How I Got the Blue

Cognitive Complexity, Epistemic Simplicity, and the Missing Shade of Blue in Hume's Skeptical Empiricism

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I.

The history of philosophy is full of sad vignettes; this essay is no different, but it may turn out to have a happy ending after all. John, the hero of our tale, is the victim of unfortunate circumstance.

From birth he has been held captive by a group of unscrupulous philosophers, intent on performing their thought-experiments on human subjects. He's spent his whole life locked in a carefully painted room—these are the same maniacs who imprisoned poor Mary—but where Mary's room was black and white, John's is painted in the most brilliant colors. Remarkably, every tile in his room is a different shade, and every single shade that the human eye can discern is on one tile or another—all except for one, and here we come to our story's theme. What John never knew is that there has been a tiny, intentional omission in his chromatic experience; even though one of his walls is painted with a vast spectrum of the shades of blue, amidst that incredible variety there is a single shade missing—a shade of blue that John has never encountered in 30 years of seeing color. Of course, this is a trifling omission in the middle of a vast number of similar colors; John never missed the shade of blue—that is, until one fine day, he ran his eyes over the blue part of his wall, looking more closely than he had ever looked before—

But by now, you may have noticed that my story is somewhat derivative: John's story is a version of a tale told by David Hume in the first chapter of the *Treatise*. and repeated, almost verbatim, in the second section of the first *Enquiry*. The moral of the story is Hume's question: when John finally notices

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the *gap* between one shade of blue and the next,¹ can he split the difference and imagine the Missing Shade of Blue?

One certainly wants to say that he *could*, but for Hume the answer isn't so simple. One remarkable fact about the thought experiment is where Hume *places* it: at the very opening of the *Treatise*, *immediately* after formulating his famous *copy principle* (CP). Hume argues that "all our ideas or more feeble perceptions are copies of our impressions or more lively ones" (E. 19), and he means, of course, that all *simple* ideas are copied from *simple* impressions: Hume's empiricism is founded on the distinction of simple ideas from complex ideas, and on his argument that while the imagination can summon *complex* ideas that have never been encountered by the senses, they must always be composed of simple ideas which have. But no sooner is the principle formulated and two arguments for it introduced, than Hume remarks that "one contradictory phaenomenon, … may prove, that 'tis not absolutely impossible for ideas to go before their correspondent impressions" (T. 5).

The copy principle is a universal claim about the origins of *all* of our ideas. It is not only part of the philosophic *content* of Hume's work; demanding the impression from which purported ideas were copied is *the* characteristic *method* of Humean philosophy⁴—most notoriously in his skeptical attacks on

Here, therefore, is a proposition, which not only seems, in itself, simple and intelligible; but, if a proper use were made of it, might render every dispute equally intelligible, and banish all that jargon, which has so long taken possession of metaphysical reasonings, and drawn disgrace upon them. ... When we entertain ... any suspicion that a philosophical term is employed without any meaning or idea (as is but too frequent), we need but enquire, from what impression is that supposed idea derived? And if it be impossible to assign any, this will serve to confirm our suspicion. By

¹When he follows the spectrum from one end to the next, he should be able to notice that the difference in shade between these two tiles is greater than the difference between any other two adjacent tiles in his room.

²And again at the very opening of the *Enquiry*.

³For Hume, the imagination has the power to *fabricate* new ideas out of pre-existing materials, but not to *create* ideas *ex nihilo*. "When we think of a golden mountain, we only join two consistent ideas, *gold*, and *mountain*, with which we were formerly acquainted. … In short, all the materials of thinking are derived either from our outward or inward sentiment: the mixture and composition of these belongs alone to the mind and will" (E. 19).

⁴Cf. Hume, at the end of Section II of the first *Enquiry*:

the idea of objective causal connexion and of external objects.⁵ If the Missing Shade *does* counterexample CP, then how on earth could Hume continue with the project of Book I, with only a breezy remark that "the instance is so singular, that it is scarcely worth our observing, and does not merit that for it alone we should alter our general maxim" (T. 6)? John's story raises urgent questions about both Hume's empiricism and his skepticism—and Hume's answers seem obscure.

In examining these questions, I want to consider the possibility of a *humble empiricism*. That is: an empiricist account grounded not in theoretical dogma about the nature of experience, but in careful attention and a respectful approach to *what it's actually like*. It's a project that I think Hume endorsed, but did not follow to its completion. A close examination of the Missing Shade of Blue casts these issues for Humean empiricism into relief. By the end, imagining the Missing Shade may enrich more than John's mental palette; it provides a valuable case study in the most essential and unexamined part of most empiricist accounts—the *picture of experience itself*, and how it fits experience as we actually live it.

II.

Let's stop for a moment to get clear on the structure of the argument. There's a puzzle here because Hume seems to be committed to the following inconsistent triad of statements:

- (1) It's impossible to imagine the object of a simple idea without a prior impression of it.
- (2) Every distinct shade of color is the object of a distinct simple idea.

bringing ideas into so clear a light we may reasonably hope to remove all dispute, which may arise, concerning their nature and reality. (E. 21-22)

⁵The point here is not that these skeptical attacks form Hume's own view—this essay is blithely unconcerned with the hermeneutical conflict between the skeptical and naturalistic readings of Hume. (A proper discussion of *that* would be much more productively sought in Read and Richman [2000].) What is important here is not the controversial question of whether (and if so, how) Hume ultimately *endorsed* his case for radical skepticism, but rather the completely obvious fact that, based on the theory of experience he introduced, he found that case *tremendously compelling*. Since the latter part of this essay is mainly concerned with some of the reasons that the case seems so compelling, the name "Hume" is useful as a sort of short-hand for talking about the skeptical arguments without addressing the issue of whether this Hume is a historical or a merely fictional figure. (If the skeptical Hume does not exist, it will be necessary to invent him.)

- (3) It's possible to imagine the Missing Shade of Blue without a prior impression of it.
- (1) is a negative formulation of CP; Hume explicitly states (2) as his understanding of color⁶; and (3) is supposed to be the upshot of the thought experiment. But the Missing Shade is (ex hypothesi) one distinct shade of color, and so from the (existentially generalized) conjunction of (2) and (3) follows:
 - (4) It's possible to imagine the object of *at least one* simple idea without a prior impression of it.

Since *that's* just the denial of (1), either (1) is false or else (4) is, or, by way of a destructive dilemma, *at least one* of (1), (2), and (3) must be false.

Hume seems ready to give up (1)—even though his empiricist method depends on its *universal truth*. John's story, then, raises important philosophical questions for empiricism. Whatever Hume's account of the Missing Shade is, is it the *right* account? What other sorts of strategies might be available? How would they impact our picture of color experience—and of experience more broadly? Which strategy makes the most attractive and interesting contributions to a humble empiricism?⁷

III.

One possible strategy would be to deny (2)—holding onto both the thought experiment and CP by giving up on Humean account of colors: if the Missing Shade's idea is *complex*, rather than simple, then it doesn't violate CP; what John imagines is a compound of ideas with which he is already acquainted.

⁶Of course, he doesn't *just* state it; he *argues* for it in the same passage. His argument is summarized in the discussion of the "Lockean" response below.

⁷It also raises *exegetical* questions. What on earth was Hume doing by introducing the Missing Shade of Blue just after the copy principle? Why does he concede the counterexample, and what does he take the upshot to be? How can he concede that his most important methodological principle is false, and yet go on to use it throughout Book I? A full answer to the exegetical question will have to be taken up elsewhere—and it already has, by John O. Nelson (1989), whose account I find extremely convincing in the broad outlines, though not in the details. It's worth taking one thing at a time, and a careful approach to the philosophical question reveals compelling possibilities that Hume's own solution does not countenance. Therefore, I dive into the philosophical question forthwith.

Of course, just *calling* the idea complex isn't the end of the story. Of what parts are the ideas of shades built up, and what cognitive operations combine them? One direction is suggested by John Locke's treatment of color in the *Essay*:⁸ each *shade of blue* is not a simple idea unto itself, but a variation on the underlying simple idea, *blue*. John's encountered blue already in all of its other shades, and he can generate the Missing Shade by *darkening* or *lightening* familiar shades until the Missing Shade is achieved. Since he is only enlarging or diminishing ideas that he already has ready at hand, this should cause no trouble for CP.

That seems like an attractive move, but it's one that Hume anticipates and rejects. Here's why it can't work: imagine a spectrum passing, "by the continual gradation of shades", from blue, through turquoise and sea-green, to green. If we admit that John can imagine the Missing Shade of Blue, there doesn't seem to be any good reason not to accept the same conclusion for any shade in the blue-green spectrum—that John could imagine any shade from the surrounding shades even if he had never seen that particular shade in his life. But if we claim that he can do this only because the shades are simple modes of the same color, then we eventually find that if we repeat the thought experiment for each shade along the spectrum, we eventually find ourselves claiming that John can imagine *green* because it is a simple mode of the idea of blue. Since Locke "will not allow any of the means to be different," he "cannot, without absurdity, deny the extremes to be the same" (T. 5); but he cannot, without absurdity, allow the extremes to be the same, either. In order to avoid being forced into either absurd conclusion, a humble empiricist will simply have to reject the Lockean account.

That doesn't not necessarily defeat every analysis of shades as complex ideas. Rather than analyzing turquoise as a simple mode of blue, and sea-green as a simple mode of a completely different

⁸"Though, I say, these might be instances enough of simple Modes of simple *Ideas* of Sensation; and suffice to shew, how the mind comes by them: yet I shall, for Methods sake, though briefly, give an account of some few more, and then proceed to more complex Ideas. ... Those of Colours are also very various: Some we take notice of, as the different degrees, or as they are termed, *Shades of the same Colour*. ..." (II.xviii §§1, 4)

⁹You might cash this out in terms of as decreasing or increasing the presence of that color in a given area of space

color, green, one might analyze both turquoise and sea-green as *mixtures*, in slightly different proportions, of blue *and* green. ¹⁰ Call this the *Primary Colors* response; it rejects (2) by postulating some set of fundamental colors, from which John can generate a shade in imagination just as he would in paint: by mixing together the other colors on his palette until he gets the right balance of primary color ideas to produce it. ¹¹

I don't doubt that a devoted advocate could make the Primary Colors response *materially adequate* as a way to keep both CP and the Missing Shade. But the account succeeds only at the cost of getting the *phenomenology* of color all wrong. The colors we see *are* related to each other such that any color can be produced by mixing together other colors, but we don't *perceive* colors *as mixed*. I can imagine turquoise by blending together blue and green, but when I see turquoise I do *not* see blue and green blended together; I see a unique, solid color. And the Missing Shade of Blue is no different: John may come to imagine it by mixing together the resembling shades, but that mixture is only the *cause*, not the *content*, of John's idea. The Primary Colors response distorts the *qualitatively simple* experience that we have of colors; whatever benefits it may hold, it would be hard for a humble empiricist to justify the cost.

IV.

If you cannot resolve the triad by denying (2), then you might try keeping (1) and (2) while denying (3): that is, simply digging in to defend CP by rejecting the alleged counterexample. Call that the

¹⁰Shades of colors, then, will be *mixed* modes, and imagining the Missing Shade more like imagining a centaur than a novel number: the mental operation is not enlargement of one underlying idea, but the combination of several different ideas.

¹¹ One might worry that the Primary Color thesis allows Hume to mount a slightly modified counter-example. Suppose that the missing shade of blue in question just is pure blue, the primary color. It seems no less likely that our subject could imagine this. But how could she, if she has never encountered pure blue? But this raises no problems for the Primary Color response. For in fact, the subject has encountered pure blue before. Since every shade of color with any blue in it is built up, in part, out of pure blue, she has the idea of pure blue from all the other shades of color she has encountered. Pure blue will be imagined simply by imaginatively isolating this aspect of her color experience.

¹² Indeed, since human color perception has been shown to depend anatomically on the combined efforts of nervous receptors for red, blue, and green, this solution might have a certain seductive appeal to those philosophers who indulge in a voyeuristic fascination with the microscope.

Ultra-Humean response—with the qualification that it is not *Hume's* response. The Ultra-Humean must, in quintessentially Humean fashion, insist that John simply *cannot* imagine the missing shade of blue, and then show how the intuitive appeal of (3) derives from psychological confusion engendered by natural operations of the imagination. When John *thinks* that he is imagining the missing shade of blue, say, what he *actually* imagines is an unstable congerie of the several shades which he's already encountered. Of course, you might *show* John a patch of the Missing Shade later, and he might *say* that that is exactly the shade that he imagined. But then John has just confused the shade he actually imagined with the shade now before him because those two shades *closely resemble*, and closely resembling perceptions are easily confused for one another—particularly when the present shade has the forceful clarity of an impression, and the imagined shade only the dim hold of a remembered idea. The support of the unique of the shade of the second of the second of the unique of th

Again, the Ultra-Humean might manage keep the account consistent, but it's unclear how she could make it particularly *plausible*. Colors just seem to be related in such a way that John *could* imagine the Missing Shade by lightening or darkening the resembling shades he's already seen—without inexplicably flickering over the gap in his experience. Denying the possibility of the phenomenon protects the theory, but only by trampling our prephilosophical intuitions and our sense of what it's like to see colors.

V.

So it is that Hume comes to concede the counterexample, and to try to find a way to qualify (1); and while his solution is *interesting*, it's also *premature*. However he tries to extricate himself from his own

 $^{^{13}}$ Just as the French ultra-Right was more Royalist than the King, the Ultra-Humean is more Humean than Hume.

¹⁴The parallel between the Ultra-Humean's diagnosis and Hume's own diagnosis of the belief in a continued existence for unperceived objects is intentional; the two will be approached from exactly the opposite direction below.

¹⁵If John doesn't see those relations—if he doesn't glimpse the possibility of the Missing Shade, as it were, in the surrounding shades—then he's failed, in an important way, to have the experience of colors that we ordinarily seem to have.

counterexample, perhaps the antinomy should be a sign that Hume's division of experience into perceptions either simple or complex—on which CP depends—needs revision for our color experience. Remember our remark that although the ideas of other shades may be causes of the idea of the Missing Shade, its content should be qualitatively simple. And that distinction suggests a similar distinction that Michael Watkins makes in his work on Hume and causality: 16 Watkins distinguishes cognitively simple judgments from epistemically simple judgments, and in the case of the Missing Shade of Blue, we might draw an analogous distinction between the cognitive and the epistemic simplicity of an idea. Cognitive simplicity deals with how I get the idea: it's cognitively simple if the act of acquiring the idea does not depend on having any other ideas, cognitively complex if I need to have certain other ideas to be in a position to acquire it by having certain other ideas. Epistemic simplicity deals instead with what I've got when the idea is before my mind; an idea is epistemically simple if the *content* acquired is qualitatively irreducible to the content of any other idea, epistemically complex if its content can be analyzed into the content of other ideas.

The Missing Shade of Blue, like all other color ideas, must be epistemically simple: the content of the idea of that unique shade doesn't involve the content of any other shade of color. 17 Under ordinary conditions, color ideas are also cognitively simple: we get the ideas of colors just by seeing them in colored things around us. But for John, the idea of the Missing Shade can be seen as epistemically simple but cognitively complex: he could, it seems, get the shade without having seen it by, say, darkening or lightening surrounding shades - using other color ideas he already had. This allows us to resolve the triad without rejecting any statement outright, by revealing an ambiguity in (1). Two different copy principles could be distinguished, depending on the two sorts of simplicity:

(1') Epistemic copy principle (ECP): It's impossible to imagine the object of an epistemically simple idea without a prior impression of it.

¹⁶In Watkins (2003), and in conversation.

¹⁷It does include the relation of that shade to surrounding shades, such that we can compare the shades and see a gap where the Missing Shade should be.

(1") *Cognitive copy principle (CCP):* It's impossible to imagine the object of a *cognitively* simple idea without a prior impression of it.

Further, (2) also helps itself to the notion of simplicity; but unlike (1), it quite clear which it means.

Hume's arguments against Locke and our remarks on the phenomenology of color depend on an understanding of the *content* of, for example, the experience of sea-green; (2) is best understood, then, as:

(2') Every distinct shade of color is the object of a distinct epistemically simple idea.

It should be clear, then, that if (1) is correctly understood as (1'), then combining it with (2') and (3) does indeed confront Hume with an inconsistent triad, and admitting the exception to (1') seems to be the only option available to him. But if (1) is correctly understood as (1"), then no such difficulty arises: while both (2') and common decency require us to regard the idea as epistemically simple, nothing prevents us from taking it as *cognitively* complex; but if the idea is cognitively complex, then it causes no problems for (1"), and the apparent inconsistency rests on an equivocation between two senses of simplicity.

Now, the *cognitive* copy principle rules out the possibility of imagining a cognitively simple idea without having had the corresponding impression. Since a *cognitively* simple idea cannot have been acquired using any other ideas, the question here just is the question of whether the idea originated *empirically* or *innately*: either the idea was copied from an impression, or else it somehow came into the mind without experience. Thus, CCP is exactly as plausible as the traditional empiricist arguments against innate ideas (including Hume's); whatever support these arguments give to the conclusion that none of our ideas are innate, they also lend to CCP.

If, on the other hand, (1) is taken as the *epistemic* copy principle, then the triad *is* clearly inconsistent; but it also becomes unclear what a humble empiricist loses by rejecting it—ECP is not only falsified by the Missing Shade of Blue, but it *never was supported by Hume's arguments*. It's true, for example that "To give a child an idea of scarlet or orange, of sweet or bitter, I present the objects, or in other words, convey to him these impressions; but proceed not so absurdly, as to endeavour to produce

the impressions by exciting the ideas" (T. 5), and that those born blind or deaf always lack not only the impressions but also the *ideas* of those senses. These phenomena reflect *how we get* ideas (being situated to have the right impressions), and so support CCP; they demonstrate the *impression-dependence* of ideas, and undermine innatist pseudo-defenses of ideas such as causality or material substance. But they do nothing to show that ideas must depend on impressions with *identical content*, and lend no support to ECP. If John can imagine the Missing Shade, it's because of his familiarity with other color-ideas; no-one would suggest that he could imagine it had he been blind from birth, or never been presented with blue objects. It's not that his idea of the Missing Shade derives from *no* impressions; rather, it seems to derive from the *wrong* impressions. John causes problems for ECP, but since ECP is unsupported by Hume's arguments, and unneeded to defeat innatism, a humble empiricism may find reason to simply reject ECP and keep CCP. Once cognitive and epistemic simplicity are disentangled, it becomes clear that the Missing Shade is no counterexample to any copy principle worth saving.¹⁸

VI.

The distinction between epistemic and cognitive simplicity reveals intriguing possibilities for a humble empiricism, altering the very conception of *experience* upon which Hume builds his philosophical project, and opening new dimensions in which experience could ground our ideas.

Distinguishing CCP from ECP allowed us to recognize the internal relationships between shades on the color wheel, without the desperate move of analyzing shades as epistemically complex ideas.

Cognitive complexity allows us to acquire more empirical *ideas* than Hume's conception of experience originally allowed; and we might also consider the effect of the distinction between cognitive and epistemic simplicity of *impressions*. For example, consider a slight reformulation of Michael Watkins' reply

¹⁸You might call the doctrine that epistemic simplicity and cognitive simplicity must always go along together the 43rd Dogma of Empiricism (thereby proving that it must be false).

to Hume's analysis of causation.¹⁹ Everyday language constantly claim to perceive causal events; you *see* me causing a mess when I accidentally knock books off the desk. But since Hume's picture of experience ran together cognitive and epistemic simplicity, he needs simple impression to be not only simple in *content*, but also independent of *any* previous cognition—something that "the first Adam" could copy into his ideas from his first glimpse of the world. You could not be aware that the collision *caused* motion unless you had already witnessed events like the cause and like the effect constantly conjoined in the past, so for Hume, the idea of the causal link could not have been copied from any *simple* impression.

From there Hume launches his well-known arguments against the possibility of any analysis of causation as a complex idea derived from sensation or reason. But the distinction between cognitive and epistemic complexity cuts him off at the beginning. We do have to witness a constant conjunction before we recognize the connexion between them, but that's no problem: although the impression is *epistemically* simple—we just *see* the collision causing motion—it's *cognitively* complex. Hume was right to reject the idea that constant conjunctions provide the *content* of, or support an *inference* to, a causal connexion: the relation is *causal*, not *inferential*. Seeing collisions and motion constantly conjoined *enables us* to just *look* and see—to have the *epistemically simple* impression of collisions causing motion.

Our distinction can be employed elsewhere against other skeptical puzzles. There is a direct parallel between the Missing Shade and Hume's argument that we have no clear idea of the continuous existence of objects independent of our perception.²⁰ The senses, he argues, can never convey to us the idea of a "CONTINU'D existence to objects" (T. 188), because "they cannot operate beyond the extent, in which they really operate" (T. 191), and as "A single perception can never produce the idea of a double

¹⁹ Watkins, again, distinguishes cognitively from epistemically simple *judgments*. But his target here is the claim, allegedly "learned from Hume", that we cannot *perceive* objective causal connexions. Since it deals directly with our ability to have a perception of one thing causing another, we can easily take the liberty of reformulating the argument in terms of a distinction between cognitively and epistemically simple *impressions*.

²⁰See *Treatise* I.IV.ii

existence" (T. 189), we have no perceptions to copy the idea from.²¹ Without any impressions from which the idea could be copied, our confused attempts to attribute mind-independent existence to objects must derive only from fallacious connexions in the imagination between resembling perceptions.

But just as John can imagine the Missing Shade without ever encountering it in a single impression—by concocting an epistemically simple but cognitively complex idea from the surrounding shades—why not argue that we could acquire the cognitively complex idea of a continued existence between interrupted perceptions from the impressions that precede and succeed it—without needing to perceive unperceived objects? Of course, even if the maneuver succeeds, the bare *idea* of a continued existence isn't enough to vindicate the external world. One must still produce *evidence* to show that what we've imagined applies. But once we have the *idea* of continued existence, the 'double existence' problem is solved, and we can use the canons of reason to infer continued existence from the constancy and coherency of impressions. For our humble empiricism, it turns out that whether the world still exists when we shut our eyes is something to be settled by empirical reasoning rather than philosophical speculation—which is, I think, exactly the right status for the question to have.

VII.

I don't mean that these modification to Hume's theory of experience solve all of Hume's problems. ²² I think that a lot more difficult philosophy has to be done for our empiricism to become completely humble—let alone correct. Nevertheless, these observations allow for a humble empiricism to make many advances beyond the skepticism that Hume thought only nature could break. It may not hold

²¹Nor can we get the idea by some kind of *inference* from perceived objects; without sensibility, reason is no help, and "as no beings are ever present to the mind but perceptions; it follows that we may observe a conjunction or a relation of cause and effect between different perceptions, but can never observe it between perceptions and objects" (T. 212).

²²In particular, although we've greatly expanded on the *content* of impressions and empirical ideas, we haven't yet made the critical (or Critical) distinction between the *content* and the *form* of possible experience. So also it allows us to account for how we imagine a *continued* existence to objects, but the fundamental Humean assumption that the direct objects of experience are mental entities rather than *distinct* existences has gone unchallenged.

up in the end, but the distinctions we've made will remain important in whatever theory of experience remains. Empiricists and critics alike should track the distinction carefully. They've got everything to gain, and nothing to lose, if they can only find out how John got the blues.

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