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COLOUR, SCEPTICISM AND EPISTEMOLOGY

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1. INTRODUCTION

Colours provide a paradigm example of how one can introduce sceptical challenges to our ordinary beliefs about the world. These sceptical challenges come in at least three forms: the *Pyrrhonian challenge*, the *traditional problem of the external world*, and the *problem of acquaintance*. The task of this paper is to examine each of these challenges in turn.

2. COLOUR AND THE PYRRHONIAN CHALLENGE

The Pyrrhonian sceptical challenge that is posed by colours can be expressed as both a first-order epistemological challenge and also as a higher-order epistemological challenge. This section will examine both forms of the Pyrrhonian challenge. Note that in saying that the challenge is ‘epistemological’, we are drawing attention to the fact that the problem concerns not the truth-value of the claim that there are things in the world that are coloured, but instead our epistemic support for that claim.

Suppose that you are looking at a ripe lemon. One question you might ask is this: although the lemon looks yellow, is the lemon *really* yellow? For we are familiar with a thing looking one way while in fact being another way. When we ask whether the lemon really is yellow (whether the object really is coloured), we are asking more than whether that’s how it appears to us, but whether that’s how it is anyway, independent of its appearance.¹ Sextus Empiricus expresses this point as follows:

When we question whether the underlying object is such as it appears, we grant the fact that it appears, and our doubt does not concern the appearance itself, but the account given of the appearance. (PH I: 19–20)

So, the question does not concern whether we are right about how the lemon looks: that it looks yellow. The question is whether the lemon *is* yellow. Crucially, for our discussion, the question is more specifically: do we have epistemic support which favours the lemon really being yellow versus any alternative explanation?

Colour provides a useful example of the following sceptical ‘modes’ employed by Pyrrhonian sceptics:

- M1. Members of the same species can have different colour experiences of the same object.
- M2. Members of different species can have different colour experiences of the object.

The first challenge is that members of the same species can have conflicting colour experiences of the same object. For example, two people might be looking at the same apple, and one will have an experience as of the apple being red, while the other will have an experience as of the apple being green (e.g., due to colour blindness). The second challenge reminds us that different species might have conflicting colour experiences from ourselves. So, while human beings might perceive a number of objects as having such-and-such colour, different non-human animals might perceive the same objects as having a different colour.

The template-Pyrrhonian challenge for colour can be put as follows, where ‘*o*’ is the target object, and ‘*S*’ and ‘*S**’ pick out distinct subjects:

- (1) *o* looks colour C to *S*
- (2) It’s not the case that *o* looks colour C to *S**

The Pyrrhonist then derives the following epistemological claim from this case of conflicting colour experiences:

- (C1) Our epistemic support does not favour *o* being C versus its not being C (and *vice versa*).

Finally, the Pyrrhonist infers that:

- (C2) We should neither affirm that *o* is C nor that it’s not the case that *o* is C.

The conclusion of the argument is thus a basis for suspending judgement about colours, in keeping with the ultimate aim of all Pyrrhonian sceptical challenges. This is, the Pyrrhonian goal is to counter what they regard as dogmatism in our judgements by offering a countervailing argument (*isosthenia*) which would engender a neutral attitude (*epoche*) and eventually lead to a tranquil and untroubled state of mind (*ataraxia*).

One might wonder what underlies the inference from the case of conflicting colour experiences to the epistemological claim that our epistemic support fails to favour the object o being colour C versus its failing to be C . One thought is that the Pyrrhonist is drawing our attention to the compelling idea that the epistemic support that S has in favour of o being C and the epistemic support that S^* has in favour of o not being C is the same (i.e., it is the same strength of epistemic support), and therefore provides at least as much epistemic support for their target beliefs. The idea that this epistemic phenomenon demands a suspension of judgement effectively appeals to what is known in the epistemological literature as an *underdetermination principle*. Here is a plausible rendering of the principle in play here, which we will call *Pyrrhonian Underdetermination*:

Pyrrhonian Underdetermination

If S knows that p and q describe incompatible scenarios, and yet S lacks an epistemic basis which favours p over q , then S should suspend judgement that p .

Underdetermination principles are widely endorsed in epistemology, though they are usually formulated in terms of the how one cannot have rationally grounded belief in the target proposition, rather than in terms of the suspension of judgement.² Even so, this Pyrrhonian version of the principle is no less plausible than its contemporary counterparts. Consider the simple case of a proposition and its negation. If one recognises that one has no epistemic basis which favours p over not- p —i.e., no more reason to think that p is true than to think that not- p is true—then surely it follows that one should suspend judgement that p . What goes for the case of contradictions, where the incompatibility is manifest, obviously also applies to known to be incompatible propositions more generally. It follows that if the Pyrrhonist is right that in the domain of colour we lack an epistemic basis to prefer our colour judgements over known to be incompatible alternatives, then we ought to suspend those judgements.

We should note that the Pyrrhonist conclusion is *prima facie* at odds with our ordinary epistemic practices in the following sense: the Pyrrhonist recommends that we revise our epistemic practices to fit with the Pyrrhonist's conclusion (e.g., suspending judgement). So, one might think that we are prone to disagree on occasions about whether an object is a certain colour or not. For example, I might judge, in otherwise normal conditions, that the apple in front of me is red, while a person I trust, in otherwise normal conditions, judges that the apple is not red. In such a case, we might just disagree, maintaining that our respective (though conflicting) colour experiences provides us with epistemic support for our respective (though conflicting) judgements, that one of us is correct, while the other is not. The problem here, however, is that we presumably don't want to say that the apple is both red and not red. And we don't want to say

that the apple is not red because it's not any colour at all. So, the problem that our (imagined) disagreement suggests is that, in order to avoid dogmatism—a dogmatic presumption that our judgement is true and the conflicting judgement is false because it is *our* judgement—we ought instead to suspend judgment.³

A related, though distinct, Pyrrhonian challenge can arise at a higher-order level from our reflection on colours and disagreement. On the one hand, post-Newtonian science suggests that particles are not coloured, so that it's hard to see how a composition of particles is coloured. In short, colours do not form part of the scientific world picture. On the other hand, our visual experiences and ordinary beliefs about physical objects suggest that objects are coloured. When I look at a red apple, for example, I take it that the apple is red—that this is no mere illusion that I'm suffering—such that legitimate disagreement can occur between others and me. So, there is a tension between the scientific picture, which suggests that physical objects aren't coloured, and the picture suggested by ordinary visual experience, that physical objects are coloured. Notice here that there seems to be a disagreement between the two pictures, and the Pyrrhonist will recommend that we suspend judgement because of the conflict of the two pictures.

3. COLOUR AND THE TRADITIONAL PROBLEM OF THE EXTERNAL WORLD

In his *Principles of Human Knowledge*, George Berkeley famously challenges the *indirect realist theory of perception*, according to which we perceive ordinary macro-physical objects in virtue of perceiving mind-dependent “ideas” of them. “Ideas” are mind-dependent entities, which are taken to have representational properties. The indirect realist maintains that we *indirectly* perceive ordinary physical objects by *directly* perceiving “ideas” which represent them.

Contemporary vision science seems to be sympathetic to the view that colour properties are not properties of external physical objects, but rather internal psychological properties:

There may be *light* of different wavelengths independent of an observer, but there is no *colour* independent of an observer, because colour is a psychological phenomenon that arises only within an observer. (Palmer 1999, 97)

Berkeley would agree. And not only does Berkeley think that colours are mind-dependent psychological properties, but he also claims that other alleged external physical properties, such as shape and weight, are mind-dependent psychological properties:

For can there be a more delicate and precise strain of abstraction than to distinguish the existence of perceptible things from their being perceived, so as to conceive them existing unperceived? Light and colours, heat and cold, extension and shapes, in a word the things we see and feel—what are they but so many sensations, notions, ideas, or sense impressions? And can any of these be separated, even in thought, from perception? [...] Therefore, because I can't possibly see or feel a thing without having an actual sensation of it, I also can't possibly conceive of a perceptible thing distinct from the sensation or perception of it. (Berkeley *Principles*, section 5)

Berkeley's criticism here is that since we cannot conceive of *colour* as independent of our various *perceptions of colour*, so that we cannot conceive of colour as existing *unperceived*. Berkeley then argues that what goes for colour goes for other properties as well, such as extension and weight, what we would otherwise consider paradigm examples of mind-independent properties. This is the first step of the traditional problem of the external world, that what we directly perceive are only *mind-dependent* properties. The second step is to counter the indirect realist's thesis that our mind-dependent ideas, such as our idea of colour, for example, can *represent* the mind-independent colour properties. Against this suggestion, Berkeley maintains that our mind-dependent ideas cannot represent mind-independent properties:

[...] the only thing an idea can resemble is another idea; a colour or shape can't be like anything but another colour or shape. Attend a little to your own thoughts and you will find that you can't conceive of any likeness except between your ideas. (Berkeley *Principles*, section 8)

So Berkeley is arguing that we cannot conceive of our ideas of colour representing mind-independent properties, concluding that we can only conceive of our ideas of colour resembling other ideas of colour, among other mind-dependent properties. This second step forces the indirect realist into a "veil of perception" conception of our relation to the world. For how could we know anything at all about mind-independent things if we only directly perceive our own mind-dependent ideas? Berkeley's argument is that it doesn't help to reply that our mind-dependent ideas represent mind-independent things, since reflection reveals that we cannot even conceive of this possibility.⁴ The conclusion, then, is that if there are mind-independent things, we don't know anything about them. All we are in a position to know about are our mind-dependent ideas.

There are at least four responses to this argument. The first is the *sceptical realist* response, that although there are mind-independent things, we cannot know anything about them. Applied to colour, the view is that although there are mind-independent colour properties, we cannot know anything about them. The second is the *idealist* response, which says that all that exists are mind-dependent things, and thus our knowledge doesn't extend to anything more than mind-dependent things. Applied to colour, the idealist maintains that there are no unperceived colour properties. The other two responses are less revisionary than the first two. The *indirect realist*

might maintain that it doesn't follow from the fact that we only directly perceive mind-dependent ideas that we cannot know anything about mind-independent things. The indirect realist here will reject Berkeley's *Likeness Principle*, that *only* mind-dependent ideas can represent mind-dependent ideas.⁵ Applied to colour, the indirect realist will maintain that colour is a mind-dependent, psychological property, but dispute the claim that what's true of colour is true of other properties. Finally, the *naïve realist* will insist that we can directly perceive mind-independent things, as opposed to merely mind-dependent ideas. This is consistent with allowing that colour is a mind-dependent psychological property, of course, and to this extent there may not be a practical difference between naïve realism and indirect realism when it comes to our perception of colours. Where the two views come apart is rather on whether in general we only directly perceive mind-dependent ideas. In order to explore the prospects of naïve realism and indirect realism further, it will be useful to examine our third sceptical challenge arising from the nature of colour, which is the problem of acquaintance.

4. COLOUR AND THE PROBLEM OF ACQUAINTANCE

The traditional problem of the external world can arise from the split between the primary qualities of objects and the secondary qualities of objects. Recall that the idea is that a property like being the colour red is too differential in subjects' experiences to be among the primary qualities. The epistemological problem that arises from this is that if visual experience can so easily lead us to think that the redness of an object is a mind-independent property (a property that some objects have anyway, independently of our perception of them), then we might wonder whether all of the properties we ascribe to objects, on the basis of sensory experience, are like colour, in being mind-dependent. This would lead us to abandon a commonsense commitment to naïve realism, and thereby endorse (at most) indirect realism. The crux of the epistemological worry here is how we can know that colour is merely a special case of our visual experience being misleading, rather than a vivid instance of our ordinary epistemological predicament.

A related epistemological worry arises from the thought that our knowledge of the world is not simply propositional knowledge, or what Bertrand Russell (1912) called our "knowledge of truths", but also *acquaintance knowledge*, our knowledge of things rather than facts about those things. For example, I know many true propositions about the colour red, but I also seem to know what the colour red is visually like. That is, in addition to knowing many true propositions about redness, I also know what redness is like. And this latter knowledge doesn't seem to be

something that could be transmitted to someone by surveying all the true propositions about red. To foster intuitions, suppose that, although I've never seen anything that is red, I come upon a grand list of all the true propositions about the colour red. I grasp all of these propositions, and I thereby have complete propositional knowledge of red. But surely I'm lacking some knowledge of red, so the thought goes, because I've never seen anything red. The knowledge that I'm lacking, then, cannot be knowledge of a proposition (if I were, then the list wouldn't be complete after all!) and is thereby some other type of knowledge.⁶

With the *prima facie* distinction between propositional knowledge and acquaintance knowledge in hand, consider the brain-in-a-vat (BIV) thought-experiment, in which you are a disembodied brain, living in a vat of fluid, where you are hooked up to a complex computer system, stimulating your brain so as to cause all of your sensory experiences. Naturally, the BIV doesn't know anything about the outside world, since it's stuck inside its own personal sensorium, ignorant of what lies beyond the confines of that sensorium. Indeed, it's ignorant that it is a BIV, since it appears to itself to be a fully embodied human being. Moreover, the BIV isn't acquainted with the objects and properties in the world. Instead, it suffers systematic hallucinations. So, not only does the BIV lack propositional knowledge of the world, it also lacks acquaintance knowledge of the world. Compare that case—call it “the bad case”—with our case, “the good case”. In our case, we perceive the world around us. Intuitively, we're acquainted with the colours of objects in the world, and not suffering systematic hallucinations as of being acquainted with them. We're not stuck in our own personal sensoriums, ignorant of anything independent of that sensorium.

However, as Mark Johnston (1996) argues, as far as acquaintance knowledge of the world goes, it's hard to see how agents in the good case are any better off than the agents in the bad case with respect to acquaintance knowledge of the world:

The case of the brain in the vat shows that our experience does not discriminate between many different kinds of external features so long as their effects on our sensibility are isomorphic in certain ways. Therefore, despite the seductive offer that perception makes, we cannot take our perceptual experiences to reveal the natures of external things. For no perceptual experience could at the same time reveal two things so intrinsically unlike as life in Boise and the inner workings of the vat computer. Conclusion: perceptual experience does not reveal the nature of its causes. In other words, it does not acquaint us with the external features causally responsible for our experience but only with their effects in us. (Johnston 1996, 188)

So, according to Johnston:

Perceptual experience in no way acquaints the brain [...] with the nature of the external causes of that experience. In this respect, perceptual experience is unsatisfyingly like Morse code reception; both involve interpretable effects at the end of an information-bearing process or signal. But the intrinsic natures of the originators of the signal are not manifest in the signal. This is a depressing

comparison. Perception represents itself as (or is at least spontaneously taken by its possessors as) a mode of access to the perceptible natures of things; a mode of acquaintance with their perceptible properties. (Johnston 1996, 188)

The sceptical predicament Johnston is pointing to here is that even if we have propositional knowledge of the colour of the tomato in front of us, without acquaintance knowledge of the colour of the tomato we will be lacking a kind of knowledge of the colour that is valuable to possess.⁷ To illicit intuitions, consider the following suggestion from Johnston:

Once my eyes were covered with bandages for five days. Part of what I longed for in longing to see again was not simply more information by which to negotiate my environment, nor simply more visual sensations. I longed for the cognitive contact with external features which vision seems to provide. It is depressing to conclude that what I longed for—acquaintance with visible properties—can never be had, even with the bandages off. (Johnston 1996, 189)

We noted that colours seem to be mind-independent properties objects. Now if colours turn out to be mind-dependent properties, then a rich variety of our knowledge turns out to be very different than we pre-theoretically thought. For it seems to us that our knowledge that the tomato before us is red, say, is knowledge *of the tomato*, and how it would be independently of being perceived. A related worry arises with acquaintance knowledge. Even if colours are mind-independent properties, the worry here is that we cannot come to know what the colours of things are like *for ourselves*. Instead, we can only acquire a “schematic and bloodless” knowledge of the colours of things because it includes no acquaintance with properties and hence no acquaintance with the natures of things and hence no real acquaintance with things.” (Johnston 1996, 190)

Johnston’s argument can be summarised along the following lines:

- (1) The sensory experience in the good case has the same nature as the sensory experience in the bad case.
- (2) The sensory experience in the bad case does not acquaint the agent with colour properties in the world.

Therefore,

- (C1) The sensory experience in the good case does not acquaint the agent with the colour properties in the world.

Therefore,

- (C2) The sensory experience in the good case does not put us in a position to acquire acquaintance knowledge of the colour properties in the world.

How might one respond to this argument? A certain kind of naïve realism about the nature of sensory experience, known as *disjunctivism*, would reject the first premise.⁸ This premise expresses what Michael Martin (2004) calls the *common kind assumption*: the thesis that the nature of our

sensory experiences in the good case and the bad case are the same.⁹ The common kind assumption motivates the thought that if the nature of the experience in the bad case does not put the agent in a position to acquire acquaintance knowledge of the colours of things, then how could the nature of the experience in the good case—being the same—put the agent in a position to acquire acquaintance knowledge? According to disjunctivism, however, there is no sound philosophical basis for the common kind assumption. That the good case and the bad case share the negative epistemological property of being in some sense indistinguishable does not suffice to ensure that there is a common metaphysical core to the perceptual experiences in both cases (i.e., that they are essentially the same perceptual experiences). In particular, it is open to one to argue that the very nature of one's perceptual experiences in the good case is very different from how it is in the bad case, to the extent that one has a direct acquaintance with a coloured object in the good case (the kind of direct acquaintance with a coloured object that is manifestly lacking in the bad case).

If one is unpersuaded by the philosophical heroism of disjunctivism, then one might instead respond to the argument by seeking to undermine the move from premise (1) and (2) to the sub-conclusion (3). On this view, if the colour experience in the good case has the colour itself as a non-deviant cause, then the colour experience can acquaint the agent with the colour. According to this proposal, then, from the fact that the colour experience in the bad case does not acquaint the agent with the real colour of the object, so that she suffers a mere hallucination as of being acquainted with that colour, it does not follow that, in the good case, the colour experience does not acquaint her with the real colour of the object.

However, the proponent of this line of response runs into the following objection:

Barring a pre-established harmony no such causal process will preserve and transmit information so as to secure a nature-revealing match between how some feature of the cause, say the greyness of my dog's coat, is and the way I am caused to represent that feature as being. To see involves having the natures of visible properties revealed by a causal process, but this is just what no causal process actually does. (Johnston 1996, 191)

The objection is that causation between the colour experience and the mind-independent colour of the object is not sufficient for visual acquaintance with the colour. The argument for this view is that one's visual representation of the colour might have the mind-independent colour as its cause, rendering the colour experience veridical, but being a veridical representation of the colour isn't sufficient for being acquainted with the colour. The reason is that the nature of the visual experience—in both the good case and the bad case—is fixed by one's internal mental states. *Ipsa facto*, if it's fixed by one's internal mental states, then it's not fixed by the properties in the world.

5. CONCLUDING REMARKS

In the last section we saw how Johnston replies to a broadly causal response to the problem that he poses. If one is persuaded by Johnston's argument in this regard, then that puts the ball back into the court of disjunctivism, which is the other response to this difficulty that we encountered. Disjunctivism is a radical proposal, and we want to close by noting that if this proposal can be made sensible, then it may be able to offer a unified response to all three of the sceptical challenges raised by colour that we have looked at.

We have just seen how disjunctivism applies to the problem of acquaintance, and we noted in §3 how naïve realism (of which disjunctivism is one variety) can be one way of responding to the traditional sceptical problem regarding the external world, so that leaves the Pyrrhonian challenge. Recall that this proceeded by appeal to an underdetermination principle which essentially demanded that if one lacks an epistemic basis which favours scenario p over a (known to be incompatible) scenario q , then one should suspend judgement that p . If one further grants that the kinds of error-scenarios described by the Pyrrhonians motivate the thought that our epistemic support doesn't favour the scenario that an object has the colour that we take it to be as opposed to not having that colour, then it follows that we should suspend all our judgements about colour.

It is precisely this last move that the disjunctivist will object to. In particular, she will argue that it is not the underdetermination principle that is in play which is the joker in the pack here, but rather the idea that the epistemic support one has for one's colour judgements is underdetermined in this fashion. According to disjunctivism, after all, what one has direct access to in the good case is very different from what one has direct access to in the bad case. Disjunctivism may thus potentially offer a route out of this problem too. That said, as we have indicated above, such a proposal is itself highly controversial, so this is far from being a cost-free solution to the sceptical difficulties that we have explored here.¹⁰

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NOTES

¹ See Williams (1978) for a classic discussion of this point, in the context of Cartesian radical scepticism.

² For some of the main contemporary discussions of underdetermination-style principles and their role in radical sceptical arguments, see Yalçın (1992), Brueckner (1994), Cohen (1998), Byrne (2004), Vogel (2004), and Pritchard (2005a, part one; 2005b). For a recent overview of some of the main issues with regard to underdetermination-style principles, particular with regard to their role in radical sceptical arguments, see Pritchard (2015).

³ Of course, one could maintain that this consequence is not so bad, because perhaps *o* is both C and not C. Thus, an *epistemic relativist* might maintain that *S* and *S** are both correct: *o* is C and it's not the case that *o* is C. The epistemic relativist will explain how this is possible along the following lines: relative to *S*'s epistemic support E, it's true that E provides sufficient epistemic support for *o*'s being C, while relative to *S**'s epistemic support E*, it's true that E* provides sufficient epistemic support for *o*'s not being C. For more on epistemic relativism, and a critique of the view, see Pritchard (2009; 2010).

⁴ A related response from Hume is specifically epistemological. Rather than it being impossible to *conceive* of mind-dependent ideas representing mind-independent properties, Hume's suggestion is that we need to *have justification to believe* that the following general principle is true: if *S* has an idea as of *p*, then it is likely that *p*. Hume, however, thinks that this principle cannot be justified without circularity.

⁵ For work on Berkeley's Likeness Principle, see Dicker (2011, ch. 7).

⁶ For a famous contemporary discussion of this issue, in the context of the viability or otherwise of physicalism, see Jackson (1982).

⁷ In particular, Johnston tells us that:

“[[t]he originally unbelievable conclusion now follows: we cannot see colour, because our visual experiences as of the colours of things do not reveal to us what the colours of the external causes of our experience are like.” (Johnston 1996, 191)

⁸ For some key defences of disjunctivism, see Hinton (1967a; 1967b; 1973), Snowdon (1980-81; 1990-91), and Martin (1997; 1998; 2002; 2004; 2006). Note that this disjunctivism is very different from the specifically *epistemological disjunctivism* that has most prominently been defended by McDowell (e.g., 1995), and recently further developed by Pritchard (2012). For more on both types of disjunctivism, and how they both relate to epistemological scepticism, see Pritchard & Ranalli (*forthcomingb*).

⁹ Martin characterises the common kind assumption as follows:

“The Common Kind Assumption: whatever kind of mental event occurs when one is veridically perceiving some scene, such as the street scene outside my window, that kind of event can occur whether or not one is perceiving.” (Martin 2004, 40)

¹⁰ Thanks to **XXXX**.