



Naturalizing phenomenology – A philosophical imperative



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ABSTRACT

Phenomenology since Husserl has always had a problematic relationship with empirical science. In its early articulations, there was Husserl's rejection of 'the scientific attitude', Merleau-Ponty's distancing of the scientifically-objectified self, and Heidegger's critique of modern science. These suggest an antipathy to science and to its methods of explaining the natural world. Recent developments in neuroscience have opened new opportunities for an engagement between phenomenology and cognitive science and through this, a re-thinking of science and its hidden assumptions more generally. This is so partly because of the shortcomings of conventional mechanistically-conceived science in dealing with complex and dynamic phenomena such as climate change, brain plasticity, the behaviour of collectives, the dynamics of various microbiological processes, etc. But it is also due to recent phenomenological scholarship focussed on the 'embodied' phenomenology of Husserl's *Ideen II* and Merleau-Ponty's later ontology of nature which have helped to extend the insights of phenomenology beyond the narrowly 'human' to an understanding of nature (which includes the human) more generally. Thus re-contextualised, phenomenology is well placed to examine some of the assumptions that give rise to the reductionism and associated scientism which has characterised conventional science in its approach to the study of natural processes. In light of this, it might be suggested that the 'anti-science' of early articulations of phenomenology is more a hostility to the underlying assumptions of science as conventionally understood than to science itself – that it is scientism rather than science that is targeted.

In this paper, I aim to show how a phenomenological naturalism might be seen as a necessary step towards the development of a non-reductionist and non-scientistic approach to scientific inquiry. A key to this is a reconceptualization of nature as inclusive of meanings and of mind. It is a conception developed by Merleau-Ponty, especially in his later ontology of nature, and one that is shared by American pragmatist philosopher of science, C.S. Peirce (1839–1914). For both philosophers, meaning must be understood in terms of an ontology which is relational rather than atomistic, and dynamic or processual rather than static and substance-based. For Merleau-Ponty this is an experientially-derived ontology; for Peirce it is a more conceptually-based one. In this paper, I explore this connection between these two philosophers in two stages. The first is by reference to Peirce's theory of signs or semiotics. More specifically, I look at the application of this theory to the study of biological processes as developed in Peirce-inspired biosemiotics. In the light of this, I suggest that Merleau-Ponty's account of intentional relations in nature might be articulated as semiotic relations, and can serve as a philosophical basis for a non-reductive biological science. I then turn to questions relating to the ontology of nature. I explore Merleau-Ponty's experientially-based "ontology of flesh" and Peirce's distinctive form of naturalism to show affinities at this ontological level. These affinities consist in commitments to a reality that includes possibility, meaning, temporality, and final causation – that is, an ontology which is far more inclusive than that of conventional positivistic science. Peirce's broader scientific metaphysics enables us to extend Merleau-Ponty's phenomenological naturalism beyond the biological to the physical sciences. Whilst Merleau-Ponty's ontology of nature provides the experiential basis necessary for a critique of scientism, Peirce establishes the relevance of that ontology for a re-conceived empirical science.

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1. Introduction

Naturalism is commonly taken to mean "integrated into an explanatory framework where every acceptable property is made

continuous with the properties admitted by the natural sciences." (Petitot et al., 1999, pp. 1–2). This characterization raises more questions than it answers: from a scientific point of view, there is the question of what we mean by "science" and "nature" especially

in the light of Kauffman and Gare's discussion of the emergence of endoscience (*this issue*, Prologue); from a philosophical point of view there is the question of linking seemingly contradictory domains of science, characterized by objectivity and third-person perspective, with phenomenology, a school of philosophy normally associated with subjectivity and a first-person perspective. The two sets of questions are inter-linked, as are their resolution. In this paper I hope to illuminate both points of view showing how a resolution of the apparent contradiction in combining “phenomenology” with “naturalism” can be resolved by, and can contribute to, a new understanding of what is meant by science.

Within the scientific community, there is growing recognition of the shortcomings of conventional mechanistically-conceived science in dealing with complex, emergent, and dynamic phenomena in areas as diverse as climate science, brain plasticity, collective behaviour and quantum phenomena. Evolutionary theory and genetics have also undergone a revolution in thought with consequences far beyond biological science. Mainstream empirical science, characterized by Kauffman and Gare as “exoscience”, is the offspring of Descartes and Newton, and involves commitments to the idea of a deterministic universe; to conventional notions of scientific realism as “mind-independent”; to the universality and exclusivity of mechanistic causation; to an overly restricted ontology which excludes the “possible.” Within this framework, it is (mechanistic) physics (the study of “dead matter”) which is privileged and which becomes the source of scientism, defined as “the preclusion of other ways of thinking by the representational thinking of the sciences, and the marginalisation, displacement, and devaluation of other methodologies and bodies of knowledge by the scientific standard of objectivity that has become epistemologically dominant in modernity.” (Glazebrook, 2012, p.18).

Scientism is thus an impediment to the development of endoscience. However, this does not mean that exoscience is intrinsically scientific. Scientism results when exoscience is taken to be definitive of science or as the only perspective worthy of the label “scientific.”

Reductionism masks the scientism in mainstream scientific thinking. The tensions within contemporary science discussed by Kauffman and Gare arise from reductionism inherent in Cartesian and Newtonian conceptions of our relationship with nature. Within the Cartesian tradition, this relationship is explained reductively by reference to a dualism of *res cogitans* and *res extensa*; for the Newtonian tradition it involves reducing all causation to mechanical or efficient causation.¹ In the biological sciences, reductionist explanations of behaviour in terms of stimulus-response mechanisms result in the exclusion of an important dimension relating to context, perspective, and meaning in the explanation of the experience of living things. The problems of reductionist explanations are traceable to conflicts at the ontological level – that is to say, the level at which assumptions are made concerning what is real and what things exist. This is where phenomenology enters the picture. As we will see, phenomenological naturalism makes explicit the ontological assumptions of accepted scientific models and frameworks, and in doing so, opens up the space for the possibility of a critique of scientism. It also provides an account of the relationship between the biological and the physical sciences at this ontological level in a way that removes the hegemony of one over the other. For these reasons it can be suggested that the project of developing a phenomenological naturalism is not just an adjunct or a

complement to contemporary scientific understanding, but a philosophical imperative.

Kauffman and Gare speak of a convergence between the endosciences and phenomenology because of a shared commitment to anti-Cartesianism. This involves a rejection of the ‘spectator’ view of knowledge (Rosenthal and Bourgeois, 1980, pp.21–22) – the idea that the observer or knowing subject can stand outside the world being investigated. Instead, observer and observed must be included within the domain of scientific inquiry. A key issue here is recognition of the interdependence of the perceiver/perceived or knower and the known at a basic ontological level, and the paradoxes that arise when this relation is ruptured. The problem here is not just the dualism of mind/body or mental/physical. It is also the problem of an atomistic ontology² expressed in a commitment to the idea that subject and object are, at a fundamental level, discrete and determinate entities, locatable in space and time, which exist separately as *partes extra partes* and only come into relation by way of externally imposed relations, such as mechanical causation. It is closely linked with the positivistic view that reality consists *only* of such entities. In biology, the shortcomings of this mechanistic view are implicitly recognized by those scientists who identify with and contribute to the interdisciplinary study known as “biosemiotics.” Biosemiotics, which draws on the philosophy of American scholar, C.S. Peirce (1839–1914), is seen to provide a non-reductionist way of representing relations in nature that are studied in biology and the life sciences. Phenomenology, especially as exemplified in Merleau-Ponty's work, is an important counterpart to this, for it shows the shortcomings of an atomistic ontology and demonstrates the importance of an alternative, experientially-derived *relational* ontology in the development of scientific concepts.

Atomism is linked to a substance-based metaphysics, vestiges of which persist in mainstream philosophies of science, particularly in the notion of “scientific realism” which is thought to be a main tenet of a naturalistic philosophy. As we will see in section 4 below, Peirce's version of naturalism, unlike the more positivistic forms that we are used to, does not exclude metaphysics. But this enriched domain for scientific inquiry requires a shift from a metaphysics of substance to one of processes, in which Peirce's notion of synechism or continuity is important. That shift is the truly radical part of Peirce's philosophy of science which has a special role to play in developing a phenomenological naturalism which can reveal the shortcomings of mainstream approaches.

In this paper, both the phenomenologist, Merleau-Ponty, and philosopher of science, C.S. Peirce, have an important role to play – Merleau-Ponty is needed to account for the experiential basis of our ontological commitments; Peirce is needed to show their relevance to scientific practice. The word “phenomenological” in the context of debates about phenomenological naturalism is usually taken to refer to the Husserlian-derived European tradition, the main protagonists being Husserl, Heidegger, and Merleau-Ponty. This is the usage I adopt in this paper. However, for reasons to be explained below, it is Merleau-Ponty's phenomenology which is the main focus.

Phenomenology since Husserl has had a problematic relationship with empirical science. It may come as a surprise that phenomenology would want to be re-cast as naturalistic, given Husserl's rejection of ‘the scientific attitude’, Merleau-Ponty's distancing of

¹ This is not to deny that there are differences between Descartes and Newton in respect of their scientific views. The similarities are, rather, those that they share as members of the intellectual tradition described by Kauffman and Gare, *this issue*, Prologue.

² My use of the word, “atomism” is broader than that normally associated with Descartes and is intended to encompass writers including Hobbes, Locke and more recent positivist philosophers. It is a sense which emphasizes an ontology of *separate* entities as contrasted with an ontology of interdependence. For this reason Descartes, whose anti-atomism consisted in his opposition to the existence of atoms as hard little bits of matter, might still be included in this tradition under the broader characterisation, by virtue of his holding that body is divisible, infinitely.

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