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PERCEPTION AND THE REACH OF PHENOMENAL CONTENT

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The phenomenal character of perceptual experience involves the representation of colour, shape and motion. Does it also involve the representation of high-level categories? Is the recognition of a tomato as a tomato contained within perceptual phenomenality? Proponents of a conservative view of the reach of phenomenal content say 'No', whereas those who take a liberal view of perceptual phenomenality say 'Yes'. I clarify the debate between conservatives and liberals, and argue in favour of the liberal view that high-level content can directly inform the phenomenal character of perception.

I. INTRODUCTION

What is it like to look at a tomato? You experience yourself as facing an object that occupies a certain region of space and has a particular shape. You are likely to experience the tomato as being a certain colour – say, a particular shade of red. If the tomato happens to be in motion, you may also experience it as being in motion. Each of these features of your perceptual experience involves particular phenomenal properties. Do these phenomenal properties (and others like them) exhaust what it is like to look at a tomato?

Some say they do. Proponents of what I shall call the *conservative view* hold that the phenomenal character of visual experience is exhausted by the representation of low-level properties – colour, shape, spatial location, motion, and so on. Conservatives give similar accounts of other perceptual modalities: the phenomenal character of audition is exhausted by the representation of volume, pitch, timbre, and so on; the phenomenal character of gustation is exhausted by the representation of sweetness, sourness, and so on. The phenomenal world of the conservative is an austere one.[1]

[1] Strictly speaking, it is representations of properties rather than properties themselves that are low-level or high-level. Nevertheless, it is very convenient to refer to represented properties as low-level and high-level, and I shall help myself to this convenience on occasion.

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This conservative view of perceptual phenomenality can be contrasted with a liberal view according to which the phenomenal character of perception can include the representation of categorical ('high-level') properties, such as being a tomato.[2] We perceive objects and events as belonging to various high-level kinds, and this, the liberal holds, is part and parcel of perception's phenomenal character. What it is like to see a tomato, taste a strawberry or hear a trumpet is not limited to the representation of 'low-level' sensory qualities but involves the representation of such 'high-level' properties as being a tomato, a strawberry or a trumpet.

The debate between these two positions is of no little significance, for getting a fix on the admissible contents of perceptual phenomenality would provide us with an important set of conditions which any adequate theory of consciousness must meet. Some accounts of phenomenal consciousness entail that high-level content is phenomenally inadmissible, other accounts leave the possibility of high-level phenomenal content open, and still other accounts require that high-level representations are phenomenally admissible. However, my goal here is not to explore the potential impact of this debate on theories of phenomenal consciousness, but to present a defence of phenomenal liberalism.

II. THE REACH OF PERCEPTUAL PHENOMENALITY

First in the order of business is the task of clarifying the contrast between conservatism and liberalism. I shall begin with the notion of phenomenal consciousness. Phenomenal states are states which it is 'something it is like' to instantiate.[3] What differentiates one phenomenal state from another is a function of what it is like to have the states in question. What it is like to have a phenomenal state is a function of the state's representational content, at least when it comes to those phenomenal states associated with perception. Indeed, we typically identify phenomenal states by invoking the properties they represent: we talk of what it is like to see the yellow of sunflowers, to hear middle C on a trumpet, and to feel the texture of sandpaper. So phenomenal properties and representational contents are intimately related. The notion of *phenomenal content* puts these two notions together. As I am thinking of it here, phenomenal content is that component of a state's representational content which supervenes on its phenomenal

[2] I use the phrase 'perceptual phenomenality' rather than the more common 'perceptual phenomenology', on the ground that 'phenomenology' is best reserved for a discipline rather than a certain type of mental state or property. Those who find talk of 'phenomenality' off-putting can simply replace it with talk of 'phenomenology'.

[3] See T. Nagel, 'What is it Like to Be a Bat?', *Philosophical Review*, 83 (1974), pp. 435–50.

character. There are important debates concerning the kind of supervenience relation that holds between phenomenal character and representational content, but I leave them to one side here. My concern is not with the *nature* of phenomenal content but with its *range*.[4]

As I have remarked, the literature presents us with a striking lack of agreement on the question of what kinds of properties can be phenomenally represented, that is, on the admissible contents of perceptual phenomenality. On the one hand, there are those who take a conservative approach to this issue. For example, Tye claims that the features represented in perceptual phenomenality are limited to the output of sensory modules, and conjectures that for us these features include such properties as 'being an edge, being a corner, being square, being red'. In a similar vein, Prinz holds that only the content of intermediate-level representations (which I am here classing as 'low-level representations') enters into perceptual phenomenality, and that ordinary kind properties are not represented in phenomenal consciousness. Lyons argues that although perceptual learning can expand the range of perceptual contents one can enjoy, it does so without having any impact on the phenomenal character of perceptual experience. On his view, learning to perceive the difference between a melodic minor scale and a diminished scale, between male chicks and female chicks, and between copperhead snakes and their close relatives, does not enrich the kinds of phenomenal states the subject is capable of having.[5]

On the other hand there are those who advocate a rather more liberal conception of the admissible contents of perceptual phenomenality. According to van Gulick, 'seeing a telephone *as a telephone* is not something that accompanies visual experience; it is part of one's visual experience'. In a similar vein, Siegel argues that natural-kind properties such as being a pine tree can be represented in visual experience. Even Fodor, who famously describes the outputs of perceptual modules as 'relatively shallow', appears

[4] For discussion of the nature of phenomenal content, although not always under that label, see U. Kriegel, 'Phenomenal Content', *Erkenntnis*, 57 (2002), pp. 175–98; D. Chalmers, 'The Representational Character of Experience', in B. Leiter (ed.), *The Future for Philosophy* (Oxford UP, 2004), pp. 153–80; C. McGinn, 'Consciousness and Content', *Proceedings of the British Academy*, 74 (1988), pp. 219–39; T. Horgan and J. Tienson, 'The Intentionality of Phenomenology and the Phenomenology of Intentionality', in D. Chalmers (ed.), *Philosophy of Mind: Classical and Contemporary Readings* (Oxford UP, 2002), pp. 520–33; C. Siewert, *The Significance of Consciousness* (Princeton UP, 1998).

[5] M. Tye, *Ten Problems of Consciousness* (MIT Press, 1995), p. 141; J. Prinz, 'A Neurofunctional Theory of Consciousness', in A. Brook and K. Akins (eds), *Cognition and the Brain* (Cambridge UP, 2005), pp. 381–96, and 'The Intermediate Level Theory of Consciousness', in M. Velmans and S. Schneider (eds), *The Blackwell Companion to Consciousness* (Oxford: Blackwell, 2007), pp. 247–60; J. Lyons, 'Perceptual Belief and Nonexperiential Looks', in J. Hawthorne (ed.), *Philosophical Perspectives*, 19: *Epistemology* (Malden: Blackwell, 2005), pp. 237–56.

to have liberal tendencies, for he suggests that perceptual phenomenality is pitched at the level of what Rosch *et al.* call 'basic categories', and that one can visually experience something as a dog.[6]

The contrast between the conservative and liberal positions is not a precise one, and the distinction is intended to capture two general approaches to perceptual phenomenality rather than cleanly demarcated positions.[7] One respect in which the distinction is vague concerns the fact that there is no precise line between low-level and high-level perceptual content. Perception contains multiple levels of content, and it is doubtful whether there is any principled line to be drawn between low-level content on the one hand and high-level content on the other. (Indeed, it is doubtful whether there are any principled lines to be drawn between low-level, intermediate-level and high-level perceptual content.) Perceptual processing involves a cascade of increasing levels of abstraction, but it is by no means obvious that any two points in any single cascade, let alone any two points belonging to different perceptual cascades, can be ordered with respect to 'levels of content'. Talk of 'high-level content' and 'low-level content' is convenient, but it should be taken with a grain of salt.

A second respect in which the contrast between conservative and liberals views is open-ended concerns modal issues. One type of conservative might deny that *we* are capable of enjoying perceptual states with high-level phenomenal content, but hold that it is entirely possible that creatures of some other kind could enjoy such states. Another type of conservative might hold that there is something deeply problematic in the very notion of high-level phenomenal content, and hold that no possible creature could enjoy such states. Similarly, one can distinguish two kinds of liberal. One kind of liberal holds that high-level perception necessarily has phenomenal character, whereas another kind of liberal holds only that our high-level perceptual states enjoy phenomenal character, and that it is an entirely open question

[6] R. van Gulick, 'Deficit Studies and the Function of Phenomenal Consciousness', in G. Graham and G.L. Stephens (eds), *Philosophical Psychopathology* (MIT Press, 1994), pp. 25–49, at p. 46; S. Siegel, 'Which Properties are Represented in Perception?', in T.S. Gendler and J. Hawthorne (eds), *Perceptual Experience* (Oxford UP, 2005), pp. 481–503; J. Fodor, *The Modularity of Mind* (MIT Press, 1983), pp. 94–7.

[7] Theorists who appear to be sympathetic towards conservatism include A. Clark, *A Theory of Sentience* (Oxford UP, 2000); R. Jackendoff, *Consciousness and the Computational Mind* (MIT Press, 1987); H. Langsam, 'Experiences, Thoughts, and Qualia', *Philosophical Studies*, 99 (2000), pp. 269–95; J. Levine, 'Materialism and Qualia', *Pacific Philosophical Quarterly*, 64 (1983), pp. 354–61; E. Lormand, 'Nonphenomenal Consciousness', *Noûs*, 30 (1996), pp. 242–61. Theorists who appear to be sympathetic towards liberalism include P. Carruthers, *Phenomenal Consciousness* (Cambridge UP, 2000); A. Goldman, 'The Psychology of Folk Psychology', *Behavioural and Brain Sciences*, 16 (1993), pp. 15–28; Horgan and Tienson; D. Pitt, 'The Phenomenology of Cognition, or, What it is Like to Think that P', *Philosophy and Phenomenological Research*, 69 (2004), pp. 1–36; Siewert; G. Strawson, *Mental Reality* (MIT Press, 1994).

whether conservatism might be true of other types of creatures. (The liberal could also think that only some of our high-level perceptual states enjoy phenomenal content.) In order to keep the discussion manageable, I shall focus on the debate between conservatism and liberalism in so far as it applies to human experience: does the kind of perceptual experience that *we* enjoy admit of high-level phenomenal content?

One final issue which must be raised before I proceed concerns the question of whether this debate is really substantive. It certainly *looks* substantive. Liberals and conservatives seem to take themselves to be at odds with each other; on the face of things they have a shared notion of phenomenal content but simply disagree about its extension. But there is reason to think that this debate might be less substantive than appearances suggest. Although Tye denies that perceptual phenomenality includes high-level content, he does allow that high-level content enters into perceptual experience, for he takes it that we see objects as coins, telescopes and so on.[8] In saying this, he is committed to a distinction between experiential content and perceptual phenomenality which many of his liberal opponents are likely to find puzzling. I take it that when van Gulick and Siegel claim that the representation of an object as a telephone or a pine tree can be part of visual experience, they mean to equate experiential content with phenomenal content. Further, there are questions about how the various parties to this debate understand the phrase 'what it is like'. Tye defends a conservative account of the reach of perceptual phenomenality, but he does allow (*Ten Problems*, p. 302, n. 3) that there may be 'a very broad use of the locution "what it's like" in ordinary life which concedes a difference in what it is like whenever there is any conscious difference of any sort whatsoever'. Tye is at pains to emphasize that this is not his usage of 'what it is like', but it might well be the usage of his liberal opponents. If conservatives and liberals are putting the 'what it is like' locution to different uses, then we might have a relatively straightforward dissolution of this debate: conservatives and liberals differ in their accounts of the admissible contents of perceptual 'what-it-is-likeness' because they mean something subtly different by 'what it is like'.

Although the prospects of a terminological dissolution of the debate between the conservative and liberal seem to me to be well worth pursuing, I shall proceed on the assumption that removing the various layers of terminological confusion that surround this issue will reveal a real dispute about the reach of perceptual phenomenality, even if the form of that dispute is not quite what it might have seemed at first. I turn now to the question of how this dispute might be resolved.

[8] Tye, *Consciousness, Color, and Content* (MIT Press, 2000), pp. 73–6.

III. THE ARGUMENT FROM AGNOSIA

Direct appeals to introspection have not proven to be particularly effective in resolving this debate: liberals claim that introspection reveals clear instances of high-level perceptual phenomenality, whereas conservatives deny that this is so. Look at a tomato, the liberal says, is there not something it is like to see it as a tomato? The conservative shakes his head in puzzlement.

In the light of the impotence of direct appeals to introspection, liberals have tended to rely on indirect appeals to introspection in the form of *contrast arguments*. Contrast arguments are so called because they involve contrasting two scenarios which supposedly differ in phenomenal character but not in low-level perceptual content.[9] There is, intuitively, a difference between what it is like to hear the sentence 'il fait froid' when one does not understand French and what it is like to hear the same sentence after having learnt French, despite the fact that both involve the same auditory input. In a similar vein, liberals argue that what it is like to hear the sentence 'visiting relatives can be boring' depends on whether one takes the 'boring' to qualify the relatives or the visiting, and that what it is like to look at the young woman/old woman figure depends on whether one perceives the figure as a young woman or as an old woman. The liberal argues that high-level perceptual representations must enter into phenomenal content because each of these scenarios involves a phenomenal contrast unaccompanied by low-level representational differences.

My concern here is not to examine the prospects of these relatively familiar contrast arguments, but to present a novel contrast argument based on agnosia.[10] Agnosia involves impairment in perception which is not due to elementary sensory malfunction.[11] Following Lissauer,[12] most theorists distinguish two main forms of agnosia, apperceptive agnosia and associative agnosia. Apperceptive agnosia, also known as 'form agnosia', involves inability to perceive spatial form. Patients with this condition cannot group the

[9] See Goldman; Horgan and Tienson; Pitt; Siewert; Siegel. See Kriegel, and Siegel, 'How Can We Discover the Contents of Experience?', *Southern Journal of Philosophy*, 45 (2007) Suppl., pp. 127–42, for discussion of the contrast methodology as such.

[10] Of course, the argument is not completely novel. See van Gulick for an embryonic presentation of the case.

[11] See, for useful overviews of agnosia, M.J. Farah, *Visual Agnosia*, 2nd edn (MIT Press, 2004); G.W. Humphreys and M.J. Riddoch, *To See But Not to See* (Hillsdale: Erlbaum, 1987).

[12] H. Lissauer, 'Ein Fall von Seelenblindheit nebst einem Beitrage zur Theorie derselben' [1890], tr. J.M. Lissauer, *Cognitive Neuropsychology*, 5 (1988), pp. 155–92.

various parts of overlapping objects into unitary percepts, and are unable to produce accurate copies of pictures that are presented to them. In pure associative agnosia, form perception remains unimpaired but patients are unable to recognize objects as belonging to familiar categories. In Teuber's oft-quoted words, associative agnosia involves 'a normal percept stripped of its meaning'.[13] Here is a particularly striking case study:

> For the first three weeks in the hospital the patient could not identify common objects presented visually and did not know what was on his plate until he tasted it. He identified objects immediately on touching them. When shown a stethoscope, he described it as 'a long cord with a round thing at the end', and asked if it could be a watch. He identified a can opener as 'could it be a key?'. Asked to name a cigarette lighter, he said, 'I don't know', but named it after the examiner lit it. He said he was 'not sure' when shown a toothbrush. Asked to identify a comb, he said, 'I don't know'. When shown a large matchbook, he said, 'It could be a container for keys'. He correctly identified glasses. For a pipe, he said, 'Some type of utensil, I'm not sure'. Shown a key, he said, 'I don't know what that is; perhaps a file or a tool of some sort'. He was never able to describe or demonstrate the use of an object if he could not name it. If he misnamed an object his demonstration of its use would correspond to the mistaken identification.... Remarkably, he could make excellent copies of line drawings and still fail to name the subject.... He easily matched drawings of objects that he could not identify, and had no difficulty in discriminating between complex non-representational patterns differing from each other only subtly. He occasionally failed in discriminating because he included imperfections in the paper or in the printer's ink. He could never group drawings by class unless he could first name the subject.[14]

Associative agnosia provides a tool with which to develop a potent contrast argument for liberalism. Although we have no direct access to the patient's phenomenal state, it is extremely plausible to suppose that the phenomenal character of his visual experience has changed. But what kind of perceptual content has the patient lost? He has not lost low-level perceptual content, for those abilities that require the processing of only low-level content remain intact. The patient's deficit is not one of *form* perception but of *category* perception. Hence high-level perceptual representation – the representation of an object as a stethoscope, a can-opener or a comb – can enter into the contents of perceptual phenomenality.

Associative agnosia can occur across a wide range of categories and modalities. Visual agnosia can take the form of a broad impairment to object-recognition in general or a more circumscribed impairment in the

[13] H.-L. Teuber, 'Alteration of Perception and Memory in Man', in L. Weiskrantz (ed.), *Analysis of Behavioural Change* (New York: Harper and Row, 1968), pp. 268–375, at p. 293.

[14] A.B. Rubens and D.F. Benson, 'Associative Visual Agnosia', *Archives of Neurology*, 24 (1971), pp. 305–16, at pp. 308–9.

recognition of particular types of objects, such as faces (prosopagnosia) or words (alexia).[15] Auditory agnosia can occur as a general impairment in the recognition of sounds, or as a more specific impairment in the recognition of non-verbal sounds or music.[16] The desert phenomenality of the conservative will need to be significantly enriched if, as seems plausible, each of these forms of agnosia involves the loss of high-level phenomenal content which is normally present in perceptual experience.

IV. THE CONSERVATIVE RESPONSE

Conservatives have two strategies available to them in responding to contrast arguments. The most popular strategy is to attempt to account for the phenomenal contrasts present in these scenarios in purely low-level terms. Tye provides a particularly clear example of this strategy:

> Consider ... phenomenal differences in what it's like to hear sounds in French before and after the language has been learnt. Obviously there are phenomenal changes here tied to experiential reactions of various sorts associated with understanding the language (e.g., differences in emotional and imagistic responses, feelings of familiarity that weren't present before, differences in effort or concentration involved as one listens to the speaker). There are also phenomenal differences connected to a change in phonological processing. Before one understands French, the phonological structure one hears in the French utterance is fragmentary. For example, one's experience of word boundaries is patently less rich and determinate. This is because some aspects of phonological processing are sensitive to top-down feedback from the centres of comprehension.... Still, the influence here is causal, which I am prepared to allow. My claim is that the phenomenally relevant representation of phonological features is non-conceptual, not that it is produced *exclusively* by what is in the acoustic signal.[17]

We should certainly allow that low-level perceptual content can be subject to top-down modulation. Even colour perception can be modulated in this way. In one study, subjects were presented with photographs of fruit that could be manipulated so as to make the fruit in question appear to be any arbitrary colour. When subjects were instructed to manipulate the image of

[15] For achromatopsia, see M.F. Beauvois and B. Saillant, 'Optic Aphasia for Color and Color Agnosia', *Cognitive Neuropsychology*, 2 (1985), pp. 1–48; C.A. Heywood and A. Cowey, 'Cerebral Achromatopsia', in G.W. Humphreys (ed.), *Case Studies in the Neuropsychology of Vision* (London: Plenum, 1999), pp. 17–39; R.W. Kentridge *et al.*, 'Chromatic Edges, Surfaces, and Constancies in Cerebral Achromatopsia', *Neuropsychologia*, 42 (2004), pp. 821–30. For akinetopsia, see S. Zeki, 'Cerebral Akinetopsia (Visual Motion Blindness)', *Brain*, 114 (1991), pp. 811–24.

[16] N. Motomura *et al.*, 'Auditory Agnosia', *Brain*, 109 (1986), pp. 379–91; I. Peretz, 'Brain Specialization for Music', *Trends in Cognitive Sciences*, 9 (2001), pp. 28–33.

[17] Tye, *Consciousness, Color, and Content*, p. 61: see also *Ten Problems*, p. 140.

a banana so that it appeared grey (that is, achromatic), they actually made it slightly bluish, compensating for the fact that they knew that bananas are normally yellow. At the point where the banana was actually achromatic, subjects reported that it looked yellowish.[18] So there is no doubt that high-level content can have a causal impact on low-level representations. But it seems to me highly implausible to suppose that we shall be able to find such low-level differences in *all* contrast cases. Suppose you are looking at a dog in the distance. The light is poor, and you have difficulty identifying the seen object. Suddenly, recognition dawns. Contrast the visual experience that you have immediately prior to the act of recognition with that which you have immediately after recognition. Must there be low-level differences between these two percepts? I do not see why.

The thought that the contrast cases can always be accounted for in low-level terms is particularly hard pressed when confronted with associative agnosia. Although associative agnosia is often impure in the sense that the patient also has some degree of impairment to low-level perception, it can also take a pure form.[19] The patient described in the previous section is a case in point. Although he could not group objects by category, he could match them to visually identical objects, and his performance on tests of immediate visual recall tests was excellent.

Even when contrast cases do involve top-down modulation of low-level perceptual content, it is doubtful that the role of high-level categorization is *merely* causal. It seems plausible to suppose that the phenomenal differences brought about by learning French involve both (low-level) changes in phonological structure *and* (high-level) semantic differences. Similarly, the phenomenal contrast between seeing an object as a stethoscope and failing to recognize it as such might involve both low-level changes in perceptual focus *and* high-level changes associated with kind representation. High-level representations might impinge on phenomenal content in two ways at once, indirectly by means of causally restructuring low-level phenomenal content, and directly in virtue of the fact that they themselves can feature in phenomenal content.

[18] T. Hansen *et al.*, 'Memory Modulates Color Appearance', *Nature Neuroscience*, 9 (2006), pp. 1367–8.

[19] Although pure cases of associative agnosia are relatively rare, one does not need pure cases to show that associative agnosia is not merely a matter of low-level visual impairment: see G. Ettlinger, 'Sensory Deficits in Visual Agnosia', *Journal of Neurology, Neurosurgery, and Psychiatry*, 19 (1956), pp. 297–301; A. Cowey *et al.*, 'Ettlinger at Bay', in A.D. Milner (ed.), *Comparative Neuropsychology* (Oxford UP, 1998), pp. 30–50. Instead, one need only find patients with associative agnosia whose low-level visual impairments are no more serious than those of patients without associative agnosia, and such cases have indeed been found: see Farah; E.K. Warrington, 'Agnosia', in R. Vinken *et al.* (eds), *Handbook of Clinical Neurology* (Amsterdam: Elsevier, 1985), pp. 333–49.

In fact, the liberal could grant that it is impossible for high-level perceptual phenomenality to change without this change being accompanied by some low-level phenomenal change. Consider the experience of causal relations. On one intuitively plausible view, the experience of causal relations is nomologically (if not constitutively) dependent on the experience of spatiotemporal relations, and so in this sense is not autonomous. The liberal might argue that what holds of the experience of causation might hold more generally, and that high-level phenomenal content supervenes on low-level phenomenal content, so that any change to high-level phenomenal content requires a change of low-level phenomenal content. I myself do not find any such view particularly attractive, but I can see nothing in the liberal commitment to high-level phenomenal content which rules it out. It is one thing to posit high-level phenomenal content; it is quite another to hold that high-level phenomenal content is independent of low-level phenomenal content.

If conservatives cannot account for the phenomenal contrast present in cases of (pure) associative agnosia in terms of low-level changes, how *are* they to account for such cases? So far as I can see, conservatives must deny that associative agnosia involves any loss of phenomenal content at all. On this view, associative agnosia does not involve any disruption to the phenomenal looks of objects. This might seem implausible, but conservatives will be at pains to point out that there are different senses of 'looks', and that to deny that associative agnosia involves any alteration to how objects look in the phenomenal sense of the term is perfectly consistent with allowing it to involve alterations to the epistemic and/or comparative look of an object.[20] No doubt agnosia *does* alter the way that objects look in the comparative and epistemic senses of the term, but why deny that it also alters the way that they look (or sound, or feel, etc) in the *phenomenal* sense of the term? It would clearly be illegitimate to argue that associative agnosia cannot involve changes to how things phenomenally look on the ground that phenomenal-looks talk involves locutions of the form '*x* looks F to *S*', where 'F' expresses a sensory property (Tye, *Consciousness*, p. 54), for any liberal worth his salt will reject this constraint on phenomenal-looks talk. According to liberals, '*x* looks F to *S*' can capture a genuine phenomenal-looks claim even when 'F' expresses a property that is not sensory in any natural sense of that term. In sum, it seems to me that there is every reason to think that associative agnosia is no less a disorder of perceptual phenomenality than is apperceptive agnosia: both conditions involve the loss of a 'layer' of phenomenal content.

[20] Cf. Lyons, 'Perceptual Belief'; Tye, *Consciousness, Color, and Content*.

There is a further lesson to be learnt from associative agnosia. Lying behind some versions of conservatism is a doxastic model of object recognition, as in the following passage from Tye (*Ten Problems*, p. 215):

> Object or shape recognition in vision ... is a matter of seeing that such and such a type of object is present. Seeing that something is the case, in turn, is a matter of forming an appropriate belief or judgement on the basis of visual experiences or sensations.... there are two components in visual recognition, a belief component and a looking component.

On this model, object recognition is not strictly speaking perceptual; instead, it belongs on the cognitive side of the perception–cognition divide. One might argue that if this model were right, then associative agnosia could not bear on questions regarding the admissible contents of perceptual phenomenality, because it is not really a perceptual deficit. Further, if object recognition were a matter of appropriately formed belief, and if belief lacks any proprietary phenomenal character, as many assume it does, then object recognition would also lack proprietary phenomenal character.

It is controversial whether thought does lack proprietary phenomenal character. According to some liberals, phenomenal consciousness pervades not only high-level perception but also cognition. But I shall leave that point to one side here and focus on the question of object recognition. Is it a matter of perception, as I have been assuming, or is Tye right to think that it is doxastic?

There may be no straightforward answer to this question, for different accounts may be needed for different forms of object recognition. But there are good reasons to take object recognition of the kind that is disrupted in agnosia to be perceptual. For one thing, object recognition of this kind resists doxastic penetration. It does not matter what one believes about an object; it still looks like a pipe, a stethoscope, or a cigarette lighter. Perhaps a more potent reason for regarding object recognition as perceptual is that it cannot be *restored* by the insertion of the relevant belief. Suppose a patient with associative agnosia, who fails to recognize a pipe as a pipe, is told that he is looking at a pipe, and on that basis judges – that is, forms the belief – that he is looking at a pipe. (He will be able to do this, for associative agnosia does not involve any conceptual loss.[21] Patients with visual agnosia can both reason about pipes and recognize them via other modalities, such as touch.) The patient now has the two things Tye regards as constitutive of visual recognition, the belief component and the looking component. Would he now recognize the perceptual object as a pipe? Perhaps so, at

[21] It should be noted that there is some evidence that conceptual knowledge of a domain is not entirely unaffected in associative agnosia (see Farah, pp. 152–3).

least in some cases, as a further passage from Rubens and Benson (p. 308) suggests:

> When told the correct name of an object, he usually responded with a quick nod and said, 'Yes, I see it now'. Then, often he could point out various parts of the previously unrecognized item as readily as a normal subject (e.g., the stem and bowl of a pipe, and the laces, sole and heel of a shoe). However, if asked by the examiner, 'Suppose I told you that the last object was not really a pipe, what would you say?' he would reply, 'I would take your word for it. Perhaps it's not really a pipe.' Similar vacillation never occurred for tactilely or aurally identified objects.

However, this remission is not reflected in other reports of associative agnosia, and even in this case it seems to have been only temporary. Although the patient (presumably) retained the *belief* that he was looking at a pipe, he seems not to have retained his *experience* of it as a pipe. Perceptual recognition is not simply a matter of believing that such and such a type of object is present whilst enjoying low-level visual experience.

Of course, Tye's account of object recognition involves the claim that one must form the appropriate belief *on the basis of* visual experience, and in Tye's defence the critic might point out that this grounding relation is absent from the case just described. But this omission is easily rectified. Suppose the patient suffers from a freak neurophysiological condition that causes him to believe that every object he is looking at is a pipe. This case satisfies Tye's causal condition on visual recognition, but it seems doubtful whether it suffices to reinstate the missing experiential content. Furthermore, it is far from clear that any such grounding condition for perceptual experience is really warranted. Associative agnosia involves the loss of a certain type of *occurrent* state and not simply the loss of a capacity or causal relation. As I argued above, this occurrent state cannot be identified with a belief or a judgement.

Consider again Teuber's suggestion that associative agnosia involves a 'normal percept stripped of its meaning'. It seems to me that there are two ways in which this claim might be read. One might think that a percept's 'meaning' is external to it, and hold that a percept could remain normal even when stripped of its meaning. This seems to be Tye's view. I have defended a rather different picture, according to which a percept's 'meaning' is to be located within the percept itself, and hence that a percept stripped of its meaning is no longer normal. It seems to me that it is this description which best captures what it would be like to have associative agnosia, and hence provides a reason to endorse the liberal conception of the reach of perceptual phenomenality over the conservative alternative.

V. INDISCERNIBILITY AND INDUBITABILITY

Together with other versions of the contrast argument, the argument from associative agnosia provides a strong *prima facie* case for the liberal view. But if the case for liberalism is so compelling, why do many theorists find the conservative position so appealing? The aim of this section and the next is to explore some possible answers to this question.

One potential route to conservatism proceeds via the notion of indiscernibility. It might be argued that high-level properties cannot be phenomenally represented because objects with different high-level properties can be perceptually indiscernible. In the relevant sense, gin is perceptually indiscernible from water; suitably disguised raccoons are perceptually indiscernible from dogs; and the German word 'Lieder' is perceptually indiscernible from the English word 'leader'. One might take these facts to indicate that perception cannot represent liquids as gin, animals as dogs or utterances as tokens of the word 'leader'.

Tye seems to have an argument like this in mind when he claims (*Ten Problems*, p. 141) that nothing looks like a tiger to us in the phenomenal sense of the term because 'there might conceivably be creatures other than tigers that look to us phenomenally just like tigers'. It is certainly true that non-tigers (ligers, for instance) could look to us phenomenally just like tigers. But this fact counts for little here, for one can also mistake blue things for green things, hot things for cold things and heptadecagons for enneadecagons. Presumably Tye's point is that non-tigers could look just like tigers without being *misrepresented*. This too is true. There might be planets inhabited by tiger-like creatures that look just like tigers. Does it follow from this that tigerhood cannot be phenomenally represented? I think not. To show why not, a short excursion to twin earth is needed.

Twin earth scenarios are routinely employed to put pressure on the link between phenomenal content and perceptual indiscernibility. It seems conceivable that there are worlds in which some property other than yellow looks (in the phenomenal sense) just like yellow, or that there are worlds in which some property other than sourness tastes (in the phenomenal sense) like sourness. The point is not restricted to secondary qualities. It is conceivable that there are worlds in which cracks might look (again in the phenomenal sense) the way shadows look.[22] Nevertheless, it does not follow that

[22] See T. Burge, 'Individualism and Psychology', *Philosophical Review*, 95 (1986), pp. 3–45; M. Davies, 'Externalism and Experience', in N. Block *et al.* (eds), *The Nature of Consciousness* (MIT Press, 1997), pp. 309–28.

being yellow, being sour or being a shadow is not phenomenally represented. In short, one cannot employ the fact that an object with property P might be perceptually indiscernible from one lacking property P as a reason for thinking that P is phenomenally inadmissible.

I suspect that Tye is tempted to take indistinguishability as a guide to phenomenal content because he has a Russellian conception of phenomenal content. The Russellian identifies phenomenal contents with represented properties. On this view, phenomenal states of the same kind (that is, with the same phenomenal content) could not be directed (in the relevant sense) towards different types of objects without misrepresenting at least one of those objects. For example, a non-yellow object could not be indistinguishable from a yellow object (with respect to hue) without one of the two objects being misrepresented. To take another example, a non-tiger that phenomenally looked just like a tiger must be misrepresented if, as the liberal suggests, being a tiger is the kind of property that is phenomenally admissible. But, the conservative might continue, non-tigers could look just like tigers without phenomenal content being guilty of any kind of misrepresentation. Of course, one is guilty of some kind of misrepresentation if one takes a non-tiger to be a tiger, but according to this view the phenomenal character of one's perceptual experience is innocent of any mistake.

The Russellian conception of phenomenal content might be able to preserve the link between phenomenal content and indistinguishability, but the Russellian account is problematic. For one thing, it is unable to account for the thought that a single type of phenomenal state might represent different properties in different contexts. Intuitively, the phenomenal properties associated with the representation of yellow could have been associated with the representation of blue and *vice versa*; the phenomenal property associated with the representation of shadows could have been associated with the representation of cracks and *vice versa*, and so on. If this is right, then accounts of phenomenal content need to be Fregean.[23] We need to allow that phenomenal content might involve 'senses' or 'modes of presentation'.

Conservatives might press the argument from indiscernibility from another angle. They might argue that if the property of being a tiger were phenomenally admissible, then it would be possible for two objects to look identical apart from the fact that one looks (in the phenomenal sense) to be a tiger but the other does not. But, the objection goes, this is not possible. Hence the property of being a tiger is not phenomenally admissible.

Is it possible for two objects to look identical, apart from the fact that only one of them looks like a tiger? Consider not tigers but chickens.

[23] See Chalmers, 'The Representational Character of Experience'; B. Thompson, 'Senses for Senses', *Australasian Journal of Philosophy*, 87 (2008), pp. 99–117.

Chicken-sexers can distinguish male chicks from female chicks, but they typically cannot tell you how they do it.[24] Chicken-sexers employ low-level cues to differentiate male chicks from female chicks, but it is an open question whether these low-level cues are phenomenally represented. Perhaps male and female chicks are phenomenally indistinguishable apart from the fact that male chicks 'seem to be male' whereas females 'seem to be female'. We should not assume that the low-level representations in virtue of which high-level phenomenal content is fixed must themselves be phenomenally conscious. We are often sensitive to the mental states of others without being aware of the basis of our sensitivity. No doubt the detection of others' mental states involves complex computations of their behavioural dynamics, but it may be that these representations are no more consciously available than are the representations which underlie, e.g., experiences of colour constancy or motion. In short, we might want to allow that it is possible for two objects to look identical apart from the fact that only one of them looks like a tiger.

A second and perhaps rather more plausible response to the objection is to challenge the assumption that high-level phenomenal content must be independent of low-level phenomenal content. As I noted above, the liberal need not accept this assumption. The liberal could hold that any two objects that are phenomenally represented as having the same low-level properties must also be phenomenally represented as having the same high-level properties, and thus must be phenomenally indistinguishable. Arguably, the phenomenal representation of causation is supervenient on the phenomenal representation of certain types of spatiotemporal relations between the events or objects involved; even so, it clearly would not follow from this that causation is not phenomenally represented.

A rather different line of argument for the conservative position makes use of indubitability rather than indiscernibility. Consider the following well known passage from H.H. Price:

> When I see a tomato there is much that I can doubt.... One thing however I cannot doubt [in reflecting on my experience is] that there exists a red patch of a round and somewhat bulgy shape, standing out from a background of other colour-patches, and having a certain visual depth, and that this whole field of colour is directly present to my consciousness.... This peculiar and ultimate manner of being present to consciousness is called *being given*, and what is thus present is called a [sense-]*datum*.... The term is meant to stand for something whose existence is indubitable (however fleeting), something from which all theories of perception ought to start, however much they may diverge later.[25]

[24] I. Biederman and M.M. Shiffrar, 'Sexing Day-old Chicks', *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 13 (1987), pp. 640–5.

[25] H.H. Price, *Perception* (London: Methuen, 1932), pp. 18–19.

Price does not commit himself to a conservative conception of phenomenal consciousness, but the tenor of this passage certainly points in that direction. The perceived object is 'given' as red, bulgy, and occupying a particular spatial location, but there is no suggestion here that it is also given as a tomato. The passage also suggests that one might be led to this view by considerations deriving from indubitability: one can doubt that one is presented with a tomato, but one cannot doubt that 'there exists a red patch of a round and somewhat bulgy shape, standing out from a background of other colour-patches, and having a certain visual depth'.

I do not know what role this argument might have played in tempting theorists towards conservatism, but I do know that whatever appeal it may have had is ill deserved, for the argument is highly implausible. First, we must ask what exactly it is that is indubitable. Is it a claim about how the object *is* or a claim about how the object *appears*? Surely it is only the latter claim that might be thought indubitable. But there is no asymmetry between being red and being a tomato on this score, for the thought that one experiences the object as a tomato seems to be as immune to doubt as the thought that one experiences the object as red. High-level perceptual content seems to be just as indubitable as low-level perceptual content. We have yet to identify any crucial asymmetry between low-level perception and high-level perception that might bring with it a phenomenal divide.

VI. THE KNOWLEDGE ARGUMENT AND THE EXPLANATORY GAP

I turn now to another potential source of support for conservatism. At first sight, some of the deepest puzzles surrounding phenomenal consciousness suggest a conservative conception of its reach. Jackson's Mary is an expert neuroscientist who has never experienced red but knows everything there is to know about the perception of red.[26] Intuitively, Mary learns something when she first sees red, something she could not have learnt as a neuroscientist. Therefore, the argument goes, facts about what it is like to see red are not physical facts. The knowledge argument may not be sound, but the immense literature it has spawned bears clear witness to its intuitive forcefulness. This forcefulness is something which an account of the reach of perceptual phenomenality must reckon with. Does the knowledge argument generalize to high-level phenomenal content, or is there a good reason why Jackson's argument centres on low-level perceptual features such as colour?

[26] F. Jackson, 'Epiphenomenal Qualia', *The Philosophical Quarterly*, 32 (1982), pp. 127–36.

Consider a variant of Jackson's case, in which Mary is an expert in object recognition. She knows everything there is to know about how tomatoes are recognized, but she has never seen a tomato. Does Mary learn anything when she first recognizes a tomato? Arguably not. At any rate, the intuition that she does is *much* weaker than is the intuition that she learns something when she first sees red. Why should this be? Perhaps, the conservative might suggest, Mary does not learn anything when she first recognizes a tomato because there is no phenomenal property distinctive of recognizing a tomato – there is no phenomenal fact here to be learnt.

But the argument is too quick. There is no doubt that it is much harder to construct a plausible version of the knowledge argument around high-level perception than it is to construct a plausible version of the argument around the experience of colour, but we cannot infer from this fact alone that high-level content is phenomenally inadmissible. Suppose Mary is an expert in the perception of space. However, she has never seen, or indeed experienced in any modality, a square. Does Mary learn anything when she first sees a square? Perhaps, but the claim that she does is *much* less intuitively compelling than is the claim that she learns something when she first sees red.[27] Should we conclude from this that primary qualities such as being a square are not phenomenally admissible? Surely not; it is beyond doubt that one can phenomenally represent squares as such. So we cannot take the fact that a property does not easily lend itself to the construction of a plausible version of the knowledge argument as a reason for thinking that it cannot enter into phenomenal content.

We might, at this point, ask why it is harder to construct the knowledge argument around some features than others. I suspect that the answer to this question has something to do with what we might call 'phenomenal distance'. Suppose Mary has experienced red_{27}, but has never seen red_{28}. Does she learn anything when she first sees red_{28}? Perhaps, but this version of the knowledge argument is not particularly compelling. (There is a reason why Jackson restricted Mary to a black and white room.) Intuitively, red_{27} and red_{28} are 'close enough' in phenomenal space for one to be able to 'work out' what it would be like to experience the one from having experienced the other, as with Hume's missing shade of blue. In contrast, there is much to be said for the thought that experiences of red are too far apart from achromatic experiences for one to be able to work out what it would be like to experience red without having experienced colours.

[27] I am not claiming that one *cannot* construct a compelling version of the knowledge argument centring on the representation of an object as a square. Rather, my claim is only that it is much more difficult to construct square-based versions of the knowledge argument than it is to create a red-based version of the argument.

Arguably, the square-based version of the knowledge argument has little plausibility because there is insufficient phenomenal distance between the phenomenal property distinctive of seeing something as square and the various spatial phenomenal properties with which Mary will be acquainted in her squareless room.

In the light of the foregoing, we are now in a position to see why it might be difficult to create a plausible version of the knowledge argument for high-level perceptual content. I shall call the phenomenal property associated with recognizing an object as a tomato 'P_t'. To construct a plausible tomato-based version of the knowledge argument, we would need to ensure that Mary could learn about the neurophysiology of high-level perception without being acquainted with phenomenal properties sufficiently close to P_t for her to be able to work out, from within her room, what it is like to instantiate P_t. Can that be done? Perhaps, perhaps not. It is difficult to tell, for it is difficult to measure phenomenal distance when confronted by high-level phenomenal properties. We have some grip on what phenomenal distance might involve when it comes to structured domains such as colour experience, but the notion of phenomenal distance becomes problematic once we leave the realm of sensory spaces. If we do not know how to measure phenomenal distance when it comes to high-level content, we are unlikely to have a firm intuition that Mary must learn something new when she first perceives a tomato as such.

This account of why it is difficult to construct a plausible version of the knowledge argument for high-level content is somewhat speculative, and it may well turn out to be false. But the central point, which is independent of that analysis, is that there is no straightforward knowledge argument objection to phenomenal liberalism. One cannot conclude that high-level content is phenomenally inadmissible on the ground that it is difficult to construct a plausible knowledge argument for such content, for any such argument threatens to commit one to a highly implausible form of *über*-conservatism according to which even primary qualities such as shape and motion are not phenomenally admissible.

So much for the knowledge argument; what about the explanatory gap?[28] Could one appeal to features of the explanatory gap to make a case for conservatism? I doubt it. There is, it seems to me, an explanatory gap between the experience of a tomato's colour and the various neurophysiological states underlying the experience, but there is also an explanatory gap between the experience of the tomato as a tomato and the various neurophysiological states underlying *that* experience. Maybe this gap can be

[28] J. Levine, 'Materialism and Qualia: the Explanatory Gap', *Pacific Philosophical Quarterly*, 64 (1983), pp. 354–61.

closed, maybe not; either way, the gap is not restricted to low-level perception. Indeed, one cannot even use the *appearance* of an explanatory gap to separate high-level perception from low-level perception, for high-level perception poses as much of an appearance of an explanatory gap as does low-level perception. It is gaps, or at least the appearance thereof, all the way up.

VII. CONCLUSION

I have done three things in this paper. I began by distinguishing two approaches to phenomenal content, a conservative approach which would limit phenomenal content to low-level features, and a liberal approach which sees phenomenal content as reaching all the way into high-level perception. In the second part of the paper I argued that associative agnosia provides the tools with which to construct a particularly potent contrast argument against phenomenal conservatism. In the final two sections of the paper I examined a number of arguments against liberalism: some of these arguments appealed to a supposed link between phenomenal content on the one hand and indiscriminability or indubitability on the other; others supposed a link between phenomenal content on the one hand and the knowledge argument and the explanatory gap on the other. I argued that none of these arguments is convincing. The roots of resistance to a liberal treatment of perceptual phenomenality are deep and complex, and it is clear that much more needs to be said by way of addressing them than I have been able to say here. None the less I hope that what I have said suffices to dislodge the assumption, dominant in some quarters, that the student of phenomenal consciousness need have no direct interest in high-level perception.

Suppose some form of liberalism is true; what might follow from this? The debate between conservative and liberal treatments of perceptual phenomenality is part of a wider debate about the reach of phenomenality more generally. Some theorists hold that phenomenal consciousness is restricted to perception, bodily sensations and certain kinds of affective states, others hold that cognitive states, such as desires, judgements and intentions, have a distinctive (proprietary) phenomenal character over and above what they may inherit from whatever sensations or images accompany them. Engaging with this debate, the 'cognitive phenomenality' debate, is beyond my present brief, but I shall conclude by noting one potential point of contact between that debate and the one on which I have focused.

There may be an argument from the claim that high-level perception possesses a proprietary phenomenal character to the claim that thought

possesses a proprietary phenomenal character. Suppose, as many do, that high-level perception is conceptual. If that thought is right, then there cannot be any objection to cognitive phenomenality on the ground that cognitive states have conceptual content, because it has already been granted that concepts can enter into phenomenal content in the form of high-level perception. On the other hand, if one thinks of high-level perception as having (only) non-conceptual content, then the route from perceptual liberalism to cognitive phenomenality might not be so smooth, for one could embrace high-level perceptual phenomenality but resist cognitive phenomenality on the ground that phenomenal content is exclusively non-conceptual. But even those who advocate a non-conceptual view of perceptual content, as I am inclined to, might think that perceptual liberalism provides the proponent of cognitive phenomenality with some encouragement. After all, even if high-level perceptual phenomenality is not fully conceptualized, it is surely cognitive in some genuine sense, and we have at least broken the identification of the phenomenal with the sensory. It is, I think, no accident that those who are sympathetic with the thought that high-level perception enters into phenomenal content tend to be sympathetic with the thought that the contents of cognition can also enter into phenomenal content.[29]

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