumed mapping of experiential identity onto biological organisation is incomplete. The spectral subject would not be treated as an independent variable; instead, it could be approached indirectly through the structure of divergence.

Therefore, the article uses psychoanalytic symptom-reading as a heuristic and not as a verified experimental protocol. Symptomatic reading pays attention to omissions, displacements and internal inconsistencies as clues for an organising relation that is not directly stated [28-29]. If used carefully, this analogy will point out the repeated asymmetry in experiential reports and physiological descriptions. It cannot be determined whether a specific difference indicates an unconscious decision; therefore, it cannot substitute for controlled observation or phenomenological study. Conceptually, its value lies in providing a research path for investigating the absence of mediation through patterns organised by it, rather than reifying it as a hidden entity. The linguistic distinction between the spoken "I" and the subject of enunciation offers another way to express the difference between experienced identity and the self-relation that organises it [28].

6 CONCLUSION

This article has interpreted Varela's emergent self using a Hegelian–Zizekian model of subjectivity. The two accounts have the same recursive structure and are both unable to determine an independent beginning; however, they differ in where they locate the subject: either in the organised identity produced by the loop or in the mediation that the loop presupposes and effaces. Treat emergence as an internal, non-substantial difference to connect biological organisation with first-person identity without reducing it to an independent soul or a mere computational object. The above comparison also raises a methodological problem for neurophenomenology: whether the discrepancy between experience-based and biology-based descriptions can reveal the implicit structure of self-relation. This is a philosophical proposal rather than an empirical result; therefore, it provides a basis for discussion on how to understand this connection.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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