

NONCONCEPTUAL CONTENT, FINENESS OF GRAIN AND RECOGNITIONAL CAPACITIES

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Abstract

One of the current debates in philosophy of mind is whether the content of perceptual experiences is conceptual or nonconceptual. The proponents of nonconceptual content, or nonconceptualists, typically support their position by appealing to the so-called Fineness of Grain Argument, which, in rough terms, has as its conclusion that we do not possess concepts for everything we perceive. In his *Mind and World*, John McDowell tried to give a response to the argument, and show that we do possess concepts for everything we perceive. His response is based on the idea that we have a capacity to recognize all that we perceive. However, a good number of people took this proposal as being empirically false. My aim in this paper is to show that McDowell's proposal is not only not empirically false, but likely to be empirically true. We do have the capacity to recognize all that we perceive, but such recognition capacity is dependent on information stored in short-term memory, and not in long-term memory, as McDowell's critics have mistakenly supposed.

1. Introduction

As we open our eyes in the morning, the world is presented to us as containing a variety of objects and properties; for instance, pieces of furniture, with very distinct shapes and colours. Do we possess the concepts required to describe or specify such objects and properties? And do we need to possess the concepts required to specify such objects and properties in order for us to have experiences of them? To put the matter in a general form, do we possess the concepts required to specify the way the world is presented to us, and do we need to possess such concepts in order to have the world presented to us in the first place? Proponents of nonconceptual content, or nonconceptualists, such as Evans (1982), Peacocke (1992), Kelly (2001), among others, defend the view that we do not possess the concepts required to specify the way the world is presented to us – our perceptual contents. Take this as being the first version of the thesis of nonconceptual content. And they also defend the view that we do not need to possess such concepts to have the world presented to us, to have perceptual

experiences with a given content. Take this as the second version of the idea that perceptual content is nonconceptual.¹

The main argument used by the proponents of nonconceptual content to establish their position, in both versions of the thesis, is the so-called Fineness of Grain Argument, first introduced in the literature by Evans (1982). In rough terms, the argument has as its conclusion that we do not possess concepts for everything we perceive.

McDowell (1994) tried to give a response to the argument. He tried to show that we do possess concepts for everything we perceive, for we are able to recognize and think about all that we perceive. But McDowell's response has generated a storm of criticism. People like Peacocke (2001), Dokic and Pachérie (2001) and Tye (forthcoming) objected that it is empirically false that we possess the capacity to recognize all that we perceive. Thus, according to them, McDowell's response fails, for empirical reasons, and the Fineness of Grain Argument stands. In this paper, I will try to show that McDowell was right after all. His critics have confused recognition based on long-term memory with recognition based on short-term memory. It might be empirically true that we do not possess the capacity to recognize everything that we perceive based on the long-lasting representations stored in long-term memory, but it still might be the case that we have a recognitional capacity for everything we perceive based on the short-lived representations stored in short-term memory. Cognitively interpreting McDowell's proposal, he is suggesting the latter, and there is some empirical evidence that we do possess such short-lived recognitional capacities. Thus, I will try to show that McDowell's position is not empirically false, but likely to be empirically true.

2. The Fineness of Grain Argument

Let me begin by giving a more precise characterization of nonconceptual content. I have suggested above that a given content is nonconceptual when the subject who has it does not possess the concepts required to specify it; or, in another version of the thesis, a given content is nonconceptual when the subject who has it does not need to possess the concepts required to specify the content in order to have an experience with this very content. But this is a bit vague. To make this more precise, what we need is a clear understanding of what it is to

¹ Some people, such as Heck (2000) and Peacocke (2001), defend only the second version of the thesis of nonconceptual content.

specify a perceptual content. To specify a given perceptual content, in the sense of “specification” being adopted here, is to bring everything that figures in the content under adequate concepts, that is, concepts that apply to an object or property in the same level of detail that the object or property has as presented to us in experience. For instance, if we perceive red_{25} , to specify such property we should employ a concept that applies to red_{25} only, and not to other properties in the neighbourhood, to other shades of red. If we do not possess such a concept, the content of our perceptual experience will be nonconceptual in the first sense; for to specify the perceptual content we need a concept such as RED_{25} , but we do not possess it.² And it will also be nonconceptual in the second sense, because we will have a content figuring red_{25} without possessing a concept required to specify this content; and that means that we can have an experience with a certain content without possessing the concepts required to specify it. I can have an experience of red_{25} without possessing an adequate concept for red_{25} .

The Fineness of Grain Argument is frequently used to establish both versions of the thesis of nonconceptual content. It was first put forward by Gareth Evans, in a short passage of his *The Varieties of Reference*. He asks, in a rhetorical manner: “Do we really understand the proposal that we have as many concepts as there are shades of colour that we can sensibly discriminate?” (1982:229).

Let me unpack Evans’ point with an example. Consider the scene that I perceive now. I see a laptop and a number of books behind it. The laptop is black. Some of the books are also black. By they are of different shades of black. Some are darker than others. I can discriminate such shades: I can see that one is different from the other; I can distinguish one particular shade token from all other shade tokens and from everything else in the scene. But I cannot *recognize* them. I do not perceive each shade as being of the same type as a shade that I perceived in the past. And I cannot do that. I’m just not familiar enough with chromatic shades to recognize them. I can recognize the colours: I take them all as being of the same type as a colour that I have met in the past, as black. But that is as far as my recognitional capacity goes. The shades are left unrecognised, although discriminated. Thus, it can be argued that I have no concepts for such shades, for recognition is typically supposed to be a

² I will be using caps for concepts.

necessary condition for possession of colour concepts.³ One instance in which I would satisfy this recognition condition for concept possession is if I were to say, before a certain shade of blue, something like this: “I recognize this shade of blue, is the same used by Miró in his *Bleu II*”. (Of course, it is not necessary that I give linguistic expression to such recognition.)

Now we are in a position to properly understand the Fineness of Grain Argument. It can be thus formulated: (1) Having concepts for everything that is given to us in experience requires the capacity to recognize all objects and properties that are given to us. (2) In experience, fine-grained properties, such as shades of colour, are given to us. (3) We cannot recognize fine-grained properties. (4) Thus, we do not have concepts for such fine-grained properties. (5) Therefore, we do not have concepts for everything that is given to us in experience. This conclusion implies the first version of the idea of nonconceptual content, the one according to which we do not have the concepts required to specify our perceptual contents. After all, to specify our perceptual contents we are required to have concepts for everything that figures in such contents; we can only bring everything we perceive under (adequate) concepts if we possess concepts for everything we perceive. The conclusion of the Fineness of Grain Argument also implies the other version of the idea of nonconceptual content, the one according to which in order for us to have an experience with a given content we do not need to possess the concepts that specify such content. For if we perceive fine-grained properties such as shades of colour without possessing concepts for them, we are having experiences with a given content without possessing the concepts required to specify this content; thus, one need not possess the concept required to specify a given content in order to have an experience with this very content. That being the case, the Fineness of Grain Argument implies nonconceptual content in both of its versions.

3. McDowell’s Response

What the Fineness of Grain Argument seems to show is that, as we perceive certain properties, such as shades of colour, we do not possess concepts for them. But it does not show that we

³ That is, no adequate concepts, no concepts that capture the shade and do not capture other properties in the neighbourhood. Thus, the idea is that I possess the concept BLACK, but no concept for the specific shade of black that I perceive. For simplicity, I will often say that, according to the Fineness of Grain Argument, we do not possess concepts for everything we perceive. By this I mean that we do not possess adequate concepts for everything we perceive.

cannot *acquire* a concept for any given shade when confronted with it. McDowell suggests something along these lines in his *Mind and World*. He says that: “We do not have all these concepts in advance, but we do have whichever we need, exactly when we need them” (1994:170). McDowell’s idea is that a subject, in experiencing a given shade, acquires a capacity to recognize that shade for a certain period of time, even if the shade is taken from his view:

In the presence of the original sample, a subject who has the concept of a shade is enabled to classify items as possessing the relevant shade or not, by direct inspection for colour match. We can retain, for a while at least, a capacity to classify items as possessing the relevant shade or not, in a way that corresponds with the verdicts we would have given on the strength of direct inspection for colour match, even after the original sample is no longer in view (1994:172).

Since this capacity to recognize a certain shade only lasts for a certain period of time, probably a short one, when it is gone “the subject has lost the original shade concept without realizing it” (1994:171). So, there are shades that, in seeing them, we are at first not able to recognize them. We do not take them as being of the same type as a shade that we have encountered in the past. But, in seeing them, we *acquire* the capacity to recognize them. If the original sample is taken from view and another presented, we are able to judge this new shade as being of the same type as the original one or not. Since we acquire a capacity to recognize the shade, and since we can have indefinitely many thoughts about the shade, such as “This shade is darker than the ones I usually perceive”, or “I have seen this shade in Mary’s bedroom”, we have the concept for it.⁴ Since such capacities are short-lived, our concept is also short-lived. But as we perceive the shade, and that is the important point, we acquire a concept for it.

Let me make the idea clearer with an example. Take, again, my perceptual experience at this very moment. I see a number of different shades of black. As I perceive the shades, I

⁴ One condition that is usually imposed on concept possession is the satisfaction of Evans’ Generality Constraint, which suggests that in order to possess a concept C one must be able to combine C with other concepts in thought (Evans, 1982:104). This constraint is satisfied in McDowell’s account, for, while looking at a given shade, we can have a number of different thoughts about it, combining the concept for it with other concepts. And although there is a lot of controversy regarding the conditions that should be satisfied for concept possession, everyone seems to agree that if one can recognize an object or property and have different thoughts about it, one has the concept for it. See Fodor (2004).

cannot recognize them. I cannot take them as being of the same type as certain shades I perceived in the past. But, according to McDowell, by perceiving the shade I acquire a capacity to recognize it for a short period after it is taken from my view. Thus, although I cannot recognize the shades of black as I see them, if any of the shades is taken from my view and an identical one is presented after a short while, I am able to take this shade as being of the same type as the shade I saw a while ago. Thus, as I perceive the shade I acquire the capacity to recognize it, but only for a short period of time. Now, it is generally said that in order to possess a shade concept we must have the capacity to recognize the shade. This is a necessary condition for concept possession. And it is also a sufficient condition if coupled with the capacity to think about the shade. What McDowell is defending is that we do have the capacity to recognize all the shades that we perceive. For we acquire the capacity to recognize them as we perceive them. Since we can also have thoughts about the shades, it follows that we do possess concepts for the shades of colour given to us in experience. And the same applies to other fine-grained properties.

One can, of course, object that concept possession requires not short-lived recognitional capacities, but long-lasting ones. I do not doubt that an argument could be put forward defending this position. However, I will not discuss this question here. I will grant McDowell that short-lived recognitional capacities, coupled with thought, are indeed sufficient for possession of colour concepts. What I want to discuss is whether such short-lived recognitional capacities exist at all.

Now, before we go on, let me briefly make a comment about my interpretation of McDowell. People such as Brewer (1999), Kelly (2001) and Heck (2000), have taken McDowell as saying that the concepts that we acquire when having perceptual experiences are demonstrative ones, such as THAT SHADE, and not general ones, such as RED₂₅. However, nowhere McDowell says that such concepts are demonstrative. As I read him, and also as Peacocke (2001) reads him, he introduces demonstratives as *linguistic expressions* of general concepts based on recognition. We would have general concepts, such as BLACK₂₄, but, in the lack of the word “black₂₄”, or equivalent, would express them via demonstratives. He says, for instance, that “what is in play here is a recognitional capacity, possibly quite short-lived, that sets in with the experience” (1994:57). What McDowell didn’t say, and many took him as saying, was that we acquire demonstrative *concepts* in experience, such as THAT SHADE.

So, I take him to be saying that the concepts that we acquire are general concepts, such as RED₂₃. Since we typically have no words to express such concepts, we express them by means of demonstratives, such as “that shade”. Be that as it may, it is this position that I will be defending here, and not the demonstrative one.⁵

4. McDowell’s Response Defended

McDowell’s suggestion has generated a storm of criticism. People like Peacocke (2001), Dokic and Pachérie (2001) and Tye (forthcoming) objected that such capacities do not exist, because our capacity to discriminate shades far outreaches our capacity to recognize shades. Dokic and Pachérie make the point most clearly:

This is an empirical claim for which McDowell presents no evidence. For this claim to be falsified it would be enough to show that two shades of colour that are just over the threshold of perceptual discrimination when simultaneously presented would not be reliably discriminated when presented in succession. There is indeed plenty of empirical evidence that our capacity for perceptual discrimination far surpasses our capacity for perceptual identification and that colour experience is no exception...Raffman (1995) drives the point most clearly (2001:198).

Along the same lines, Peacocke says that:

As Diana Raffman observes, it is well known that perceptually-based discrimination of properties far outreaches memory and identification of those properties (2001:251).

So, there is supposedly empirical evidence showing that there are a number of things we are able to discriminate and not to recognize, in particular the kind of evidence presented by Raffman (1995).⁶ But is the empirical evidence really against McDowell? I don’t think it is. In fact, I think the empirical evidence is in favour of McDowell. This is what I will try to show next.

Let us begin to address the point by going through the paper by Diana Raffman that many take as showing that McDowell is empirically wrong in his suggestion. The main point of her paper, mentioned by Dokic and Pachérie, and also by Peacocke and Tye, is this:

⁵ For a defence of the demonstrative position, see Brewer (1999). For criticisms of it, see Heck (2000) and Kelly (2001). For a reply to such objections, see Brewer (2005).

⁶ Raffman’s paper is also mentioned by Tye (forthcoming) as being decisive against McDowell’s response.

Even if it turns out that perceivers are able, or could learn, to type-identify colour stimuli more finely (i.e., as tokens of types more fine-grained) than is commonly supposed, it remains overwhelmingly unlikely that they could learn to identify them as finely as they can discriminate them. The reason has to do with the limitations of perceptual memory (1995:295).

Thus, Raffman thinks that we cannot recognize or learn to recognize all the shades that we can discriminate. Why not? She begins to make her point by sketching a model of how recognition occurs:

In order to recognize or type-identify an object as red, upon inspection, you must remember what red looks like. A ‘classical’ cognitivist model of perceptual memory is helpful here...Roughly, on this sort of view, enduring psychological structures called *schemas* store perceptual information about how colours look, together with linguistic information about how they are called. When you see a red object, the RED perceptual node in your colour schema is activated, therein constituting recognition of the object as red; activation then spreads to your ‘red’ word node, enabling you to call the object ‘red’ (1995: 295).

Thus, recognition depends on us having information about objects and properties stored in our memory. It occurs when perceptual information is matched with a piece of information stored in our minds. Raffman uses this theoretical framework to explain why we do not recognize every shade of colour:

The obvious thought, then, is that the limited nature of our ability to identify shades of colour results from the limited nature of our colour schemas: the grain of our schemas is evidently a great deal coarser than the corresponding discriminations thresholds...It would be maladaptive, at the least, to be able to remember and be able to recognize every type of stimulus we can discriminate. Hence we have evolved to ignore such fine-grained differences in the interest of simple and speedy responses (1995:296).

So, the point is that we do not have information about every shade of colour stored in our memories because that would be maladaptive. There would be an immense information load in our memories, and such information would not be useful, would not increase our chance of survival. In fact, it could do the opposite, because it may be the case that, the more information there is stored in memory, the longer it takes for the relevant bit of information to be retrieved. For instance, in our hunter-gathering days, one thing that would certainly put lives in constant danger would be to take a long time to recognize the shade of an animal’s fur.

If this is the result of having information about every shade of colour stored in our memories, it is certainly maladaptive. Thus, we have evolved to store only certain pieces of information in memory, and thus to recognize only certain properties, and to do it quickly. Among the properties that we do not store information about, and therefore we are not able to recognize, are fine-grained properties, such as shades of colour.

Now, all of this may well be true. But does it affect McDowell's position? I don't think it does. Here is why. Raffman's argument is that the capacity to recognize all shades would require storage in memory of information about every shade of colour, and that would be maladaptive, and for this reason we do not have such a capacity. But Raffman is talking about long-term memory storage. As we have seen above, her point is that we recognize things via something like schemas, "which store perceptual information about how colours look" (1995:295). And "the grain of our schemas is evidently a good deal coarser than the corresponding discrimination thresholds" (1995:296). Now, these schemas are "enduring psychological structures" (1995:294). As such, they are representations we have stored in long-term memory. Raffman is saying that we do not possess representations in long-term memory of all the shades of colour we have encountered. This would be maladaptive. And that being the case, we are not able to recognize every shade that we perceive. That may well be true. But the kind of recognitional capacity that depends on such long-term representations is a long-lasting one. It is the kind of recognitional capacity that allows us, in seeing someone on the street, to take her as the same person we have met in the past. Or to take cars, for instance, as objects of the same type as ones we have seen in the past. It is, in short, the capacity to take objects and properties, as we perceive them, as being of the same type as objects and properties perceived in the past, and such capacity is long-lasting, thanks to something like Raffman's mentioned schemas. We are just not able to take many shades as being of the same type of certain shades we have seen in the past, because we have not stored information about such shades. But this is something McDowell assumes. He is not saying that we have an everlasting or long-lasting capacity to recognize every shade. He is not saying that we are able to recognize every shade as we perceive them. This is not the kind of recognitional capacity he is talking about at all. He is talking about some other kind of recognitional capacity, one acquired as we have the experience, a short-lived recognitional capacity: "What is in play here is a recognitional capacity, quite short-lived, that sets in with

the experience” (1994: 57). And the important point is this: this temporary capacity does not require representations being stored in long-term memory, but, rather, in *short-term memory*.

Interpreting McDowell’s suggestion in cognitive terms, what we have is a representation of a given shade stored in short-term memory for a brief period after it is perceived. During this period, we are able to recognize the shade if presented to us again. This is in perfect harmony with everything that Raffman says. It is maladaptive to retain a vast number of representations in long-term memory, and so we have evolved to retain only a small amount of the information present in short-term memory. Thus, most of the representations of perceived shades do not get stored in long-term memory. But while they are stored in short-term memory, we are able to recognize the given shade.

This implies that we can acquire a concept and lose it in less than a minute. While the representation is stored in short-term memory, we can recognize the shade, and think about it. When it is lost, such capacities are gone. Since we possess the concept because we possess such capacities, as they are gone the concept is gone.

So, McDowell’s suggestion seems to be not only compatible with what Raffman says, but empirically plausible. In fact, there is empirical evidence that suggests that this is likely to be true. Besides shades of colour, one other example of fine-grained property for which we are generally taken as not possessing concepts for is pitch. Peacocke, for instance, says that “You may not recognize the tone – you may not have absolute pitch – but you can discriminate that pitch from many, many others if you are asked to compare it with another...All parties to these discussions have acknowledged the fine-grained character of this representational content” (2001:240). So, like shades of color, we generally cannot recognize pitches as we hear them, unless we have absolute pitch. We do not take a certain pitch that we listen to as being of the same type as a pitch that we listened to in the past. Following Raffman’s suggestion, we do not store information about every pitch in our memory. But that does not mean that, when presented to a certain pitch, and presented to another one in a short interval, we cannot recognize the second pitch, we cannot say if it is of the same type or not as the one listened to before. In fact, there is evidence that we *can* recognize a pitch in such circumstances. Diana Deutsch, for instance, says that

When a tone is presented, and it is followed by another tone that is either identical in pitch to the first or differs by a semitone, most listeners find it very easy to determine whether the two pitches are the same or different. The task continues to be very easy when a silent interval of 6 seconds intervenes between the tones to be compared. Although memory for pitch has been shown to fade gradually with the passage of time...the amount of fading during a silent interval of 6 sec is so small that is barely apparent in the situation (1999:391).

Now, this is exactly what McDowell is proposing, applied to pitch.⁷ In listening to a certain pitch, we are generally not able to recognize it at first, we do not take it as being of the same type as a certain pitch that we listened to in the past, and we cannot do so. But if presented to another pitch in a close interval, we are able to say if the pitch is the same or not as the one we have just listened to. If it is the same, we are recognizing the pitch, we are taking it as being of the same type as a pitch that we have listened to in the past; in this case, in a very close past. The point, then, is that, when listening to the first pitch, we acquire the capacity to recognize it. But since this capacity depends on the amount of time a representation of the pitch is stored in our short-term memory, it is short-lived. But it is still a recognitional capacity. And while we retain this capacity, we are able to have thoughts about the pitch, such as “This pitch is nice to hear”, “I want to write a song in this pitch”, etc. That being the case, the subjects should be considered as having the concept for such pitches while they retain the capacity to recognize it.

If this is the case with pitches, it can be predicted that the same would happen with fine-grained stimuli acquired via other sensory modalities, such as shades of color. So, McDowell’s suggestion, although unsupported empirically by him, is not only empirically plausible, but likely to be true. For our short-lived capacity to recognize pitches is certainly not due to something particular about pitches, but about the storage of information retrieved from the sensory systems in our short-term memory. The objections to him, which take his position as empirically false, confuse recognition based on long-term memory with recognition based on short-term memory. It is indeed very unlikely that someone is able to recognize all shades of colors based on information stored in long-term memory. But we seem to be capable of recognizing every shade of colour based on information stored in short-

⁷ There is also evidence that similar results are obtained in experiments with timbre and duration of interval between sounds. See Starr and Pitt (1997) and Deutsch (1986). Moreover, in all such cases the interference of other stimuli, such as the presentation of numbers, cause only a small decrease in the subject’s recognitional capacity (Deutsch, 1999:392).

memory. It is just a matter of having presented a shade of the same type in a short interval after the presentation of the original shade, while our capacity to recognize it is still in place. So, although such a hypothesis can only be confirmed once and for all with experiments directly designed to test it, data regarding the recognition of pitch are evidence for it. We thus have good reasons to believe in McDowell's suggestion.

So, I conclude that, for all its appeal, the Fineness of Grain Argument fails. At least it fails if McDowell is right in thinking that short-lived recognitional capacities are sufficient for concept possession (if coupled with the capacity to have thoughts involving the concept). As remarked above, in this paper I have granted him that they are. If this is true, since we acquire a short-lived capacity to recognize fine-grained properties as we perceive them, and since we can think about such properties, we do possess concepts for all such properties. We do not possess them in advance, before perceiving the properties, and we do not possess them some time later, for they are short-lived; as McDowell pointed out, we possess them when we need them, that is, when we perceive the properties. Thus, we possess concepts for everything that figures in our perceptual contents. Since what we need to bring everything that figures in our perceptual contents under concepts is to possess concepts for everything we perceive, we do possess the concepts required to specify our perceptual contents. Content is thus conceptual in this sense. Is it nonconceptual in the sense that we do not need to possess the concepts required to specify a given perceptual content in order for us to have an experience with such content? In this paper, I have not shown that content is not nonconceptual in this version. But given that the Fineness of Grain Argument fails, it cannot be used to establish such thesis. The proponent of this version of nonconceptual content thus needs some other argument for his position.⁸

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Bibliography

Brewer, B. (1999) *Perception and Reason*, Oxford: Oxford UP.

Brewer, B. (2005) 'Perceptual Experience Has Conceptual Content', In E. Sosa & M. Steup (eds.), *Contemporary Debates in Epistemology*, Oxford: Blackwell.

Deutsch, D. (1986) 'Recognition of Durations Embedded in Temporal Patterns', *Perception & Psychophysics* 39, 3:179-187.

Deutsch, D. (1999) 'Processing of Pitch Combinations', In D. Deutsch (ed.), *The Psychology of Music*, New York: Academic Press.

Dokic, J. & Pachérie, E. (2001) 'Shades and Concepts', *Analysis* 61, 3:193-222.

Evans, G. (1982) *The Varieties of Reference*, Oxford: Oxford UP.

Heck, R. (2000) 'Nonconceptual Content and the Space of Reasons', *Philosophical Review* 109, 4:483-523.

Fodor, J. (2004) 'Having Concepts: A Brief Refutation of the Twentieth Century', *Mind and Language* 19, 1:29-47.

Kelly, S. (2001) 'Demonstrative Concepts and Experience', *Philosophical Review* 110, 3:397-420.

McDowell, J. (1994) *Mind and World*, Cambridge MA: Harvard UP.

Peacocke, C. (1992) *A Study of Concepts*, Cambridge MA: MIT Press.

Peacocke, C. (2001) 'Does Perception Have a Nonconceptual Content?', *Journal of Philosophy* 98, 5:239-264.

Raffman, D. (1995) 'On the Persistence of Phenomenology', In T.Metzinger (ed.), *Conscious Experience*, Thorverton: Schoeningh/Imprint Academic.

Starr, G.E & Pitt, M.A (1997) 'Interference Effect in Short-Term Memory for Timbre', *Journal of the Acoustical Society of America* 102, 1:486-494.

Tye, M. (Forthcoming) 'Nonconceptual Content, Richness, and Fineness of Grain', In T. Gendler & J. Hawthorne (eds.), *Perceptual Experience*, Oxford: Oxford UP. Available at <http://www.utexas.edu/cola/depts/philosophy/faculty/tye/> . Accessed 5 May 2005.