NATURE'S DARK DOMAIN: AN ARGUMENT FOR A NATURALIZED PHENOMENOLOGY

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Abstract

Phenomenology is based on a doctrine of evidence that accords a crucial role to the human capacity to conceptualise or 'intuit' features of their experience. However, there are grounds for holding that some experiential entities to which phenomenologists are committed must be intuition-transcendent or 'dark'. Examples of dark phenomenology include the very fine-grained perceptual discriminations which Thomas Metzinger calls 'Raffman Qualia' and, crucially, the structure of temporal awareness. It can be argued, on this basis, that phenomenology is in much the same epistemological relationship to its own subject matter as descriptive (i.e. 'phenomenological') physics or biology are to physical and biological reality: *phenomenology cannot tell us what phenomenology is really 'about'*. This does not mean we should abjure phenomenology. It implies, rather, that the domain of phenomenology is not the province of a self-standing, autonomous discipline but must be investigated with any empirically fruitful techniques that are open to us (e.g. computational neuroscience, artificial intelligence, etc.). Finally, it entails that while a naturalized phenomenology should be retained as a descriptive, empirical method, it should not be accorded transcendental authority.

1. Introduction

I take naturalism to be, in part, a methodological prescription about how philosophical theories should relate to scientific theories. Naturalists think that human knowledge is the product of fallible animals whose biology does not equip them to reliably track the structure of reality. They regard earlier attempts to carve out foundational truth claims secure from revision by the findings of science, history and observation as conspicuous failures, for they misinterpret anthropological facts about how we are disposed to think as necessary truths.[1] As

[1] For some heterodox expressions of methodological naturalist positions see W.V.O Quine, Two Dogmas of Empiricism', in

James Ladyman and Don Ross remark 'Naturalism is, among other things, the metaphysical hypothesis that the objective world is not constrained by any reasons or standards of reasonableness'.[2]

If the world is not constrained by ingrained presumptions about how it ought to be, philosophical claims about its structure should not be insulated from the consequences of scientifically motivated conceptual change. However, the influence can run from philosophy to science. Theories in naturalistic philosophy of mind, for example, are informed by developments in psychology, neuroscience and AI but also frequently inform research in those areas. In a naturalized philosophical discipline the arrows of inference and constraint are reciprocal.

Thus methodological naturalists urge that philosophical claims should a) be informed and constrained by the best scientific and empirical knowledge and b) should eschew claims about sources of information not thus informed or constrained.[3]

The claim that phenomenology is apt for 'naturalization' is contentious because many philosophers regard it as *epistemically closed* to findings of disciplines with different doctrines of evidence.[4] For example, speculations about the physical basis of conscious experience are frequently held to be irrelevant to describing 'how it feels'. The closure assumption implies that a neural network model explaining how our experience of time is generated could throw no light on what that experience *is like*. Given closure we cannot need a theory to tell us what it is like.

The closure assumption receives its clearest expression in transcendental phenomenology, which takes the *epoché* or 'bracketing' of naturalistic assumptions as a methodological axiom. For transcendental phenomenologists following in the wake of Husserl's work, the meaning of claims about physical entities of the kind posited in some naturalistic ontologies can be adequately explicated only in terms of our possible modes of awareness of them. These can be phenomenologically described by suspending ordinary assumptions about the

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From a Logical Point of View (Cambridge Mass.: Harvard University Press, 1953), pp. 20-46; 'Epistemology Naturalized', in *Ontological Relativity ad other Essays* (New York: Columbia University Press, 1969, 69-90); Larry Laudan, 'Normative Naturalism,' *Philosophy of Science* 57/1(1990), 44-59; Patricia Smith Churchland and Terrence J. Sejnowski, 'Neural Representation and Neural Computation' in William Lycan (ed.) *Mind and* Cognition (Oxford: Blackwell 1999), 134.

[2] James Ladyman and Don Ross, *Every Thing Must Go: Metaphysics Naturalize*d (Oxford: Oxford University Press, 2007), 288.

[3] David Papineau, 'Naturalism', *The Stanford Encyclopedia of Philosophy (Spring 2009 Edition)*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/spr2009/entries/naturalism/>. Accessed 23 August 2012.

[4] See, for example, Thomas Nagel, 'What is it like to be a bat?', *Philosophical Review* **83** (1974), 435-50; Matthew Ratcliffe, 'Husserl and Nagel on subjectivity and the limits of physical objectivity', *Continental Philosophy Review* **35** (2002), 353-377; Joseph Levine, 'Materialism and qualia: The Explanatory Gap' *Pacific Philosophical Quarterly* **64** (1983), 354-61.

mind-independent existence of objects and directing attention to how we are aware of objects *as mind independent*. The 'world' of modern natural science, thus understood, is just one way of interpreting the culturally molded 'life world' of perceptual objects, qualities and values.[5]

If the *epoché* is possible, the arrows of epistemic pressure at most run from phenomenology to science. The phenomenologist can advise the cognitive scientist about what it means to say that the brain 'is a thing' but no reciprocal wisdom can be forthcoming from cognitive science.

Like the naturalization claim, the normative claim for closure requires a justifying doctrine of evidence. One form of this is that phenomenological claims don't have to be scientifically or theoretically-informed as long as the things they describe are pre-theoretically or 'intuitively' given to the conscious subject.

This putative theory-independence seems to explain transcendental phenomenology's claim to methodological priority over purely conceptual or speculative philosophy. A theory can always be glossed with discrepant interpretations or ontologies. If there is no non-theoretical access to 'the things themselves' one may reason, as Quine did, that ontology is relative to the translation manual we adopt under radical interpretation: a relativity applying recursively and without end since the ontology applied by the translator will itself be expressible as a theory with multiple models.[6]

The discipline of phenomenology suggests a way out of Quine's labyrinth. If intuition obviates regress to a background theory, perhaps it will help us recover the 'authentic' meaning of philosophical or scientific claims – including that of naturalism itself![7]

Of course, the claim that anything can be 'given' or intuited this way is contestable and has been extensively contested.[8] It follows that any substantive interpretation of the notions of 'givenness' or 'intuition' may cede ground to the anti-naturalist unnecessarily. Fortunately, we do not *need* a positive conception of intuition to understand its role in the debate between

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[5] Edmund Husserl, *Crisis of European Sciences and Transcendental Phenomenology,* trans. D. Carr (Evanston: Northwestern University Press,1970), 51, 111. See also 'Husserl and Nagel on Physical Objectivity'.

[6] W. V. Quine, 'Ontological relativity', *Journal of Philosophy* **65** (1968), 185-212; Donald Davidson. 'The Inscrutability of Reference', in *Inquiries into Truth and Interpretation* (Oxford: Clarendon Press 1984), 234-5.

[7]This insight or hope seemed to animate the main practitioners of phenomenology as a method of philosophical explication. Husserl's interest in the 'origin of geometry' was motivated by the realization that a purely formalist account of geometric theories could not satisfactorily explain the meaning of geometrical claims or account for the ontological status of its posits. *Crisis of European Sciences*, 44-45, 366-367. See also Richard Tieszen, 'Gödel and the Intuition of Concepts', *Synthese* **133** (2002), 363–391.

[8] See, for example, Section VI of 'Two Dogmas'; Wilfred Sellars, 'Empiricism and the Philosophy of Mind,' in *Minnesota Studies in the Philosophy of Science*, vol. I, H. Feigl & M. Scriven (eds.), (Minneapolis, MN: University of Minnesota Press, 1956), 253–329; Donald Davidson, 'What is present to the mind?,' *Philosophical Issues* **1** (1991),197-213; Jacques Derrida, *Speech and Phenomena*, David Allison (trans.), (Evanston Ill.: Northwestern University Press: 1973).

phenomenological naturalists and phenomenological anti-naturalists. 'Intuition' can be a placeholder for whatever (real or imagined) epistemic organ allows the phenomenological domain to provide a yardstick for its own description.

An anti-naturalistic phenomenology would be *well founded*, then, if its justifications were closed under appeal to intuition. The only legitimate challenge to a phenomenological description would be to make a better job of intuiting.[9]

Phenomenology would be closed in this way only if its domain were completely intuitable. However, it is at least conceivable that the domain is not wholly intuitable. A feature of conscious experience is intuition-transcendent or 'dark' if it confers no explicit or implicit understanding of its nature on the experiencer. Intuitable phenomenology confers an implicit understanding of its nature on the experiencer, even if this must be subsequently clarified in phenomenological reflection. For example, Husserlian phenomenologists claim that 'concepts' under which we grasp objects have implicit entailment structures that can be promoted to objects of awareness in reflection.[10] Dark phenomenology would be epistemically resistant to such a process. Having experiences in which it figures would not constitute or produce an understanding of its nature that could be explicated at a later date.

This is not to say that dark phenomenology would be *ipso facto* inaccessible. A dark phenomenon could influence the dispositions, feelings or actions of the experiencer without improving her capacity to describe them. Theories of dark phenomenology could be adduced to explain these effects. Our access to the dark side would thus be as theoretically and technically mediated as our access to the humanly unobservable universe. The criteria for evaluating theories of dark phenomenology would presumably be those applying in other areas of empirical enquiry (instrumental efficacy, simplicity, explanatory unity within wider science).

At this point some phenomenologists might object that the dark side is just another posit of the natural attitude and does not lie within the domain of phenomenology as first philosophy. Since it falls short of the ideal of intuitability, the hypothesis of dark phenomenology could be bracketed for purposes of phenomenological description.

[9] See J.N. Mohanty, *Transcendental Phenomenology: an Analytic Account* (Oxford and Cambridge: Blackwell, 1989). This raises the spectre of a local phenomenological coherentism. Naturally, this would not require phenomenological appeals to intuition to be immune from error.
[10] See, for example, 'Gödel and the Intuition of Concepts', 371-5.

However, the bracketing objection assumes that the dark domain is disjoint from the intuitable domain and does not impinge on it in some way. I will call this *the disjointness assumption*.[11]

If disjointness fails, there may be phenomenological structures that are only partially intuitable because their phenomenologically accessible relations or entities are conjoined with dark relations or entities. For example, the conjoining of dark with light could involve relations between phenomenological parts to wholes.

Suppose there are phenomenological structures like colour or pitch continua that are intuitively accessible at a coarse grain level but not at a fine grain. Any inference from the former to the latter might be prone to the fallacy of division and unrectifiable as long as closure under appeal to intuition is enforced.

On the other hand, specialists in empirical disciplines such as cognitive science might have access to observational techniques that obviate limits on intuition. If their claims could be supported, phenomenology would be subject to revisionary pressure from those disciplines and the methodological prescription 'to naturalize' could be factually supported.

How should we understand this possibility? One way to do this is by drawing on an analogy from the history of science. We could compare phenomenological claims based on intuition to studies in electromagnetism, thermodynamics or genetics whose interpretation is largely descriptive or instrumental rather than abstract or quantitative. When faced with abstract theoretical explanations of the phenomena that are more consilient with other areas of science there is typically a dialectical relationship whereby questions can be raised about the metaphysical and explanatory heft of either theory. For example, some philosophers claim that Mendel's classical genetics is better understood as a theoretical refinement of instrumental claims about how to obtain phenotypes through breeding than as an ontologically revealing account of the actual mechanisms of heredity.[12] Clearly, there are other ways of allocating ontological significance here. Some might argue that classical genetics is 'eliminated' or reduced by molecular genetics while those who favour the instrumental interpretation might claim molecular and classical genetics are too different in their aims for the former to be eliminable by the latter.[13]

[11] Note that disjointness is rejected by any strong phenomenological realism. The ontology of *conjoint phenomenology* is not a correlate of our means of accessing it.
[12] Paul E. Griffiths and Karola Stotz, 'Genes in the Postgenomic Era', *Theoretical Medicine and Bioethics* **27** (2006), 499–521.
[13] Philip Kitcher, '1953 and All That. A Tale of Two Sciences', *Philosophical Review* **93:3** (1984), 335373.

If this analogy holds, then *prima facie* evidence for dark phenomenology would open up transcendental phenomenology to a dialectic similar in at least some respects to those in other areas of science. According to the epistemic model introduced earlier, this would constitute a *de facto* naturalization since the claims of intuition would already be susceptible to epistemic pressure from natural science.

But are there any grounds for belief in non-disjoint (i.e. conjoint), dark phenomenology?

I will consider some *prima facie* candidates. The first belong to the area of perceptual phenomenology: pitch, colour and timbre perception. The second (and arguably most conjoint of all) is the phenomenology of time.

2. Perceptual Phenomenology

If intuiting supports the evaluation of phenomenological descriptions intuition must supply conceptual content. So intuition plausibly includes a recognitional component: if we cannot recognize tokens of some type, we are in no position to evaluate descriptions of it. It follows that any phenomenology that transcended our subjective recognitional powers would be 'dark'.

There is some evidence for phenomenological darkness of this kind. Psychophysical work suggests that the human capacity to discriminate musical pitch differences is more fine-grained than the human ability to identify pitch intervals.[14] Claims for this disparity are typically supported by tests where subjects prove able to discriminate very fine differences between tones or hues when the stimuli are presented simultaneously, but are unable to reliably categorize them when they are presented successively. For example, listeners can discriminate, on average, over a thousand different frequency differences within the auditory spectrum.[15] However, the number of musical intervals that even trained musicians can identify by linguistically labelling intervals (as a 'fourth' or 'tritone', etc.) or by estimating degrees of similarity between intervals is much smaller. When identifying musical intervals, trained musicians often overlook discrepancies in tuning similar in magnitude to the average just-noticeable-frequency-differences for pitch discrimination.[16] In the case of colour perception the apparent gulf between discrimination and type identification is vast, with

[14] Diane Raffman, 'On the Persistence of Phenomenology'. In T. Metzinger, ed., *Conscious Experience* (Thorverton, UK: Imprint Academic 1995), 293 – 308.
[15] Edward M. Burns, 'Intervals, Scales and Tuning', in Diana Deutsch (ed.), *The Psychology of Music* (San Diego: Academic Press 1999), 228.
[16] The presence of a just noticed difference can be established by asking a subject to adjust a stimulus until she judges its level to be the same as that of a reference stimulus. Siegel J.A. and Siegel W., 'Absolute Identification of Notes and Intervals by Musicians', *Perception and Psychophysics* **21** (1977), 143-52.

discriminable colour differences numbering around ten million as compared with a colour lexicon of around thirty.[17]

Diana Raffman uses the evidence for dark phenomenology to rebut a standard physicalist objection to the phenomenologically inflationary claim that conscious states are irreducibly subjective, introspectable properties of experience (*qualia*). The objection goes something like this: '[There] are no irreducibly subjective facts; rather, there are simply different ways of knowing ordinary physical or functional facts about the mind-brain'.[18]

One detailed proposal for explaining this difference is that phenomenal states only seem to have irreducibly subjective properties because they are introspected under direct recognitional concepts which track them via some reliable internal scanning mechanism.[19] The scanning mechanism allows us to recognize phenomenal states as being of a certain kind without exploiting a description or theory of what these states are like. [20] A complete physical description of these scanning mechanisms would not allow one to infer a subjective description that conveys how *red-31* feels simply because no such descriptions are to be had: phenomenal concepts designate phenomenal properties without describing them. The 'irreducible subjectivity' of phenomenal states is thus a cognitive illusion generated by their idiosyncratic mode of presentation.

For Raffman, the moral of the psychophysical data on the gulf between discrimination and identification is that any account of phenomenal recognitional concepts is liable to hit a bottleneck on our capacity to remember concepts of phenomenal states that allow tokens of the same phenomenal types to be subsequently recognized. For the psychophysical data indicates that our recognitional schema simplify the memory task by omitting fine-grained differences in perception. We are not capable of recognizing the refined qualitative states that we nonetheless introspect. Suppose the production of phenomenal concepts reflects this coarse-coding strategy.[21] If a phenomenal state of seeing *Red-31* is more determinate than any available phenomenal recognitional concept there can be no type-identifying mentalese predicate '*Red-31* Experience' available to track the corresponding brain states through the memory bottleneck.[22] However, *we are introspectively aware of refined qualitative perceptual states*. Thus the disparity between identifying concepts and refined sensory

[17] Peter Mandik, 'Colour Consciousness Conceptualism', *Consciousness and Cognition* **21:2** (2011), 617–631.
[18] On the Persistence of Phenomenology', 293.
[19] Op. cit., 297-300.
[20] See Brian Loar, 'Phenomenal States,' *Philosophical Perspectives* **4** (1990), 81-108; Michael Tye, *Consciousness, Color, And Content* (Cambridge Mass.: MIT 2002), 27-29.
[21] 'On the Persistence of Phenomenology', 296.
[22] Op. cit., 299.

discriminations implies that the introspected character of phenomenal experience is not explicable by way of special-purpose phenomenal concepts.

If the grain of the 'memory schemas' that track phenomenal types are coarser than the underlying phenomenology some of this phenomenology will go unrecognized and unremembered.[23] If that is indeed the case then, as Ned Block has argued, phenomenology cannot supervene on its accessibility to working memory.[24] Corroborating evidence for this is provided by well replicated experiments like those of George Sperling who found that subjects reported seeing all or almost all elements of an alphanumeric array of twelve characters presented for 50 milliseconds, though they were only able to identify around four elements of the array following the presentation.[25] Block uses these findings to argue that phenomenology overflows attentional availability. The supervenience base of consciousness experience thus does not include informational links between sensory modules and the working memory circuits in the front of the head.[26]

This experimental data is thus an apparent foil for first-person verificationist accounts of the type elaborated by Daniel Dennett in *Consciousness Explained*. First person verificationism states that there can be no facts about consciousness transcending our subjective knowledge of them.[27] A state can only be conscious, according to this account, if it is poised to contribute to the activities of a knowing, rational, speaking subject: hence available in working memory. For deflationists, the evidence purportedly demonstrating the existence of unattended phenomenal richness testifies rather to the existence of information – stored in the recurrent activity of perceptual modules in the back of the head – that has lost the fight to become available to the prefrontal centres associated with working memory, and thus promotion to 'full' consciousness.[28]

However, as Robert Van Gulick points out in are a response to Block's target article in *Behavioural and Brain Sciences* there are other possibilities here. The unattended form of consciousness may be a functionally distinct – and in certain respects – deficient phenomenology characterized by cognitively deficient access. The subjects in Sperling's experiment were, after all, able to access the fact that they had seen an array of twelve

[23] Op. cit., 295–6.
[24] Where working memory is the cognitive ability to retain contents of experience for wider cognitive tasks such as reflection, categorization, planning and the production of verbal reports.
[25] Ned Block 'Consciousness, accessibility, and the Mesh between Psychology and Neuroscience', *Behavioral and Brain Sciences* **30**, (2007), 481–548.
[26] Op. cit., 492.
[27] Daniel Dennett, *Consciousness Explained*, (London: Penguin 1991), p. 132-33.
[28] Andy Clark and Julia Kiverstein, 'Experience and Agency: Slipping the Mesh', *Behavioral and Brain Sciences* **30**, (2007), 502-503.

alphanumeric characters.[29] Moreover, evidence of change-blindness phenomena in Sperling-type situations and elsewhere suggests that subjects can impute richness to the reported phenomenology that is not informationally present.[30] The fact that subjects in Sperling-type experiments report seeing more alphanumeric figures than they can describe does not, then, imply that the letters were all determinately and ineffably present in a kind of internal 'movie screen of the mind'.

Thus the hypothesis that some phenomenology confers no tacit or explicit understanding of its nature does not have to attribute either a determinacy the dark side that is recalcitrant to third-person description; *or* an intrinsic nature that is recalcitrant to functional analysis. As the change-blindness data suggests, certain dark phenomena may be relatively indeterminate - more informationally coarse than the phenomenological reports suggest. Semantic over-determinacy may be a sufficient condition for phenomenological darkness without being a necessary one.

Dark phenomena may be functionally distinguished from non-conscious mental states by access relations that – while *epistemically* deficient - exhibit variable coarseness with respect to the content accessed.[31] Thus proponents of the dark side can be realists (rather than first-person verificationists) about the domain of phenomenology while retaining the deflationary claim that consciousness is a functional property of a mental state associated with its accessibility for other sub-personal agencies in the mind/brain. [32]

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[29] Robert Van Gulick, 'What if Phenomenal Consciousness admits of Degrees?', *Behavioral and Brain Sciences***30** (2007), 528–529.

[30] See Michael A. Cohen and Daniel Dennett, 'Consciousness Cannot be Separated from Function', Trends in Cognitive Sciences, **15(8)** (2011), 358-364.

[31] An access relation is epistemically deficient if it is relatively uninformative about the *nature* of what it is accessed. It is informationally deficient if its content is indeterminate or coarse relative to the content of the state accessed.

[32] This merits an epistemological aside: When considering phenomenology as a candidate for first philosophy, arguably, it is *realism* and not verificationism that is deflationary. First person verificationism assures intuitive closure since, then, there can be nothing given to the phenomenologist that is not conceptually accessible or describable in principle. Phenomenological realism – by contrast – implies that what the subject claims to experience should not be granted special epistemic authority since it is possible for us to have a very partial and incomplete grasp of its nature.

Real phenomenology – the states of mind and contents into which the discipline of phenomenology sinks its hooks - would then be as epistemically distant from us as any entity outside the head.

This implies that post–Kantian attempts to parse reality as possible intersubjectivity or as the capacity of a thing to reveal different aspects in different experiences should be rejected. This model requires that there is a principled difference between an actual presentation of a thing and its possible presentation. The table is a real physical object insofar as no experience of it is exhaustive. It is always possible for the table to reveal further aspects in further experiences. Even though the table is never given completely, there is something about the table that is given in each case: namely the visible, audible or tactile aspect that it reveals to a subject.

However, phenomenological realism entails that the phenomenology of the visible table can be as epistemically removed from me as the deep structure of matter (and may be necessarily so, if, as I argue in Section 3, the phenomenology of subjective time is inherently dark). Thus I do not become apprised of the nature of its visible aspect of the table merely by seeing the table. The post–Kantian equation of reality with possible givenness is epistemically useless if all givenness is impossible.

The deflationary potential of the dark phenomenology hypothesis is nicely illustrated in Thomas Metzinger's appropriation of Raffman's argument in his book *Being-No-One*.[33] Rather than using dark phenomenology to motivate belief in irreducibly subjective phenomenal properties - qualia - he co-opts her argument from informational constraints on working memory to motivate an epistemological argument *against* classic qualia. The classic quale is a simple, intrinsically subjective, intuitable property of experience. However, 'Raffman qualia' - his term for the simplest perceptual discriminations - cannot be intuited because they lack subjective identification conditions. It does not follow that they are wholly inaccessible or unrepresentable from a third-person point of view, however. It is possible to attend to them non-conceptually - as in experiments involving just noticeable differences between pitch or colour samples. They can also be identified functionally by their distal inputs and contributions to behaviour. Raffman qualia, according to Metzinger, are functionally individuated content fixations whose recognition requires organs other than intuition. The classic quale must, accordingly, be a purely theoretical entity because the simplest forms of perceptual content fixation are necessarily intuition-transcendent and (thus dark). If quales must be introspected nonconceptually knowledge of them cannot, as he puts it, 'be transported out of the specious present'.[34]

Thus the nature of Raffman qualia is *epistemically closed* to the subject who experiences them. For such states, Metzinger famously quips, 'Neurophenomenology is possible; phenomenology is impossible'.[35]

This particular deflationary gambit is resisted by phenomenal conceptualists, who claim that perceptual *concepts* are, after all, no less grainy than perceptual *contents*. For example, Alva Noë employs an *enactivist* account of perceptual content similar to some phenomenological accounts of perceptual intentionality to motivate the claim that our phenomenology is tacitly conceptualized.[36] Since this seems to be what the closure assumption requires it is worth considering whether his argument bolsters it.

Enactivist philosophers of mind claim that perception is an organism's grasp of its potentialities for action. 'To feel a surface as flat is precisely to perceive it as impeding or shaping one's possibilities of movement'.[37] To see an object's shape or colour is to activate a

[33] Thomas Metzinger, *Being No–One: The Self–Model Theory of Subjectivity*, (Cambridge: MIT Press 2004).
[34] *Being No-One*, 82.
[35] Thomas Metzinger, *Being No–One: The Self–Model Theory of Subjectivity*, (Cambridge MA.: MIT Press 2004).
[36] Josh Weisberg, 'Being all that we can be: Review of Metzinger's Being No–One'. *Journal of Consciousness Studies* **10: 11** (2003), 90–96.
[37] Alva Noë (2004) *Action in perception*. (Cambridge MA.: MIT Press,: 2004), 104.

'sensorimotor profile' which, much as a Husserlian noema, anticipates how it could look from different orientations:[38]

> [In] looking at the tomato, you implicitly take it that were you to move your eyes a bit to the left or right, or up or down, you would bring previously hidden or obscured parts of the tomato into view. Your perceptual experience of the tomato as voluminous depends on your tacit understanding of the way its appearance (how it looks) depends on movement.[39]

Importantly, Noë claims that this enacted content does not anticipate variations of *occurrent* perceptual qualities (occurrent shapes, colours, etc.). Rather, experience is 'virtual' all the way down: 'Qualities', he writes 'are available in experience as possibilities, as potentialities, but not as givens'.[40]

Noë thinks that treating sensory qualities as virtual saves the idea that experience is conceptually articulated, thus phenomenologically recoverable, from fineness of grain arguments of the kind adduced by Raffman and Metzinger. To perceive a perceptual quality is a quasi-conceptual act because each sensorimotor profile provides a formula to demonstratively refer to any position in its quality space with descriptions like 'all blues lighter than the blue I currently see'.[41] Thus, *pace* the dark phenomenology hypothesis, enactivism suggests that a tacit conceptual grasp of the character of our phenomenology illuminates the phenomenology of the most refined perceptual awareness.

However, this model is open to some objections. Firstly, if the phenomenological domain includes Raffman qualia at some level then what entitles us to assume these are related in the same way as subjectively identifiable shades? Even if Raffman qualia were mereological parts of coarser-grained shades - surely a questionable assumption - this inference would commit the fallacy of division. Since the part-whole relationship is supposedly non-intuitable, we cannot assume the uniformity of relation on the basis of phenomenology alone. Note that this objection applies even if qualities are virtual all the way down. A virtuality or tendency can be as phenomenologically inaccessible as any occurrent state.

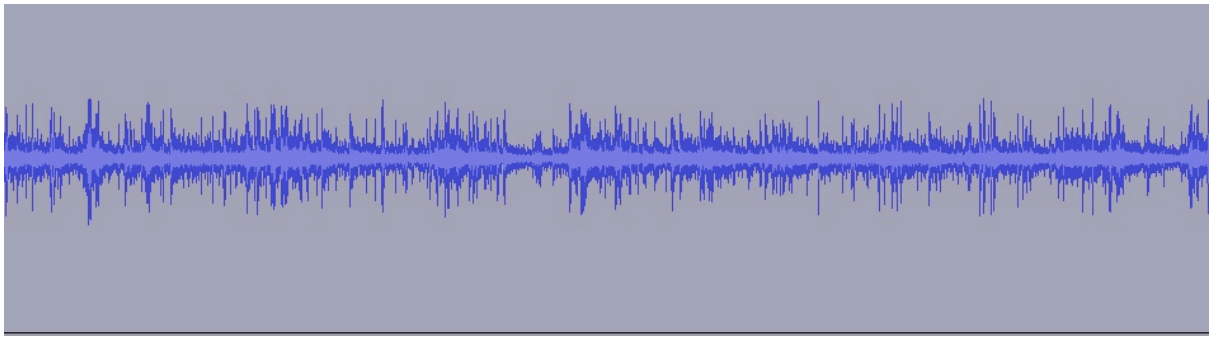
[38] M. Rowlands, 'Enactivism and the Extended Mind', *Topoi* **28** (2009), 53-62.
[39] *Action in Perception*, 77.
[40] *Action in Perception*, 135.
[41] For example, the enactivist might save Hume from the consequences of the 'missing shade of blue' by arguing that the relationship between a perceptual profile of a blue colour continuum to each of its constituent shades is a form of conceptual reference.

Secondly, debates over conceptualism and granularity often suggest that our perception consists only of shades in continua structured by formal relations like pitch or brightness intervals.

But most perceptual contents are arguably of a more complex nature. For example, auditory timbre is a multi-dimensional quality that lacks the formulaic orderings usually attributed to colour or pitch continua.[42] Timbres can be typed and analysed differently but these include some specification of the overall shape or 'envelope' of a sound. The envelope is how a sound's intensity changes over time. In music technology implementations derived from Vladimir Ussachevsky's work in the 1960s[43] the envelope is represented as the gradient of a sound's attack, decay and sustain: the speed at which it hits peak amplitude, decays from that peak and sustains the resultant of the decay segment.

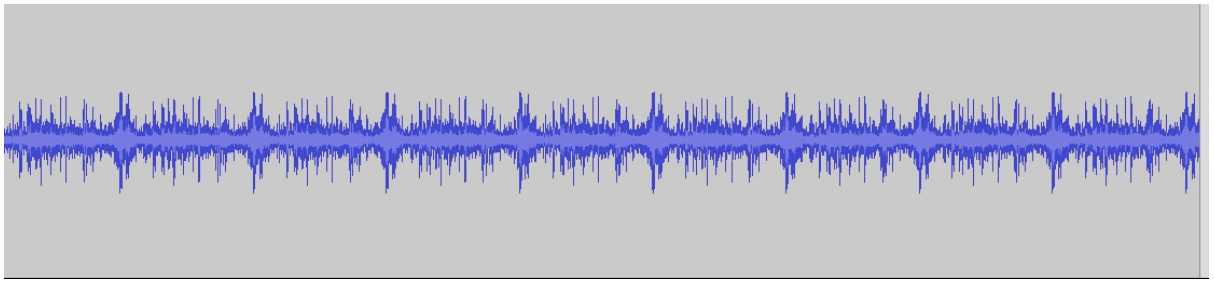
While the classic Attack Decay Sustain Release (ADSR) envelope reflects the behaviour of natural resonators like percussed wood or metal many natural and synthetic timbres can have highly involuted shapes. Some sonic events are too involved to give the formulaic orderings Noë relies on. Thus it must be possible for quality samples to underdetermine their qualitative extension leaving whole regions of their quality space inaccessible to demonstrative reference. For example, while currently perceiving a complex sound we may anticipate that successive sounds will be of a general type without adumbrating those possibilities in any detail.

Most listeners, I suspect, will distinguish an eight second sequence from Xenakis' pioneering 'granular' composition *Concret Ph*.



and a loop that repeats the first one-second slice of it for eight seconds.

[42]David Roden. 'Sonic Art and the Nature of Sonic Events', *Review of Philosophy and Psychology* **1**, 2010, 141–156.
[43]Thanks to Jon Appleby for the Ussachevsky reference.



This is discernible because of the obvious repetition in pitch and dynamics.

Telling the looped sequence from the non-looped sequence is not the same as acquiring subjective identity conditions that would allow us to recognise the extra structure distinguishing the non-looped from the looped sequence in a different context (e.g. within the entirety of *Concret Ph)*. What is intuited here is arguably a fact about the shortfall between type-identifiable phenomenology and non type-identifiable phenomenology. It does not provide any obvious insight into the structure or nature of the latter and thus does not constitute an exception to Metzinger's claim.

As an illustration of this, the mere awareness that there is missing structure in the loop does not help settle the issue between virtualist and occurentist construals of that structure. It is plausible to suppose that the perceptual awareness of the missing structure in the Xenakis loop consists of virtual contents - a representation of tendencies in the developing sound rather than something like a constantly updated encoding of occurrent sonic events[44]. Indeed the virtual model would be consistent with the widely held assumption that our representation of temporal structure is accomplished via recurrent neural architecture that modulates each current input by feeding back earlier input.[45] But whether the contents of representations of temporal structure are virtual or occurrent in nature has no direct bearing on their conceptual or intuitive accessibility.

So the virtual/occurrent distinction is orthogonal to the methodological issue of closure. Raffman qualia might be temporally discrete content-fixations; or they might be dynamic entities such as trajectories or attractors in the state spaces of recurrent nets.[46] Whichever

[44]Tim Van Gelder, 'Wooden Iron? Husserlian Phenomenology Meets Cognitive Science', *Electronic Journal of Analytic Philosophy*, **4**, 1996.
[45]Op. cit.
[46] That a perceptual content is not experienced *as* dynamic tells us nothing about the temporality of its vehicle (This is why enactivism is supposed to be such big news after all!). Neither, as Metzinger points out, is dynamism incompatible with stability: 'Even if simple presentational content, for example, a current conscious experience of turquoise37, stays invariant during a certain period of time, this does not permit the introduction of phenomenal atoms or individuals. Rather, the challenge is to understand how a complex, dynamic process can have invariant features that will, by phenomenal necessity,

model turns out right, evidence for non type-identifiable content fixations suggests that some perceptual 'matter' falls *outside* the reach of conceptual sensorimotor profiles (if such there be) or memory schema (if such there be) or phenomenal concepts (if such there be).

Thus a case can be made for 'dark' perceptual grains and involutes 'nested' in the more type-identifiable and intuitable uplands of our phenomenology. If so, then a portion of its structure *is not intuitively accessible and* a solely 'phenomenological' account of this sub-domain will be liable to mischaracterize it.

3. The Phenomenology of Time

A case can also be made for claiming that the phenomenology of time is part of the dark sub-domain. If this is right, then the implications for phenomenology's transcendental pretensions are devastating.

Temporality is a central ingredient in most phenomenological accounts of reality or transcendence. Husserl understands the objectivity of the empirical or physical thing as an excess over any of its temporally structured aspects. ''The' thing itself is always in motion, always, and for everyone, a unity for consciousness of the openly endless multiplicity of changing experiences and experienced things, one's own and those of others'.[47]

As with the case of Raffman qualia, committing this structure to the dark side would not entail its inaccessibility to other epistemic organs. However, if dark temporality were conjoint with the intuitable or subjectively accessible temporalities it would be a transcendent thing not *a transcendental condition of thinging*. There would be no reason to accord it a different epistemological or ontological status to rocks or cats. The phenomenological distinction between the transcendental form of experience and the particular experienced entities whose contents it articulates would be irreparably undermined.

Is there any reason to believe that temporality is dark? If one is a representationalist philosopher of mind there are reasons to be skeptical about its transcendental role. A theory of transcendental subjectivity allows that particular objects are existentially independent of the existence of particular subjects. However, it cannot allow that the existence of the object is conceptually independent of modes of presentation in possible experiences:

> [The] intentional object is only constituted as an object - as act-transcendent - the moment we

appear as elementary, first–order properties of the world to the system undergoing this process'. *Being No–one*, 94.

[47] Edmund Husserl, *The Crisis of the European Sciences and Transcendental Phenomenology*, trans. David Carr (Evanston: Northwestern University Press 1970), 164

> experience it as an identity in a manifold, that is, the moment we establish its identity across different acts and appearances. But this experience of the identity of the object across a change in acts (and appearances) is an experience that once again draws on the contribution of our time-consciousness […] Ultimately, Husserl argues, temporality must be regarded as the formal condition of possibility for the constitution of any objects [...][48]

The very existence of the object is thus understood in terms of its transcendence of temporally informed modes of presentation. Temporally informed modes of presentation are thus conceptually prior in the order of philosophical explanations to what they present. But representationalists claim that all cognitive processes - including thinking and perceptual experience - are transformations on physical vehicles with a representational content.

If content is a semantic relation between vehicles and properties or possible states of affairs in the world then the mind-independent existence of these types is conceptually prior to any specification of the semantic relation.[49] However, much the same applies if mental content is a structural property of mental representations alone - e.g. their functional role or their geometric relations to other states within a neural 'activation space'.[50]

Mental representations, so conceived, are just another kind of thing and content is just one (among many other) abstract relations that things subtend. True, the vehicle-to-vehicle state transitions specified in representationalist accounts are plausibly identical to or instantiated in state-transitions between representational states. However, failing panpsychism, there can be nothing intrinsically subjective about such transitions since they are identical to, instantiated by or supervenient upon physical processes. In Husserlian terms, they belong to the constituted time of the world, rather than to he transcendentally constitutive features of subjectivity. Thus a representationalist account of experience cannot be conceptually prior to an account of the temporally ordered processes described in physics, chemistry, biology or any other 'regional' scientific discipline. Phenomenological time is just a time among many, with no special epistemological heft.

Representationalism also implies a methodological impediment to phenomenology. If temporality is a property of the content of mental representations, then there can obviously be a phenomenology of temporal relations and relata such as the melody famously described by

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[48] Dan Zahavi, *Husserl's Phenomenology*. (Stanford University Press: Stanford 2003), 80.
[49] Jerry Fodor, *A Theory of Content and Other Essays* (Cambridge Mass.: MIT Press, 1992).
[50]Ned Block, (1986), 'Advertisement for a semantics for psychology', *Midwest Studies in Philosophy***10**:1 1986, 615–78; Paul Churchland, 'Conceptual Similarity Across Sensory and Neural Diversity: The Fodor/LePore Challenge Answered', *Journal of Philosophy*, 1998, **XCV: 1**, pp. 5–32.

Husserl in section 16 of the *Phenomenology of Internal Time Consciousness*. However, given representationalism, there can be a phenomenology of our 'experience' of time only if it is represented somehow, somewhere in another representation.

What aspect of the temporality of experience could be captured by such higher order representations? This depends on what the phenomenologically and cognitively salient properties of our representations of temporality are. Whatever these turn out to be, there is no reason to think that that the higher order representations that generate phenomenology (if such there be) capture all the features salient to the representation of temporal experience. Thus representationalism implies that phenomenology could not possibly be well founded - i.e. closed under appeal to intuition - because it would always be the case that representations of content-relevant properties of mental states could be epistemically deficient.

Of course any good naturalist should concede that representationalism could turn out to be a false or otherwise 'bad' theory of content, while good phenomenologists of Husserlian or Heideggerian persuasion reject it anyway. So the argument from representationalism suggests at most that first person insight into temporality might not be well founded. It is hardly a conclusive argument.

However, there may be reasons internal to phenomenology for considering theories of temporality to be in need of clarification from wider science. They concern the relationship between phenomenological ontology and the doctrine of evidence that motivates its closure. *For where a phenomenological ontology transcends the plausible limits of intuition* its interpretation would have to be arbitrated according to its instrumental efficacy, simplicity, and explanatory potential as well as its descriptive content.

We can get a schematic idea of how what we might call the 'Argument from Intuitive Overreach' works for specific phenomenological ontologies by considering the ontological commitments of Husserl's theory of temporality. Husserl's theory of temporality builds on the assumption that the content of our experience of objective succession depends upon the organization of subjective time. He thinks this organization must be continuous and non-atomistic. Were each phase of my experience of a melody a temporal atom, how could I experience the melody as a persistent temporal object?

Husserl explains this by describing the experiential 'now' in terms of three indissociable aspects of its intentional content: 1) an intending of the current phase of the object - for example the falling of the fourth to the third of the scale; 2) a 'retention' or primary

remembrance of the previous experience; 3) a 'protension' which, as in Noë's account, anticipates the content to come:

> The 'source-point' with which the 'generation' of the enduring Object begins is a primal impression. This consciousness is engaged in continuous alteration. The actual […] tonal now is constantly changed into something that has been; constantly, an ever fresh tonal now, which passes over into modification, peels off. However, when the tonal now, the primal impression, passes over into retention, this retention is itself again a now, an actual existent. While it itself is actual (but not an actual sound), it is the retention of a sound that has been.[51]

Now, why might we consider this triple structure to be a speculative description of an intuition-transcendent object? Because, like the physical thing, the entity that Husserl describes has a structure that must exceed intuitability if it is to do the job that his theory allocates to it. The now or temporal source point, as Husserl claims, must be *continuously modified into retention*. Lacking continuity the operation would have gaps, as on the atomistic model.[52] If temporal experience could possess gaps then phenomenology would be committed to a dark phenomenology in any case; thus ceding to naturalistic modes of inquiry for the reasons we have already discussed.

However, suppose every segment of a continuum is divisible into a further segment with the same non-discrete characteristics. Unless intuition can handle infinite complexity - implausible, if even Xenakis' rudimentary grain cloud is intractable for structural listening! - apprehending the structure of temporality appears as much as an endless task as the apprehension of a physical thing.

We might try to rescue Husserl by using a variant of the argument Noë employs to rescue conceptualism. Perhaps I am making an elementary error in treating the temporal continuum as a complex object with a real infinity of occurrent parts. Perhaps phenomenological continuity is not like that. Perhaps intuiting the continuum is more like intuiting a formulaic function by which a virtual present is transformed into a virtual past. It is probably correct to say that Husserl did not think that the temporal continuum was composed of independently subsisting phases, describing the content of temporal experience rather as a 'single continuum that is constantly modified'.[53]

[51] Edmund Husserl, *Phenomenology of Internal Time Consciousness*, James Churchill (trans), (The Hague: Martinus Nijhoff 1982), 50.
[52] Op. cit., 62.
[53] Op. cit., 62.

However, his reason for denying that phenomenological temporality is particulate is that it replicates the triple dependence structure at every grain. The question still arises: over what regions and at what phenomenological scales does this dependence relation apply? The claim that this operation can be applied at any scale of the temporal flow entails that it has no gaps and that the triplicate structure is replicated ad infinitum at every scale. Yet, no finite phenomenological subject could ever carry out a complete investigation of this nested structure. It is, as David Wood has argued, a pure metaphysical posit made on epistemological rather than phenomenological grounds.[54]

So Husserl's theory conflicts with its own doctrine of evidence. If the structure of time is too fine to be grasped with the organ of intuition then Husserl's theory is at best a useful approximation that helpfully limns the ontology of subjective time while implying that there must be something more to the temporality of subjectivity than we can intuit. However, phenomenological time must have a continuous structure if phenomenology is to provide a transcendental theory of objectivity and to rebut naturalism. Thus if temporality is dark, it cannot do what it has to do. But in order to do this, it must be dark. Therefore it cannot do what it has to do.

Thus temporality is dark on both representationalist accounts and on a rival Husserlian account that rejects representationalism as a theory of mental content. There may be versions of phenomenological theory for which there is no more to the temporal structure of experience than can be intuitively grasped, reported on and described by a reflective subject. However, this seems to imply first person verificationism with regard to temporal flow. It is hard to see how such a position could generate problems for the philosophical naturalist. To be sure, it would restrict the evidence base of theories of temporal experience to the contents of subjective reports, but it is difficult to see how such an etiolated temporal structure could inform an account of objectivity of the kind sought by transcendentalists. Thus if phenomenology has anything interesting to say about temporality, it concerns a crepuscular structure with both light and dark aspects. It must, therefore, provide an incomplete account that requires supplementation through other modes of enquiry.

If phenomenology is incompletely characterized by the discipline of phenomenology, though, it seems proper that methods of enquiry such as those employed by cognitive scientists, neuroscientists and cognitive modelers should take up the interpretative slack. If

[54]David Wood, *The Deconstruction of Time* (Atlantic Highlands NJ.: Humanities Press International, 1989), 78–9.

phenomenologists want to understand what they are talking about, they should apply the natural attitude to their own discipline.

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