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Color-consciousness conceptualism[☆]

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ABSTRACT

I defend against a certain line of attack the view that the conscious contents of color experiences are exhausted by, or at least matched by, the concepts brought to bear in experience by the perceiver. The line of attack is an allegedly empirical argument against conceptualism—the Diachronic Indistinguishability Argument (DIA)—based on color pairs the members of which are too similar to be distinguished across a memory delay but are sufficiently distinct to be distinguished in simultaneous presentations. I sketch a model of a conceptualist view of conscious color perception that is immune to the DIA. One distinctive feature of the conceptualism on offer here is that it does not rely upon the widely discussed and widely criticized demonstrative-concepts strategy popularized by John McDowell and others. I offer empirical and philosophical considerations in my criticisms of the DIA and my sketch of my non-demonstrative conceptualism.

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0. Introduction

Is there a mismatch between what we experience and what we conceptualize that might be best described in terms of *fineness of grain*? Are our experiences of color, in particular, more fine-grained than we are able to grasp in conceptualized thought? The goal of the present paper is to defend against a certain line of attack the view that conscious experience of color is no more fine-grained than the repertoire of non-demonstrative concepts that a perceiver is able to bring to bear in perception. The line of attack in question is an alleged empirical argument—the Diachronic Indistinguishability Argument (DIA)—based on pairs of colors sufficiently distinct to be discriminated when presented side-by-side but too similar to be discriminated across a memory delay. The DIA was developed by Raffman (1995) and its arguments similar have been endorsed by Kelly (2001a) and Prinz (2007, pp. 192–193).^{1,2} My aim here is to show that this argument fails. My aim is not to give arguments in favor of the kind of conceptualism I favor. I do that elsewhere (Mandik, 2008, unpublished).

The organization of the remainder is as follows: In Sections 1–3 I spell out further preliminaries and relevant historical background. In Section 4 I spell out the Diachronic Indistinguishability Argument and in Section 5 I spell out my main criticism of it. Sections 6–9 are dedicated to objections and replies.

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¹ As I interpret the DIA, and as it seems, Raffman intends it, it is an empirical argument. I have doubts about whether Kelly (2001a) endorses the empirical argument. He seems, at least in places, to instead have an a priori argument in mind. See, especially his remark, “It is perfectly *conceivable*, in other words, and there is nothing about the nature of perception to keep it from being true, that our capacity to discriminate colors exceeds our capacity to re-identify the colors discriminated.” (p. 411, emphasis added).

² For discussion of the empirical evidence that, in various sensory modalities, our abilities of perceptual discrimination are more fine-grained than our memory and categorization abilities, see (Burns & Ward, 1977; Halsey & Chapanis, 1951; Hardin, 1988a; Hurvich, 1981).

1. Demonstrative and non-demonstrative conceptualism

At the center of many core debates concerning whether perceptual experience has nonconceptual content are conceptualists who lean on a notion of demonstrative concepts to fend off worries about experiential fineness of grain. Especially prominent examples are McDowell (1994, 1998) and Brewer (1999, 2005). I will call such conceptualism “demonstrative conceptualism” for its reliance on demonstratives.

I will contrast demonstrative conceptualism with a view I will call “non-demonstrative conceptualism.” Note, however, I do not take the difference between demonstrative and non-demonstrative conceptualism to be a disagreement over whether there are such concepts as demonstrative concepts. The non-demonstrative conceptualist can remain neutral on that question. The key contrast, as I intend it, is over whether considerations having to do with fineness of grain are best dealt with by appeal to demonstrative concepts. In the present paper I will be defending a version of non-demonstrative conceptualism.

There are several motivations for conceptualism. And though the following is not intended to be exhaustive, it will nonetheless be useful to note a few of them. I will sort the motivating considerations into those that are primarily epistemological and those that are primarily metaphysical.

Epistemological motivations for conceptualism. One epistemological consideration motivating many conceptualists, and perhaps the motivation most discussed in the debates over whether perceptual experience has nonconceptual content, is the idea that perceptual experience serves to justify empirical beliefs, and can only play this justificatory role if it itself is, like the empirical beliefs it justifies, a conceptual state (Bengson, Grube, & Korman, 2010; Brewer, 1999, 2005; McDowell, 1994). Another epistemological consideration that has motivated some philosophers is the thought that we have an especially high degree certainty about our own conscious states that is best accounted for by denying that our conscious states have an existence separable from our conceptualizations (thoughts, judgments, etc.) of them (Horgan & Kriegel, 2007, pp. 135–138; Lynch, 2006; Mandik, 2008, unpublished; Rey, 1991, p. 100, 1993, p. 250).

Metaphysical motivations for conceptualism. Many theories of consciousness are argued for on the premise that a conscious state's being conscious consists in one's being conscious of the state, and that this consciousness of the state is implemented by one's having a representation of the state (Carruthers, 2004; Kriegel, 2003, 2006; Lycan, 1996; Rosenthal, 2005; Van Gulick, 2004). On some versions, especially the higher-order thought theory of consciousness as defended by David Rosenthal, in order, for example, to be conscious of one's perception as being of some color shade, one must have a suitable higher-order thought of that shade, which in turn requires that one have the conceptual resources needed to capture that color (2005, pp. 188–189). A distinct metaphysical motivation for holding conceptualism is less focal than that of the higher-order thought theorists. Instead of relying on a *specific* claim on the requirements on *conscious* states, this distinct motivation makes a *general* claim about mental states (conscious and nonconscious alike) by way of a certain kind of appeal to parsimony: by seeking to explain all mental states as conceptual, we achieve a satisfying parsimony in our theorizing about the mind (Rey, 1991, p. 93, 1993, p. 248).³

The motives so far discussed are general motivations for adopting conceptualism. These general motivations do not alone suffice to motivate the particular version I am calling demonstrative conceptualism. The motive for demonstrative conceptualism arises in response to worries having to do with the fineness of grain of the conscious experience of color. The basic idea here is that without a recourse to demonstrative concepts, there just are not enough concepts possessed by a person to account for all of the colors that the person is nonetheless able to consciously perceive. To illustrate: a person may be able to perceive, perhaps on two separate occasions, two shades of red that differ in some slight way. If the person conceives of each of them simply as red, then it looks like there are differences in the perceived shades that outstrip the way they are conceived, since they are conceived in the same way. But by allowing, in addition to the concept RED, demonstrative concepts such as THIS SHADE and THAT SHADE, the demonstrative conceptualist *prima facie* provides for as many conceptualizations of colors as colors consciously perceived.

There have been various criticisms waged against demonstrative conceptualism (Dokic & Pacherie, 2001; Eilan, 2001; Kelly, 2001a,b; Peacocke, 1998, 2001; Prinz, 2007). For present purposes, it will do to just focus on two general lines of complaint against demonstrative conceptualism.

The first line of complaint stems from what we might call the object-involving or externalistic individuation conditions on demonstrative contents. Such conditions are plausible and independently motivated. But this is not the problem. The problem is that also plausible and independently motivated are certain conditions on the phenomenal character of perceptual experience, conditions that seem not to appropriately “line up” with the aforementioned conditions on demonstrative

³ Rey (1993) writes: [B]y assimilating [qualitative] experience to [propositional] attitudes, we explain the essential *unity of the mind*, what it is that makes beliefs, desires, memories, hopes, fears and sensations all states of the *same sort of entity*. What are sometimes proposed as rival accounts seem to me to lack this unity. For example, biologicistic or dualistic accounts that regard qualia as biological or as entirely non-physical properties of a computationally organized brain have trouble explaining how a mind that thinks by computing manages to feel by being in some further *non-computational* relation to such further properties. The further properties seem gratuitous and accidental: unless they were somehow *represented* in that life, how could they be any more a part of a person's mental life than the colour of their brain? But then why should not the representations be enough, whether or not there are the corresponding properties? (p. 248). It should be noted that there is a bit of a wrinkle involved in counting Rey as a conceptualist. In his (Rey, 2007) he writes that on his view, sensational representations are ‘non-conceptual’ (scare-quotes, Rey's) for not freely combining with each other (p. 115). Further, on Rey's view, there are no qualia, just the contents of phenomenal concepts (p. 130). On one reading then, Rey is a conceptualist for denying that qualia have any existence beyond the contents of certain concepts. On a different reading though, Rey is a nonconceptualist for his view that sensational representations aren't concepts.

contents. The conditions on phenomenal character may be briefly conveyed here as being closely connected with, if not identical to, the way things perceptually appear to the perceiving subject.

The failure of “line-up” between demonstrative contents comes in two varieties. The first involves situations in which there can be a difference of perceptual appearance but sameness of demonstrative content. One example is when one and the same shade of a painted surface is demonstrated across different times while a dissipating fog intervening between perceiver and the perceived surface gives rise to differences in the appearance of the shade (Kelly, 2001a, p. 398, footnote 392). The second variety of “line-up” failure involves a sameness of perceptual appearance but difference in demonstrative content. On two different occasions two distinct entities may be demonstrated without the properties that serve to distinguish the entities sufficing to make the entities discriminable in appearance (Davies, 1992, pp. 25–26).⁴ Two highly similar umbrellas may be demonstrated on two distinct occasions of “that’s an umbrella” without the difference between the umbrellas being apparent to the speaker.

The second line of complaint against demonstrative conceptualism, and perhaps the one most prominent in recent discussions, concerns the worry that so-called demonstrative concepts seem not to be genuine concepts for they seem not to satisfy an alleged constraint on concept possession that we can, following Chuard (2006), call the *Re-identification constraint*. That there is some such criterion on concept possession is endorsed by several philosophers and criticized by Chuard (2006).⁵ The gist of the Re-identification constraint can be stated as follows: In order to possess some concept, C, a possessor must be capable of, on multiple occasions, identifying *as such* entities properly conceptualized under that concept. So, for example, a person in genuine possession of the concept DOG must be capable, on multiple occasions, of conceiving of an entity as a dog. It seems, however, that there are situations in which we can demonstrate a color shade yet not be able to re-identify that shade. I might demonstrate some shade of a paint chip at a paint store (I say “let’s paint our apartment *this* color” while holding up the chip), and then accidentally drop it into a pile of very similarly colored chips. After dropping it, I may be at a total loss to say whether it is the chip I had previously demonstrated. If reidentifiability is a genuine constraint on concept possession, then whatever conditions sufficed for me to demonstrate the initial shade were insufficient conditions for me to grasp a concept of that shade *as such*.

Whereas demonstrative conceptualism leans on demonstrative resources to respond to worries about experiential fineness of grain, non-demonstrative conceptualism leans on *other* resources. One might view both demonstrative and non-demonstrative conceptualism as motivated by a worry about whether there is a *general* kind of conceptualist resource that can be marshaled to defuse worries that there is an upper bound on the number conceptualizations accessible to a perceiver. What general kind of resource is there besides demonstratives that would allow conceptualists to go beyond what might otherwise seem to be an upper bound? A natural suggestion is to borrow a strategy from elsewhere in the philosophy of mind for dealing with looming upper-bounds: appeal to the indefinite number of combinations achievable with a finite-stock of recombinable elements (Fodor, 1975; Fodor, 2008).

To my knowledge, such a non-demonstrative conceptualism has not been spelled out at length, though there have been some brief discussions of it. Chuard (2006) brings it up briefly in a footnote but dismisses it quickly.⁶ Rosenthal (2005, pp. 188–189) can be read as having a favorable view of such a strategy (a view that Gennaro (*in press*) endorses), but his treatment of it is brief.

The gist of this combinatoric, non-demonstrative strategy may be spelled out in the manner of Rosenthal’s treatment. The conceptualist may appeal to combinations of two kinds of color concepts, what Rosenthal calls *comparative* and *noncomparative* color concepts. Comparative color concepts are those brought to bear in comparisons between colors, concepts such as the concept of one shade’s being darker than another or more blue than another. Noncomparative color concepts are those, such as red and vermillion, that are applicable in judgments that are not comparisons of colors. According to this version of conceptualism, for any color a perceiver can consciously experience something *as*, the perceiver must bring to bear in experience some color concept or combination of color concepts. So, for example, I may, on some conscious perceptual encounter with a shade, conceptualize it as vermillion (a noncomparative color concept). Alternately, I might, if lacking the concept vermillion, conceptualize it as more red than orange, and/or more orange than blood-red. Alternately, on a presentation of two shades of red side-by-side, I might conceive of the one on the right as a darker shade of red than the one on the left.

⁴ The demonstrative conceptualist may attempt to avoid these sorts of problems by, as Kelly (2001a, p. 398, note 2) suggests, having the demonstrative content be fixed, not by the shade that is experienced, but instead by the shade *as* it is experienced. However, such a move seems to make the resultant demonstrative conceptualism highly vulnerable to what Bermúdez and Cahen (2010) call the *priority argument*, the gist of which that is pertinent here is that experiential content is supposed to be explained by appeal to conceptual content, not the other way around (see also Heck (2000)). However, the appeal to, instead of the shade of color the external object actually has, the shade of color as it appears to experience, seems to invert the proper order of explanation.

⁵ Examples of supporters of the Re-identification constraint include Brewer (1999), Jacob and Jeannerod (2003), Kelly (2001a, 2001b), McDowell (1994), and Prinz (2007).

⁶ Chuard (2006, p. 196, note 11) writes: Perhaps, one could reach the same result without resorting to demonstrative concepts. Suppose that a subject S possesses some chromatic concepts like RED and GREEN, together with concepts of ILLUMINATION, HUE, SATURATION, etc. She may then be able to form enough complex concepts composed out of those simpler concepts, so as to conceptualize the fine-grained differences between the shades she perceptually discriminates. The problem with this suggestion is that a subject might in fact lack even some basic chromatic concepts, not to mention concepts of ILLUMINATION, HUE and SATURATION. Chuard here dismisses the non-demonstrative strategy on the grounds of a modal claim concerning what a subject might experience while lacking certain concepts. I find the modal claim to here be inadequately defended. As it appears in Chuard’s note, it is a bald assertion.

2. First-order and higher-order theories of consciousness conceptualism

Many debates surrounding conceptualism are cast in terms of a construal of conceptualism that we can characterize as the *exhaustion thesis*: conscious perceptual states have conceptual content, and the mental aspects distinguishing various perceptual states, aspects such as the *phenomenal character* or *sensory qualities* of the states, are exhausted by these conceptual contents. Focusing on conscious experience of color, the exhaustion thesis holds that the difference between a conscious experience of red and a conscious experience of blue just is the difference constituted by deploying the concept red in the one experience and the concept of blue in the other.⁷

Another kind of view that merits considering as a fellow traveler but is not as strong as the exhaustion thesis is what I will call the *matching thesis*. We might state the matching thesis as that there must be as many concepts deployed as there are mental aspects distinguishing perceptual states, but these concepts do not exhaust those aspects. The matching thesis thus allows that there may be nonconceptual aspects to conscious experience (Bengson et al., 2010; Rosenthal, 2005). Put in terms of the conscious experience of color, the matching thesis has the same *conceptual* requirements as the exhaustion thesis: it is required by one experience's being of blue and the other of red that there be a deployment of a concept of blue in the one and of red in the other. But unlike the exhaustion thesis, the matching thesis does not hold that the respective deployments of the concepts of red and of blue are the sole constituents of the mental differences between the two experiences. The matching thesis allows that there may additionally be nonconceptual differences, differences, for instance, at the level of sensations, impressions, or sensory quality.

Many arguments in the literature designed to attack conceptualism serve as attacks on both the exhaustion thesis and the matching thesis. Arguments hinging on experiential fineness of grain, for example, call into question whether there are as many concepts at the disposal of the perceiver as there are colors that the perceiver may consciously experience. Clearly such an argument is indifferent to the difference between the exhaustion and matching theses.

Though I do not take the difference between exhaustion and matching to matter much for present purposes, I myself am inclined toward an exhaustion version of conceptualism and in what follows, I will frequently spell out various conceptualist points along exhaustion-thesis lines.⁸

3. Gareth Evans and fineness of grain

Much of the literature on color and conceptual content revolves around Gareth Evans's rhetorical question: "Do we really understand the proposal that we have as many color concepts as there are shades of color that we can sensibly discriminate?" (Evans, 1982, p. 229). Setting aside the portion of the question regarding what it is that we *understand*, a portion seeming to invite viewing this as a matter of what we can conceive about the relations between concepts and sensible discrimination, Evans's question seems to be a straightforwardly *empirical* question: does the number of discriminable colors exceed the number of color concepts? Further, if we make certain assumptions about what to count as the discriminable colors and the concepts of them, then the answer to this empirical question is already at hand.

Assume, on the experience side of things, that the number of colors discriminable in standard psychophysical tests is one and the same as the number of colors that may be consciously experienced. Assume, on the concept side of things, that by "color concepts," Evans intends what we can call *lexical concepts* of colors, concepts corresponding to individual color words, as opposed to *phrasal concepts* of colors, concepts corresponding to multi-word phrases. Further, assume that the number of lexical concepts a perceiver has is one and the same as the number of high-frequency (frequently used) individual color words in the perceiver's native language. Such words are basic monolexemic color terms, and exclude terms such as "light blue," which is not monolexemic, and "azure," which is low-frequency. Such assumptions lead to experienced colors numbering around ten million and, for native speakers of English, the number of lexical concepts at a mere eleven.⁹ The difference between the numbers is so vast that we can plausibly credit typical English-speaking perceivers with already having an intuitive grasp of such a difference. This intuitive grasp perhaps underlies so many philosophers finding intuitive the claim that we experience more colors than we have concepts for.

This difference in estimated numbers of color concepts and experienced colors depends on certain assumptions. However, if we change our assumptions on the concept side of things, then it is not at all clear that the gulf will be so vast between the numbers of concepts and the number of colors experienced. In particular, if we allow phrasal as well as lexical concepts, then we allow for a combinatoric conceptual wealth that may very well match the wealth of experienced colors. If the nonconceptualists are going to have a hope of defeating this combinatoric strategy on empirical grounds, they are going to need something much stronger than Evans's rhetorical question. It is to such a stronger argument that I now turn.

⁷ The differences relevant to the present example are intramodal differences, as would be expected in discussions of color experience. The larger issue of how and whether various conceptualists account for intermodal differences is too large for discussion in the present paper.

⁸ In particular, I hold phenomenal character to be identical to a certain kind of conceptual content (Mandik, unpublished).

⁹ See Hardin (1988b, pp. 226–227), where he cites Judd and Wyszecki (1963, p. 359) regarding the number of discriminable colors and Berlin and Kay (1969) regarding the number of basic color terms in English.

4. Formulating the DIA with and without the Re-identification constraint

The gist of the DIA is easy to convey, but certain difficulties arise in stating precisely how the argument is supposed to present a problem for conceptualism. One of the central difficulties concerns whether the DIA needs to be formulated in terms of a strong memory-based requirement on concept possession, the Re-identification constraint. In what follows, I will begin with the gist and then move onto formulations of the DIA with and without the Re-identification constraint. Along the way I will make remarks about the Re-identification constraint and certain problems with it.

4.1. The gist of the DIA

There exist color pairs sufficiently similar to be indiscriminable across a memory delay while sufficiently distinct to be discriminable when presented simultaneously (Perez-Carpinell, Baldovi, de Fez, & Castro, 1998; Raffman, 1995). So, for example, two paint chips presented side-by-side will be clearly and correctly distinguished as having distinct colors, but if presented one after the other, the viewer will be uncertain whether they have distinct colors. Though, for simplicity, I will just be focusing here on color, the point generalizes to aspects of vision other than color and also to other sensory modalities besides vision. There are thus a wide variety of stimulus pairs that are discriminable in simultaneous presentations but indiscriminable in serial presentations.

As Raffman (1995) argues, if we make certain natural assumptions concerning the relations of concepts to memory, then the existence of such stimulus pairs puts pressure on the suggestion that conceptual contents exhaust the contents of experience. Given certain connections between the conceptualized and the remembered, then the existence of such stimulus pairs suggests that experience outstrips our concepts.

On the face of it, Raffman's case against conceptualism may seem persuasive. Since the colors in question are simultaneously discriminable, that gives us reason to believe that there are corresponding contents of consciousness. Given certain assumptions about the relation of concepts to memory, the failure to discriminate these colors across a memory delay indicates that these conscious contents outstrip conceptual content.

It is clear that the gist of the argument involves two key assumptions: one concerning what's experienced in the diachronic presentation of the diachronically indiscriminable colors and one concerning a memory constraint on concept possession. In working toward a more precise statement of the logical structure of the DIA, we can represent these two assumptions as two distinct premises. Additionally, we must include a premise concerning conceptualism—a thesis concerning the relation of concepts to conscious experience. And, of course, there must be some statement of the empirical finding concerning the failure of diachronic discrimination. The form of the argument then is the following four-premise argument. (We can state the argument in terms of two shades of blue, $blue_1$ and $blue_2$, that are synchronically distinguishable but not diachronically distinguishable, and are presented separately at two times, t_1 and t_2 , respectively.)

- (1) *The Experience Assumption*: Shade $blue_1$ gives rise to a conscious experience with a phenomenal character at time t_1 that is distinct from the phenomenal character of the conscious experience that the shade $blue_2$ gives rise to at time t_2 .
- (2) *The Memory Constraint*: In order to be in possession, at time t_1 of a concept of $blue_1$, one must be capable of remembering $blue_1$ at the later time, t_2 .
- (3) *The Conceptualist Assumption*: If one has conscious experience of $blue_1$ (a conscious experience with a phenomenal character distinct from the conscious experience of $blue_2$ at time t_2) at time t_1 , one must be in possession of a concept of $blue_1$ at t_1 .
- (4) *An Interpretation of the Indiscriminability Data*: Given the diachronic failure to discriminate the synchronically discriminable $blue_2$ from $blue_1$, $blue_1$ was not remembered at t_2 .
- (5) *Anticonceptualist Conclusion*: One can have a conscious experience of $blue_1$ without being in possession of a concept of $blue_1$ at t_1 .

4.2. The Re-identification constraint

One strategy for resisting the DIA is to construe the memory constraint as an alleged a priori constraint on concept possession—the Re-identification constraint—and then to contrive armchair counterexamples to the constraint. This is what I take to be the main thrust of Chuard's (2006) case against the DIA.

Chuard presents a case that for arguments against conceptualism based on fineness of grain to have their best chance at success, they need the premise concerning memory to be formulated as follows (p. 170):

[I]f a subject S possesses a concept C for a property f , S must be able to (i) identify some object o as f at time t ; (ii) to identify some object o' as f at time $t + 1$; and (iii) to identify f at $t + 1$ as the same property f as at t .

For an example of the sorts of armchair examples Chuard presents, consider this passage (p. 181):

Suppose that the subject had recently lost her capacity for short-term and long-term memory about her personal life. She still has a very general knowledge about the world, but none about herself. Her general knowledge implies that she has

not lost her conceptual skills – and is thus perfectly capable to identify triangles. In her situation, the subject will be completely unable to re-identify the newly presented triangle as the same shape she was earlier presented with. That is because she cannot remember anything about her past experiences. Still, by hypothesis, she can identify the shape in question as a triangle.

Chuard's case of the amnesiac counts as a counterexample to the Re-identification constraint on the grounds that right before her amnesia, the amnesiac identified something as a triangle and at no later time is she able to re-identify subsequent shapes as the same one she saw on that earlier occasion. Perhaps those who are sympathetic to the Re-identification constraint will want to resist Chuard's counterexample. But I want to here bypass the issue and just grant Chuard's counterexample. I am more than happy to reject the Re-identification constraint as imposing an a priori constraint on concept possession. Regardless, I think that there is an empirical generalization that proponents of the DIA may make a plausible appeal to, and thus still have a plausible case on their hands against conceptualism.

4.3. Formulating the DIA without the Re-identification constraint

To get a feel for the proper roles that notions of concepts and memory play in the DIA, it helps to begin with considerations of what, in general, would explain a failure to diachronically discriminate two colors.

For any two colors that one fails to discriminate diachronically, there are two general possible explanations. One is that the failure is due to memory failure: upon presentation of the second color, one does not adequately remember the first color and thus is not in a position to correctly discriminate the two. The other possible explanation is that the failure is due to perceptual failure: upon presentation of the first color, one does not adequately perceive it, and so even if one perceives the second color, one will not be in a position to discriminate the two.

Memory-based explanations are plausible only under certain kinds of conditions. For example, if there is good reason to believe that the separate stimuli were both perceived and conceptualized under distinct concepts, then a failure to discriminate the colors is plausibly due to a memory failure only if the delay is quite long. Perceived colors differing with respect to differences we uncontroversially *do* have concepts for, say, red and blue, that straddle only a short delay, say the time it takes to turn a page, are easily diachronically distinguishable. However, with a really long delay (days, years) one may very well forget the first color and thus, on presentation of the second color, be in absolutely no position to discriminate it from the first.

In contrast, memory-failure explanations seem implausible for very short delays, especially when the stimuli are conceptualized. And this is not to impose a hard-core Re-identification constraint on concept possession. Even if the Re-identification constraint has possible counterexamples, the following seems to be a well-supported empirical generalization: For very short delays, if one does conceptualize the stimulus, one tends to be able to remember it. Instead of viewing the Memory Constraint premise of the DIA as depending on the Re-identification constraint, we can instead see it as following from the following empirical generalization:

(M): Relative to short time periods, if a stimulus is conceptualized then it is remembered.

Of course, an analogous generalization does not hold for very long stretches of time. I can conceptualize a passing stimulus as a man with a mustache, but it is highly likely that this will be forgotten eventually in a few minutes, hours, or days. But when we look to shorter time periods, periods spanning just a few seconds, (M) seems highly plausible. Consider diachronic discrimination tasks comparing performance for words or written characters in known and unknown languages. It is plausible to predict support for (M) in such tasks. And we can see this as consistent with the sorts of effects that psychologists chalk up to “depth of processing” (Craik & Lockhart, 1972).

We are in a position now to see DIA as depending not on a re-identification-based conceptual analysis of the concept of “concept,” but instead on the reasonable empirical generalization, (M). Shades blue₁ and blue₂, discriminable synchronically but not diachronically even across very short delays, seem to give conceptualists a problem. Because of (M), we'd expect a conceptualized blue₁ to be remembered long enough to support an appropriate comparison to blue₂.

I turn now to present a case that, of the four premises of the DIA, the most questionable one is the *Experience Assumption*. I turn now to flesh out a case against the DIA that involves calling into question the Experience Assumption.

5. My response to the DIA, First Approximation

My general strategy against the DIA involves calling into question the Experience Assumption. Recall that the Experience Assumption is formulated as follows:

Shade blue₁ gives rise to a conscious experience with a phenomenal character at time t_1 that is distinct from the phenomenal character of the conscious experience that the shade blue₂ gives rise to at time t_2 .

The gist of my strategy will center on the suggestion that, contrary to the Experience Assumption, one does not have at time t_1 an experience with a phenomenal character that is distinct from the phenomenal character one has at time t_2 . As I

say, that is the gist. Spelling this out with more precision will take some time and care. I develop my line of response to the DIA as a pair of approximations, the second approximation dealing with objections that arise for the first approximation.

Recall that in an earlier section I said that there are two general explanatory strategies for accounting for a failure to diachronically discriminate colors that are synchronically discriminable: One may explain the failure as either a kind of memory failure or as a kind of perceptual failure. The specific explanation that I will be developing is in terms of a kind of perceptual failure.

More needs to be said about what it is that, despite the failure, *is* perceived. One kind of perceptual failure would be a failure, at time t_1 or t_2 (or both), to perceive *anything*, but clearly it is implausible to attribute a temporary total blindness to the subjects presented with these stimuli. More plausible than attributing a temporary total blindness would be to attribute experiences with the same phenomenal characters at time t_1 and t_2 . Such an explanation would account for a failure to discriminate blue₁ from blue₂ by hypothesizing that the way blue₁ seemed at t_1 was the same as the way blue₂ seemed at t_2 . In keeping with the gist of conceptualism, the conceptual content that either exhausts or matches this single phenomenal character would be the same conceptual content at t_1 and t_2 . Suppose, for the sake of illustration, that the concept deployed on both occasions is the concept LIGHT BLUE. The suggestion under examination, what I will call the *First Approximation*, is that the Experience Assumption is false because the contents of the conscious experiences at t_1 and t_2 are the same: What's consciously perceived regarding the color of the respective stimuli is that each is *light blue*.

6. The First Approximation and its problems

6.1. Problems facing the First Approximation

The gist of the First Approximation is to hold that the way blue₁ appears in the diachronic presentation is different from the way blue₁ appears in the synchronic presentation (blue₁ seems the same as blue₂ in the diachronic but different from blue₂ in the synchronic presentation). This looks to be endorsed by Rosenthal (2005, pp. 188–189) and Gennaro (in press).

One of the main problems immediately faced by the strategy under consideration is the following: Since, (1) by hypothesis, the phenomenal appearance of blue₁ in the diachronic context is the same as the phenomenal appearance of blue₂ in the diachronic context, and (2) it is highly implausible that blue₁ and blue₂ give rise to the same phenomenal appearance when synchronically presented—they are synchronically distinguishable, after all—it seems to follow that (3) the phenomenal appearance of blue₁ is different in the synchronic and diachronic contexts. And here is the problem: It needs to be made plausible that blue₁ can give rise to different phenomenal appearances in these different contexts.

Now, the problem is not insurmountable, but spelling out just how to surmount it requires some care. And part of what will put pressure on the conceptualist is that the conceptualist will not only need to account for the data regarding diachronic indiscriminability so far described—data from what I will call the “Old Experiment”—but also data from a to-be-described “New Experiment”.

I turn now to discuss further these and other challenges that arise for the First Approximation, challenges with which the First Approximation will have varying degrees of success in meeting. They are:

- (1) *The problem of content*: What are the contents of the different experiences in the synchronic and the diachronic presentations?
- (2) *The problem of mechanism*: Why are the contents that way and not some other?
- (3) *The problem of plausibility*: Can it really be made plausible that blue₁ seems different in the synchronic and diachronic contexts?
- (4) *The problem of the New Experiment*: Diachronic indiscriminability can be shown to fail in experimental setups where it is quite plausible (more plausible than in the Old Experiment) that there is not a difference between the way blue₁ is experienced in the synchronic and diachronic tasks.

6.2. The problem of content

This looks to be an easy problem for the proponent of the First Approximation to meet. It does not look like there is any special reason to think that this version of conceptualism will be at a loss of giving an account of *what* the contents are. They can say, for example, that in the synchronic presentation of blue₁ and blue₂, the content of the experience is exhausted or matched by the conceptual content expressible as *two shades of light blue, one darker than the other*. And they can say that, in the diachronic context, the relevant content is expressible as *light blue*. Alternately, there might be comparative concepts involved in the diachronic presentations, concepts that are involved in comparisons to the background.

In saying that the proponent of the First Approximation can answer the problem of content is not to say that there are not other problems that may arise. However, the problem of simply giving an answer to the question of what the contents are is met by the First Approximation.

It needs to be emphasized that, relative to the dialectic, the conceptualist need not give a very specific answer to this question as long as he/she rises to the challenge of making plausible that there are enough concepts for the colors experienced. For the purposes of simplifying discussion, I will take the First Approximation to be giving the following specific

answer to the content question: in the diachronic presentation of the chips, the color content of experience is the noncomparative BLUE whereas in the synchronic presentation, the color content is the comparative DARKER BLUE THAN.

6.3. A problem with mechanism?

Given some answer to the question of *what* the relevant conceptual contents are in the different contexts, a further question arises of *why those* are the contents. One way to put a point on it is to consider that the proponent of the First Approximation holds that (1) in the synchronic context but not the diachronic context, a *comparative* concept, a concept of one shade's being darker than another, is deployed and (2) in the diachronic context but not the synchronic context, only a *non-comparative* concept, a concept of being light blue, is deployed. The problem of mechanism might be stated as the problem of supplying some mechanism that explains why the concepts deployed are as described in (1) and (2), and not instead (1') comparative concepts deployed in both synchronic and diachronic contexts or (2') noncomparative concepts deployed in both synchronic and diachronic contexts.

Why not (1') comparative concepts in both synchronic and diachronic contexts? The portion of this question that is especially pressing is *why not comparative concepts in diachronic contexts?* One can put a point on this by saying that nothing seems to rule out, at least in thought, conceiving of the diachronically presented stimulus as not just light blue, but as a blue lighter than the blue on the Union Jack.

One sort of move the conceptualist can make at this point is to appeal to an independently motivated account of a mechanism that would serve to distinguish a perceptual deployment of a concept, in this case, *light blue*, from a deployment in an accompanying thought, in this case, *lighter than the blue of the Union Jack*. One might say that what is distinctive of perceptual deployments is that they are automatic and exogenous, and further, which concepts are automatically exogenously elicited by a stimulus reflects, in part, the learning history of the person (Mandik, 2006).

Another move that the conceptualist can make is to note that it would not really be damaging to the conceptualist to allow comparative contents in the diachronic context, for there is no reason to believe that the comparative concepts would have much effect on the patterns of success and failure in the Old Experiment. So, to go back to questions along the lines of "Why cannot a subject apply a comparative concept in the diachronic case?" the advocate of the First Approximation may offer a response that will be along the lines of "They can, but these will just be guesses or flights of fancy with no real hope of being accurate."

Suppose a comparative concept were deployed during the diachronic case. Which one? And, when? At time t_1 the subject can make some wild-guess prediction that the current color is darker than the one coming up next. But there is no reason to suppose the existence of a reliable mechanism for deploying the right concept. That would be clairvoyance. At time t_2 the subject can make some wild guess that the previous color was darker, but it is implausible to suppose there to be a memory trace of what was present at time t_1 and thus the subject would be no more reliable about the past than the future.

Let us turn now to the question, *Why not (2') noncomparative concepts in both synchronic and diachronic contexts?* The portion of this question that is especially pressing is *why not noncomparative concepts in synchronic contexts?* Why not two noncomparative concepts, BLUE1 and BLUE2? On the face of it, the hypothesis that the subject possesses these two concepts is tantamount to the hypothesis that the subject possesses individual concepts (lexical, non-phrasal concepts) for each property the subject is able to perceptually discriminate. And the question needing consideration here can be considered as the question of what basis the conceptualist has for rejecting this hypothesis. It strikes me that the remarks made earlier about memory can serve as this basis. Noncontroversial examples of experienced colors we do have concepts for are such that differently conceptualized colors are diachronically discriminable. It seems reasonable, and in keeping with empirical generalization (M), for the advocate of the First Approximation to deny the possession of fine-grained noncomparative concepts by subjects to whom the relevant colors are diachronically indiscriminable.

6.4. The problem of plausibility

The defender of the First Approximation needs to make it plausible that blue₁ can seem different in the diachronic and synchronic contexts. Here the conceptualist can make a plausible case that such differences would be a species of well known and widespread effects of context on color appearance. Context effects are well known in the literature on color perception.¹⁰ In normal lighting conditions, one and the same paint chip may seem gray or bright yellow depending on what else is present in the visual field. Further, manipulations of context can make distinct chips look the same in color. Such context effects need not involve a difference in what light arrives at the eye from the paint chip in question. Nor are they explained by interactions between retinal cells. The perceptual effects of context depend on higher levels of the visual processing hierarchy than the retina.

It is open to the conceptualist, then, to offer as plausible that different conscious perceptions arise from the same chips presented in different contexts. To present a chip by itself on one occasion and with another chip on another occasion is to present the chip in two different contexts, contexts that give rise to differences in the perception of the color of one and the same chip.

¹⁰ See Lotto and Purves (2002).

6.5. The “New Experiment”

While the first three problems are answered by the First Approximation with relative ease, this fourth problem will show some real weaknesses in the position. The fourth problem arises in contemplation of the “New Experiment.”

We can view the New Experiment as designed to control for context effects. This may be achieved in the following manner: Instead of presenting a paint chip sometimes by itself and sometimes with another chip, in the new experiment, presentations will always involve simultaneous chip pairs. Consider two presentations of such pairs, presentations that differ only in whether the darker chip is on the right side of the presentation display. The task put to the subject is to make a “same as before, yes or no?” judgment about colors appearing on the right side of each display. Synchronic discrimination tasks could use just one presentation of a simultaneous pair and ask if the left and right regions contain the same color.

Such an experimental design is aimed at avoiding the accusation that the colors presented in the synchronic and diachronic contexts are colors presented in different color contexts. In this new experiment, the color context of the right-hand color in the first presentation is arguably the same as the color context of the left-hand color in the second presentation since the two presentations are just spatial rotations of each other.

The New Experiment seems to pose a serious difficulty to the First Approximation. Recall the First Approximation's explanation of the data in the Old Experiment: $blue_1$ and $blue_2$ are synchronically but not diachronically distinguishable because the conscious experience of $blue_1$ involves different concepts in the synchronic and diachronic contexts. But in the New Experiment, the synchronic and diachronic discrimination tasks do not involve presenting $blue_1$ in different contexts, so the First Approximation's central explanatory strategy looks to gain no purchase.

6.6. The Second Approximation

I think that the most promising strategy for the conceptualist in responding to worries concerning diachronic indiscriminability, especially in light of the New Experiment, is to emphasize the indeterminacy of the content of most color concepts. The relevant notion of determinacy may be spelled out in opposing terms of, on the one hand, color properties that are maximally *determinate*—thought of, perhaps, as points in a color solid or lines on a color spectrum—and color properties that are merely *determinable*—thought of, perhaps, as regions of non-zero extent in a color solid or bands of non-zero thickness on a color spectrum.¹¹

Consider the conceptual content expressible by the sentence *John's shirt was a shade of light blue*. We might think of the logical form of this content as being existentially quantified: *there is a shade of light blue such that John's shirt has it*. We might even allow that the content commits to there being a maximally determinate shade that the shirt has, while being noncommittal as to precisely which shade that is: *there is a maximally determinate shade of light blue such that John's shirt has it*. As I shall be understanding the relevant notion of *indeterminacy*, the color concepts expressed in the above sentences concerning the color of John's shirt are indeterminate. The concept deployed, LIGHT BLUE, has a content that is determinable but not determinate—there are multiple maximally determinate shades that are correctly conceived of as light blue.

An appeal to indeterminacy can help the conceptualist deal with the New Experiment in the following manner: The conceptualist may suppose that the conceptual content of the experience upon being presented with both chips at time t_1 is roughly expressible as

(e_1) The chip on the left is a shade of light blue that is darker than the shade of light blue on the right.

And the conceptual content of the experience at t_2 is roughly expressible as

(e_2) The chip on the right is a shade of light blue that is darker than the shade of light blue on the left.

The conceptualist may point out that the content of e_1 and e_2 differ only with respect to which chip (chip on the left v. chip on the right) is being conceived as being a shade of light blue darker than another. The concepts deployed with respect to color in e_1 and e_2 are the same concepts. But the failure of diachronic distinguishability may be explained in terms of the indeterminacy of the deployed color concepts. The contents of e_1 and e_2 are noncommittal as to which maximally determinate shade of light blue each of the presented chips have and thus the subject is at a loss to say whether the darker of the two chips at t_1 is the same maximally determinate shade as the darker of the two chips at t_2 .

An emphasis on indeterminate conceptual contents can also account for the data of the Old Experiment. Like the First Approximation, the advocate of the Second Approximation's indeterminacy-based explanation can say that the same color concept, LIGHT BLUE, is deployed at t_1 and t_2 . But what distinguishes the First Approximation from the Second Approximation is one of emphasis: where the First Approximation emphasizes the *sameness* of the concept deployed, the Second Approximation emphasizes the *indeterminacy* of the concept deployed. We might say that the crucial difference of the two explanations is that the former attempts to account for indiscriminability in terms of the *presence* of the same conceptual representation on two occasions, the latter attempts to account for indiscriminability in terms of the *absence* of a

¹¹ For other advocates of the view that experiences can have indeterminate contents see Grush (2007), Hellie (2005), and Pautz (2007).

conceptual representation of *which* maximally determinate shade is present on the two occasions. (This crucial difference between the First and Second Approximations will serve to further illustrate the superiority of the latter when we examine problems that arise in contemplation of phenomenal sorites in Section 8.)

One line of support for the indeterminacy-based Second Approximation over the First Approximation is that the subjects in the experiments are not confident that at t_1 and t_2 they are presented with the same color. Instead, they lack confidence about whether the presentations at t_1 and t_2 have the same color. One would expect that, if the First Approximation was correct, the subjects would be judging that the colors present at the two times are the same. It seems more plausible, however, that when one is subjected to such stimuli, one will lack confidence about whether they are the same as opposed to representing them as the same.

7. Phenomenological objections and replies: determinateness

7.1. Raffman's determinateness objection and my reply

Raffman (1995) presents an argument designed to block the sort of conceptualism that the Second Approximation exemplifies. Call Raffman's supplement to the Diachronic Indistinguishability Argument the "Determinateness Argument." In the Determinateness Argument, Raffman claims that it will not do to say that our experience is only as determinate as we have determinate concepts for (we do have determinate concepts of the unique hues green, blue, red, and yellow), and merely determinable otherwise (we have only determinable concepts for non-unique hues like dark-reddish-orange). Raffman points out that there is no introspectible difference between the ways in which unique and non-unique hues appear with respect to their 'determinateness' despite the radically different ways we have to conceptualize them. (Raffman, 1995 pp. 301–302).

Raffman's argument concerning determinateness seems to overlook a powerful resource available to the conceptualist. Raffman overlooks the possibility that the failure of seeming differences with respect to determinateness may simply be due to a failure to apply a *concept of determinateness*. Just as the conceptualist will model differences in apparent *darkness* in terms of the application of a relational concept of one color being darker than another, so may the conceptualist model differences in apparent *determinateness* in terms of the application of a relational concept of one hue or one experience of hue as being more determinate than another. Thus, the failures of appearance with respect to determinateness that Raffman refers to may be regarded by the conceptualist as due to normal perceivers simply failing to apply any such concept of determinateness to their experiences.

7.2. Is phenomenology indeterminate?

The nonconceptualist may hold that conceptualism is manifestly implausible, that phenomenology reveals more determinacy and fineness of grain than conceptualism allows. The nonconceptualist may offer that it is phenomenologically obvious that in the simultaneous presentation of blue_1 and blue_2 , the content of experience is not exhausted by the determinable content, *two shades of light blue, one darker than the other*. The nonconceptualist may offer, as grounded in phenomenological reflection, that our experiences take a stand on which determinate shades of light blue the left and right paint chips happen to be.

However, I think the conceptualist is right to reject such an alleged appeal to phenomenology as a question-begging assertion that experience is determinate in a way the conceptualist denies. Let us suppose, for argument's sake, that an object that is blue is only one of 25 determinate shades of blue (blue_1 – blue_{25}). It is consistent with the conceptualism I am here defending that on a discriminating encounter with two objects that are blue_1 and blue_{15} , respectively, a subject consciously experiences them in a coarse-grained way as one's being a darker blue than the other. However, that is not the only way the content might turn out and still be consistent with my coarse conceptualism. Other options of possible contents include (1) one color's being only slightly darker blue than the other (where the coarse-grained concept SLIGHTLY DARKER THAN is deployed), (2) one color's being some determinate degree of darkness darker blue than the other (where the coarse-grained concepts deployed remain open on which determinate degree of darkness it is), and (3) one color's being some determinate shade of blue distinct from the determinate shade of the other (where the coarse-grained concept DETERMINATE SHADE is deployed in a manner leaving open which determinate shades are present).

The nonconceptualist needs to provide some argument that our experiences do take a stand about which determinate shades are present, and thus an argument that characterizations such as (1)–(3) are inadequate for capturing the content of color consciousness. However, it is not clear that the nonconceptualist has such an argument at hand.

Perhaps a charitable reading of the nonconceptualist here is as presenting a phenomenological argument, an argument that has as implicit premises propositions concerning how our experiences seem upon introspection. However, such an appeal to introspection may be easily countered by the conceptualist along the lines I sketched against the Determinateness Argument. It may seem to us that our experience is of determinate shades because we deploy, in introspection, an existentially quantified conceptualization that there are some distinct determinate shades present. It may very well be the case that it seems to us in introspection that our experience takes a stand on which determinate shades are present without it being the case that there are determinate shades that experience takes a stand on. Compare: I can believe that there is some

particular man in the next room without there being a particular man that I believe to be in the next room. I hear a solitary manly voice from the next room over. I figure that it must be some particular man (what other kind of man could it be? A non-particular man?). But for each particular man I have beliefs about, I do not have a belief that commits me to that particular man being the one making the manly racket.

8. Phenomenological objections and replies: phenomenal sorites

I turn now to consider whether the conceptualism on offer in the present paper—specifically, the Second Approximation—runs afoul of the hypothesized existence of phenomenal sorites series. Many philosophers have been convinced that, because of such series, indiscriminability is intransitive (Deutsch, 2005; Goodman, 1951; Hellie, 2005; Pelling, 2008). If indiscriminability is indeed intransitive, then this poses a real problem for views such as the First Approximation wherein indiscriminability of two shades is accounted for by the sameness of the color concept applied to each. Sameness of concept applied is clearly transitive and thus cannot be an adequate account of indiscriminability if indiscriminability is intransitive. That is the gist, at least, of the alleged problems that phenomenal sorites series pose for conceptualism. Before saying more about the alleged problems and my solutions to them, I first turn to spell out some relevant differences in kinds of phenomenal sorites series.

8.1. The kinds of sorites

A phenomenal sorites series of colors is a set of colors ordered in such a way that each member in a pair of adjacent colors are perceptually indiscriminable, but colors at the beginning and end are perceptually discriminable. One example of such a series would be 34 colors, the first and last of which look unique red and unique yellow, respectively, but each of the 34 colors cannot be perceptually distinguished from its immediate neighbor. The smallest phenomenal sorites series would consist of only three colors, A, B and C. In such a 3-member series, A is indiscriminable from B, B is indiscriminable from C, but A is discriminable from C.

I will be interested in examining kinds of phenomenal sorites series. The different kinds can be distinguished in terms of two orthogonal dimensions of difference. The first dimension of difference is between *diachronic* phenomenal sorites series and *synchronic* phenomenal sorites series. The second dimension of difference is between, on the one hand, series with first and last members conceptualizable as falling under the *same* noncomparative color determinable, e.g. LIGHT BLUE, and on the other hand, series with first and last members conceptualizable as falling under *distinct* noncomparative color determinables, e.g. RED and YELLOW.

A diachronic phenomenal sorites series is one in which adjacent and non-adjacent color pairs are experienced at different times. If there were such a thing as a synchronic phenomenal sorites series it would be one in which all of the colors are experienced simultaneously and would also be simultaneously experienced as bearing their various adjacency, nonadjacency, similarity, and nonsimilarity relations to each other. For ease of exposition, I shall often refer to these two kinds simply as *synchronic series* and *diachronic series*.

Diachronic series may come in two varieties. The first, where beginning and end elements are both of the same noncomparative determinable, like *light blue*, I shall call diachronic series with *noncomparatively similar ends*. The second variety, where beginning and end elements are of different noncomparative determinables, like *red* and *yellow*, I shall call diachronic series with *noncomparatively distinct ends*.

Though I will raise doubts a little bit later, I will leave open for now whether synchronic series come in both varieties concerning the similarity or distinctness of the end members. I am especially doubtful that there are synchronic series with noncomparatively distinct ends.

8.2. What the alleged problems are and how to solve them

The four series kinds that I will be examining are:

- (1) diachronic series with noncomparatively similar ends
- (2) synchronic series with noncomparatively similar ends
- (3) synchronic series with noncomparatively distinct ends
- (4) diachronic series with noncomparatively distinct ends

8.2.1. Diachronic series with noncomparatively similar ends (*diachronic blue/blue series*)

Diachronic series with noncomparatively similar ends may be very small series. They may have as few as three elements. It is highly unlikely that series with ends that differ in that one is red and the other is orange can be so small. Small series lend themselves to a certain ease of exposition, so they are nice to start with in explicating some of the main features relevant to discussing conceptualism and the intransitivity of indiscriminability.

It may seem clear, at least initially, that a diachronic phenomenal sorites series presents no real problem to conceptualism. In the example of the 3-item series, A and B look the same to conscious experience by my applying the same color

concept to both. At some different time, B and C look the same by my applying a different concept than before to both. There is no obvious problem that arises in hypothesizing B being conceptualized one way at one time and a different way at another time.

However, there are certain versions of conceptualism for which this sort of phenomenal sorites series does pose a problem. One way of interpreting the First Approximation as discussed in previous sections in connection with the DIA is that the First Approximation embraces the following thesis concerning diachronic indiscriminability (at least for diachronic presentations of very short delay):

(DIASAMECON) If two colors are diachronically indistinguishable then the same concept is applied to each.

In phenomenal sorites series, even *diachronic* series, adjacent elements are indiscriminable not just diachronically: they are synchronically indiscriminable as well. One might naturally suppose that the kind of conceptualist attracted to DIASAMECON would also be attracted to the following thesis regarding synchronic indistinguishability:

(SYNSAMECON) If two colors are synchronically indistinguishable then, the same concept is applied to each.

But now we can work our way toward raising some serious problems for the conceptualist. Consider diachronic series with elements A–C such that A and B are experienced at time t_1 , B and C and time t_2 , and A and C at t_3 . A and B are synchronically indiscriminable. And it is reasonable that any colors so similar as to be synchronically indiscriminable will also be diachronically indiscriminable. Suppose that A is experienced at t_1 as blue. This will, according to the conceptualist, involve the application to A of the concept BLUE. In keeping with SYNSAMECON, at time t_1 , both A and B will be conceived of, color-wise, simply with the concept BLUE. In keeping with DIASAMECON, BLUE will also be applied to B at time t_2 . Similar appeals to SYNSAMECON and DIASAMECON will lead to the supposition that BLUE will be applied to C at both t_2 and t_3 . But this looks to be a serious problem: at each time none of the colors is conceptualized with any color concept other than BLUE. On what conceptual basis can A and C seem different at t_3 ?

Since, by hypothesis, A and C are discriminable, and A and C are experienced together at t_3 and C is conceptualized as BLUE, then some concept other than BLUE will need to be applied to A at time t_3 . So A will be conceived of simply as BLUE at t_1 , and under some other concept or conceptualization at t_3 .

It is open to the conceptualist at this point to hypothesize that at t_3 , the other concept that is applied to A at t_3 is an *additional* concept. That is, at t_3 , A is conceptualized under BLUE as well as some other concept, perhaps one comparing A to C so that the conceptual content at t_3 involves something like *A is a darker shade of blue than C*. Given the initial supposition that, at t_1 , A was conceptualized simply as blue, we have it that A is conceptualized in two different ways at two different times. Now, the opponent of conceptualism may take it that there is a slight air of implausibility in supposing that A is conceptualized in two different ways at two different times. But this is a minor problem. It is not like the problem is an outright incoherence in the theory. To motivate that sort of accusation against conceptualism, it will help to turn to the next sort of series.

8.2.2. Synchronic series with noncomparatively similar ends (*synchronic blue/blue series*)

Keeping our focus on a version of conceptualism like the First Approximation, we can see the problem that a synchronic series with noncomparatively similar ends poses. Sticking with the example of the three-element series ABC, we can see that the concept applied to A would have to be the same as the concept applied to B, and the concept applied to B would have to be the same as that applied to C. But this seems to lead directly to a contradiction in the theory, since, presumably it will want to account for the discriminability of A and C in terms of a different concept being applied to each. To be clear, the point of this criticism is not to say that contradictory contents are being attributed to the perceiving subject. That is not so large a problem, for it is plausible that perceptual contents can represent things in a way that is necessarily false (as in certain illusions).¹² The problem here is that a contradiction is arising at the level of theory: it is a contradictory theory of how perceptual consciousness works.

I think that we can motivate some serious questions about whether there can be synchronic phenomenal sorites series. Let us consider, first, the question of whether there could be a series with very many elements, say 34 elements. Serious questions may be raised about whether foveal resolution and the capacity of attention genuinely allow for all 34 elements and their various relevant relations to enter into conscious experience all at once. It is one thing to stick all 34 colors up in front of someone's face synchronically, but the limitations imposed by overt and covert attention may force the colors and their relations to be taken in diachronically after all. The subject may be restricted to moving a limited window of attention across the spatial array and taking in various color pairs diachronically. There may thus be no color that simultaneously looks just like two manifestly distinct non-adjacent colors.

¹² I do not mind supposing that reality has no room for contradictions. Something cannot at one at the same time be just like A and not just like A. But it is much less problematic allowing that there are contradictory representations. There is, for example, the following sentence: "B is a color that is simultaneously just like A and not just like A." That sentence gets on just fine being contradictory. Perhaps analogous mental representations exist while being analogously contradictory. Of course, when the representations in question are beliefs, and the believers are rational, and the contradictions are very simple and obvious, many philosophers will want to say that there is some sort of problem here. But the conceptualism on offer is not committed to conscious experiences being beliefs. Conscious experiences need only be similar to beliefs in the following manner: they are attitudes toward contents exhausted by deployed concepts.

The natural suggestion, of course, is for the nonconceptualist to suggest the existence of a small series. With only three elements, it is much more plausible that all three colors may be taken in all at once. This would make it more plausible that the relevant similarities and differences are taken in at the same time. Note, however, that for a very small series, the non-adjacent colors will not be very different. They will be nowhere near as different as unique red and unique yellow, or even as different as red and orange. It would be puzzling to say of a color that it simultaneously looked just like red and just like yellow. It is puzzling because of how different red and yellow look. But if A and C look very similar to start with, it is not obvious that it is so problematic for B to be conceived of as simultaneously looking like A and like C.

Note that in the previous paragraph I said that the 3-item series is “more plausible” to regard as synchronic. But this is not to concede that it actually is plausible. With very similar color pairs, it takes some non-negligible amount of time and attention to see the difference between the two. Such considerations may be recruited to help raise doubts about whether even the smallest phenomenal sorites series is small enough to be synchronic.

Another move available to the conceptualist is to exploit the sort of indeterminacy invoked earlier in discussion of DIA. Thus, the conceptualization of A and the conceptualization of B will each be noncommittal as to which maximally determinate shade of, say, light blue, A is and B is. Such indeterminate contents will be consistent with A and B being the same determinate shade and also be consistent with A and B being distinct determinate shades of the same determinable.

8.2.3. Synchronic series with noncomparatively distinct ends (*synchronic red/yellow series*)

Such a series would have to be larger than a three element series. It is quite implausible that there could be a phenomenal sorites series with endpoints differing as much as a red–yellow difference or even a red–orange difference that had as few as only three elements. And the larger the series, the less plausible it is that it could be a synchronic series.

8.2.4. Diachronic series with noncomparatively distinct ends (*diachronic red/yellow series*)

Let such a series have a beginning element that is unique red and an ending element that is unique yellow. It is highly plausible that the concept applied in experience of the first element will be RED and not YELLOW, and for the last element, YELLOW and not RED.

Now consider what we can call a “forced march” through a diachronic phenomenal sorites series wherein colors are presented one at a time. If the delays between color presentations are shorter than the term of the memory buffer, then it seems tempting, at least to the adherent of the First Approximation, to say that diachronic indistinguishability is going to need to be explicated by sameness of representation. This is what adherence to principles like DIASAMECON require. However, here is where a problem arises: each member of a pair of adjacents, for all adjacents in the series, is diachronically indistinguishable from its neighbor, and thus what is conceptualized as red at the start of the march is going to lead to a RED conceptualization of unique yellow at the end of the march. But this contradicts the previous hypothesis that the end element would be conceptualized with YELLOW and not RED.

It is clear, then, that there is going to be some non-end element that is conceptualized in different ways at different times. In light of this, the conceptualist can argue that this can be made plausible as a context effect where what counts as context may include what Raffman (1996) calls *internal context*: differences in what concepts are applied to a presented color are due not just to what else is currently presented, but also to different internal states that reflect the recent history of having been “marched” through the series in one direction rather than another.

This general strategy, which countenances changes of what concept is being applied to a given color in the series, is especially problematic for the First Approximation. Central to the First Approximation was the thought that indiscriminable shades would be conceptualized in the same way. I am not going to dwell here on problems for the First Approximation, for we have seen other reasons to abandon it.

The sort of phenomenal sorites series currently contemplated may be seen as raising certain problems for the Second Approximation. Since there will need to be a change in the concepts deployed at some point in the series, one might wonder whether such a mid-march concept change counts as a kind of forgetting and, if so, count as a violation of thesis (M) relating concepts to memory.

It seems that the defender of the Second Approximation has some promising responses at this point. One is to consider this forgetting as tolerable and no threat to the present form of conceptualism. The forgetting may be regarded as due to a kind of interference. Further, such an interference effect can be regarded as consistent with (M) since (M) is an empirical generalization, not an analytic constraint on the concept of a concept.

8.2.5. Summary of remarks about phenomenal sorites

The main points of the preceding discussion of phenomenal sorites are the following: First, there are four kinds of phenomenal sorites series which differ in part with respect to how serious of a problem they seem to pose to conceptualism. Second, for all four kinds, the conceptualist has responses at hand for dealing with the alleged problems. For the large synchronic series, the conceptualist can plausibly deny the existence of such series. For the large diachronic series, the conceptualist can make a plausible case that the concepts applied shift during a “forced march” in such a way as to count as a kind of memory failure. Given the rejection of the Re-identification constraint as an a priori constraint on concept possession, such memory failure need not pose a threat to the conceptualism on offer. For small phenomenal series, the conceptualism on offer can accommodate such series by appeal to the indeterminacy of the relevant concepts.

9. Conclusion

I have argued for the viability, in the face of worries about fineness of grain, of a conceptualism about consciousness of colors that does not lean on demonstrative concepts. Central to the treatment that I favor—what I have called the Second Approximation—is to emphasize the indeterminate content of many of our color concepts. Also key is regarding the relation between memory and concepts as an empirical generalization, not as an analytic component of the very idea of a concept.

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References

- Bengson, J., Grube, E., & Korman, D. (2010). A new framework for conceptualism. *Nous*. doi:10.1111/j.1468.0068.2010.00764.x.
- Berlin, B., & Kay, P. (1969). *Basic color terms*. Berkeley: Univ. California Press.
- Bermúdez, J., & Cahen, A. (2010). Nonconceptual mental content. In E. N., Zalta, (Ed.), *The stanford encyclopedia of philosophy*.
- Brewer, B. (1999). *Perception and reason*. Oxford: Oxford University Press.
- Brewer, B. (2005). Do sense experiential states have conceptual content? In E. Sosa & M. Steup (Eds.), *Contemporary debates in epistemology* (pp. 217–230). Oxford: Blackwell.
- Burns, E. M., & Ward, W. D. (1977). Categorical perception – Phenomenon or epiphenomenon: Evidence from experiments in the perception of musical intervals. *Journal of the Acoustical Society of America*, 63, 456–468.
- Carruthers, P. (2004). HOP over FOR, HOT theory. In R. Gennaro (Ed.), *Higher-order theories of consciousness: An anthology* (pp. 115–135). Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Chuard, P. (2006). Demonstrative concepts without re-identification. *Philosophical Studies*, 130(2), 153–201.
- Craik, F. I. M., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior*, 11(6), 671–684.
- Davies, M. (1992). Perceptual content and local supervenience. *Proceedings of the Aristotelian Society*, 92, 21–45.
- Deutsch, M. (2005). Intentionalism and intransitivity. *Synthese*, 144(1), 1–22.
- Dokic, J., & Pacherie, E. (2001). Shades and concepts. *Analysis*, 61(3), 193–202.
- Eilan, N. (2001). Consciousness, acquaintance and demonstrative thought. *Philosophy and Phenomenological Research*, 63(2), 433–440.
- Evans, G. (1982). *The varieties of reference*. Oxford: Oxford University Press.
- Fodor, J. (1975). *The language of thought*. Cambridge, MA: Harvard University Press.
- Fodor, J. (2008). *LOT 2: The language of thought revisited*. Oxford: Oxford University Press.
- Gennaro, R. (in press). *Consciousness, concepts, and higher-order thoughts: A meta-psychological theory of consciousness*. Cambridge, MA: MIT Press.
- Goodman, N. (1951). *The structure of appearance*. Cambridge, MA: Harvard University Press.
- Grush, R. (2007). A plug for generic phenomenology. *Behavioral and Brain Sciences*, 30(5–6), 504–505.
- Halsey, R. M., & Chapanis, A. (1951). Number of absolute identifiable hues. *Journal of the Optical Society of America*, 41, 1057–1058.
- Hardin, C. L. (1988a). *Color for philosophers*. Hackett.
- Hardin, C. L. (1988b). Phenomenal colors and sorites. *Nous*, 22, 213–234.
- Heck, R. G. Jr., (2000). Nonconceptual content and the “Space of Reasons”. *Philosophical Review*, 109(4), 483–523.
- Hellie, B. (2005). Noise and perceptual indiscriminability. *Mind*, 114(455), 481–508.
- Horgan, T., & Kriegel, U. (2007). Phenomenal epistemology: What is consciousness that we may know it so well? *Philosophical Issues*, 17(1), 123–144.
- Hurvich, L. M. (1981). *Color vision*. Sunderland, MA: Sinauer Associates.
- Jacob, P., & Jeannerod, M. (2003). *Ways of seeing: the scope and limits of visual cognition*. Oxford: Oxford University Press.
- Judd, D. B., & Wyszecki, G. (1963). *Color in business, science and industry* (2nd ed.). New York and London: John Wiley and Sons.
- Kelly, S. D. (2001a). Demonstrative concepts and experience. *The Philosophical Review*, 110, 397–420.
- Kelly, S. D. (2001b). The non-conceptual content of perceptual experience: Situation dependence and fineness of grain. *Philosophy and Phenomenological Research*, 62(3), 601–608.
- Kriegel, U. (2003). Consciousness as intransitive self-consciousness: Two views and an argument. *Canadian Journal of Philosophy*, 33, 103–132.
- Kriegel, U. (2006). The same-order monitoring theory of consciousness. In U. Kriegel & K. Williford (Eds.), *Self-representational approaches to consciousness* (pp. 143–170). Cambridge, MA: MIT Press.
- Lotto, R., & Purves, D. (2002). The empirical basis of color perception. *Consciousness and Cognition*, 11, 609–629.
- Lycan, W. (1996). *Consciousness and experience*. Cambridge, MA: MIT Press.
- Lynch, M. (2006). Zombies and the case of the phenomenal pickpocket. *Synthese*, 149, 37–58.
- Mandik, P. (2006). The introspectibility of brain states as such. In B. Keeley (Ed.), *Paul Churchland* (pp. 66–87). Cambridge: Cambridge Univ. Press.
- Mandik, P. (2008). An epistemological theory of consciousness? In A. Plebe & V. M. D. L. Cruz (Eds.), *Philosophy in the Neuroscience Era* (pp. 136–158). Rome: Squilibri.
- Mandik, P. (unpublished). Transcending zombies. Available from <http://www.petemandik.com/philosophy/papers/tz.pdf>.
- McDowell, J. (1994). *Mind and world*. Cambridge, MA: Harvard University Press.
- McDowell, J. (1998). Lecture III: Intentionality as a relation. *Journal of Philosophy*, 95, 471–491.
- Pautz, A. (2007). Intentionalism and perceptual presence. *Philosophical Perspectives*, 21(1), 495.
- Peacocke, C. (1998). Nonconceptual content defended (comments on McDowell's mind and world). *Philosophy and Phenomenological Research*, 58, 381–388.
- Peacocke, C. (2001). Does perception have a nonconceptual content? *The Journal of Philosophy*, 1, 239–264.
- Pelling, C. (2008). Exactness, inexactness, and the non-transitivity of perceptual indiscriminability. *Synthese*, 164(2), 289–312.
- Perez-Carpinell, J., Baldovi, R., de Fez, M. D., & Castro, J. (1998). Color memory matching: Time effect and other factors. *Color Research and Applications*, 23(4), 234–247.
- Prinz, J. (2007). Mental pointing: Phenomenal knowledge without concepts. *Journal of Consciousness Studies*, 14(9–10), 184–211.
- Raffman, D. (1995). On the persistence of phenomenology. In T. Metzinger (Ed.), *Conscious experience*. Munich: Imprint Academic Verlag.
- Raffman, D. (1996). Vagueness and context-relativity. *Philosophical Studies*, 81(2), 175–192.
- Rey, G. (1991). Sensations in a language of thought. *Philosophical Issues*, 1, 73–112.
- Rey, G. (1993). Sensational sentences. In M. Davies & G. W. Humphreys (Eds.), *Consciousness* (pp. 240–257). Oxford: Basil Blackwell.

- Rey, G. (2007). Phenomenal content and the richness and determinacy of colour experience. In R. Gennaro (Ed.), *The interplay between consciousness and concepts* (pp. 112–131). Charlottesville, VA: Imprint Academic.
- Rosenthal, D. (2005). *Consciousness and mind*. Oxford: Clarendon Press.
- Van Gulick, R. (2004). Higher-order global states (HOGS): An alternative higher-order model of consciousness. In R. Gennaro (Ed.), *Higher-order theories of consciousness: An anthology* (pp. 67–92). Amsterdam/Philadelphia: John Benjamins Publishing Company.