Color-Consciousness Conceptualism

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0. Introduction

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 that 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 so similar that they can be discriminated when simultaneously presented but not when presented across a memory delay. 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 (REFERENCE WITHELD FOR BLIND REVIEW).

The organization of the remainder is as follows: In section 1 I spell out further preliminaries and relevant historical background. In section 2 I spell out the Diachronic Indistinguishability Argument and my main criticism of it. Section 3 is dedicated to objections and replies. Section 4 summarizes the main explanatory strategies of color-consciousness conceptualism.

1. Further Preliminaries and Recent History

The version of conceptualism under examination here is a conceptualism only about conscious states. I have little doubt that there are unconscious mental states that

have nonconceptual representational contents, but unconscious mental states are not my present concern.

While it is beyond the scope of the present project to give positive arguments for conceptualism about the contents of conscious states, such arguments are available. One relatively famous source of such arguments comes from defenses of the Higher Order Thought theory of consciousness (HOT), especially as spelled out by Rosenthal (2005).

I do not endorse HOT. I instead find it to be irreparably flawed, as I spell out in REFERENCE WITHELD FOR BLIND REVIEW. I do like the consciousness conceptualism portion of HOT, however, and have spelled out an independent motivation for it in REFERENCE WITHELD FOR BLIND REVIEW.[1]

While I here focus only on visual experiences of color, I take my remarks to generalize to all conscious experience.

There's an oft discussed line of thought in favor of the nonconceptual content of perceptual experience that may be attributed to Gareth Evans (1982). The gist of Evans's thought boils down to the assertion that we experience more colors than we have concepts for. If we focus only on noncomparative color concepts (concepts such as RED and VERMILLION, as opposed to comparative concepts such as DARKER THAN or

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[1] The gist of that line of thought can be conveyed briefly as follows: States of knowledge are conceptual states. And our self-knowledge of our own non-zombie-hood requires an especially intimate relation between the conscious states that we have knowledge of and the states with which we know them. I argue that this intimacy can only be accounted for if the contents of conscious states are conceptual.

REDDER THAN), then Evans's point may be interpreted as a good one. However, taking into account other concepts than noncomparative color concepts gives the conceptualist ample resources to resist Evans.

One widely discussed line of resistance, due to McDowell (1994), appeals to demonstrative color concepts (such as THIS COLOR and THAT COLOR). Unlike McDowell, however, I will not be relying on so-called demonstrative concepts to defend conceptualism. I think that a defense of conceptualism can be spelled out in terms of comparative and noncomparative color concepts without any essential appeal to demonstratives. I bring up the demonstrative strategy because it is famous and I want to be clear that my approach is distinct from it.

It is obvious that Evans's bare point is ineffectual against the conceptualism that Ifavor, for it is easy to see that for each of the colors that I am able to experience, I have comparative and noncomparative concepts with which to conceptualize the colors. I may, for instance, conceive of one of two nearly identical shades of blue as darker than the other. It is obvious then, that if conceptualism is to be defeated, a stronger line than the one here attributed to Evans is needed. It is to one such stronger argument that I now turn.

2. The Diachronic Indistingusihability Argument (DIA) and its Failure

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'll 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. If the conceptualized is to be equated with the remembered and the recognized, 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.

However, despite this prima facie plausibility, I think that Raffman's argument is deeply flawed. I want to attack Raffman's argument by calling into question what seems to be one of its key assumptions. The conclusion that conscious experience has nonconceptual content seems to depend on assuming that the colors are present in consciousness in the same way regardless of mode (simultaneous vs. serial) of presentation. The assumption seems to be that in every case in which the paint chips are different there must be corresponding elements in consciousness that are different and in

every case in which the paint chips are the same there must be corresponding elements in consciousness that are the same.

To see how this assumption works in the context of an argument for nonconceptual contents of consciousness, let us start with the following question: If I am not able to correctly conceptualize, that is, correctly judge that the second of a pair of serially presented chips is a different color, even though I can distinguish the pair members in simultaneous presentations, then how can this serve as a basis for the conclusion that there is a nonconceptual consciousness of the distinct colors? Such a conclusion would follow if it were further assumed that in spite of the colors of the chips not being available to conceptualization they were available to consciousness. Putting this in terms of qualia, the simultaneously presented and distinguishable chips—chip 1 and chip 2—give rise to corresponding qualia—quale 1 and quale 2. When the chips are presented serially, the subject is unable to correctly judge/conceptualize the difference between the chips, but the chips nonetheless make a corresponding difference in consciousness by triggering, serially this time, quale 1 and quale 2.

Indeed, in a version of the Raffman argument due to Kelly (2001see especially p. 398, fn. 2), it is experiences, not paint chips (or emulating Kelly's lingo "shades as the subject experiences them" not "shades that the subject experiences") that are distinct and serially presented.

However, such an assumption is questionable.[2] We may begin to appreciate what's questionable about it by noting that differences in presentation often result in differences in color perception. Context effects are well known in the literature on color perception.[3] 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. And these 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.

For an especially vivid example of the sorts effects context can have on color perception, see figures 1 and 2. Figure 2 is generated by imposing a white mask on figure 1. The regions that look gray in figure 2, look blue on the left side of figure 1 and look yellow on the right side of figure 1.

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[2] Such an assumption looks to be what other authors have called "the sense datum fallacy". See p. 397 of (Evans, 1985) and p. 440 of (Millikan, 1991)

[3] See (Lotto & Purves, 2002)

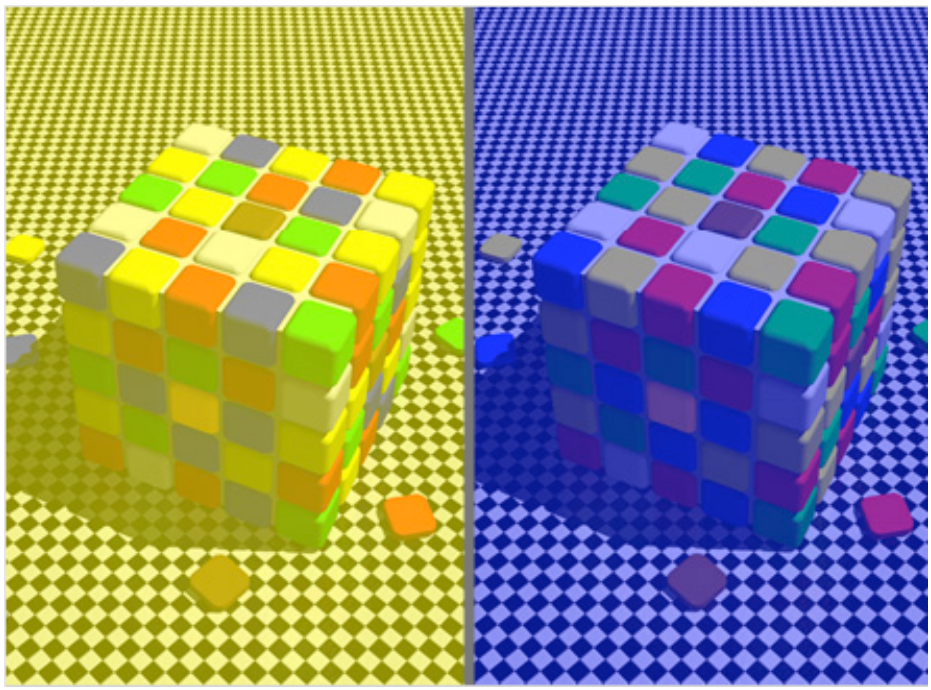


figure 1. Image by Beau Lotto from http://www.purveslab.net/seeforyourself/

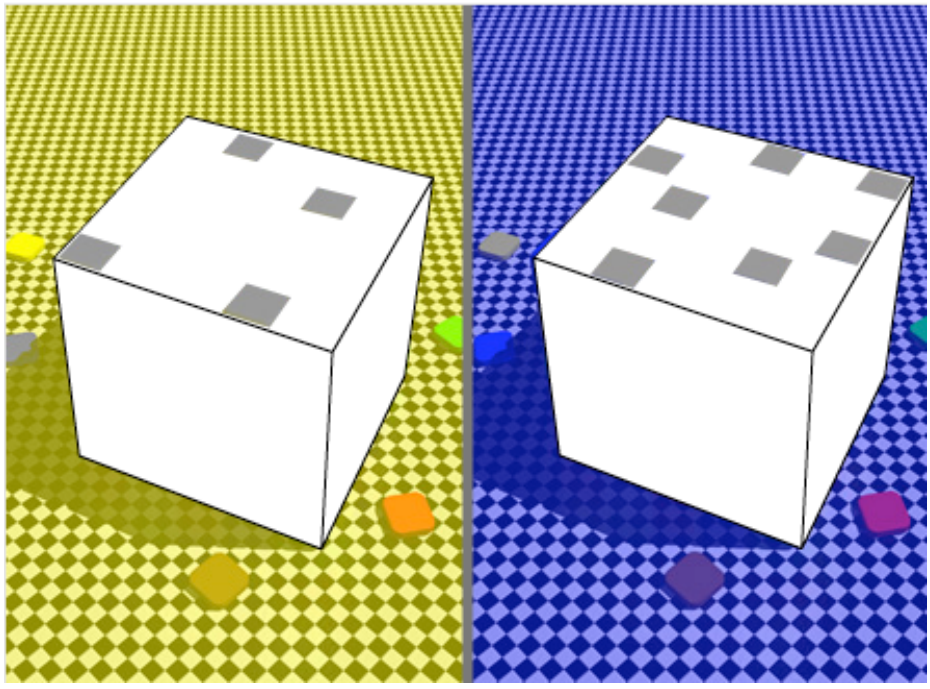


figure 2. Image by Beau Lotto from http://www.purveslab.net/seeforyourself/

We may model an explanation of the failure to serially discriminate simultaneously discriminable chips as due to different conscious perceptions arising from the same chips presented in different contexts. Presenting 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.

It is open, then, for the conceptualist to explain the relevant cases as follows. Serially presented paint chips are experienced/conceptualized simply as e.g., *blue* regardless of whether they differ in reality with respect to shade. Simultaneously presented paint chips are experienced/conceptualized as one being e.g., *a darker shade of blue* than the other.[4]

Of course, it is in no conflict with the account I am defending in this paper to posit sub-personal and/or unconscious intermediaries that are non-conceptual. So perhaps it is the case that presenting the same color on different occasions or in multiple locations results in the color being present to the sub-personal or unconscious mind as the same, regardless of whether the color is presented in the simultaneous or the serial context. However, what I am keen to deny is that what makes it into *consciousness* will be the same regardless of simultaneous versus serial context.

3. Objections and Replies

3.1. Raffman's Determinateness Argument

[4] See Rosenthal 2005 p. 189 for a similar point.

Raffman (1995) presents an argument designed to block the sort of move I am here trying to make. Call this supplement to the Diachronic Indistinguishability Argument the "Determinateness Argument." In the Determinateness Argument, Raffman claims that it won't 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's 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.

3.2. A Shift to Conceivability

One line of thought against conceptualism that bears superficial similarities to the arguments under consideration proceeds as follows. It is conceivable that there are qualia pairs the members of which are synchronically but not diachronically distinguishable. Given certain assumptions connecting conceivability to possibility, it is possible that there are such qualia pairs. Therefore, it is not necessary that experiential contents are only as fine-grained as a perceiver's employable concepts.

A fully adequate response to this conceivability argument is beyond the scope of the present paper, but I mention it to clarify the aims of the present project. My aim here is to respond to the Diachronic Indistingusihability Argument and the supporting Determinateness Argument as *empirical* arguments against conceptualism. While the sorts of qualia pairs described in the above paragraph may be (in some thin sense) conceivable, it is not at all clear that we have empirical evidence for the actual existence of such color pairs. And the present point may be made while including introspective evidence as a kind of empirical evidence. I don't see that we have any empirical evidence, introspective or otherwise, for believing in the actual existence of such qualia pairs.

3.3. Babies and Animals

One line of resistance to the conceptualism on offer will come from people who attribute phenomenal consciousness to babies and non-human animals but do not attribute concepts to them. However, such a line overlooks the evidence that lots of non-adults and non-humans have concepts. I will not review that evidence here, though I do elsewhere

(REFERENCE WITHELD FOR BLIND REVIEW). I turn instead to a different response.

My response is that while I grant that babies and non-humans no doubt lack *exactly* the same concepts I use in my experiences of colors, I refuse to grant that the babies and animals that have conscious color experiences lack concepts for colors altogether.

My opponents would have a serious objection on their hands if they could *show* that, despite applying different concepts than the concepts that I apply in my experience, babies and non-human animals can have experiences phenomenally identical to my own. Another way they could have a serious objection would be if they could show that babies and non-human animals have absolutely no concepts whatsoever but nonetheless have phenomenally conscious states. However, I really don't see how they could show either of these things. And if my imagined objector is simply *asserting* that such things are possible, then the imagined objection is simply question begging. If they are instead asserting that such things are *conceivable,* then the line of objection may be responded to in the manner outlined in section 3.2. What matters for present purposes is whether there is *empirical evidence* that babies or nonhuman animals (1) have *conscious* experiences of colors just like mine while (2) having different repertoires of color concepts to bring to bear on their experiences. I'm not aware of any convincing empirical evidence of (1) and (2).

3.4. Controlling for Context Effects?

Would my objection to the Diachronic Indistinguishability Argument against conceptualism be defeated by an experimental design that tried to better control for possible context effects of the presentations of the colors? The sort of redesign I here have in mind might go as follows. The stimuli presented in each distinct presentation in the diachronic discrimination case would be one of figures 3 and 4.



figure 3.



figure 4.

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 of figures 3 and 4 and ask, say of figure 3, 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 contexts and thus may not be assumed that there is a color appearance that is constant across contexts. In this new experiment, the color context of the right-hand color in figure 3 is arguably the same as the color context of the left-hand color in figure 4 since figures 3 and 4 are just spatial rotations of each other.

Does such an experimental design help to defeat the conceptualist? One point in favor of the conceptualist is that in the experiments using figures 3 and 4, there may no longer be a failure of diachronic discrimination. The subject, in being presented with figure 3, is in a position to conceptualize the color on the right as the lighter of the two. Further, the subject may re-conceptualized the diachronic task as, in seeing fig 4 after fig 3, judging whether the lighter of the two has changed its relative spatial location.

A second point in favor of the conceptualist is that if there are failures to reliably discriminate colors across a memory delay, such failures would be predicted by the present form of conceptualism, since the colors straddling the presentation delay are not in a position to trigger appropriate applications of comparative color concepts.

4. Summary Explanations

I close by summarizing the main explanations of the key data concerning the conceptualist response to Raffman's arguments. There are essentially three kinds of scenario that the conceptualist needs to explain:

1. Successful diachronic discrimination of basic hues e.g. red and blue
2. Successful simultaneous discrimination of very close shades of the same hue
3. Failed diachronic discrimination of very close shades of the same hue

I will sketch these explanations in terms of following functional analysis. (I make no claims here about how such a functional decomposition would be neurally localized in human nervous systems.) First, nonmental external stimuli (e.g. paint chips) give rise to sensory impressions which, for purposes of the current discussion, I am happy to concede are nonconceptual. However, I will not concede that they are conscious. Second, impressions interact with a nonconscious store of concepts to trigger, third, the application of comparative and noncomparative concepts in conscious experience. Fourth and finally, whatever judgment there is concerning the distinctness of the external stimuli, it arises out of conscious experience in concert with whatever short-term memory there is about immediately preceding conscious experiences.

Please consult figure 5 to see this spelled out in terms of an explanation of successful diachronic discrimination of basic hues e.g. red and blue.

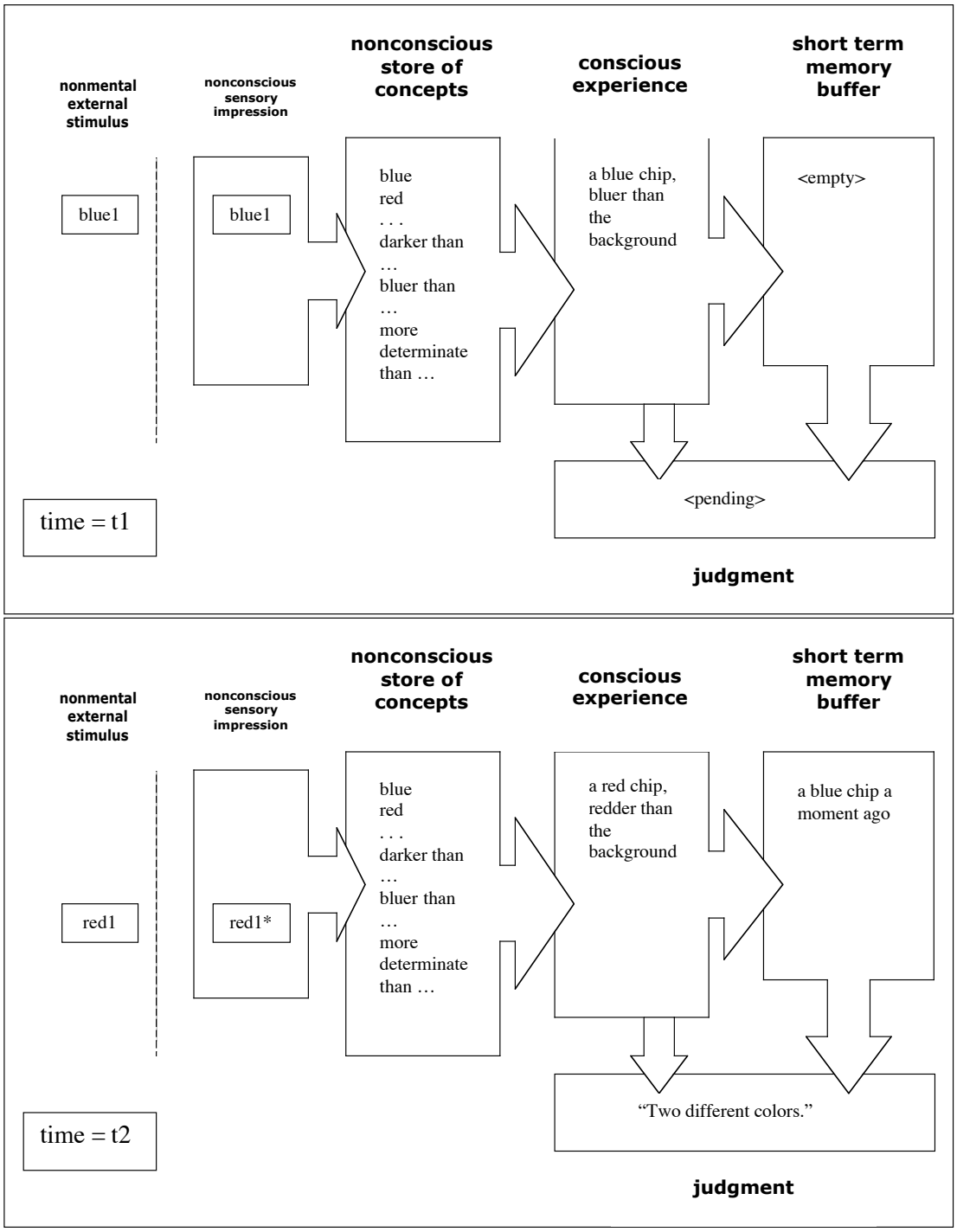


figure 5. Successful diachronic discrimination of basic hues e.g. red and blue

Figure 5 depicts two different times during the color discrimination task. At time t 1, the determinate shade of blue, blue 1, has triggered a coarse-grained conceptual representation of and instance of blueness in conscious experience. At time 2, this coarse grained information is present in a memory buffer and is available for comparison to a coarse-grained representation of redness.

Figure 6 depicts a successful discrimination of two very close shades of blue. At time t1, sufficient information is available for a coarse grained conscious representation that suffices to distinguish the two stimuli as one being a darker shade of blue than the other.

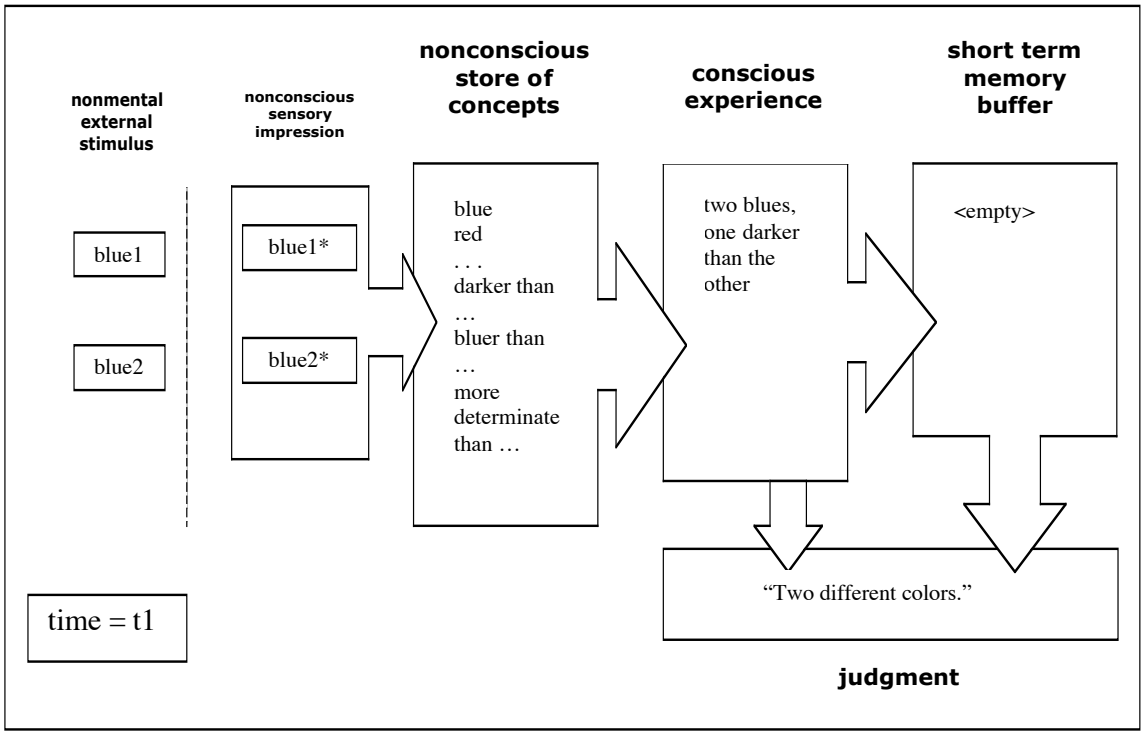


figure 6. Successful simultaneous discrimination of very close shades of the same hue

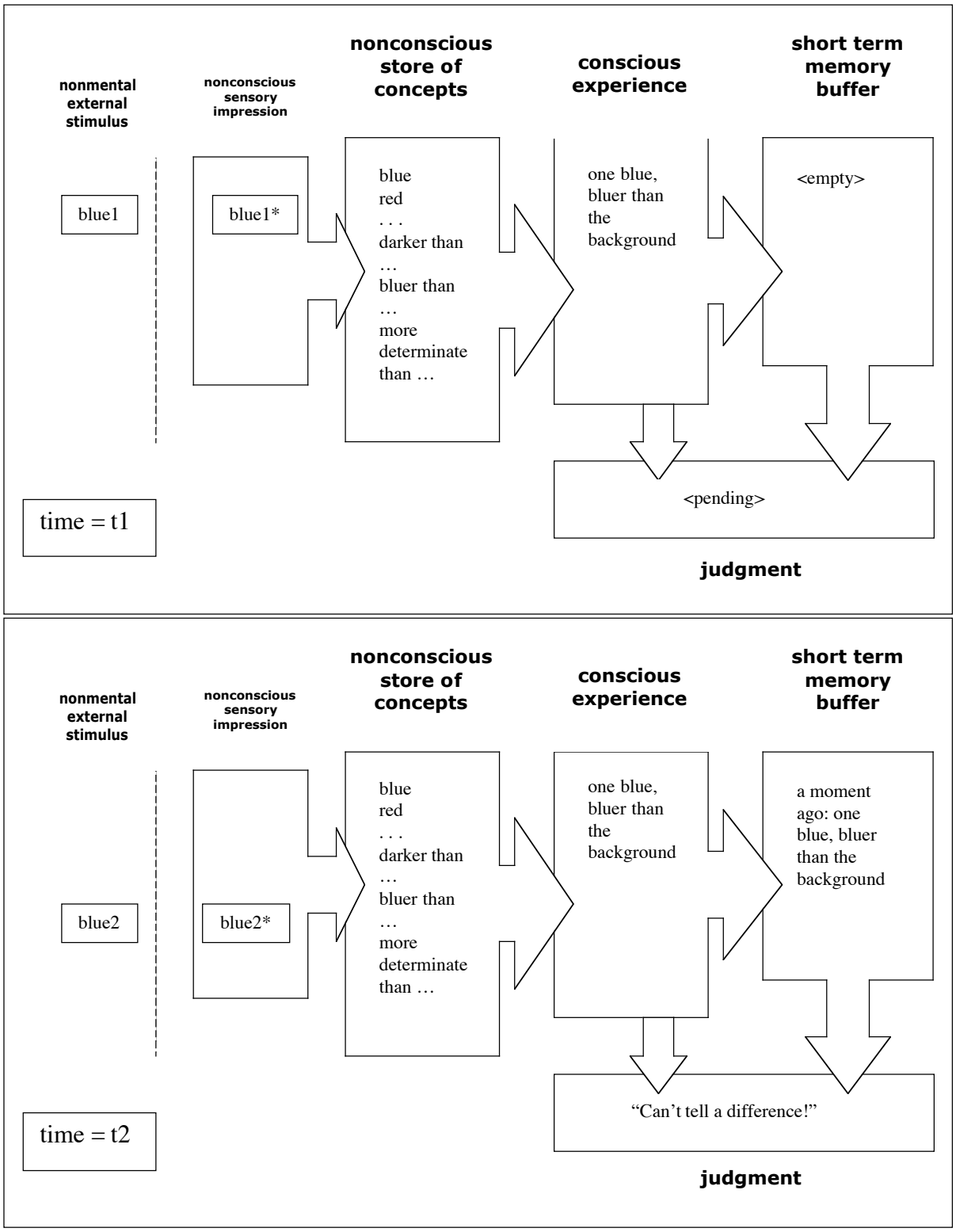


figure 7. Failed diachronic discrimination of very close shades of the same hue

In figure 7, what is depicted is a failure of diachronic discrimination of the same stimuli that were distinguished in figure 6. At time t1, what makes it into conscious experience is a coarse grained representation of the present stimulus as being blue or bluer than the background. This is passed on to a memory buffer to be made available at time t2. However, at time t2, the new coarse-grained representation in conscious experience is insufficiently different from the coarse grained representation in the memory buffer to give rise to a judgment of distinctness.

The kinds of explanatory schema sketched out in connection with figures 5-7 help to show that the sorts of empirical data referred to by Raffman are insufficient to undermine conceptualism about the contents of conscious color experiences.

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