

Phenomenology and the project of naturalization

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Abstract. In recent years, more and more people have started talking about the necessity of reconciling phenomenology with the project of naturalization. Is it possible to bridge the gap between phenomenological analyses and naturalistic models of consciousness? Is it possible to naturalize phenomenology? Given the transcendental philosophically motivated anti-naturalism found in many phenomenologists such a naturalization proposal might seem doomed from the very start, but in this paper I will examine and evaluate some possible alternatives.

Key words: anti-naturalism, consciousness, naturalization, phenomenology, transcendental

In recent years, more and more people have started talking about the necessity of reconciling phenomenology with the project of naturalization. Is it possible to bridge the gap between phenomenological analyses and naturalistic models of consciousness? Is it possible to naturalize phenomenology?

In their long introduction to the book *Naturalizing Phenomenology* published by Stanford University Press in 1999, the four co-editors, Jean Petitot, Francisco Varela, Bernard Pachoud, and Jean-Michel Roy set out to delineate what might be seen as a kind of manifesto for this new approach. An examination of this introduction is consequently a good starting point for a discussion of the issue.

Naturalizing phenomenology

The editors start out by saying that cognitive science has been heralded as the first truly scientific theory of consciousness. But although one cannot deny the many results obtained by cognitive science, it is also currently characterized by a glaring omission. Cognitive science has persistently ignored what might be called the phenomenological dimension, basically arguing that this dimension is either irrelevant or inherently unreliable. But by disregarding this dimension, by disregarding subjectivity and the first-person perspective, cognitive science is also disregarding a crucial aspect of the mental phenomena. Currently, cognitive science is, as the editors put it, “a theory of the mind without being a theory of consciousness. It is a theory of what goes on in our minds when they are cognizing without being a theory of what it is like to be a cognizing mind” (Roy et al. 1999, 7).¹ Cognitive science certainly represents a big improvement

compared with classical behaviorism. In contrast to behaviorism, cognitive science has not held back from trying to explain what is happening inside the black box. But as the editors write, to explain what is happening *inside* the black box is not to explain what is happening *for* the black box (12). And this is exactly what is needed.²

One way to characterize the present situation is by saying that cognitive science faces what Joseph Levine has called “the explanatory gap”. Briefly put, the problem is that we seem to be unable to bridge the gap between the neurophysiological processes that we can describe and analyze scientifically from a third-person perspective, and the experiences that we are all familiar with from a first-person perspective. There seems to be an unbridgeable gap between the neurophysiological level and the experiential level. This situation is theoretically unsatisfactory and has to be remedied, but what options do we have? The surprising suggestion put forth by the four editors is the following: Given its impressive past achievements in describing and analyzing the dimension of *phenomenality* and the surprising frequency with which its results are found to be consonant with the results obtained by cognitive science, the most likely candidate for the role of closing the explanatory gap is *Husserlian phenomenology*. Not only can it provide us with a better understanding of the relation between the cognitive processes and their phenomenal manifestation, but also given some of the recent developments in cognitive science, it is simply counterproductive to ignore the refined accounts of consciousness found in phenomenology. The fact that subjectivity was always of central concern to Husserl, and that he devoted much time to a close scrutiny of the first-person perspective, the structures of experience, time-consciousness, body-awareness, self-awareness, intentionality, and so forth, makes him into an obvious interlocutor.

However, if Husserlian phenomenology is to play this role, it must first, according to the proposal, be “naturalized,” that is—to use the definition the editors themselves provide—it has to be integrated into an explanatory framework where every acceptable property is made continuous with the properties admitted by natural science (1–2).³ In short, we have to avoid any kind of ontological dualism.

This call for phenomenology is not unique. On the contrary, during the past 10 years, there has been an amazing amount of voices calling for phenomenology to do its part of the job. A prominent example is Owen Flanagan who in his book *Consciousness Reconsidered* from 1992 argues for what he calls the *natural method*: If we wish to undertake a serious investigation of consciousness, we cannot make do with neuroscientific or psychological (that is, functional) analyses alone, we also need to take the phenomenological aspect seriously (Flanagan 1992, 11): All three disciplines must be understood as mutually constraining approaches to the cognitive phenomena. But apart

from Flanagan, one might also mention John Searle, David Chalmers, Galen Strawson, Bernard Baars, and many others as well.

What is particular about the current proposal is that the four editors are prepared to go much further than the thinkers just mentioned. First of all, they are not satisfied with merely referring to phenomenology in an untechnical sense—which is how the term is most frequently being used in the contemporary Anglo-American debate—namely as some kind of introspective account of what it is like to undergo certain experience. (This is also how Flanagan uses the term). Rather, they are specifically referring to the continental philosophical tradition known as phenomenology. Secondly, they explicitly argue that the goal is to take Husserlian phenomenology seriously again—something that for instance clearly distinguishes this proposal from the approach chosen by Dreyfus and his group. And thirdly, they claim that phenomenology itself needs to be naturalized if the explanatory gap is to be bridged. This will on the one hand, provide us with an adequate theory of mind, i.e. a theory that doesn't ignore the subjective dimension, and on the other hand, we thereby also avoid any residue of mysterianism (cf. Flanagan's criticism of Nagel and McGinn in *Consciousness Reconsidered*), since the aim is exactly to give a *natural* explanation of consciousness (8).

The opinions might be divided about this proposal. Some might reject it outright, others might be much more exhilarated about it. But I think it is fair to say that even people who are disposed in a friendly way toward it, and I am here in particular thinking about phenomenologists who would cherish the idea of being indispensable to cognitive science, even they will know that there are some rather formidable obstacles lying ahead.

It is one thing to counter the objection that the phenomenological dimension is beyond any scientific account, with the retort that it is altogether possible to come up with systematic descriptions of consciousness which can be intersubjectively validated. But what about the objection that the phenomenological dimension is beyond any naturalized science? What about the fact that Husserl himself is known as a staunch anti-naturalist? In the long essay *Philosophie als strenge Wissenschaft* from 1911, for instance, Husserl calls naturalism a fundamentally flawed philosophy (Husserl 1987, 41) and argues that it has typically had two different aims: the naturalization of ideality and normativity, and the naturalization of consciousness (Husserl 1987, 9). In his view, however, both attempts fail and both are misguided. The naturalistic reduction or elimination of ideality leads to skepticism (Husserl 1987, 7, 1984b, 47). This, in fact, was one of Husserl's main arguments in his famous fight against psychologism in the *Logical Investigations*. As for Husserl's criticism of the attempt to naturalize consciousness, I will return to that in a moment, but let me for now just mention that he explicitly contrasts his own phenomenology

of consciousness with a natural scientific account of consciousness (Husserl 1987, 17). Both disciplines investigate consciousness, but they do so in utterly different manners. And to suggest that the phenomenological account could be absorbed, or reduced, or replaced by a naturalistic account is for Husserl sheer nonsense.

Our four editors are not unaware of this, of course, and they confront it head on (38). But the way they do so is somewhat surprising. They mention in passing that Husserl had a number of philosophical (epistemological and ontological) motives for his anti-naturalism, but they only focus on what they call his scientific motives (39). To start with, they point out that Husserl distinguishes two types of eidetic sciences, an axiomatic type and a descriptive type. The descriptive type takes hold of non-exact, vague, or morphological essences, whereas the axiomatic type takes hand of the exact essences. Now, when it comes to subjectivity and to the investigation of the experiential structures, Husserl is rather emphatic about the fact that lived experiences belong to the domain of vague essences. And according to the editors, Husserl's anti-naturalism is closely linked to his rejection of the possibility of developing a mathematical description or reconstruction of the vague morphological essences. As they write: "It is our general contention indeed. . . that phenomenological descriptions of any kind can only be naturalized, in the sense of being integrated into the general framework of natural sciences, if they can be mathematized" (42). But despite his own background in mathematics, Husserl insists that mathematics is only of limited usefulness for phenomenology. As he writes in the very beginning of *Ideas I*: "One cannot define in philosophy as in mathematics; any imitation of mathematical procedure in this respect is not only unfruitful but wrong, and has most injurious consequences" (Husserl 1976 [1983, xxiii]). According to our four editors, however, the opposition that Husserl introduces between mathematics and phenomenology is "the result of having mistaken certain contingent limitations of the mathematical and material sciences of his time for absolute ones. In our opinion, it is indeed arguable that scientific progress has made Husserl's position on this point largely obsolete and that this *factum rationis* puts into question the properly scientific foundations of his anti-naturalism" (42–43). Or to put it differently, most of Husserl's scientific reasons for opposing naturalism have been invalidated by the progress of science (54). In fact, the editors claim that the vague morphological essences (including those pertaining to the experiential dimension) are amenable to a mathematical account provided one makes use of *morphodynamical* models. In other words, a genuine mathematical description of experiential consciousness is possible, and as a consequence one of the big impediments to the naturalization of phenomenology has been removed (55–56). The force of mathematical formalism is exactly that it is valid regardless of whether we are moving on the neurobiological or the phenomenological level (68, 51). The moment we

are in possession of a mathematical reconstruction of the phenomenological descriptions, the only remaining problem is to articulate those reconstructions with the tools of the relevant lower-level natural sciences, in particular the tools of neurobiology (48, 63).

The philosophically motivated anti-naturalism

This line of argumentation strikes me as highly problematic. In my view, it is a serious misunderstanding to suggest that Husserl's opposition to naturalism is mainly based on his so-called scientific motives, i.e. on his rejection of the attempt to mathematically formalize the structures of experience. Husserl's opposition to naturalism is not primarily based on what he takes to be the morphological structures of experience. Rather, it is mainly based on a number of philosophical reasons, or to be more exact, on a number of transcendental philosophical reasons, which are more or less ignored by the editors. I am here mainly thinking of Husserl's rejection of objectivism and of his very idea of a transcendental subjectivity.⁴

It would, of course, be something of a slight exaggeration to claim that the notion of transcendental subjectivity is universally accepted in contemporary philosophy, but in my view much of the criticism is based on something that approaches a complete misunderstanding of the term. Often transcendental subjectivity is taken to be some kind of other-worldly, ghostly, homunculus. Confronted with such ignorance, it is crucial to demythologize the notion.

The empirical subject and the transcendental subject are not two different subjects, but rather two different ways of conceiving one and the same subject. It is a difference between being aware of oneself as a causally determined known object, as a part of the empirical world, and being aware of oneself as a knowing subject, as—to paraphrase Wittgenstein—the limit of the world. In short, it is the difference between being aware of oneself as an object in the world, and being aware of oneself as a subject for the world. As such it is not a notion that is completely foreign to contemporary analytical philosophy. As Thomas Nagel acknowledges in a footnote in *The View from Nowhere* his own reflections on the first-person perspective (what he, somewhat paradoxically, calls the “objective self”) has a good deal in common with Husserl's discussion of the transcendental ego (Nagel 1986, 62).

Part of Husserl's ambition is to provide an adequate phenomenological description of consciousness. He is not concerned with finding room for consciousness within an already well established materialistic or naturalistic framework. In fact, the very attempt to do the latter, thereby assuming that consciousness is merely yet another object in the world, might very well prevent one from disclosing let alone clarifying some of the most interesting aspects of consciousness, including the true epistemic and ontological significance of

the first-person perspective. For Husserl, the problem of consciousness should not be addressed on the background of an unquestioned objectivism, but in connection with overarching transcendental considerations. Frequently, the assumption has been that a better understanding of the physical world will allow us to understand consciousness better and rarely, that a better understanding of consciousness might allow for a better understanding of what it means for something to be real. However, one of the reasons why the theory of intentionality has often assumed a central position in phenomenological thinking is exactly because a study of the world-directedness of consciousness has been claimed to provide us with insights into not only the structure of subjectivity, but also into the nature of objectivity. That something like a conscious appropriation of the world is possible does not merely tell us something about consciousness, but also about the world. But of course, this way of discussing consciousness, as the constitutive dimension, as the place in which the world can reveal and articulate itself, is quite different from any attempt to treat it naturalistically as merely yet another (psychical or physical) object in the world. To rephrase: Phenomenology is not concerned with empirical consciousness, but—to use the traditional term—with transcendental subjectivity. Thus, what needs to be emphasized is that phenomenology aims at disclosing a new, *non-psychological* dimension of consciousness. As Husserl writes in the early lecture course *Einleitung in die Logik und Erkenntnistheorie* from 1906–7: “If consciousness ceases to be a human or some other empirical consciousness, then the word loses all psychological meaning, and ultimately one is led back to something absolute that is neither physical nor psychical being in a natural scientific sense. However, in the phenomenological perspective this is the case throughout the field of givenness. It is precisely the apparently so obvious thought, that everything given is either physical or psychical that must be abandoned” (Husserl 1984b, 242).

Phenomenology has affinities with psychology in so far as both disciplines are interested in consciousness. But as Husserl also points out, although the distinction between phenomenology on the one hand and psychology and natural science on the other can be difficult to draw, and might at first even appear as an unnecessarily subtle distinction, we are in fact confronted with an absolute crucial nuance that is fundamental to the very possibility of doing philosophy (Husserl 1984b, 211).

Husserl takes psychology to be an empirical science about the *nature* of the psyche, and therefore to be a science about psychical life understood as a real occurrent entity in the natural world (Husserl 1987, 75). In contrast, phenomenology is not empirical, but eidetic and *a priori*. And even more importantly, phenomenology is not interested in consciousness as a natural occurrence. Phenomenology seeks to describe the experiential structures in their phenomenal purity and does not psychologize them, that is, it does not

objectify and naturalize them (Husserl 1987, 117). Although phenomenology and psychology differ (and to suggest that phenomenology is in reality merely a kind of descriptive psychology is a momentous error) this does not make them unrelated. Not surprisingly, Husserl characterizes phenomenology (a phenomenology not misled by naturalistic prejudices, as he adds) as a foundation and presupposition for a truly scientific psychology (Husserl 1984b, 383–384; 1987, 39). Every phenomenological analysis of conscious life is of pertinence to psychology, and can through a change of attitude be transformed into a psychological insight.

The problem at hand cannot only be phrased in terms of a distinction between empirical subjectivity and transcendental subjectivity, but also in terms of the contrast between positive science and (transcendental) philosophy. A traditional way of viewing this contrast has been by saying that the positive sciences are so absorbed in their investigation of the natural (or social/cultural) world that they do not pause to reflect upon their own presuppositions and conditions of possibility. For Husserl, natural science is (philosophically) naive. Its subject matter, nature, is simply taken for granted. Reality is assumed to be out there, waiting to be discovered and investigated. And the aim of natural science is to acquire a strict and objectively valid knowledge about this given realm. But this attitude must be contrasted with the properly philosophical attitude, which critically questions the very foundation of experience and scientific thought (Husserl 1987, 13–14). Philosophy is a discipline which doesn't simply contribute to or augment the scope of our positive knowledge, but which instead investigates the basis of this knowledge and asks how it is possible. Positivism has denied the existence of a particular philosophical method, and has claimed that philosophy should employ the same method that all strict sciences are using, the natural scientific method. But for Husserl this line of reasoning merely displays that one has failed to understand what philosophy is all about. Philosophy has its own aims and methodological requirements; requirements that for Husserl are epitomized in his notion of *phenomenological reduction* (Husserl 1984b, 238–239). For Husserl, the *reduction* is meant to make us maintain the radical difference between philosophical reflection and all other modes of thought. As he writes in 1907: “Thus, the ‘phenomenological reduction’ is simply the requirement always to abide by the sense of the proper investigation, and not to confuse epistemology with a natural scientific (objectivistic) investigation” (Husserl 1984b, 410). Every positive science rests upon a field of givenness or evidence that is presupposed but not investigated by the sciences themselves. In order to make this dimension accessible, a new type of inquiry is called for, a type of inquiry which “precedes all natural knowledge and science and points in a quite different direction than natural science” (Husserl 1984b, 176). To thematize the objects in terms of their givenness, validity, and intelligibility calls for a

reflective stance quite unlike the one needed in the positive sciences. This, of course, is one reason why the phenomenological attitude has frequently been described as an unnatural direction of thought (cf. Husserl 1984a, 14). But to describe phenomenology as unnatural is of course also to deny any straightforward continuity between philosophy and natural science.

Given this outlook, it has been customary to consider philosophy as an autonomous discipline whose transcendental investigation of the condition of possibility for knowledge and experience takes place in a sphere which is separate from that of the sciences. But in this case, the very proposal to naturalize phenomenology must strike one as being fundamentally misguided. In a recent article—which actually defends the project of naturalization—Murray has nicely captured this traditional critical attitude:

[P]henomenological descriptions and neurobiological explanations can not be viewed as a set of mutually enriching methodological options which, together, will allow us to build up a picture of cognition, aspect by aspect, as it were, because the two kinds of accounts have an entirely different status. For in seeking to lay bare the fundamental structures of experience, phenomenology is also seeking to establish the foundations of any possible knowledge. Consequently, phenomenological accounts cannot simply be conjoined to neurobiological ones, because the ultimate purpose of the former is to ascertain the validity of the latter. In other words, to suppose that naturalising phenomenology is simply a matter of overcoming some traditional ontological divide is to fail to see that the difference between phenomenology and neurobiology is not just a difference with respect to the objects of their investigations, but a fundamental difference in their theoretical orientation – a difference which is taken to be typical of philosophical and scientific investigations in general. For while the neuroscientist allegedly takes for granted the possibility of understanding the world, the philosopher believes there is a need for some kind of preliminary investigation into how such an understanding might arise. Consequently, a phenomenologist who embraced naturalisation might be seen as having, in effect, ceased to be a philosopher. (Murray 2002, 30–31).

Where does this leave us? Is the entire naturalization proposal doomed from the very start due to its misunderstanding of what phenomenology is all about? It might look that way, but in the rest of my paper I will briefly sketch some possible ways out.

Phenomenological psychology and transcendental phenomenology

Let me first return to the relationship between phenomenology and psychology. It is well known that Husserl in the first edition of the *Logical Investigations* designated phenomenology as a descriptive psychology (Husserl 1984a, 24). This was a characterization that Husserl was to regret and reject already in 1903 (Husserl 1979, 206–208), and with good reasons. Not only did this original designation fail to capture what was actually going on in the *Logical Investigation*, but it also obscured the fact that phenomenology aims at disclosing a new, non-psychological dimension of consciousness.⁵ Nevertheless,

this initial blunder clearly illustrates that the distinction between phenomenology and psychology can at times be hard to draw, and it is no coincidence that their relationship remained of interest to Husserl until the very end.

What is of particular relevance in this context is that Husserl occasionally distinguishes two very different phenomenological approaches to consciousness. On the one hand, we have *transcendental phenomenology*, and on the other, we have what he calls *phenomenological psychology*. What is the difference between these two approaches? Both of them deal with consciousness, but they do so with quite different agendas in mind. For Husserl, the task of phenomenological psychology is to investigate intentional consciousness in a non-reductive manner, that is, in a manner that respects its peculiarity and distinctive features. Phenomenological psychology is consequently a form of descriptive, eidetic, and intentional psychology which takes the first-person perspective seriously, but which—in contrast to transcendental phenomenology, that is, the true philosophical phenomenology—remains within the natural attitude. The difference between the two is consequently that phenomenological psychology might be described as a local regional-ontological investigation, which investigates consciousness for its own sake. In contrast, transcendental phenomenology is a much more ambitious global enterprise. It is interested in the constitutive dimension of subjectivity, that is, it is interested in an investigation of consciousness in so far as consciousness is taken to be a condition of possibility for meaning, truth, validity, and appearance.

Why is this distinction relevant? Because whereas transcendental phenomenology might be inherently opposed to the project of naturalization, the fact of the matter seems different when it comes to phenomenological psychology. This is also pointed out by the four editors, since they claim that Husserl, by arguing for a parallelism between phenomenological psychology and transcendental phenomenology, seems to admit “the possibility of dissociating the specific philosophical interpretation he hoped to confer upon his descriptions from what one is tempted to call their scientific content” (52).

In other words, one way to facilitate the naturalization of phenomenology is to abandon the transcendental dimension of phenomenology and to make do with a phenomenological psychology. If that is done, the likelihood of a success certainly looks more promising. This is not to say that there are not numerous difficulties ahead. In fact, whereas I can understand how cognitive science and phenomenological psychology might profit from one another, I don't quite see how their mutual enlightenment would lead to a closure of the explanatory gap. Nor do I understand how phenomenology is supposed to eventually provide us with an explanation of how experiences can be properties of the brain (19), though, to venture a qualified guess, the editors would probably appeal to some notion of emergence (cf. 55). But disregarding all of these problems, at least the proposal doesn't look as ill-fated from the outset as it would otherwise.

The main problem with this way out, however, is that a good part of what makes phenomenology philosophically interesting is abandoned. Phenomenology is basically, I would insist, a transcendental philosophical endeavor, and to dismiss that part of it, is to retain something that only by equivocation can be called phenomenology.⁶ To put it differently, by abandoning the transcendental element of phenomenology the editors might ease its naturalization, but the kind of phenomenology they end up with is a psychological form of phenomenology, it is not, and let me emphasize this, it is not phenomenology understood as a philosophical discipline, tradition, or method.

Phenomenology and positive science

But perhaps there is another way out. Let me remind you that the different phenomenologists didn't all share the same view concerning the possibility of a fruitful dialogue between phenomenology and positive science. A brief comparison of Heidegger's, Husserl's, and Merleau-Ponty's divergent attitudes on this issue is quite revealing.

In a talk entitled *Phänomenologie und Theologie* written back in 1927, Heidegger argues that within the different positive sciences we can speak of relative differences. One science, say anthropology, investigates one specific realm, another science, say biology, investigates another realm. Between the positive sciences and philosophy, that is phenomenology, there is also a difference, but this difference is not a relative one, but an absolute one. For whereas the positive sciences are ontical sciences which are interested in beings (*das Seiende*), phenomenology is an ontological science which is concerned with *Being* (*Sein*). It is in this context that Heidegger makes the famous observation that there are more similarities between theology and chemistry (both of which are concerned with beings) than between theology and philosophy (Heidegger 1978, 49). Given this outlook the possibilities of a dialogue looks rather dim. What we can at most expect is a kind of one-way communication, where phenomenological considerations might constrain positive science.⁷

If we pass on to Husserl, the situation is somewhat different. As we have just seen Husserl speaks of a parallelism between phenomenological psychology and transcendental phenomenology, and he even suggests that it is possible to go from one to the other by a simple change of attitude. To put it differently, Husserl occasionally envisages phenomenological psychology as a way toward transcendental phenomenology. In fact, in Husserl scholarship it is customary to speak of Husserl's three ways toward the transcendental reduction. There is the Cartesian way, there is the ontological way, and finally there is the way through phenomenological psychology. It would lead too far if I were to account in detail for these different ways, but it is worth noticing that

Husserl occasionally emphasizes the propaedeutical advantages of approaching transcendental phenomenology through phenomenological psychology, that is, through positive science. As he puts it, one might start out with no interest whatsoever in transcendental philosophy, and merely be concerned with the establishing of a strict scientific psychology. If this task is pursued in a radical manner, and if the structures of consciousness are investigated with sufficient precision and care, it will, according to Husserl, at some point be necessary to take the full step, to effectuate a transcendental turn, and thereby reach transcendental phenomenology (Husserl 1962, 347).

By presenting the issue in this manner Husserl certainly views the relation between science and philosophy in a very different light than Heidegger. His attitude is much more conciliatory. As is evident, Husserl thinks that the positive sciences can unearth matters that transcendental phenomenology will have to take into account. (Even though it has to be emphasized that Husserl primarily seems to be thinking of an exchange between disciplines that all take their point of departure in the first-person perspective). However, it can be argued that Husserl went even further. To put it very briefly (this is something I have explored in detail elsewhere): Husserl's gradually increasing interest in the transcendental significance of both embodiment and intersubjectivity eventually made him enter fields that have traditionally been reserved for psychopathology, sociology, anthropology, and ethnology, and forced him to consider the philosophical relevance of such issues as *generativity*, *historicity*, and *normality*. Whereas a traditional Kantian type of transcendental philosophy would have considered such empirical and mundane domains as without any transcendental relevance, due to his interest in both intersubjectivity and embodiment, Husserl was forced to reconsider the traditional divide between the empirical and the transcendental. To repeat, and I don't think this can be emphasized too much: It would be a decisive mistake to think that transcendental philosophy is all one thing, and to overlook the difference between a Kantian transcendental philosophy, and the form of transcendental philosophy we find in phenomenology.⁸ Paraphrasing Crowell, one could argue that the transcendental for Husserl is a field of evidence embedded within mundanity rather than a formal construction of principles deduced to explain (or justify) mundanity (cf. Crowell 2001, 174). But in that case, the traditional view on the relation between the empirical and the transcendental (which was succinctly summed up by Murray), where the opposition between the empirical and the transcendental is taken as a decisive argument against the naturalization of phenomenology, is both inadequate and partially misleading.⁹

Let me finally turn to Merleau-Ponty, whose attitude toward both positive science and the project of naturalization is also quite different from Heidegger's. It is well known that Merleau-Ponty in his first major work *La Structure de Comportement* discusses such diverse authors as Pavlov, Freud, Koffka, Piaget, Watson, and Wallon. The last sub-chapter of the book carries

the heading “Is There Not a Truth in Naturalism?” It contains a criticism of Kantian transcendental philosophy, and on the very final page of the book, Merleau-Ponty calls for a redefinition of transcendental philosophy that makes it pay heed to the real world (Merleau-Ponty 1942, 241). Thus, rather than making us choose between either an external scientific explanation or an internal phenomenological reflection, a choice which would rip asunder the living relation between consciousness and nature, Merleau-Ponty asks us to reconsider the very opposition, and to search for a dimension that is beyond both objectivism and subjectivism.

This interest in positive science, in its significance for phenomenology, remains prominent in many of Merleau-Ponty’s later works as well. His use of neuropathology (Gelb and Goldstein’s famous case, Schneider) in *Phenomenology of Perception* is well known. For some time, in the years 1949–1952, Merleau-Ponty even held a chair in Child Psychology at the Sorbonne. As for his last writings, a representative statement is found in *Signes*: “the ultimate task of phenomenology as philosophy of consciousness is to understand its relationship to non-phenomenology. What resists phenomenology within us—natural being, the ‘barbarous’ source Schelling spoke of—cannot remain outside phenomenology and should have its place within it” (Merleau-Ponty 1960, 225).

By envisaging a dialogue between phenomenology and natural science (and not merely between phenomenology and the humanities/social sciences) Merleau-Ponty goes a step further than Husserl. What is interesting and important, however, is that Merleau-Ponty didn’t conceive of the relation between transcendental phenomenology and positive science as a question of how to apply already established phenomenological insights on empirical issues. It wasn’t simply a question of how phenomenology might constrain positive science. On the contrary, Merleau-Ponty’s idea is that phenomenology itself can be changed and modified through its dialogue with the empirical disciplines. In fact, it needs this confrontation if it is to develop in the right way. And mind you, Merleau-Ponty holds this view without thereby reducing phenomenology to merely yet another positive science, without thereby dismissing its transcendental philosophical nature.¹⁰

Conclusion

In the light of these reflections, I think it makes sense to distinguish between the following four takes on the relationship between phenomenology and empirical science (the list is not meant to be exhaustive):

1. One possibility is to say that empirical science doesn’t need phenomenology, and that it should just go ahead with its own work without wasting

any time on a discredited research program that has been intellectually bankrupt for at least 50 years.¹¹

2. Another possibility is to say that phenomenology doesn't need empirical science, but that empirical science must be constrained by phenomenological demarcations and analyses. Thus, the relation between phenomenology and empirical science is a one-way enterprise. It is an application of ready-made concepts. There is no reciprocity, and there is no feedback. The application does not lead to a modification of the original insights.
3. A third option is to argue that one should distinguish two forms of phenomenology. A pure, transcendental version and a mundane, psychological version. Through a change of attitude, we can go from one to the other and back again. Furthermore, when it comes to the psychological version, this version might contribute to the project of naturalization, and enter into a relationship of mutual constraints with positive science. As for transcendental phenomenology, however, it remains untouched by what is going on at the lower level so to speak, and can simply pursue its own task in splendid isolation.
4. The final option is to argue that transcendental phenomenology itself can enter into a fruitful exchange with empirical science. Perhaps it can even be naturalized in the sense of "contributing to the project of naturalization." But of course, if this view is advocated it has to be realized that such a naturalization will not only lead to a modification of transcendental phenomenology, at the same time it will also transform the very concept of naturalization as well as our very understanding of nature.

To return to the basic issue: If Petitot, Varela, Pachoud, and Roy really want to naturalize *phenomenology* it will not do to simply dismiss its transcendental dimension. But if a naturalization of transcendental phenomenology is to make any sense at all, it is obvious that a clear rejection of the objectivism and representationalism that have normally been part and parcel of naturalism is required. And the question is whether the editors are prepared to take this step, in which case their proposal suddenly stands out as a call for a quite radical change of paradigm. Perhaps they are. First of all, there is an interesting passage in the introduction where the editors reject the claim that scientific objectivity presupposes a belief in an observer-independent reality. Referring to quantum mechanics and to Heisenberg's uncertainty principle they argue that physical knowledge is about physical *phenomena* which are then treated in an intersubjectively valid manner (16–17). At the same time, they also explicitly describe their own project as entailing a reexamination of "the usual concept of naturalization in order to lay bare its possible limitations and insufficiencies" (46). They also speak in favor of recasting the very idea of nature, and of the need for modifying our modern conception of objectivity, subjectivity, and knowledge (54). In other words, why let the reductionists

monopolize the concept of naturalism? Most revealing of all, however, is perhaps a reply given by Varela to a question that I posed to him at a meeting in Paris in 2000: The volume *Naturalizing Phenomenology* was only intended as the first part of a larger project. The second complementary volume was planned to carry the title *Phenomenologizing Natural Science*.

As I hope has been clear from the above, I find the proposal by Petitot, Varela, Pachoud, and Roy very interesting and thought-provoking, but I also have some critical reservations. Let me briefly summarize my criticism: I think the editors have focused too much on the question of whether or not phenomenological descriptions are amenable to a mathematical reconstruction. In my view, this issue is a red herring. First of all, I don't see why a mathematical reconstruction in itself should help solve "the hard problem." Secondly, even if it could, it wouldn't as such entail a naturalization of phenomenology. Husserl's anti-naturalism is mainly based not on scientific motives, but on philosophical ones, and it is rather revealing that the editors decided to disregard the latter. *If* one really wishes to naturalize phenomenology—and let me emphasize that I personally still think it is an open question whether this goal is at all desirable—the way to proceed is not by ignoring the transcendental dimension of phenomenology, but by reexamining and revising the dichotomy between the empirical and the transcendental. At one point in the introduction, the editors mention that Husserl's and Merleau-Ponty's investigations of the lived body focus on a locus where "a *transcendental analysis and a natural account are intrinsically joined*" (61). I think that is quite true, and it is regrettable that the editors do not pursue this line any further in their introduction.

Where do these reflections lead? At first sight, we have the choice between two extremes. The first says that philosophy needs to be naturalized, i.e. turned into a part of natural science. There are no unique philosophical questions or methods. The other says that philosophy and empirical science are so completely different in nature that no meaningful exchange is possible. However, there is also a third possibility. Why not argue that philosophy and empirical science can profit from each other. Philosophy can question and elucidate basic theoretical assumptions made by empirical science. Empirical science can present philosophy with concrete findings that it cannot simply ignore, but must be able to accommodate; evidence taken from, for instance, developmental psychology or neuro- and psychopathology, which might force us to refine, revise or even abandon our habitual philosophical assumptions.¹²

What needs to be emphasized in closing, however, is that there is a decisive difference between claiming that philosophy and empirical science should cooperate, and denying their very difference. To quote Putnam, it is entirely possible to insist that philosophy needs to be informed by the best available scientific knowledge, while at the same time insisting that philosophical and scientific questions differ fundamentally (Putnam 1992, 34). There are many

ways to describe this difference, one way is to insist on the *critical* dimension of philosophy. I think it is crucial to emphasize this aspect, but I also think it is something that Petitot, Varela, Pachoud, and Roy seem to neglect in their enthusiasm for a naturalized phenomenology. But perhaps this is just proof that their proposal is mainly intended as a proposal to cognitive science, and not to philosophy?¹³

Notes

1. Unless otherwise noted all page-references in the following will be to Roy et al. (1999).
2. Does history repeat itself? In 1911, Husserl praises the results of the new exact and scientific (experimental) psychology, but adds that it presupposes something which it does not itself deliver, namely a proper investigation of (subjective) consciousness (Husserl 1987, 19). In a lecture entitled *Phänomenologie und Psychologie* from 1917, Husserl adds that the new psychology is basically a psychology that has lost sight of consciousness (Husserl 1987, 104).
3. Later the editors specify that a naturalized phenomenology would be a phenomenology that is not committed to a dualistic ontology (19). Thus, naturalism is viewed as the only alternative to dualism. But this is a problematic and much too weak definition. There are many phenomenologists who would reject both dualism and naturalism.
4. At one point, Husserl actually formulates a criticism of mathematics along these very lines: “Er ist dem Mathematischen wie einem vorgegebenen Objektiven zugewendet, er geht nicht reflektiv den subjektiven Quellen und den letzten Fragen nach Sinn und Möglichkeit einer subjektiv sich konstituierenden Objektivität nach. *Das zu tun, ist die Aufgabe des Philosophen*; sie zu lösen bedarf es <keiner> und dazu nützt keine mathematische Technik; keine noch so wohl ausgebildeten Fähigkeiten im Differenzieren und Integrieren und Logarithmieren und was sonst sein mag, können ihm für das, was da philosophisch zu leisten ist, irgend etwas helfen; auf keinem Wege mathematischer Deduktion und Konstruktion liegt das, was er sucht: nämlich Klarheit über Sinn und objektive Geltung der Prinzipien, welche Deduktion und Konstruktion überhaupt vernünftig und möglich machen” (Husserl 1984b, 163–4).
5. For a recent non-mentalist reading of Husserl’s early work, cf. Benoist (1997).
6. Some might deny that post-Husserlian phenomenology is at all to be called transcendental, but I disagree with this appraisal. However, considerations of space prevent me from delivering an actual defense of this disagreement.
7. It could be objected that this early piece of Heidegger is not really representative of his view on the matter. What about his later works, for instance the famous *Zollikoner Seminare* that contains accounts from a series of seminars organized jointly by Heidegger and the psychiatrist Medard Boss in the years 1959–1969? It would lead too far if I were to present a detailed analysis of this later work, but it should be noted that even then Heidegger repeats some of his problematic views from the twenties. This is for instance the case with his view on the status of the body. An issue that is of course not wholly unrelated to the question about the possibility of a naturalized phenomenology. Cf. Zahavi (2000).
8. For an extensive discussion, cf. Zahavi (1999, 2001, and 2003).
9. In a similar vein, Mohanty has spoken of the difference between a *prinzipien-theoretisch* and an *evidenz-theoretisch* variety of transcendental philosophy (Mohanty 1985, 215). In a recent discussion of the similarities and the differences between neo-Kantianism and phenomenology, Crowell employs the same terminological distinction, but it is noteworthy, however, that he reaches a conclusion which—on the surface at least—is the opposite of

my own. For him, it is the *prinzipien-theoretische* variety (at least as it is expressed in the Marburg School of neo-Kantianism) which insists on the continuity between science and philosophy, whereas the phenomenological *evidenz-theoretische* variety insists on the discontinuity (Crowell 2001, 24).

10. This is not to say, however, that Merleau-Ponty's use of empirical research is unproblematic. In 1996 Gallagher and Meltzoff pointed to certain shortcomings in Merleau-Ponty's views on developmental psychology, and back in 1979 Tatossian criticized Merleau-Ponty for using empirical research in a speculative fashion: "S'il veut atteindre l'expérience proprement phénoménologique du malade mental, il ne peut s'enfermer avec le philosophe transcendantal dans sa tour d'ivoire. Au travail spéculatif sur la littérature spécialisée qui a été la méthode de Merleau-Ponty et de bien d'autres, il doit préférer obligatoirement le commerce direct avec ce qui est en question: la folie et le fou. C'est là le 'vrai positivisme' dont parlait Husserl parce que c'est la véritable expérience psychiatrique." (Tatossian 1979/1997, 12).
11. This is supposedly Thomas Metzinger's view (1997).
12. For a discussion of this third possibility, cf. Parnas and Zahavi (2000). In a recent book entitled *The Primacy of Movement*, Maxine Sheets-Johnstone has argued that a phenomenological study of consciousness must be informed by empirical science, and in particular be consistent with evolutionary thought. In the same book, she also speaks favorably of a biological naturalization of consciousness, and argues that the fundamental differences in scientific and phenomenological practice enhance their complementarity. By arguing in this fashion, Sheets-Johnstone can actually be seen as contributing in her own way to the current discussion concerning the possibility of a naturalized phenomenology. But it is noteworthy that she pursues a rather different (though not necessarily conflicting) approach, than the one delineated by Petitot, Varela, Pachoud, and Roy.
13. I am indebted to Yoko Arisaka for comments to an earlier version of this article. This study was funded by the Danish National Research Foundation

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