

THE CONCRETE UNIVERSAL OF EMBODIED CONCEPTS

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Abstract. *In this article, I examine the notion of concrete universal in Hegel's philosophy through trends in philosophy of mind. I argue that the concrete universal, which is tied to the subjectivity and historicity of nature, can shed light on some issues within the current debates therein. More specifically, I contend that the concrete universal, which in Hegel's view is embodied by the living organism – not applied externally to the world, but part of its very becoming – allows us to theorise the status of the environment apart from organisms, and thereby overcome the charge levelled at ecological psychology: that it reintroduces reliance on representations when because it holds that the organism 'picks up' information from the environment. Against this view, the environment apart from organisms not positively given, but this is not the same as saying it does not exist. Instead, it imposes constraints on the individual affordances that the organism perceives in their experienced environment, and is affected in return by how organisms navigate in the world. This problem can highlight the relevance of Hegel's notion for current debates, and how these debates can elucidate the notion of concrete universal.*

Keywords. *Hegel; Concrete Universal; Ecological Psychology; Philosophy of Mind; Organism-environment System*

1. Introduction

We are in the midst of a Hegel renaissance, in which his logic and philosophy of nature are central parts¹. It coincides with, has

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¹ K.R. Westphal, *Philosophizing about Nature: Hegel's Philosophical Project*, in *The Cambridge Companion to Hegel and Nineteenth-Century Philosophy*, ed. by F.

implications for, and has even influenced current shifts within life sciences. For example, organisms are no longer considered mere object but *agents*, a view that dates back to organicism and promoted by *dialectical biology*². This re-centring of the organism heralds an extension of the modern evolutionary synthesis³. While outside our scope, it offers a backdrop to how Hegel's theory offers resources that may inform and be informed by science, and are adjacent to the questions I concentrate on below.

An important issue in the reappraisal of Hegel's philosophy is how nature is too contingent to display logical categories in a faithful manner. This impotence imposes limitation of philosophy and science, as we cannot deduce the particular instances of nature from our conceptual apparatuses⁴. Nature displays *the idea in its otherness*; it is not only outside our logical categories but outside itself. It cannot contain itself, which is why it gives rise to spirit. Hence, spirit is nature not being able to be at one with itself⁵.

Nature displays the idea, but only in a fragmented manner. According to Hegel, mental activities mediate ontological reality since

Beiser, Cambridge – UK, Cambridge University Press, 2008, pp. 281-310. C. Ferrini, *From Disparagement to Appreciation: Shifting Paradigms and Interdisciplinary Openings in Interpreting Hegel's Philosophy of Nature*, «Esercizi Filosofici», IX (1), 2014, pp. 1-13.

² R. Lewontin and R. Levins, *The Organism as Subject and Object of Evolution*, in *Iid.*, *The Dialectical Biologist*, Cambridge MA – London, Harvard University Press, 1985, pp. 85-106. As for the claim that Hegel dismisses evolution outright, see A. Gambarotto and M. Mossio, *Enactivism and the Hegelian Stance on Intrinsic Purposiveness*, «Phenomenology and the Cognitive Sciences», XXIII, 2024, pp. 155-177, and references therein.

³ L. Chiu, *Extended Evolutionary Synthesis. A Review of the Latest Scientific Research*, West Conshohocken – PA, John Templeton Foundation, 2023.

⁴ G.W.F. Hegel, *The Science of Logic*, ed. by George Di Giovanni, Cambridge – UK, Cambridge University Press, 2010.

⁵ L. Illetterati, *Nature's Externality: Hegel's Non-Naturalistic Naturalism*, «Problemi», LVIII (11-12), 2020, pp. 51-72; W. Furlotte, *The Problem of Nature in Hegel's Final System*, Edinburgh, Edinburgh University Press, 2018.

both thought and reality are in a process of splitting and unifying⁶. Moreover, a living process preserves itself through its other – and relates to itself through this relationship.

These remarks indicate how Hegel reinterprets Kant's transcendental argument and overcomes his hesitancy concerning the reality of teleology⁷. It also implies an ecological understanding of the mind as grounded in its interplay with the environment, as Hegel argues that thinking and being are structurally similar. He overcomes scepticism by positing that logical categories reflect reality itself, as they are produced through our practical interplay with it.

In what follows, I relate these ideas to ecological psychology, and the view that fully-fledged discursive concepts are based on more basic forms, instantiated by organisms as they navigate in the world. The notion of *embodied concepts* converges on a pragmatist understanding of concepts, in which habits are central⁸, as well as the *concrete universal* as actualised through organismic action.

I argue that Hegel explains *why* the environment offers possibilities to organism, and hereby overcomes the dichotomy between construction and realism. He also provides a way to understand teleological or purposive actions without presupposing intentionality or representation, by highlighting the history of interactions with the environment.

I begin by outlining what is meant by the notion of concrete universal (part 2). Based on this, I present central topics and views within philosophy of mind in part 3. I then introduce the notion of

⁶ G.W.F. Hegel, *Encyclopedia of the Philosophical Sciences in Basic Outline. Part I: Science of Logic*, ed. by K. Brinkmann and D.O. Dahlstrom, Cambridge – UK, Cambridge University Press, 2015.

⁷ L. Corti, *The 'Is' and the 'Ought' of the Animal Organism: Hegel's Account of Biological Normativity*, «History and Philosophy of the Life Sciences», XLIV (2), 2022, pp. 1-22.

⁸ Habit function more as an *explanans*, used to explain, than a concept that I will explain. Readers may consult F. Ravaisson, *De l'habitude*, Paris, Fayard, 1984. For the historical lineage see K.R. Westphal, *Hegel's Pragmatic Critique and Reconstruction of Kant's System of Principles in the 1807 Phenomenology of Spirit*, «Hegel Bulletin», XXXVI (2), 2015, pp. 159-183.

embodied concepts the problem of the status of the environment apart from organismic action. Finally, I return to nature's externality and the concrete universal, to sketch how Hegel's theory may provide a better understanding of the terrain upon which current debates are being fought.

2. *The Concrete Universal*

Hegel identifies subjectivity with the concept, which is «the constitutive structure of kinds of things»⁹. He equates actuality, that which acts, with *concrete universality*: «In the idea of life, subjectivity is the Concept, and it is thus in itself the absolute being-within-itself of actuality and concrete universality»¹⁰. Coinciding with the emergence of life, concrete universality is the actualisation of something which is only possible at earlier stages.

The living organism is not a mere heap of chemical and physical parts, but an *organisation* of parts into a larger whole which circumscribes their function. Against a dead understand of nature, Hegel understands nature as fundamentally alive – as *self-sundering* and unfolding like an organism (without hereby saying all of nature is but one organism). Life is the stage at which the idea – the unity of concept and reality – emerges, where nature becomes *for itself*¹¹. In Hegel's view, the idea is process instantiated by living organisms¹². Through them, life externalises itself – «making itself into its other

⁹ Westphal, *Hegel's Pragmatic Critique and Reconstruction of Kant's System of Principles in the 1807 Phenomenology of Spirit*, p. 173. I apologise for the density of this section; I aim to effectively introduce notions I elaborate on later.

¹⁰ G.W.F. Hegel, *Philosophy of Nature: Part Two of the Encyclopaedia of the Philosophical Sciences*, trans. by A.V. Miller, with foreword by J.N. Findlay, Oxford – UK, Oxford University Press, 2004, p. 443.

¹¹ Id., *The Science of Logic*, p. 676.

¹² «The idea is essentially a *process* since its identity is that of the absolute and free concept only insofar as it is the absolute negativity and thus dialectical» (Id., *Encyclopedia of the Philosophical Sciences in Basic Outline. Part I: Science of Logic*, p. 286).

and giving itself objective form in order to return to itself as subject»¹³.

When Hegel says that nature is impotent, incapable of controlling its own development, it is not an empirical claim. Nonetheless, we have reason to think it is the case, he says, as we experience this irrationality in the «mismatch between conceptual and rational expectations and our empirical evidence»¹⁴. It is not, as for Kant, that our *abstractions* fail; instead, the concrete universals of nature are not completely rational.

While Kant claimed that ‘reflective judgments’ makes the connection between reason (universal) and intuition (particular), Hegel speaks of *objective judgments*:

Purpose, on the contrary, is the *concrete universal* containing within itself the moment of particularity and of externality; it is therefore active and the impulse to repel itself from itself. The concept, as purpose, is of course an *objective judgment* in which one determination, the subject, namely the concrete concept, is self-determined, while the other is not only a predicate but external objectivity¹⁵.

First, the concrete universal is tied directly to purpose, which contains externality and particularity within itself. Hegel argues against the view that universals subsume the particular and that they concern predicates, not external reality. While only particulars exist for Kant¹⁶, Hegel argues that the universal it is embodied in the activity of organisms that engage with and shape their outside world. Moreover, judgments reflect distinctions in the object itself, as they are immersed in externality, and constituted through this immersion.

¹³ E.P. Miller, *Hegel on Reflection and Reflective Judgement*, «Hegel Bulletin», XLII (2), 2021, p. 11.

¹⁴ *Ibidem*.

¹⁵ Hegel, *The Science of Logic*, p. 656.

¹⁶ In his view, universals are subjective applied to particulars: «As Kant describes it, the particular is Reflective Judgement given, but the universal derives purely from the attunement of the subject’s cognitive powers, that is, merely subjectively» (ivi, p. 17).

The *ideal* is actual because it acts in the world¹⁷. Hegel says that the idea, insofar as it exists, *is* nature. Logical categories can only be fulfilled by externalising themselves, as a ‘free release’:

The Idea itself, retrospectively discerned, divides itself actively into its otherness, or externalizes itself into nature; in the unity of being, reflection and intuition are united in such a way that neither its subjective nor objective character predominates¹⁸.

This is not a transition, as if imposed from without. Neither is it a sublation since nature is not the negation of the idea. Instead, it is nature embodying «in its very order a concrete idea, the universal character of which can only be ascertained after-the fact»¹⁹. As such, it is a movement inherent to the idea by which it opens itself to the realms of nature and spirit, not as a passage but as a recognition that it always already *exists* in and through those spheres²⁰.

Reflection is both a movement outward (externalisation) and inward (recollection) – not imposed on external nature but immanent in it. It is not the prerogative of human beings, but of livings beings as such²¹. Moreover, the notion of inner purposiveness is «nothing short of a disclosure of what Hegel understands as the ‘Idea’, or the unity of concept and reality», as a *movement* towards itself²².

¹⁷ Hegel, *Encyclopedia of the Philosophical Sciences in Basic Outline. Part I: Science of Logic*.

¹⁸ Miller, *Hegel on Reflection and Reflective Judgement*, p. 19. The transition is not chronological but logical, as nature always already embodies the idea.

¹⁹ Ivi, p. 20.

²⁰ L. Illetterati, *The Action of the Absolute Idea. On the Relationship Between Thought and Reality in Hegel’s Philosophy*, «Revista Estudos Hegelianos», XIX (34), 2022, pp. 125-165.

²¹ R. Zambrana, *Hegel’s Theory of Intelligibility*, Chicago – IL, University of Chicago Press, 2015.

²² D.O. Dahlstrom, *Hegel’s Appropriation of Kant’s Account of Teleology in Nature*, in *Hegel and the Philosophy of Nature*, ed. by Stephen Houlgate, New York – NY, SUNY Press, 1998, pp. 167-188, p. 174.

Moreover, «the concept insofar as it *concretely exists* as concept, differentiating itself from its objectivity which, despite the differentiating, remains the concept's *own* objectivity»²³. This process is a particularisation of the concept, whilst remaining universal. Conceiving of the universal as purely abstract overlooks how universals are formed and how they work in practice, embodied by individuals²⁴:

As dynamic universality, the concept thus describes the unity of itself (universality) with itself (individuality) as its own other (particularity). Since all determinations of the concept are forms of universality, any determinacy of the concept is 'self-determinacy'²⁵.

Hegel's idealism is not subjective since it concerns the way nature is structured²⁶. The concrete universal is not abstracted from its bearers but instantiated by them²⁷. They are the embodiment of the concept as an ongoing process of self-determination through judgments, a differentiation which is also a determination of the environment. As a concrete universal, the organism is capable of «containing and enduring its own contradiction»²⁸. It is universal through what it is not, its contradiction, the particular environment.

We may grasp this through the relation between genus and individual: The genus human, for example, *underdetermines* the individual person, even if it places constraints on what it means to fit this

²³ Hegel, *Encyclopedia of the Philosophical Sciences in Basic Outline. Part I: Science of Logic*, p. 239.

²⁴ Miller, *Hegel on Reflection and Reflective Judgement*.

²⁵ S. Stein, *Hegel's Twofold Critique of Empiricism: Cognition, Ontology and the Question of Universality*, «Revista Estudios Hegelianos», XIII (22), 2016, pp. 69-95, p. 85.

²⁶ W. deVries, *Hegel's Pragmatism*, in *The Palgrave Hegel Handbook*, ed. by M.F. Bykova and K.R. Westphal, Cham, Palgrave Macmillan, 2020, pp. 541-557.

²⁷ R. Stern, *Hegel, British Idealism, and the Curious Case of the Concrete Universal*, «British Journal for the History of Philosophy», XV (1), 2007, pp. 115-153.

²⁸ Hegel, *Philosophy of Nature*, p. 385.

category²⁹. In other words: «The concrete universal is, hence, the universal that is not indifferent to its particular expression»³⁰. It is a process which moves from universality to particularity and back, producing an ‘enriched’ universality.

When Hegel speaks about the *judgement of the concept*, he speaks about a normative and law-like relation, in which the predicate tells something about what the object ought to be. The ‘ought’ implies a lack of complete conformity between the concept and reality, that «thought and being are not *immediately* adequate to one another»³¹. This *disparity*, the unstable relation between organism and environment, spurs constructive activity, mediation.

3. *Mind and Environment*

Two prevailing trends in philosophy of mind, enactivism and ecological psychology, have drawn upon resources found in Hegel’s thinking. Despite common commitments, however, there is a tension concerning the independence of the environment, which I seek to illuminate through Hegel³².

²⁹ L. Corti, *The Logical Form of a Living Organism: Hegel, Naturalism, and Biological Autonomy*, in *Nature and Naturalism in Classical German Philosophy*, ed. by L. Corti and J.-G. Schüle, New York-London, Routledge, 2023, pp. 227-245.

³⁰ E. Maragat, *Concepts with Teeth and Claws. On Species, Essences and Purposes in Hegel’s Organic Physics*, in *Life, Organisms, and Human Nature: New Perspectives on Classical German Philosophy*, ed. by L. Corti and J.-G. Schüle, Cham, Springer, 2023, pp. 79-96, p. 85.

³¹ K. Ng, *Hegel’s Concept of Life: Self-Consciousness, Freedom, Logic*, New York – NY, Oxford University Press, 2020, p. 195.

³² I will not offer a proper introduction to these schools of thought, but present them through Hegel’s thinking. In a way, I argue that their tension is overstated, as they largely overlap. I rely on this overlap, but also cover a lacuna, bringing Hegel and ecological psychology together. On Hegel and the enactive view, see Gambarotto and Mossio, *Enactivism and the Hegelian Stance on Intrinsic Purposiveness*.

But first a bit of introduction. In ecological psychology, the *history of interactions* attunes an organism to its environment, offloading how a system unfolds to «affordances and constraints of the agent–environment system»³³, hence making it redundant to postulate consciousness or representations. Attuning the organism to its environment, and *vice versa*, captures how the organism and environment reflect each other in Hegel's thinking. They are concrete or living universals that sublate and incorporate processes that occur at other levels without leaving these behind, as the physical and chemical level constrain and enable living systems³⁴.

Organisms maintain themselves through their constitutive relationship to the outside – which also constrains and enables cognition. Hence, we could consider the organism-environment as an integrated system reaching *organisational closure*³⁵.

Ecological psychology is based on four main ideas:

- (i) the main unit of analysis for explaining cognition is neither the brain nor the organism, but the organism-environment system; (ii) perception and action are two sides of the same continuous process; (iii) perception is direct, which means that it is based on the pick-up of perceptual information without appealing to inner processing or representations; and (iv) perception is of affordances³⁶.

³³ T. Froese, *Irruption Theory: A Novel Conceptualization of the Enactive Account of Motivated Activity*, «Entropy», XXV (5), 748, 2023, pp. 1-19, p. 13.

³⁴ Ng, *Hegel's Concept of Life*. This is also a kind of mediated immediacy, since life is mediated by what happens at other levels.

³⁵ A set of constraint, boundary conditions on processes, reaches *closure*, viz. that the maintain themselves through their own organisation. For a debate of whether we can extend this notion of closure to include the environment, see M. Heras-Escribano and C. Saborido, *Affordances and Organizational Functions*, «Biology & Philosophy», XXXVIII (6), 2023, pp. 1-16.

³⁶ M. Heras-Escribano, D. Travieso and L. Lobo, *An Affordance-Based Approach to the Origins of Concepts*, in *The Modern Legacy of Gibson's Affordances for the Sciences of Organisms*, ed. by M. Mangalam, A. Hajnal and D.G. Kelty-Stephen, London-New York, Routledge, 2024, pp. 83-100, p. 85.

The first overlaps with the speculative identity between the organism and the environment. This coupling is established through their historical interaction. Hence, «ecological information is what guides and constrains the behavior of organisms»³⁷.

The second is the view, shared by the enactive approach, that action and perception are continuous. Cognition arises from the active interplay of organism and environment, and that it involves not only the brain but the whole body. Unlike ecological psychology, however, enactivism says that the world is *enacted* by organisms *without* assuming anything about the environment apart from this enactment. The third point thereby indicates the tension between enactivism and ecological psychology: That the latter gives the impression that there is pregiven information in the environment, simply waiting there for the organism to pick it up³⁸. This is illegitimate, according to enactivism, as ecological psychology fails to explain *why* the environment appears as it does apart from being

³⁷ M. Heras-Escribano, *Pragmatism, Enactivism, and Ecological Psychology: Towards a Unified Approach to Post-Cognitivism*, «Synthese», 198, 2021, pp. 337-363, p. 350.

³⁸ This stark distinction dates back to *The Embodied Mind* by Varela, Thompson and Rosch, where it was claimed that the notion that the environment exists 'out there' was incompatible with the notion that it was 'brought forth', a view I take aim at here. They also denied that we can know the objective world – avoiding notions of representation by denying that a pregiven world exists. I think this is throwing the baby out with the bathwater, and produces a false dichotomy between realism and constructivism, that Hegel has already overcome. Based on my selective literary review, this difference does not necessarily reflect the current state of the debate. I think the difference might lie elsewhere, as ecological psychology is a more robust research program, whereas enactivism is a philosophy of nature. This points to a historical difference more than anything, as ecological psychology predates enactivism. See, for instance, R. Meyer and N. Brancazio, *Putting Down the Revolt: Enactivism as a Philosophy of Nature*, «Frontiers in Psychology», 2022, pp. 1-12; F. Varela, E. Rosch and E. Thompson, *The Embodied Mind: Cognitive Science and Human Experience*, Cambridge – MA, MIT Press, 1993.

perceived by actual organisms. Moreover, it does not adequately account for the contribution of the organism in perception³⁹.

The fourth point partly counteracts these critiques, by stating that what is picked up are affordances, *viz.* ecological information – not purely physical information – which emerges through the interplay of organismic capacities and features of the environment. I will focus on the two latter points in what follows and argue that the charge that ecological psychology presupposes a pregiven environment is misleading, as the environment is always already shaped through the interaction with organisms⁴⁰.

To say that information is picked up, is to say that it is *directly perceived*⁴¹. In short, there is enough informational potential in the stimulus, making notions of inference or representation superfluous. Yet, «what is perceived would not be fixed like an automatic response to a stimulus»⁴². This indicates that while perception is direct, its content is mediated⁴³. Affordances are not imposed from the outside (as abstract universals) but are relational features, emerging from the interplay between the ambient features of the environmental and the organism's capacities. Hence, ecological psychology explains *why* objects appear, apart from being perceived presently, by

³⁹ H. Heft, *Ecological Psychology and Enaction Theory: Divergent Groundings*, «Frontiers in Psychology», XI, 2020, pp. 1-13.

⁴⁰ This implies that the gulf between enactivism and ecological psychology is not insurmountable. Although I cannot make the case for their compatibility here, the readers may consult M. Crippen, *Enactive Pragmatism and Ecological Psychology*, «Frontiers in Psychology», XI, 2020, pp. 1-13.

⁴¹ M. Segundo-Ortin, M. Heras-Escribano and V. Raja, *Ecological Psychology Is Radical Enough: A Reply to Radical Enactivists*, «Philosophical Psychology», XXXII (7), 2019, pp. 1001-1023.

⁴² T. Nonaka, *Locating the Inexhaustible: Material, Medium, and the Ambient Information*, «Frontiers in Psychology», XI, 2020, pp. 1-11, p. 2.

⁴³ My usage of term 'content' dovetails with that of Heras-Escribano, Travieso, and Lobo, as they make the case for «intermediate states [...] between mere contentless reaction and pure conceptual abstraction» (Heras-Escribano, Travieso and Lobo, *An Affordance-Based Approach to the Origins of Concepts*, p. 95).

reference to the historical development of organism-environment systems. Because of this history, environments are shaped in a way that provide them with possibilities for action that exist apart from their actualisation.

Similarly, Hegel also offers a «non-representational, experience-based, approach to the origins of concepts»⁴⁴, in which mediation is central. Hegel writes that

*there is nothing in heaven or nature or spirit or anywhere else that does not contain just as much immediacy as mediation, so that both these determinations prove to be *unseparated* and *inseparable* and the opposition between them nothing real*⁴⁵.

Mediation is immediate because the organism and its environment are internally related, developing through their interaction. Mediation does not distort immediacy since it is always already mediated, never given. The mind is the idea as «the absolute unity of the concept and objectivity»⁴⁶. It is not only extended into its world, but embodied and actively engaged with its outside, as in the enactive approach⁴⁷. Moreover, the concept «arises from and is an actualization of purposive activity»⁴⁸. This emphasis of purposiveness in the constitution of concept, one the other hand, seems to be more in line with ecological psychology.

In any case, action and perception are not only continuous but structurally similar, as processes of negativity that enable intelligibility. This allows us to overcome lingering scepticism as to whether our concepts *actually* apply to the world. Hegel wants his cake and eat it too: Even if there is structural similarity, externality is so riddled

⁴⁴ Ivi, p. 84.

⁴⁵ Hegel, *The Science of Logic*, p. 46.

⁴⁶ Id., *Encyclopedia of the Philosophical Sciences in Basic Outline. Part I: Science of Logic*, p. 282.

⁴⁷ A convergence noted by some of its proponents. See E. Di Paolo, E.C. Cuffari, and H. De Jaegher, *Linguistic Bodies: The Continuity Between Life and Language*, Cambridge – MA, MIT Press, 2018.

⁴⁸ Ng, *Hegel's Concept of Life: Self-Consciousness, Freedom, Logic*, p. 127.

with contingency that it fails to embody the concept in a perfect manner. Hence, there is continuity *and* discontinuity between nature and cognition⁴⁹. Their lack of complete overlap produces a feeling of lack – what enactivists calls *precariousness*⁵⁰ – which spurs the organism outward. The perception of deficiency, such as hunger, leads to *activity of deficiency*, which is a turning of a barrier into an enabling constraint, as split which also unifies the organism with the other⁵¹.

On the other hand, the organism can only act on its environment insofar as the environment is already implicit in its self-relation⁵². Cognition is not only shaped through natural processes; it *is* a natural process. Yet, it emerges as a new level of organisation which cannot be reduced to purely natural processes – with principles that are *constrained* but not determined by natural processes, and that affect them in return, through downward causation⁵³. As Dewey also emphasises, a more pragmatist account of experience must cognise *what* is experienced⁵⁴. This content «contains mediation within itself»⁵⁵; it is self-mediating, not finite. Insofar as we can experience

⁴⁹ Gambarotto and Mossio, *Enactivism and the Hegelian Stance on Intrinsic Purposiveness*.

⁵⁰ E. Di Paolo, *Overcoming Autopoiesis: An Enactive Detour on the Way from Life to Society*, in *Autopoiesis in Organization Theory and Practice*, ed. by R. Magalhães and R. Sanchez, Bingley – UK, Emerald Publishing, 2009, pp. 43-68.

⁵¹ F. Micheline, M. Wunsch and D. Stederth, *Philosophy of Nature and Organism's Autonomy: On Hegel, Plessner and Jonas' Theories of Living Beings*, «History and Philosophy of the Life Sciences», XL (3), 2018, pp. 1-27.

⁵² The sensation of lack and the self-feeling it produces is important, but I cannot thematise this now. Gibson says something similar when he states that «Self-perception and environment perception go together» (J.J. Gibson, *The Ecological Approach to Visual Perception*, New York – NY, Psychology Press, 2014, p. 109).

⁵³ A. Johnston, *Prolegomena to Any Future Materialism, Volume One: The Outcome of Contemporary French Philosophy*, Evanston – IL, Northwestern University Press, 2013.

⁵⁴ J. Dewey, *Experience and Nature*, New York – NY, Dover Publications, 1958.

⁵⁵ Hegel, *Encyclopedia Logic*, p. 122.

something as differentiated and relevant to us – i.e. as affording possibilities for action – mediation is always already involved, enabling the organism to perceive itself as set apart from its surroundings *through* its engagement with it.

Hegel remarks that «long life experience» provides an educated person with a «host of universal viewpoints» which are «immediately present»⁵⁶. This is the same kind of attunement or perceptual learning we find in ecological psychology. Hegel even speak about how this familiarity and activity is «*immediately* present in one's consciousness in the case at hand, indeed, even in an activity directed outwards and in one's limbs»⁵⁷. It is immediate and bodily knowing as a result of mediation. His example reminds of Gibson, when he seeks to explain what he meant by 'stimulus array': «When a listener 'hears' one rather than another, he does not detect a difference in the structure for the different perception, he only abstracts different features of the available structure»⁵⁸.

In this way, Hegel strikes a balance between scepticism and realism. The world appears as we perceive it; yet, our conceptual apparatuses do not exhaust the being of nature⁵⁹. As argued below, Hegel sublates the contradiction between multiplicity of perception and realism, by proposing a conceptual realism. It is not the case that organisms «bestow upon things traits that *did not* belong to them»⁶⁰. Instead, by embodying the concept and differentiating it into teleological judgments they change externality and themselves objectively – altering the organism-environment system. Hence, possible affordances exist independently from being acted upon.

In their article on the origins of concepts, discussed in the next section, Heras-Escribano, Travieso, and Lobo claim that ecological psychology charts a third way between an empiricist and rationalist

⁵⁶ Ivi, p. 116.

⁵⁷ All these remarks are made in § 66 of the *Encyclopedia Logic*.

⁵⁸ Gibson in a letter to philosopher N. Malcolm, as cited by Nonaka, *Locating the Inexhaustible: Material, Medium, and Ambient Information*, p. 2.

⁵⁹ T.P. Pinkard, *Hegel's Dialectic: The Explanation of Possibility*, Philadelphia – PA, Temple University Press, 1988.

⁶⁰ Crippen, *Enactive Pragmatism and Ecological Psychology*, p. 4.

notion of concepts. Arguably, this is also what Hegel does, as he casts perception as action-oriented while maintaining that the environment imposes constraints on it.

4. *Embodied Concepts*

[E]mbodied concepts are the implicit, pre-discursive, bodily knowledge of certain causal patterns in the world, formed by the set of known consequences and expectations of what we can do when taking the affordances of particular things and environments. Knowing these regularities is more than merely reacting in a mechanical, uncoordinated, and disembodied way because the organism is precisely aware of what will happen due to the previously mentioned experience that allows it to have expectations and anticipation. Acting in a purely reactive and mechanical way implies that the organism has no experience, no previous history of interactions in which some kind of embodied, pre-reflective, pre-discursive knowledge has not been achieved⁶¹.

The above view dovetails with the Hegelian understanding of the concept, qua ‘bodily knowledge of certain causal patterns’. The authors explain the origin of concepts as grounded in affordances and seem to place such concept *within* the organism. They are embodied know-how shaped through experience, not developed and *realised* by organism in their actively engages with the environment – *and* therefore embodied by the environment itself⁶². While this is different from Hegel’s understanding, it is not far apart, since the organism-environment is considered an integrated system.

⁶¹ Heras-Escribano, Travieso and Lobo, *An Affordance-Based Approach to the Origins of Concepts*, p. 95.

⁶² I treat plants and animals similarly, as it does not affect the overall argument. Research on plant cognition has revealed that plant make use of ecological information in the same manner as animals, making the principles of ecological psychology amenable to plant behaviour. See M. Heras-Escribano, *Embracing the Environment: Ecological Answers for Enactive Problems*, «Constructivist Foundations», XI (2), 2016, pp. 309-312.

Moreover, Heras-Escribano, Travieso, and Lobo do not hold that concepts always have a «symbolic, discursive-like nature»⁶³. In line with empiricism, embodied concepts are products of experience which «facilitate interaction with the environment»⁶⁴. But unlike empiricism, perception and action are «continuous and cyclic, and experience is not the passive sensory reception of worldly impingements but the implicit, tacit embodied knowledge that comes from a history of interactions with the environment»⁶⁵. Their historical nature implies habit formation as their basis. In this context, «*actual* information experience, understood as know-how»⁶⁶ is central, as it produces a sense of anticipation – based on ‘lawful regularity’ – that allows the organism to navigate in the environment with relative ease.

Based on a Deweyan approach, the aforementioned authors hold that stimulus and response are not ontologically distinct, since they are parts of the overall organism-environment system. Their pragmatist concept of habits is indebted to Hegel. In his view, being immersed in repetitious bodily activities makes habitual activities mechanical. But this automation paradoxically opens the possibilities for something new to occur⁶⁷. This duality allows the organism to stabilise its interaction with the environment whilst being able to respond adaptively to changes. Likewise, embodied concepts are *disposition for responses* shaped historically, a repertoire for constructing novel affordances.

We now return to the controversy outlined above: the idea that organisms simply pick up information that is already there in the environment. For critics of ecological psychology, this reintroduces

⁶³ Heras-Escribano, Travieso and Lobo, *An Affordance-Based Approach to the Origins of Concepts*, p. 88. Their aim is not, however, to ground a cognitivist understanding of concept in ‘embodied aspects’ of concepts. Hence, they take concepts to be more than simply cognitive tools, abstract universals.

⁶⁴ Ivi, p. 88.

⁶⁵ Ivi, pp. 88-89.

⁶⁶ Ivi, p. 89.

⁶⁷ C. Malabou, *The Future of Hegel: Plasticity, Temporality and Dialectic*, London-New York, Routledge, 2005.

representation. They claim «that to describe perceptual information as being meaningful and specific entails an underlying commitment to the existence of informational content in the external world»⁶⁸. It seems like organisms pick up informational content which is there independently of the organism, and *then* produce a representation of this content⁶⁹.

What is lost in these criticisms is that the environment, while it contains information, does not rigidly specify its use. It provides *potential information for action*, shaped by how it is actualised⁷⁰. Moreover, the environment is not a static background but a living process operating like the concept, in the sense that it is purposively differentiating itself *and* its environment. Hence, proponents of ecological psychology address the question of specification by underscoring that the environment specifies how it is perceived in a sufficient, not necessary, manner⁷¹. Hence, the informational content of perception is not wholly present in stimuli alone.

How do we maintain this point, that the environment itself is «the basis of the multiplicity of perceptual experiences»⁷², without introducing notions of representation? How do we reconcile the multiplicity of perceptions with realism? The answer lies in the notion that the environment, qua ambient array, is so rich that it *underdetermines* the perception that individual organisms may have. As such, it does not determine but *constrains* perception. The array is not finite or static but processual, and hence perception depends on it but is not determined by it.

⁶⁸ Segundo-Ortin, Heras-Escribano and Raja, *Ecological Psychology Is Radical Enough: A Reply to Radical Enactivists*, p. 2.

⁶⁹ D.D. Hutto and E. Myin, *Radicalizing Enactivism: Basic Minds without Content*, Cambridge – MA, MIT Press, 2013.

⁷⁰ E.M. de Carvalho and G. Rolla, *An Enactive-Ecological Approach to Information and Uncertainty*, «Frontiers in Psychology», XI, 2020, pp. 1-11.

⁷¹ Segundo-Ortin, Heras-Escribano and Raja, *Ecological Psychology Is Radical Enough: A Reply to Radical Enactivists*.

⁷² Nonaka, *Locating the Inexhaustible: Material, Medium, and Ambient Information*, p. 2.

In ways similar to how the genus underdetermines the individual, the environment underdetermines the way an organism perceives its environment⁷³. The habitat of the organism is not the same as the space that surround it⁷⁴. Although individuals experience the environment in a *unique* way, with different *value attainment*, they remain in a world which is predominantly shared – «with the same objective goods and ills»⁷⁵.

Picking up of information is open-ended and shaped by organismic activities, presently and in the past. The ambient array is itself specific to the organism, which is why we should not speak of abstract space but concrete *medium*:

Unlike points in space defined by an arbitrary frame of reference, the ambient energy array surrounding each potential point of observation is unique [...]. As the observer moves from one point of observation to another, the optical array, the acoustic array, and the chemical array are transformed accordingly [...]. This provides the opportunities for an active observer to move in the medium to detect invariants underlying the transforming perspectives in the ambient array surrounding a moving point of observation⁷⁶.

Space is purely quantitative, lacking the uniqueness that characterises affordances which are shaped by interaction. In his *Philosophy of Nature*, Hegel says something similar, as he characterises space as entirely abstract – as nature in its ‘unmediated indifference’, which lacks any kind of differentiation. Through time, space is negated, differentiated. Hence, space is not merely container for ready-made objects, nor are time and space subjective categories. Instead,

⁷³ D.M. Walsh, *Environment as Abstraction*, «Biological Theory», XVII (1), 2022, pp. 68-79.

⁷⁴ Gibson, *The Ecological Approach to Visual Perception*; R. Lewontin, *The Triple Helix: Gene, Organism, and Environment*, Cambridge – MA, Harvard University Press, 2000.

⁷⁵ Crippen, *Enactive Pragmatism and Ecological Psychology*, p. 6.

⁷⁶ Nonaka, *Locating the Inexhaustible: Material, Medium, and Ambient Information*, p. 8.

they mould the matter that appears through them. They are abstract forms that may be actualised through different kinds of media⁷⁷.

This is a movement from *matter* to *content*. While I cannot do justice to Hegel's argument, it has relevance for the notion of differentiation in ecological psychology. He even comes close to Gibson by emphasising how it is only by combining space and time that we concretise the abstract space into a medium⁷⁸. Even if ecological information must occur in space or time, these categories are, by themselves, too informationally impoverished to guide organismic behaviour: «if one knows only the spatio-temporal properties of things, their *where* and *when*, but nothing else, one knows very little indeed»⁷⁹.

By focussing on the ambient array as a concrete medium, we can explain what kind of information the organism is after, and how this information emerges only through the organism-environment system; yet, it is also «an inexhaustible reservoir of information»⁸⁰, which may or may not be explored, and yet exists independently⁸¹.

From this perspective, the charge that picking up information re-introduces representation assumes that concepts are applied to

⁷⁷ Here, I paraphrase W. A. deVries, *Hegel's Account of the Presence of Space and Time in Sensation, Intuition, and the World: A Sellarsian View*, in *Hegel's Philosophical Psychology*, ed. by S. Herrmann-Sinai and L. Ziglioli, London, Routledge, 2016, pp. 214-227.

⁷⁸ Gibson, *The Ecological Approach to Visual Perception*. See also R. Kaufmann and C. Yeomans, *Hegel's Theory of Space-Time (No, Not That Space-Time)*, in *Life, Organisms, and Human Nature: New Perspectives on Classical German Philosophy*, pp. 97-117.

⁷⁹ DeVries, *Hegel's Account of the Presence of Space and Time*, p. 221.

⁸⁰ Nonaka, *Locating the Inexhaustible*, p. 9.

⁸¹ Gibson says: «whether or not a potential stimulus becomes effective depend on the individual. It depends on the species to which he belongs on the anatomy of the sense organs, the stage of maturation, the capacities for sense organ adjustment, the habits of attention, the activity in progress, and the possibilities of educating the attention of the individual» (Gibson, *The Ecological Approach to Visual Perception*, p. 346).

external reality from the outside, like abstract universals – *viz.* that organisms deal an impoverished space instead of a rich medium, and that organism and environment constitute two separate spheres. Against this, Hegel holds that nature has a logical-rational structure which is inexhaustible because it is permanently unfinished. The structural similarity between reality and thought is why we may know nature in the first place⁸². Hence, his argument is transcendental, as it explains its own conditions of knowledge.

5. Conclusion

Nature's externality, understood as its *capacity* for unbridled variation and multiplicity and *incapacity* for conceptual self-organization, is overcome by nature's own internalization toward life, consciousness, and finally subjectivity⁸³.

As we have seen, the interplay of reflection and mediation indicates a solution to the question of how we should understand the environment apart from organisms. Direct perception relies on the view that the environment is rich enough for the organism to pick up its information directly, but it does not thereby hold that no mediation is involved. It posits a tight coupling between organism and environment, in which the historical interaction between organism and environmental affordances contributes to the production of ecological information⁸⁴.

Relatively invariant properties in the environment exist independently of whether they are acted upon is because the environment is a subject that differentiates itself. Nature is not a single organism, but life is fundamental to its being and intelligibility. The

⁸² W. Clark Wolf, *Rethinking Hegel's Conceptual Realism*, «Review of Metaphysics» LXXII (2), 2018, pp. 331-370.

⁸³ R. Padui, *Hegel and Heidegger on Nature and World*, Lanham – MD, Lexington Books, 2023, p. 60.

⁸⁴ J. Bruineberg, A. Chemero and E. Rietveld, *General Ecological Information Supports Engagement with Affordances for 'Higher' Cognition*, «Synthese», CXCVI (2), 2019, pp. 5231-5251.

co-differentiation of organism and environment is nature's differentiation into organism and environment – temporally and spatially separate, but functionally integrated⁸⁵.

When the organism specifies something in its environment, it is a reflection of something which is already there, not given but plastic – open to being changed by the interplay with organisms. It is both objective and subjective, and neither. It is *transjective*⁸⁶. The question of whether the organism or the environment takes precedence is moot, as it takes for granted that they are separate. Here, the similarities to pragmatism are evident, as the mind is grounded in the constitutive interplay with the environment.

This view may give the impression that the environment contains static meaning apart from the organism, that it passively receives something which is «already there»⁸⁷. But this 'already there' is always already a historical product, an actualisation of the concept. By being actualised, what is presupposed it posited. Substance, in this view, is a process of negation and sublation in which what is actual and what is possible mediates each other.

Ecological psychology is not committed to the view that information exists 'out there', at least not without important caveats. Instead, «information is to be understood ecologically, that is, as being dependent on the relationship between organisms and their eco-niches»⁸⁸. While space and time persist, we perceive them only through the media that instantiate them, and the array of possibilities for action persists apart from being actualised.

Referring to the historical interaction of the genus, however, seems to backpaddle the problem of how nature must be, ontologically, for the establishment of inheritable patterns. This might be where pragmatism cannot go, and hence a limitation imposed on

⁸⁵ Dewey, *Experience and Nature*.

⁸⁶ J. Jaeger, A. Riedl, A. Djedovic, J. Vervaeke and D. Walsh, *Naturalizing Relevance Realization: Why Agency and Cognition Are Fundamentally Not Computational*, «Frontiers in Psychology», 2024, pp. 1-25.

⁸⁷ Segundo-Ortin, Heras-Escribano and Raja, *Ecological Psychology Is Radical Enough: A Reply to Radical Enactivists*, pp. 1-23.

⁸⁸ Ivi, p. 11.

ecological psychology insofar as it builds on this tradition⁸⁹. Yet, Hegel's understanding of nature offers us a naturalism where we do not need to leave either science or pragmatism behind. It allows us to speak about nature as living, as differentiating into living organisms that are able to detect patterns and happenings because they are part of what they perceive, not outside it.

In fact, the notion that nature as impotent, as *the externality of the idea* – that nature constantly breaks up the unity of concept and reality, the idea, implies that science *must* prepare the ground for philosophy, by allowing us to trace the universal in the singular⁹⁰. In short, science «exhibit and substantiate human reason's power to know nature, in part by identifying genuine natural kinds, species and laws of nature»⁹¹. Luca Illetterati writes:

In developing a non-subjectivist conception of thought, Hegel aims to show that thought is not the instrument through which the subject attempts to capture the world, it is not the mental net that the subject throws over reality, catching out what that net allows him to bring to the surface. Thought is rather something that, even though immanent to him, still transcends the dimension of the subject. Similarly, in developing a non-objectivist conception of reality, Hegel articulates an idea of reality in which it is not simply the other of thought, something that exists in opposition to and in front of thought, but is rather a reality permeated by thought, which is the condition of possibility for its intelligibility⁹².

Thoughts exist in the subject, but are not thereby subjective. Moreover, since nature it is riddled with contingency, it is not itself *fully* rational and hence not amenable to complete logical deduction. Nature lies forever outside logic and science not because they are non-logical but because they are not *purely* logical. Teleological

⁸⁹ Heras-Escribano, *Pragmatism, Enactivism, and Ecological Psychology: Towards a Unified Approach to Post-Cognitivism*.

⁹⁰ Illetterati, *Nature's Externality: Hegel's Non-Naturalistic Naturalism*.

⁹¹ Westphal, *Hegel's Pragmatic Critique and Reconstruction of Kant's System of Principles in the 1807 Phenomenology of Spirit*, p. 172.

⁹² Illetterati, *The Action of The Absolute Idea*, p. 143-144.

judgment and the external world do not coincide, making ongoing mediation is necessary.

Organisms actualise a subset of all the possibilities that nature contains. Unactualised possibilities, abstract nothingness, lie outside the range of perception given current capacities and/or level of learning⁹³; but they also point to the contingency that makes nature forever escape conceptual deduction. It does not make nature less real, nor does it mean that organisms do not affect it. But precisely how we affect nature is fundamentally unpredictable, because of nature's impotence.

Before ecological psychology, Hegel proposed a notion of embodied concepts able to explain *why* the ambient energy array provides the organism with a rich potential. It is because nature itself embodies the concept. Thus, nature is inexhaustible in two senses: Because it is so rich that its potential information cannot be exhausted; *and* since it is unable to instantiate logical categories in a reliable manner – lacking the capacity to control its own becoming. Hence, perception is not simply a differentiation of the environment; it is also an *enrichment*, but not in the representationalist sense of adding content to an impoverished content⁹⁴. It is an enrichment because it partakes in the becoming of nature which is also the development of the idea.

Purposive action differentiates the indifferent whole of mechanical or chemical nature while maintaining itself through this differentiation. New levels of organisation emerge, which *become necessary* through a contingent process. Living systems actualise what is only possible at previous stages by organising them into its

⁹³ Gibson writes: «whether or not a potential stimulus becomes effective depends on the individual. It depends on the species to which he belongs, on the anatomy of the sense organs, the stage of maturation, the capacities for sense organ adjustment, the habits of attention, the activity in progress, and the possibilities of educating the attention of the individual» (J.J. Gibson, *The Concept of the Stimulus in Psychology*, in *Reasons for Realism: Selected Essays of James J. Gibson*, ed. by E. Reed and R. Jones, Hillsdale – NJ, Lawrence Erlbaum Associates, pp. 333-349, p. 346.

⁹⁴ Heras-Escribano, Travieso and Lobo, *An Affordance-Based Approach to the Origins of Concepts*.

functioning. Through this process, externality is itself reshaped, making the latter «an objective structure endowed with the impulse to its own realisation»⁹⁵. Hence, the problem of determining how the environment *is* apart from organisms is irrelevant. Habit formation enables relative independence from the environment, but also shapes the environment, materially and cognitively.

The abstract universal underdetermines the experience of the environment. This is not only because the genus is weak, however; it is also because the environment is so complex that the ambient information therein can never be exhausted. This externality is maintained in the concrete universal since its sublation is always incomplete. The organism participates in the process through which the abstract environment becomes concrete, but inexhaustibly so.

A concretely existing thing is not only mediated but it is the mediation of this mediation, and therefore a *re-establishment* of the immediate, of entities that are reflected into each other and «form a *world* of reciprocal dependency»⁹⁶. This is similar to how spirit is the return from nature *from within nature*⁹⁷. Organisms are constrained by externality in way that enable them to engage with their environment in ways that, over time, are stabilised, but can still be overturned. Lawlike relations are only law-like – not static laws but tendencies or *historicised invariants*⁹⁸.

The notion of space, as understood by Hegel or Gibson, allows us to grasp why we should not reduce nature to dead matter. Although we cannot understand nature through the notion of space alone does not mean the latter is outside mediation. If it were, it would be unknowable, a thing in itself. Hegel holds that space and

⁹⁵ M. Bordignon, *Teleology, Backward Causation and Contradiction. Hegel's Dialectical Account of Organic Nature*, in *Natural Born Monads: On the Metaphysics of Organisms and Human Individuals*, ed. by A. Altobrando and P. Biasetti, Berlin, Walter de Gruyter, 2020, pp. 65-88, p. 71.

⁹⁶ Hegel, *Encyclopedia of the Philosophical Sciences in Basic Outline. Part I: Science of Logic*, p. 190.

⁹⁷ Illetterati, *The Action of The Absolute Idea*.

⁹⁸ G. Longo, *How Future Depends on Past and Rare Events in Systems of Life*, «Foundations of Science», XXIII, 2018, pp. 443-474.

time participates in the becoming of nature, at several junctures in its development. From being the absolute externality of nature, pure negativity, space is externalised as time. Together, space and time is *motion*; and their motion is exhibited at different levels, finally enabling the emergence of life and cognition⁹⁹. From the abstract to the concrete; from an empty space to a rich environment. And as nature complexifies, so does its weakness, its contingency, proliferate¹⁰⁰.

As we have seen, in ways similar to how «environments underdetermine *adaptedness* because they underdetermine the affordances they present to the organisms»¹⁰¹, so does the genus underdetermine the individual organism, or the abstract universal underdetermine its particulars. The individual organism has a unique and specific interaction with its environment and genus that cannot be predicted by on generic principles. Likewise, logical principles may capture general features that may approximate the target system, but the details are too complex and contingent to be fully anticipated.

Without pretending to have resolved these issues, I have tried to indicate that the notion of concrete universal, which brings together many of Hegel's central notions, might provide us with a way of understanding how affordances are intrinsic to the environment without relying on notions of abstract, Platonic, universals¹⁰². The concrete universal signifies the way that the concept, embodied by organisms, exists historically. The organism maintains the whole organism-environment system by maintaining itself *through* it. Neither can exist without the other nor are they reducible to each other. Finally, the organism-environment system instantiates the unity of the subjective and objective dimension, what Hegel calls *the*

⁹⁹ Kaufmann and Yeomans, *Hegel's Theory of Space-Time (No, Not That Space-Time)*.

¹⁰⁰ «The more concrete the object of concern, the more viewpoints it presents for reflection, by means of which, meanwhile, the distinctive nature, i.e. its concept, is not exhausted» (Hegel, *Encyclopedia of the Philosophical Sciences in Basic Outline. Part I: Science of Logic*, p. 249).

¹⁰¹ Walsh, *Environment as Abstraction*, p. 76.

¹⁰² M. de Pinedo García, *Ecological Psychology and Enactivism: A Normative Way Out From Ontological Dilemmas*, «Frontiers in Psychology», XI, 2020, pp. 1-10.

idea, but only a fragmented and incomplete manner since nature remains an unresolved contradiction. For this reason, spirit *is* its own process of development, «it is in its very essence [...] *history*»¹⁰³. In ways similar to current trends, then, Hegel understand the ongoing relationship and unsolved tension with the environment as fundamental to the emergence of – and (dis)continuity between – life and cognition.

¹⁰³ Illetterati, *The Action of The Absolute Idea*, p. 130.