Introduction
Naturalizing Phenomenology: What Could It Mean Today?

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The nature of consciousness has puzzled philosophers for centuries. In the meantime, through immense historical and cultural metamorphoses, the model of scientific objectivity proposed by the natural sciences has established itself as a universal standard of reference for determining any explanation broadly considered 'scientific.' The enigma of consciousness thus presents itself to us today with the question: can subjective experience be explained in terms of objectivity compatible with the methods and explanatory possibilities proper to the natural sciences? Two decades ago, these questions were at the heart of "Naturalizing Phenomenology" [*NPh*], the classical volume edited by J. Petitot, F. Varela, B. Pachoud, and J. Roy (1999). As heterogeneous as the perspectives involved in this pioneering collective work were, they all proceeded from the assumption that the question of the possible objective explanation of subjective experience had to be reframed as a question about the possibility of defining, at least at a basic level, a univocal meaning for a concrete philosophical and scientific research method: naturalized phenomenology. Following this choice to find the litmus test of the age-old question of consciousness in the definite meaning of "naturalized phenomenology", the book attempted to establish a dialogue between Husserlian phenomenology and the cognitive sciences. Though springing from radically different traditions, both fields still grapple with the mysteries of mental life. Then, the bet was that phenomenological analyses of mental phenomena could be profitably related to scientific investigations of cognition, thus contributing to reciprocal progress in our

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understanding of mental phenomena. Since then, researchers have made considerable strides in mapping the borderlands between first-person phenomenology and third-person science. Careful phenomenological analysis has uncovered structure in the flow of experience, while neuroscience has begun tracing neural correlates of consciousness. However, pivotal questions remain unresolved. Hence, the bet is still open.

The original vision behind *Nph* already questioned the problematic relationship between consciousness and nature, with all its associated epistemological and ontological aspects. Today, it continues to spur reflection and compel us to confront the broader challenge of understanding minds both as we live them from within and as brains that generate experience. In fact, how to integrate these perspectives remains one of the most pressing matters of our culture, with implications ranging from psychiatry to biology, from anthropology to logic.

Nph assembled contributions from various meetings held in Paris around the Phenomenology and Cognition Research Group. While united by the broad notion of fostering dialogue between phenomenology and the sciences, particularly the mind sciences, the essays sometimes presented conflicting views. Significantly, even the collection's editors highlighted in the introduction that they did not share an identical perspective on the prospect and meaning of naturalizing phenomenology. Hence, a brief reexamination of the ambiguous meanings of the terms involved can be an apt starting point for grasping the remaining open questions.

Husserl's transcendental phenomenology was initially developed in explicit opposition to *naturalism*. The Editors of *NPh* stress this by quoting a passage from *Philosophie als strenge Wissenschaft* at the beginning of their introduction: "we", says Husserl, "are fighting against the naturalization of consciousness." The Editors claim that this limit must be overcome by "cutting Husserlian phenomenology from its antinaturalist roots, that is to say, naturalizing it." (*NPh*:43). Now, this process should be twofold. It should involve a naturalization of consciousness and a phenomenologization of nature.

Suppose the 'consciousness' at play in the former expression is indeed consciousness in the Husserlian sense. In that case, its naturalization is problematic first and foremost because classical Husserlian phenomenology is a transcendental endeavor aimed at showing the connection between the 'what-it's-likeness' of experience and the sense-constitution of objects and meanings that appear through it. Any phenomenological investigation should then ultimately aim at revealing the conditions of possibility of experience – which are also *the conditions*

of possibility of nature, understood as the correlate of the constituting functions of transcendental consciousness.

This brings us to the possibility of 'phenomenologizing nature'. What is nature? By 'nature', one could refer to the object of the natural sciences within the modern scientific worldview and thus to a specific conception of nature as an essentially quantitative domain, devoid of qualitative properties from the point of view of scientific investigation. However, a central tenet of Husserl's phenomenology is indeed the critique of this conception of nature (e.g., see the discussion of Galileo's mathematization of nature in *Krisis*). Following Husserl's critique, one could propose to 'enlarge' our conception of nature to make room for sensory qualities conceived as objective properties of 'external' things. This is the case of Petitot's and B. Smith's proposals for *phenophysics* or *qualitative ontology*. However, this proposal is far from being uncontroversial for an orthodox phenomenologist.

This issue of *Humana.Mente* was conceived with the intent of taking stock of the numerous tensions generated by this twofold ambiguity. These tensions have the great advantage, from the perspective of philosophers but not only them, of arising from specific problematic issues while also involving classic and significant debates, for example linking the enigma of consciousness to major conceptual battlegrounds like realism or the relationship between science and philosophy.

However, as the project developed, through extensive stimulating discussions among editors, authors, reviewers, and many other friends, the proposal presented in this issue grew richer with an operative suggestion. At a certain point, it became evident that if we genuinely wanted to continue pursuing the open wager on naturalizing phenomenology, it was not advisable to expect a single, ultimate, definitive verdict – a single definitive idea of naturalized phenomenology which, precisely as such, remains always yet to come, and which, in its constant openness, could only be presented through a survey of the current state of the art. It proved more satisfying instead to play out the bet in operative terms, on specific case studies, taking care, of course, to provide the theoretical framework and to identify and discuss the still open, problematic conceptual points under debate.

Initially, we invited contributors to reexamine the topic from diverse angles. Central questions included:

- What does naturalizing consciousness entail? Might certain aspects of experience – values, norms, logic, will – resist naturalization?

- Can naturalized phenomenology be pursued within a transcendental framework? Does this entail just reorienting phenomenology or abandoning fundamental tenets? If consciousness has a transcendental, normative role regarding nature, can it be part of nature?
- What conception of nature is assumed in naturalizing phenomenological experience and transcendental methods? What is the relation between natural science and philosophical/transcendental studies of consciousness?
- What is naturalization's historical role and position within transcendental philosophy?
- Do 4E cognition (embodied, enactive, embedded, extended) and enactivism (autopoietic, sensorimotor, radical) bring us closer to naturalized phenomenology? What about Varela's neurophenomenology as a "methodological remedy" for the hard problem?

According to a philosophical cliché, let us admit that these questions have not found definitive answers here. However, they have been reformulated in operational terms. The questions about resistance to naturalization have been confronted with diverse models of nature capable of encompassing complex, non-dichotomous structures; the questions about transcendental knowledge have been verified in limit cases like sleep and mental pathology; the questions about history have been translated into critical reflections on ancient or recent debates or unforeseen conceptual conciliations; the proposals of enactivism and related views have been reframed in terms of a 'sober' or 'moderate' naturalization, meaning one that is critical and self-critical.

This critical naturalism, whose important implications the reader will have the chance to explore through the essays collected here, now appears to us as correlating to a notion of phenomenology centered on a form of epistemological operativity. Where a critical naturalism attitude seems to generally define today the meaning of 'nature' produced by the work of naturalized epistemology (with all its ontological, ethical, and scientific-cultural baggage), the corresponding sense of phenomenological 'consciousness' called into play appears to us to be structurally engaged in the scientific work of giving rational justification, of explaining the phenomena given to it. Like the many branches of the concept of nature, this explanation is understood to be potentially developable, with equal entitlement, in many directions, and above all, simultaneously in the two macro-directions of transcendental explication and causal explanation.

Thus, with the contribution of many other scholars, we have tried to translate the bet posed by *Nph* into a form that would tolerate the pluralistic and open-textured character of the concepts involved without the specific, characteristic, and concrete usefulness of the project of naturalizing phenomenology being lost.

These developments of the initial project have entailed the need to conceive a specific articulation into sections for the presented essays. Apart from this introduction, this issue of *Humana.Mente* contains three sections, each comprising four contributions:

- Frameworks. This section focuses on naturalized phenomenology as a conceptual framework and reference point for specific operational problems. It includes contributions related to the ethical, ontological, and methodological meanings of the project to naturalize phenomenology.
- Case Studies. This section comprises some case studies for concrete problems that can be approached in terms of naturalized phenomenology. It includes contributions about logical, psychobiological, and psychopathological themes, reflecting phenomenology's longstanding connections with logic and psychology.
- Debates. The concluding section revisits some classic yet ongoing debates regarding the most problematic and productive conceptual aspects implicit in the actual connection of theoretical frameworks and concrete problems within the scope of naturalized phenomenology. It includes discussions on psychologism and complexity, nature's mathematical and quantum aspects, evolutionism, and sensory perception.

Of course, this partition is merely a suggested reading guide on our part, since aspects of theory, application, and philosophical debate are intertwined across all the contributions, given that the overarching theme of the meaning of 'naturalizing phenomenology' inevitably spans all three approaches. It also bears repeating that this selection of texts does not claim to be comprehensive but instead aims to stimulate and reopen a research perspective, demonstrating its productivity in a concrete and operative sense. We will have achieved our intended purpose if the reader will feel compelled to object to or expand upon the perspectives proposed here. Of course, we will only have achieved this thanks to the excellent contributions, which we summarize below in the order they appear in the table of contents.

Andrea Zhok's paper focuses on the phenomenological critique of ontological naturalism and, specifically, scientific naturalism: the view that attributes ontological reality only to what is admitted as existent by the natural sciences (physics above all). The author stresses the problematic role that the rise of the scientific worldview in modernity has had regarding the ethical dimension. Quantification (reduction to quantifiable entities) and reification (reduction to "inert" entities) have led to the exclusion from the ontology of subjective acts and the entire *telic* sphere (i.e., the sphere of motivated phenomena), thus giving rise to a view of the world as devoid of any value and meaning. On the contrary, the phenomenological critique of naturalism – which is "the most powerful theoretical device for the invalidation of ethics that the history of thought has ever set forth" – opens up the space for admitting the reality of motivations and meanings, together with the reality of mental causation (*versus* epiphenomenalism). Following this reasoning, Zhok proposes rethinking the concept of causation by drawing on the old notion of *formal cause*. According to the author, mental states are causal powers that "give shape to the matter-energy with which they interact". Zhok suggests that this view can be developed within an evolutionary framework that conceives the mind as emergent from matter.

Edoardo Fugali develops a framework for dialogue between Husserlian phenomenology and embodied cognitive sciences based on moderate naturalism. After recapitulating classical challenges relating Husserl's transcendental phenomenology to empirical investigation, Fugali explores psychological phenomenology's mediating role in enabling these exchanges. He argues phenomenology and cognitive sciences have autonomous methods but can influence each other through reciprocal evidentiary constraints. However, while transcendental phenomenology resists naturalization through its essential correlation to ideal structures of experience, psychological phenomenology allows exchange with empirical sciences by adopting a natural attitude and focusing on mental states. The argument culminates by discussing the lived body as the main bridge from transcendental to empirical, belonging to transcendental subjectivity yet empirically examinable. Overall, the paper provides means to critically evaluate thinkers like Varela, who risks conflating 'transcendental' and 'empirical' in embodied phenomenology, and to support moderate naturalization of phenomenology in the wake of scholars like De Caro and Gallagher.

Sebastian Vörös examines the prospect of naturalizing phenomenology within the framework of Varela's neurophenomenology. He argues that, notwithstanding Varela's reference to the concept of naturalization in his later work, this concept is at odds with the spirit of neurophenomenology and should be thus discarded. Vörös stresses how Varela proposed neurophenomenology as a methodological remedy to the hard problem of consciousness, aiming to pragmatically *dissolve* it instead of trying to solve it through an ontological doctrine. After stressing the fruitfulness of this method, Vörös highlights that Varela later had to rethink his pragmatic-quietist approach and introduced the idea of naturalizing phenomenology. However, Varela also clearly claimed that the naturalization of phenomenology has to go together with a "phenomenologization of nature". For Varela, naturalizing phenomenology cannot mean reducing consciousness to nature, especially because the concept of naturalism is strictly related to a specific conception of nature (based on mathematization and mechanization). Vörös then warns us against the uncritical use of the terms "naturalism" and "naturalization" while pointing towards a possible philosophical rethinking of nature that could be framed within Varela's neurophenomenology.

Klaus Gärtner tackles a crucial issue for any attempt at naturalizing phenomenology: the possibility of naturalizing the most basic form of consciousness, i.e., pre-reflective self-consciousness. Gärtner critically discusses the two main approaches to this problem: relational theories (including higher-order representational and self-representational theories) and non-relational theories. The author argues that all these theories face insurmountable difficulties: relational theories fall into an infinite regress, whereas non-relational theories do not lend themselves to naturalization. In contrast to these theories, Gärtner proposes an account of pre-reflective self-consciousness that conceives it as both being relational (functional) and non-relational (embodied).

Felice Masi's paper confronts the claim that logic defies naturalization due to the abstract formalism of concepts like negation by arguing that cognitive phenomenology can provide a naturalistic grounding for logic. The paper contends that the conscious experience of negated judgments has specific phenomenal (i.e., experiential) possession conditions. It shows how this qualitatively distinct experience correlates to the truth-functionality that defines negation. It thus sheds light on the concrete function of negation as preserving doxastic coherence – that is, as warranting the epistemic agent's logical self-preservation. More broadly, Masi's argument leverages the phenomenology of cognition to provide logic with an experiential foothold in nature while upholding the formal structure

that gives logic its inferential power. Phenomenological analysis can show logical concepts' experiential 'natural' roots while preserving their formal definitions and truth-functional role, but only as long as cognitive phenomena are not reducible to physical states. This intertwining of the meanings of logical concepts with the textures of consciousness opens a passage between logical constructs and the embodied mind, establishing cognitive phenomenology as a methodological tenet of a naturalized philosophy of logic.

In their paper, Celeste Vecino and Bernardo Ainbinder leverage the case study of sleep to test the viability of naturalizing phenomenology and probe its limits. The central thesis is that some sleep-related phenomena challenge standard phenomenology's exclusion of third-person approaches and their naturalistic implications. Vecino and Ainbinder examine Husserl's treatment of deep, dreamless sleep as an inaccessible limit case lacking intentional content or consciousness. They then incorporate Heidegger's ontological analysis to grant the organic body a form of constitutive operativity during sleep. This expansion of the domain of classical subjectivity demands ontological elucidation. This demand allows some room for methodological pluralism and, thus, for moderate naturalization. Overall, the attempt to fully capture the phenomenon of sleep showcases the insufficiency of pure first-personal transcendental phenomenology while still maintaining the ineliminable character of that perspective. More broadly, it shows the need for a phenomenological approach capable of incorporating empirical and transcendental tools.

In examining time dysperception in depression, Pedro Afonso Gouveia contends that while neuroscience provides causal explanations, understanding through phenomenological analysis reveals meaningful structural changes in temporal experience that causal accounts miss. Gouveia draws on investigations on the phenomenology of time experience to show how phenomenological methods can elucidate nuances of the depression experience. He then argues that naturalized phenomenology should retain an irreducible role in psychological and psychiatric therapy, as the sense of being understood through the elucidation of experiential changes supports the clinical relationship in a way causal explanations cannot. Overall, by emphasizing how the task of naturalized phenomenology can also be clinical – alleviating suffering through a promise of understanding – the essay reconnects the methodological issue of naturalized phenomenology to its ethical nucleus.

Federico Carlassara aims to show how fruitful the confrontation between transcendental phenomenology and the natural sciences can be, referring specifically to the case study of dementia. Endorsing Gallagher's idea of *mutual enlightenment* between the transcendental and the empirical, the author makes use of the phenomenological analysis of the structure of time-consciousness to understand, on one hand, the alterations of these structures that are induced by dementia and, on the other, what remains unchanged even in the more advanced stages of this illness. He then relates the various stages of the disease with modifications in consciousness structures and, specifically, the various levels of the self. Carlassara argues that even in the most advanced stages of dementia, the most basic level of selfhood (minimal, pre-reflective) and a basic form of bodily memory are preserved. The transcendental-phenomenological study of dementia thus sheds light on fundamental aspects of the disease, contributing to a better understanding of this condition that is also useful on a therapeutic level.

Naturalized epistemology is a translation of an excerpt from the second chapter of Alberto Peruzzi's pioneering book *Noema. Mente e logica attraverso Husserl* (1988). Revisiting the historical debate between phenomenology and psychologism through the lens of contemporary complexity theory, Peruzzi aims to establish a phenomenological epistemology that is naturalized yet eschews reductionism. He argues that our critical faculties emerged under evolutionary pressures, so their necessity stems from adaptive strategies. This is shown by incorporating arguments from psychology, anthropology, and ethology, as well as suggestions from thinkers like Piaget and Lorenz, towards the definition of an idea of genetic continuity between the natural and ideal. The paper testifies to the persistence and liveliness of some classical philosophical issues within the problematic framework of naturalized epistemology. Most importantly, however, it shows how some aspects of this framework can be conceptually fertile to this day, provided they can be effectively integrated into epistemological debates often stuck on outdated dichotomies.

The issue of naturalization implies a broader question about the relationship between phenomenology and science. In his paper, Tim Miechels tackles this general issue by examining the Husserl-Heidegger debate on the crisis of sciences. He shows how both saw a crisis but differed on its resolvability. For Husserl, Galileo's mathematization of nature severed science's ties with the ethical and existential questions proper of the lifeworld. Then, the task of a phenomenological study of the lifeworld is rerooting scientific truths in situational, existential truths. Contrastingly, Heidegger saw Galileo covering up existence's baselessness by mathematically ordering nature. Mathematical sciences are inherently concealing; what is

concealed is not a connection but rather a radical absence. This difference implies two different conceptions of naturalization. While both incompatible with physicalism or scientism, these two paths entail potential for fruitful engagement with natural sciences, provided that our understanding of nature is itself everchanging.

Alberto Giovanni Biuso tackles one of the most important problems in phenomenology – and philosophy in general – i.e., the problem of *time*. He does so by comparing Husserlian phenomenology and quantum physics, with special reference to the opposition idealism-realism. According to Biuso, the phenomenological analysis of time-consciousness overcomes the idealistic and subjectivist tendency of Husserl's philosophy. Regarding quantum mechanics, the author adopts a "processual" perspective (in continuity with the tradition of "process philosophy"), which contrasts those conceptions that deny the reality of time. In the end, the author proposes a "materic" conception of time, understood as the fabric of every reality, be it "subjective" (consciousness) or "objective" (world), showing how thinking about the reality of time is crucial to pursue the project of a "naturalized phenomenology".

Hayden Kee tackles the difficult issue of the relationship between consciousness and nature by carefully reconsidering Merleau-Ponty's *Nature and Logos* lectures. Here, the author finds a conception of the human being – hence the human mind – as a variant of animal embodiment and, therefore, as an evolutionary phenomenon emergent in nature. Kee then aims at furthering Merleau-Ponty's project of an *esthesiology*, i.e., a philosophical investigation of the senses, with special reference to the human eye. After careful consideration, the human eye turns out to be an organ for *seeing* and *being seen*, since it has developed specific features that make it a "window onto the soul". This clarification of the expressive dimension of the eye can be extended to other significant features of the human body (e.g., its furlessness). Kee then draws some important consequences for the project of "naturalizing phenomenology", proposing a form of "phenomenological naturalism" that avoids the abstraction of a philosophy of pure consciousness, thus accounting for the emergence of the human body, mind, and consciousness through a phenomenological rethinking of the ontology of nature.

In closing, we thank Silvano Zipoli Caiani and the *Humana.Mente* team for their support in bringing this journal issue to life. We are grateful to our invited contributors for sharing their expertise and to all who submitted papers. We hope these discussions will spark constructive scientific exchange that may blossom into collaborative relationships and even friendships, such as the one behind this journal issue.