HOW EXPERIENCED PHENOMENA RELATE TO THINGS THEMSELVES: KANT, HUSSERL, HOCHE, AND REFLEXIVE MONISM.

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Abstract. What we normally think of as the "physical world" is also the world as *experienced*, that is, a world of *appearances*. Given this, what is the reality behind the appearances, and what might its relation be to consciousness and to constructive processes in the mind? According to Kant, the *thing itself* that brings about and supports these appearances is unknowable and we can never gain any understanding of how it brings such appearances about. Reflexive monism argues the opposite: the thing itself is knowable as are the processes that construct conscious appearances. Conscious appearances (empirical evidence) and the theories derived from them can represent what the world is really like, even though such empirical knowledge is partial, approximate and uncertain, and conscious appearances are species-specific constructions of the human mind. Drawing on the writings of Husserl, Hoche suggests that problems of knowledge, mind and consciousness are better understood in terms of a "pure noematic" phenomenology that avoids any reference to a "thing itself". I argue that avoiding reference to a knowable reality (behind appearances) leads to more complex explanations with less explanatory value and counterintuitive conclusions—for example Hoche's conclusion that consciousness is not part of nature. The critical realism adopted by reflexive monism appears to be more useful, as well as being consistent with science and common sense.

Keywords. Reflexive monism, thing itself, Kant, Husserl, Hoche, Velmans, phenomenology, noematic, knowledge, consciousness, mind

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In everyday life we take it for granted that the world that we see, hear, feel, smell and taste around is the real world—and we normally think of it as the "physical world." However, the world as perceived is in many respects very different to the world as described by modern physics. This raises an immediate and perennial question: how does the world as perceived relate to what the world is really like? Or, to put in a Kantian way, how does the phenomenal world relate to the "thing itself"?

In Velmans (2000) I have developed a reflexive monist approach to answering this question, and given that aspects of my analysis are often misunderstood or misreported it has been a pleasure for me to see the careful and largely accurate account of some of these aspects given by Hoche (this issue) in the first part of his paper (sections 1 to 6.3 or pages x to y?).

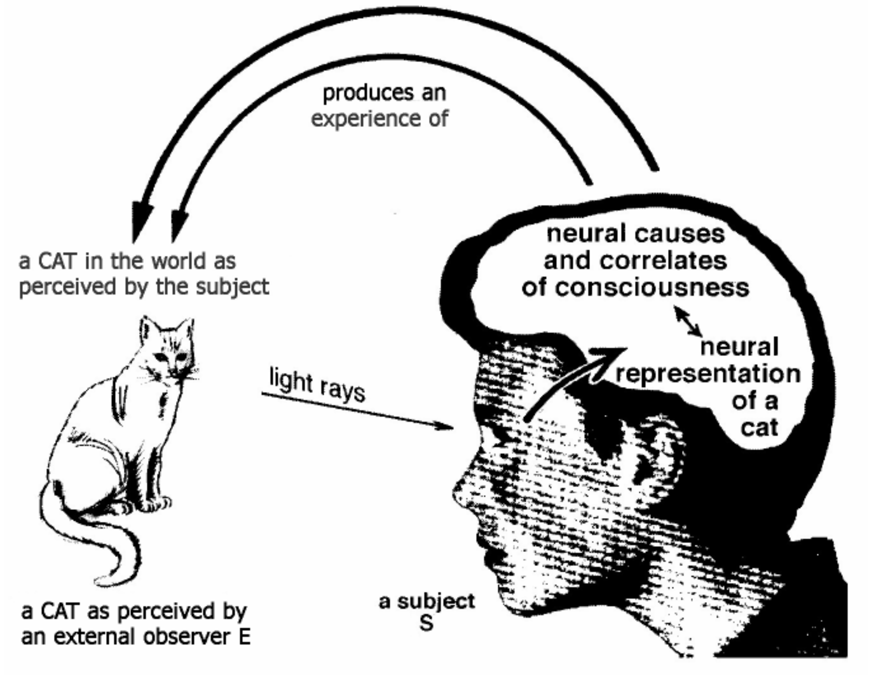

Figure 1. A reflexive model of perception (adapted from Velmans, 1990, 2000)

Given that the following elaboration of my work can be read conjointly with Hoche's paper, I will not repeat the analysis of reflexive monism that is given there. Put in the briefest terms, the reflexive model of perception shown in Figure 1 shows in microcosm how reflexive monism differs from dualism and reductionism. As shown, light rays reflected from the surface of an entity in the world (a cat) innervate the visual system and initiate perceptual processing. Afferent neurones, and cortical projection areas are activated, along with association areas, long-term memory traces and so on, and neural representations of the initiating event are eventually formed within the brain—in this case, neural representations of a cat. But the entire causal sequence does not end there. S also has a visual experience of a cat and we can ask S what this experience is like. In this case, the proper question to ask is, "What do you see?"[1] According to dualism, S has a visual experience *of* a cat "in her mind". According to reductionists there seems to be a phenomenal cat "in S's mind" but this is really nothing more than a state of her brain. According to the reflexive model, while S is gazing at the cat, her only visual experience *of* the cat is the *cat she sees out in the world*. If she is asked to point to this phenomenal cat (her "cat experience"), she should point not to her brain but to the cat as-perceived, out in space beyond the body surface. In this, the way that the cat appears to S is similar to how it appears to E—as a perceived entity out in the world, albeit viewed from S's perspective rather than from E's perspective.[2] In short, an entity in the world is reflexively *experienced* to be an entity in the world.

It is, of course, impossible to illustrate all the complex relationships that obtain between experiences and the things that they are experiences of, along with the relationships between the "observations" of an external observer trying to make sense of what is going on in S's mind/brain and the "experiences" of the subject, in such a simple two-dimensional, schematic figure. Unravelling these relationships takes up three chapters (chapters. 6, 7 and 8) of *Understanding Consciousness*. Given this, it is not surprising that in note 11, Hoche admits to being a little confused about the different ways that I refer to the cat in Figure 1 (throughout the book) depending on the relationship and the perspective under consideration. For example, viewed from the perspective of an external observer E, the cat is the object he can see in the world that *causes* S's subjective experience. However, viewed from the perspective of the subject S, the perceived cat *is* what she experiences. S can't perceive the causes of her current experience for the reason that the causes of perception operate preconsciously—and once she experiences the cat, these causal antecedents of her current perception have already operated. So, viewed from S's "subjective" perspective, the perceived cat is the *perceptual effect*.

Things start to get even more complicated once one accepts that E is *also* an experiencing agent, with his own subjective perspective. Although he conventionally *treats* the cat that he can see as the cause of what S experiences, the cat's visible properties result from his own preconscious perceptual processing, just as they do for S. Strictly speaking therefore, it is not the cat that he *experiences* that is the initiating cause of S's perceptual processing, but the entity (or cat) itself.

There is far more to be said about all this, but given that it has all been elaborated elsewhere, and given that Hoche largely finds his way around the complexities, I won't repeat this here. Rather, I will focus on the one issue that most concerns Hoche—how best to think about the relation of experiences to the things that are experienced.

How experiences relate to things themselves: resemblances to Kant

Hoche rightly describes the analysis that I give of this issue as "quasi Kantian". In making a connection with aspects of Kantian thought (in Velmans, 2000, chapter 7), my intent was both to acknowledge the priority of his work and to take the opportunity of placing my own work in an appropriate context. Given this background, it is easier to understand and assess this aspect of reflexive monism, not just in terms of major similarities to Kantian thought, but also in terms of major points of difference. Put very briefly, the main points of similarity, as I see them, are

1. Kant argued that the "physical world" that we experience consists of *phenomena.* That is, "External objects (bodies) ... are mere appearances, and are, therefore, nothing but a species of my representations." (Kant, 1781, p346). The brief description of the reflexive model of perception given above makes the same point, although it gets to it from a different direction.

2. Kant argued that these appearances are shaped by pre-existing categories of the mind, and I similarly accept that experienced phenomena are at least in part a construction of perceptual and cognitive processes that operate in the human mind/brain.[3]

3. I accept (as Kant did) that human knowledge is constrained by the organs of knowledge (by the perceptual and cognitive processes that operate in the mind/brain).

Consequently

4. It is a mistake to confuse the phenomenal world constructed by the mind/brain with the world itself (variously termed the thing itself, the thing-itself, the thing-in-itself, reality itself, nature itself and other usages).

Indeed I think it worth stressing that these basic points have far older roots, in elements of Hindu and Buddhist thought and in the philosophy of Ancient Greece.

How experiences relate to things themselves: differences from Kant

However, unlike Kant, I argue that the thing itself is *knowable*, and given the fundamental nature of this difference, Hoche thinks that “it may seem doubtful whether Velmans was well advised referring to Kant *at all*” (p11?). He may be right.

According to Kant, the separation of the phenomenal world from the thing itself produces a clear separation between what can and cannot be known. One can know and explore the nature of the phenomenal world, and the "thing itself" is a transcendental reality that lies behind and brings about what we perceive. But, how it does so, “.... is a question which no human being can possibly answer. This gap in our knowledge can never be filled” (Ibid, p359). And, because our "representations" are all that we experience, he concludes that of the thing itself, “... we can have no knowledge whatsoever...." and "... we shall never acquire any concept.” (Ibid, p360)

I do not wish to skate over the fundamental problems raised by Kant’s analysis of how the mind’s own nature constrains what it can know. Kant is surely right to point out that we cannot have knowledge of “reality” in a way that is free of the limitations of our own perceptual and cognitive systems.[4] We cannot make observations that are “objective” in the sense of being observer-free, or have knowledge that is unconstrained by the way that our cognitive processes operate. Our knowledge is filtered through and conditioned by the sensory, perceptual and cognitive systems we use to acquire that knowledge. Given this, we cannot assume that our representations provide *observer-free knowledge of the world as it is in itself.*

Nor is empirical, representational knowledge *certain* knowledge. For representational knowledge it is easy to see why this is so. Whether the representations be in humans, non-human animals or machines, a representational system can only have (access to) its own representations of that which it represents. Consequently, a system’s representations define the limits of its current knowledge. Lacking any other access to some ultimate reality or “thing itself,” there is no way that a representational system can be *certain* that its representations are accurate or complete.[5]

Uncertainty therefore appears to be *intrinsic* to representational knowledge. Kant’s view that the thing itself is *unknowable* is nevertheless extreme. Knowledge that is uncertain and conditioned by the perceptual/cognitive processing of a knowing agent is still knowledge. So even if one accepts that knowledge of what the world is really like can only be partial, species-specific and tentative, it does not follow that the world itself is unknowable. Although it is logically possible that the world that we experience is entirely illusory (along with the concepts and theories we have about it), the circumstantial evidence against this is immense. We necessarily base our interactions with the world on the experiences, concepts and theories we have of it and these representations enable us to interact with it quite well. Kant’s extreme position is in any case self-defeating. If we can know *nothing* about the "real" world then no genuine knowledge *of any kind* is possible whether in philosophy or science – in which case one cannot *know* that that the thing itself is unknowable, or anything else.

Interpreted in Kant's way, a theory of knowledge based on representations grounded in an unknowable "thing-itself" is also internally inconsistent. If the appearances of the external world are *not* representations of some aspect of the thing itself, then these appearances cannot really be *representations*, as there is nothing else for them to be representations of. Conversely, if they *are* representations of some aspect of the thing itself, the latter cannot be unknowable.[6] Similarly, if we can "never acquire any concept" about what the world is really like, then our concepts and theories cannot be about anything "real." Conversely, if these do provide a measure of knowledge about how things really are, then it cannot be true that of the thing itself "we can have no knowledge whatsoever."

In sum, although there are no empirical certainties, one is ultimately left with a pragmatic choice: either our representations of the world tell us nothing about it (in which case all of our so-called knowledge must be groundless) or we adopt a form of *critical realism* in which our perceptual representations are taken to represent real things in a species-specific, sometimes useful, albeit uncertain way. I would argue that the latter provides a sounder foundation for a theory of knowledge. Broadly speaking, it is also the view adopted within modern science.

Einstein & Infeld, for example, admit that

"Physical concepts are free creations of the human mind, and are not, however it may seem, uniquely determined by the external world. In our endeavour to understand reality we are somewhat like a man trying to understand the mechanism of a closed watch. He sees the face and the moving hands, even hears its ticking, but he has no way of opening the case. If he is ingenious he may form some picture of a mechanism which could be responsible for all the things he observes, but he may never be quite sure his picture is the only one which could explain his observations. He will never be able to compare his picture with the real mechanism and he cannot even imagine the possibility of the meaning of such a comparison." (Einstein & Infeld, 1938, p31)

It is nevertheless implicit that, for Einstein & Infeld, there really *is* a "closed watch" and that the "moving hands" and "ticking" tell us something (albeit uncertain) about its nature on which our theories about it can be based. Reflexive monism adopts a similar "critical realism".

Critical realism in the reflexive model

The reflexive model makes the conventional assumption that causal sequences in normal perception are initiated by *real things* in the external world, body or brain.[7] Barring illusions and hallucinations our consequent experiences *represent* those things. Our concepts and theories provide alternative representations of those things. While neither our experiences nor our concepts and theories *are* the things themselves, in reflexive monism, things themselves remain the true *objects* of knowledge.

Although this position is neo-Kantian in some respects, the role that the "thing itself" plays is very different. Rather than the thing-itself (the “real” nature of the world) being unknowable, one cannot make sense of knowledge without it, even if we can only know this “reality” in an incomplete, uncertain, species-specific way. Conversely, if the thing itself cannot be known, then we can know nothing, for the thing itself *is all there is to know*.

Nor, in reflexive monism, can a *sharp division* be drawn between the phenomenal world and the thing itself that gives rise to it. Rather, *both* our mind/brains *and* our phenomenal experiences are embedded in, and *manifestations* of the reality that gives rise to and supports them—which has obvious consequences for what that reality must be like. Even if we cannot know that reality or thing itself as it is in itself, completely or with certainty, we can say that it must have the power to give rise to the particular configuration of mind/brain states and phenomenal experience that we can in principle observe and investigate (for example, with the technologies of neuroscience).

And even without such specialised technologies, we can, with reasonable confidence, say something about *how* mind/brains relate to phenomenal experiences. Broadly speaking, conscious experiences are both produced by mind/brains embedded in and interacting with their surrounds, and *represent* those surrounds or, in cases of self-reflection, represent their own operations (in the form of conscious feelings, thoughts, dreams, images and so on). It also seems reasonable to suppose that the forms that these mental representations take have developed under the constraints of biological evolution. Taken together, these suppositions provide reasonable grounds for a form of pragmatic epistemology. Being differentiated parts of the world that have evolved in a way that encourages successful interaction with (the rest of) that world, it is not surprising that our percepts and cognitions represent in a rough and ready way what the world is really like. Creatures that systematically misrepresent the world are unlikely to survive. Consequently, it is likely that, in a rough and ready way, our percepts and useful cognitions represent aspects of the (manifest) thing-itself.

In sum, knowledge is possible for the reason that both the organs of knowledge and the knowledge that they produce are manifestations of the same underlying reality, shaped by the constraints of evolution—and more to the point, knowledge in the broadest sense, is self knowledge (knowledge of the thing-itself by knowing creatures that are its own manifestations). From a reflexive monist point of view, we literally participate in the process whereby the thing itself knows itself.

Things themselves versus noematic phenomena in the Husserlian sense

According to Kant, phenomenal representations *cannot* be taken to represent what the world is really like because the thing itself is unknowable. According to reflexive monism, useful phenomenal representations *can* be taken to represent what the world is really like, because the thing itself is knowable, albeit in an uncertain, partial, approximate, species-specific way. According to Hoche, neither of these views has a secure basis. Instead, the relation of phenomenal representations to their objects should be understood as the relation of ‘noematic phenomena’ to the ‘noematic objects themselves’ that they represent (or ‘intentionally relate’ to), a terminology and conceptual system that he adapts from the transcendental phenomenology of Husserl.

If I understand it rightly, the point of departure for Hoche's analysis is a fundamental point on which we agree—that in terms of *phenomenology*, there is no difference between a percept of an object and the object as perceived (see the simple description of the reflexive model of perception above). In my own analysis I nevertheless stress that there is a causal sequence in visual perception: light rays reflected from the surfaces of an *object in the world* activate processing in the visual system that eventually results in a *percept of that object*, which is (reflexively) *seen* as an object in the world. Consequently, although no phenomenological distinction can be drawn between a "percept of an object" and the "object as perceived", a distinction can be drawn between these terms in two other ways: (a) these phrases direct our attention in different ways—the phrase "object as perceived" foregrounds or focuses attention on the *object* that is the initiating cause of perceptual processing, while the phrase "percept of the object" foregrounds the resulting *percept* or *experience*. (b) if we are interested in what the object that initiated processing is really like (as opposed to what it looks like) we can investigate it more deeply (e.g. with physical instruments), thereby (in my terms) penetrating more deeply into the nature of the object (or thing) itself. As such investigations proceed we may come to have very different views about the nature of the object (including, for example, quantum mechanical ones), even if the object itself does not change. Consequently, as I point out in Velmans (2000), the thing itself may also be thought of as a "reference fixer" required to make sense of the fact that we can have multiple investigations, experiences, concepts or theories of the *same thing.*

Drawn to Husserl's transcendental phenomenology, Hoche rejects the suggestion that there must ultimately be some "thing itself" that initiates perceptual processing which the resulting percept, in turn, represents. He nevertheless accepts that there must be an object that is experienced. Consequently he tries to make sense of the relation between an "object as perceived" and a "percept of that object" purely in terms of phenomenology, by arguing that with a little bit of further work on distinction (a) above, one can do away with distinction (b). According to him

"..the relation that obtains between those *multifarious experiences* and the *one and same thing* of which they are experiences can be aptly described in terms of 'transcendental phenomenology', especially in the 'purely noematic' version of it which I have developed elsewhere. On the face of it, the defining characteristic of such a 'purely noematic phenomenology' (or 'pure noematics') is the very point Velmans tries to drive home, namely, the assumption that, contrary to first appearances and engrained prejudices, we are not genuinely justified in making a distinction between a given subject's *conscious experience of an object* at a certain moment in time and this *object as experienced* by that subject at that moment. Unlike Velmans, however, the advocate of such a purely noematic view of consciousness takes the terminological distinction between 'the object (experienced)' and 'the object *as* experienced' to be highly significant. A simple case in point is again Velmans's example of my own seeing a cat. When I see a cat, the relevant conscious experience, to wit, my visual perception of it – or, speaking more down to earth: my seeing it – should again be considered to be the cat *as* seen, but unlike Velmans by these words I suggest one ought to understand, not simply the cat (which is) seen, that is, the cat as a *Kantian* 'phenomenon', but the cat *as*, *qua*, or *in its capacity of* being seen by me at the given moment in the given particular way, that is, as a '(noematic) phenomenon' in the *Husserlian* sense. (p)

In footnote 16, Hoche goes on to explain that "Such noematic 'phenomena', or 'objects *in their capacity of* being perceived' by me at a certain moment in time, may be well compared to a bunch, or bundle, of rays or straight lines intersecting each other in one and the same point, which, for its part, would then correspond to the noematic 'object itself' – or, I take it, to what Velmans (2000: 163) calls the 'reference fixer'".

Hoche goes on to explain that

" The position just outlined is confirmed by the fact that the cat which I see and the cat *qua* now being seen by me under specific circumstances are incompatible in that they can be given to me *neither simultaneously nor in one and the same cognitive attitude.* When I focus my attention or interest on the latter, i.e., on my present visual cat phenomenon (in the noematic sense of the word), I have to do with the cat *in*, or *with*, its present mode of subjectively appearing to me from a certain point of view, in a certain distance, and under certain lighting conditions; and the slightest noticeable change of one of these parameters suffices to make my cat phenomenon shade off into another one out of a continuum of visual phenomena which are related to each other in a specific though familiar way which permits us to interpret them as belonging together or intentionally referring to one and the same cat. But when I focus my attention or interest on this cat itself, i.e., on the cat *which* I see, then I have to do with an objective animal to the total exclusion of the continually changing modes of its subjectively appearing to me. So the objects *which* I perceive and the objects *qua* being perceived by me characteristically differ in that the latter are *concrete* entities in which every detail counts whereas the former are mere *abstractions* – abstractions, however, with which for at least two reasons in everyday life we have to content ourselves: First, it is *principally impossible* to identify and discriminatingly name 'each and every single segment out of a continuum' of noematic phenomena shading into, and in this sense belonging to, one another (e.g., my visual phenomena *of*, or intentionally referring *to*, one and the same cat sitting in front of me); and second, even if it *were* possible to do so, adopting such a reflective attitude of heeding the details of phenomenal concretion as our standard attitude would hopelessly overburden us. Rather, in everyday life we have to adopt a straightforward attitude in which we *abstract* from those details, or 'look *through*' them, and concentrate exclusively upon the things themselves. Correspondingly, I consider the reflective attitude to be a cancellation or suspension of that everyday abstraction, i.e., an uphill attempt to take the conscious phenomena in their full concreteness. In principle – scil., once we have acquired the necessary skill and practice – it is easy to switch to and fro between the straightforward attitude, centered on the things themselves, and the reflective attitude, attending to the wealth of phenomenal continua; but it is out of the question to focus *simultaneously* on a thing itself and on an element of a phenomenal continuum. Hence the different fields of *abstract* things themselves and of *concrete* noematic phenomena, excluding each other to the point of being well comparable to 'incompatible quantities' of microphysics, may be taken to define the correlative concepts of objectivity and subjectivity. For this reason I consider subjectivity, i.e., respectively my own conscious experience, to be so different from all objects in the natural world that we may downright call it ‘the negative’ of objective reality. In this sense I cannot but *deny that consciousness is a part of nature*.” (p)

I have to confess that I find some parts of this passage difficult to unravel, and the motivation for some of it difficult to understand—particularly towards the end. But I will try.

To take the easy bits first, I can understand the desire to understand everyday phenomenology and its objects in a way that avoids reference to an unknowable *Kantian* thing itself. I grant that it is possible to have an abstract sense of an ‘objective’ cat that somehow underlies the various views that we can have of it (under different lighting conditions, from different angles, and so on). I also would defend a careful, open-ended investigation of an object’s phenomenology to discern what might be revealed about it with careful attention (and which might not have been evident at first glance). That is all part of the European phenomenological tradition—and I have defended a critical version of that tradition in ways that I do not have space to develop here (c.f. Velmans, 2006a).

I have to confess, however, that I do not find Hoche’s attempt to compare our knowledge of cats themselves (or of other entities, events and processes themselves) to the intersection of their phenomenal appearances very useful. Nor, other than the desire to be as “concrete” as one can, is the motivation behind this “purely noematic” analysis apparent. The intuition that there is a reality lying behind phenomenal appearances that is neither entirely manifest in appearances, nor a simple abstraction derived from their convergence, has been an enduring feature of philosophy and empirical investigation for over 2,500 years. It was clear, for example, in the rationalist philosophy of ancient Greece, central to Galileo’s view that mathematics is the language in which the universe is written, and it is fundamental to much of modern science. The evidence that there are knowable aspects of the world, not directly revealed by or reducible to phenomenal appearances is simply overwhelming. To take a banal example, no amount of inspection of the colour red under different lighting conditions, colour contrasts and so on would reveal that it is the human mind/brain’s way of representing, what physics would describe as electromagnetic energy with wavelengths in the region of 700 nanometres. Nor is it obvious how one could deduce that $e = mc^2$, or that $e^{i\pi} = -1$ from phenomenological convergence. As Dodwell (2000) points out, the latter relationships are quite extraordinary, given that e and π are transcendental numbers (that do not have an exact value), i (the square root of –1) is an imaginary number, and 1 is the most mundane number one can imagine. Of these, only the number 1 could even be said to have *exemplars* in phenomenal appearances!

Not surprisingly, Hoche’s attempt to force nature and the ways in which it can be known into such a simple mould leads to some counterintuitive conclusions. For example, towards the end of the passage cited above, Hoche decides that “*abstract* things themselves” defined in his “purely noematic” way constitute objectivity, whereas “*concrete* noematic phenomena” constitute subjectivity. This is another issue that I do not have space to pursue here—other than to say that in my understanding the relations between subjectivity, intersubjectivity, and “objectivity” are far more complex than this (cf Velmans, 1999, 2000 chapter 8, 2006b). One cannot make sense of them without, for example, understanding how “private” events relate to “public” events and how first- and third-person perspectives relate to each other. Hoche's analysis also leads him to *"deny that consciousness is a part of nature*." Few contemporary students of consciousness would agree with him, as this would block its investigation by any natural means. Reflexive monism asserts the opposite: *both* our mind/brains *and* our phenomenal experiences are embedded in, and *manifestations* of the reality that gives rise to and supports them, making consciousness an integral part of nature that can be investigated by a combination of first- and third-person techniques.

Hoche goes on to admit that

By denying that consciousness is part of nature, "… I may seem to manoeuvre myself in flagrant opposition to all serious contemporary scientists and philosophers, including even the most 'soft-line' exponents of non-reductive and non-physicalistic theories of consciousness." He then tries to justify his sceptical doubts by recourse to a form of 'semi-behaviourism' when he notes that as far as he can know the experiences of his fellow men "..their conscious experiences are nothing but stretches of relevant situated behaviour, linguistic as well as non-linguistic. The reasons why I think I ought to defend, if only in this strictly limited version, a kind of old-fashioned behaviouristic 'nothing-buttery' are easily stated. First, nowadays only few people are prepared to admit that we have, in one way or other, an *immediate* access to another person's subjective experiences. Second, as we had occasion to learn from Frege, Waismann, and Wittgenstein, it does not even make sense to say that somebody else has, or *probably* has, or *possibly* has, or possibly has *not*, conscious experiences similar to my own, from which it follows that all traditional and modern 'inverted spectrum' speculations, and even recent reasoning about 'inverted', 'absent', 'fading', and 'dancing qualia' […] lack a sound foundation [...]. Third, which is but a corollary, the attribution of consciousness, *in the sense of subjective experiences*, to other people and higher animals is neither verifiable nor falsifiable and hence not even open to purely empirical hypotheses. And fourth, as we speak about ourselves and our fellow-men in strictly the same interpersonal terminology of 'psychological' (or 'psychical') verbs and hence are definitely disinclined to deny the existence of 'other minds', the best option which I think we have is to identify another person's perceiving, sensing, feeling, wanting, intending, acting, and the like, with precisely that stretch of his or her situated behaviour on the strength of whose observation we have a right to assert that he or she is perceiving, sensing, feeling, wanting, or intending something, or acting in such-and-such a way, and so forth." (p)

Given behaviourism's traditional opposition to incorporating conscious phenomenology into psychological science, or even admitting to its existence, Hoche's transcendental phenomenology and his 'semi-behaviourism' make strange bedfellows. I have given a brief history of behaviourist approaches to consciousness along with an evaluation of their strengths and weaknesses in Velmans (2000, chapter 4) and little purpose will be served by recapitulating this here. Once again, however, Hoche tries to achieve too much with too little. Behaviourism says little about how the mind works, and provides no useful account of conscious experience. Those familiar with experimental psychology will know that despite its popularity in the first half of the 20th Century, from the 1950's onwards the theoretical poverty of this approach, combined with the availability of more powerful information processing approaches, led to its virtual abandonment in cognitive science. It remains true that the conscious experiences of others cannot be directly accessed from an external observer's third person perspective. Nevertheless, with the development of increasingly sophisticated combinations of first- and third-person methods, for example in 21st Century cognitive neuroscience, Hoche's attempt to dismiss consciousness from nature based on a behaviourist understanding of other minds sounds very much like a lone voice from the past.

Hoche concludes his paper with an attempt to reanalyse psychophysical causation. Unfortunately his description of my own approach to this issue, involving dual-aspect, monist ontology, combined with a complimentary first- and third-person perspective epistemology is too cursory to solicit a detailed commentary. Instead he focuses on his own noematic approach, which ironically follows the dual-aspect approach that I develop in rough outline. For example, in Velmans, 1991a,b, 1993, 1996, 2002a,b I have argued that psychophysical causation presents a "causal paradox": if the mind/brain is viewed from a third-person perspective, consciousness seems to be epiphenomenal, while viewed from a first-person perspective consciousness appears to be central for much of what we do. The challenge is to understand the causal interactions between consciousness and brain in a way that saves *both* these appearances.

In similar fashion Hoche writes that,
"…although it may be rightly taken for granted that material occurrences out in the world can causally provoke neurophysiological occurrences in my central nervous system as well as pieces of my overt behaviour (and *vice versa*), strictly speaking neither of them can cause, or be caused by, subjective conscious experiences of mine. Of course it would be preposterous to *deny* what appears to be clear-cut cases of psychophysical (or physiopsychical) causation; but we are confronted with the challenging task of *conceptually reinterpreting* such cases so as to agree with the prerequisites of anthropological complementarity properly understood." (p).

While this uses different language it expresses a very similar view. And, while Hoche does not formulate a resolution of this paradox in, say, the detail offered in Velmans (2000, chapter 11) or Velmans (2002a), it moves in a similar direction—for example, in his conclusion that correlations between conscious experiences and brain states can only be established *intersubjectively* (p 27?).

That said, Hoche's noematic account strips away the 'glue' that holds my own account of psychological causation together—i.e. it abandons my suggestion that there really *is* a mind that really *has* a nature, in which *real causal processes operate*, which can be known in two complementary, first- and third-person ways. Hoche's minimalism is consistent with the position that he adopts throughout his paper. Unwilling to posit any reality behind the appearances other than what can be abstracted from the conjunction of the appearances, he falls victim to the same problem: he can describe the appearances but he can't *explain* them—the restricted tools that he permits himself simply cannot do the job.

In conclusion, let me say once again how much I appreciate Hoche's careful analysis of some aspects of reflexive monism in the first part of his paper. I also respect Hoche's attempt to argue for a more minimalist "purely noematic", 'semi-behaviourist' position in the later part of his paper. However, in my judgment, his minimalism comes at a cost: his explanations are more complex, explain less, and have many counterintuitive consequences. Given this, I see no reason to abandon the critical realism that grounds reflexive monism. As science and common sense suggest, there really is a world behind the appearances that our percepts and theories represent.

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[1] For the purposes of this example we are concerned only with the phenomenology of visual experiences, not with feelings about the cat, thoughts about the cat and so on.

[2] While these *views* of the cat itself are numerically and perspectivally different, both S and E experience a cat *out in the world*, and in this respect their experiences are similar.

[3] I suggest that phenomenal representations are "in part" constructed by the mind/brain, for the reason that I accept that the mind/brain is in turn embedded in a body, embedded in the world, so in a broader sense the phenomenal representations are constructed by the entire, interacting system.

[4] We can of course *extend* the capacities of our perceptual and cognitive systems, by training or with the aid of technology. However, extending the range of our perceptual and cognitive systems does not free them of all constraints.

[5] This point is supplementary to the classical philosophical distinction between (uncertain) contingent truth and (certain) necessary truth. Scientific knowledge can only be gained by empirical investigation because it is contingent on how the world happens to be (when it could be otherwise). Necessary truths are certain because they are true in any possible universe, so they do not require any empirical investigation.

[6] Illusory phenomena might not represent anything real (other than the workings of the mind itself), in which case one could think of them as mental constructions which do not represent what they seem to represent. But if they are representations *of the world* they must tell us *something* about what the world is "really" like, or they are *not* representations of the world (in this usage, a complete misrepresentation does not count as a "representation").

[7] I use the neutral term "thing" as convenient shorthand here, but leave open the question of whether a given object of knowledge is better thought of as a thing, event, or process.