

FORUM

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THE OBJECTIVE EYE

Color, Form, and Reality in the Theory of Art

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HYMAN ON COLOUR

Is an object red because of the experiences that it produces in us, or does it produce such experiences because it is red? Should we be subjectivists or objectivists about colour? In the first three chapters of *The objective eye*, John Hyman sets about tackling this ancient puzzle. Hyman ultimately thinks that in their common forms, neither subjectivism nor objectivism is fit for purpose: the 'because' fails to hold in both directions of Euthyphro's dilemma (OE, p. 55). The majority of his arguments are directed against broadly Galilean and Lockean forms of subjectivism. Mainstream objectivism, or *colour physicalism*, is dispatched in two short paragraphs (OE, pp. 52-3). Hyman defends a 'qualified' form of objectivism, on which both the redness of an apple and our experience of it as red «have the same explanation», namely «the microstructure of its skin» (OE, p. 56). While colours are thus «logically independent» of our visual experiences, they are «not epistemically independent of them. Experience is the highest court of appeal where the colours of objects are concerned» (OE, p. 56). There is much to admire about Hyman's view, and I am particularly sympathetic to his criticisms of subjectivism in its various forms. As is customary, however, I shall now highlight some areas of disagreement and raise some points for clarification.

1. A linguistic turn?

I have a basic worry about Hyman's central argumentative strategy, which is to appeal to the «basic conception of colour that is implicit in the simplest colour statements we make», that is, the *meaning* of our ordinary colour statements (OE, p. 19). Time and again, accounts of colour are rejected on the grounds of inconsistency with a set of principles claimed to be analytic of this basic conception (OE, pp. 15-9). There are well known grounds for scepticism about the picture of linguistic meaning assumed here. I shall here consider some specific reasons, however, to dissociate the question of colour ontology from questions about the linguistic meaning of ordinary colour statements. First and foremost, as Hyman would no doubt agree, colours are *visibilia*, properties which are canonically presented or represented in visual percep-

tion. Inquiries into colour ontology thus commonly proceed via a question about colour vision: does colour vision accurately or veridically represent properties possessed by the physical objects that we perceive? The prior issue here is to settle *which* properties are visually presented or represented in colour vision, a matter for the philosophy of perception and colour vision science, not the theory of meaning.

This last point might seem merely to reflect a difference in methodological predilection. But the consequences are far more immediate. To illustrate, consider Hyman's argument in chapter one against the widely held anti-realist, broadly Galilean, view that «physical objects are not really colored». Hyman rightly notes that on this view, our colour experiences are uniformly illusory, or non-veridical, and immediately proceeds to equate this with the view that colour predications in natural language, such as «bananas are yellow», are false (OE, p. 14). This shift allows him to argue against the Galilean via his analysis of the meaning of such statements, for as we learned from Quine, truth (and falsity) depends on *language* as well as on extralinguistic fact (OE, p. 14). As pointed out by Boghossian and Velleman¹, however, there is nothing to stop the enterprising Galilean combining an error theoretic account of colour vision with a natural language semantics on which ordinary colour statements come out true. Such a theorist will rightly point out that content attributions in perceptual psychology and linguistics are subject to quite different theoretical pressures and considerations. *A priori* demands for a single, unified, semantic account of colour vision and colour language lack motivation both in principle and in practice. Without such unification, however, Hyman's linguistic approach to colour ontology misses its mark.

The gap between colour language and colour vision might be bridged if, as Hyman later claims, the classificatory system used by English speakers is «tightly constrained by the physiology of the human visual system», which provides uniform «focal areas, which are centres of variation for each of the gross colours» (OE, p. 31). This claim is empirically inaccurate, however. It rests on a confusion between *unique* or *elemental hues*, which correspond to neutral points in the red-green and yellow-blue opponent colour

¹ P. Boghossian - J.D. Velleman (2001), *Physicalist theories of colour*, reprinted in A. Byrne - D. Hilbert (eds.), *Readings on colour: the philosophy of colour*, Cambridge, Mass., MIT Press, 1997, pp. 105-36, here p. 107.

space, and *focal colours*, the ‘best’ or ‘paradigmatic’ examples of a given colour category. It has been argued that the *unique hues* are constrained by the physiology of the human visual system, although even this remains unclear. According to John Mollon, for example, «it remains the case that no one has shown a cortical origin for the unique hues. Their special status may derive from the outside world»². A separate issue is whether the four unique hues correspond to the focal points of the categories *red*, *green*, *yellow*, and *blue*, as proposed by McDaniel³. This too remains a matter for debate, but even a positive verdict would fall well short of establishing physiological constraints on the focal areas of all eleven basic colour categories in English⁴. Hyman is far from alone in taking colour language as a representational proxy for our visual classification of colour, but I would urge him and others to reconsider⁵.

2. Hyman’s principles

Setting these issues aside, serious questions remain about Hyman’s proposed analysis of our basic conception of colour. A key principle supposedly ‘implicit’ in our ordinary colour statements is that «an object’s colour is inert» both causally and explanatorily (OE, p. 19). As a claim explicative of ordinary linguistic *usage*, however, I find this extremely puzzling. As Hyman himself notes (OE, p. 19), we often *say* things like «my hut is cooler than yours because mine has a paler colour than yours». Hyman attempts to sidestep this point by arguing that we correctly say such things not because colours are causes, but «because having a darker colour *correlates* with having a tendency to heat up more» (OE, p. 19, italics added). This is a substantive theoretical claim, however, for which no argument is provided. It also begs the question against physicalist theories of colour. Neither feature is something we should expect or accept from a purported account of the meaning of ordinary colour statements.

² J. Mollon, *A neural basis for unique hues?*, «Current biology» 11/19 (2009), pp. 441-2, here p. 442.

³ See C.K. McDaniel, *Hue perception and hue naming*, unpublished BA thesis, Harvard University, 1972.

⁴ It is clear from a footnote (n. 243) that the ‘classificatory system’ Hyman has in mind includes the eleven basic colours of B. Berlin - P. Kay, *Basic colour terms: their universality and evolution*, Berkeley, CA, University of California Press, 1969.

⁵ These foundational issues are discussed in greater depth in my forthcoming DPhil thesis.

According to Hyman, the «fundamental principle» of our basic conception is that «an object's colour is part of its appearance, in other words, that it is part of how it looks» (OE, p. 15). I found the discussion of this principle somewhat unclear, which is significant given the central role that it plays in Hyman's overall view. An object's appearance is characterised as a «subset of its visible properties», specifically those properties satisfying the constraint that saying « x is F » is «equivalent» to saying « x looks F » (OE, p. 16). That is to say, F is part of the appearance of x just in case « x looks F » contains a «pleonastic use of the verb 'looks'» (OE, p. 16). This characterisation creates serious problems when it comes to *illusory* appearances, however. Consider a yellow object which looks blue, as yellow things sometimes do. In this case, 'that object looks blue' is not semantically equivalent to 'that object is blue', for the former is true while that latter is false. Hence, in this context, 'looks' is not pleonastic. From Hyman's characterisation of appearances, it follows that blueness is not part of the appearance of this object, which presumably means that it is false to say that the object appears blue. This is a highly counterintuitive consequence, however. Hyman attempts to salvage the situation by admitting a retrograde notion of «mere appearance», to be distinguished from *proper* appearance, tied in some way to the non-pleonastic use of «looks» (OE, p. 16). This notion is never explained, however, and in any case the prospects are not promising. In particular, I am sceptical that 'looks' and 'appears' are semantically ambiguous in the way that Hyman seems to require⁶.

3. Seeing powers

Subjectivists and objectivists alike sometimes seek to identify colours with *dispositions*. On the subjectivist side, there is the familiar *Lockean* view that colours are dispositions to produce certain sensory experiences in human observers. On the objectivist side, there is the *physicalist* view that colours are surface spectral reflectances, which are dispositions of surfaces to reflect incident light in certain ways. Hyman objects to both that colours cannot be dispositions, because dispositions are modal properties, like *woulds* or *might have beens*, and such properties cannot be seen (OE, pp. 48-9). One immediate issue with this argument is that it

⁶ Various reasons for thinking that 'looks' is semantically ambiguous are reviewed and rejected in chapter two of W. Breckenridge, *The meaning of 'look'*, DPhil thesis, University of Oxford, 2007.

ignores many complex and unresolved issues regarding the nature of dispositions. For example, many people hold that dispositions are identical to their categorical or causal bases, a view which would have no problem whatsoever in admitting that dispositions can be seen. Of course, one always has to take *some* things for granted, but Hyman's metaphysical assumption is doing such heavy lifting in the dialectic that more needs to be said in its defence.

Taking the argument at face value, however, my view is that it derives whatever intuitive force it may have from an overly simplistic, perhaps mechanistic, conception of visual perception. To appreciate the force of this point, consider that two dominant empirical frameworks for visual perception enforce no such limitations on our ability to see dispositions. It is a well advertised feature of *Gibsonian* or *ecological* theories, for instance, that we can perceive the *affordances* of objects, which include dispositions such as being dangerous or a potential mate. Although far from universally accepted, these theories have improved our appreciation of the role of vision in enabling various types of biologically relevant activity or interaction. Considered in this context, the relevant question is whether, or how, dispositional properties enter into explanations of vision's wider biological significance. I do not think that we should prejudge on this issue. There is likewise nothing inherent in *computational* theories precluding the possibility that visual systems 'infer' the presence of dispositional properties at points in the scene, via certain transformational or inductive principles, from the information received in the proximal stimulus. The supposed modal status of dispositions doesn't undermine our ability visually to represent them, for as Bence Nanay⁷ has recently stressed, we can represent or attribute a property without representing the conditions – counterfactual or otherwise – necessary or sufficient for its instantiation. Of course, as is frequently noted, colours may not obviously *appear* in experience to be dispositions. But this only constitutes an objection to the present view given the misguided assumption, sometimes referred to as *Revelation*, that experience reveals *all* that there is to know about the nature of colour properties⁸.

⁷ See B. Nanay, *Do we sense modalities with our sense modalities?*, «Ratio» 3/24 (2011), pp. 299-310.

⁸ See A. Byrne, *Do colours look like dispositions?*, «Philosophical quarterly», 51 (2001), pp. 238-45.

In discussing Hyman's account of colour, I have raised concerns as to his overall argumentative strategy, and on certain points of detail. While sympathetic to many of his conclusions, I believe that Hyman's strategic emphasis on the meaning of our ordinary colour statements undermines the force of his arguments. In any event, two key principles proposed in his analysis are unmotivated, or at least in need of serious clarification. Finally, Hyman's argument that colours cannot be dispositions seems to be metaphysically overcommitted, and to rely on an unduly simplistic model of visual perception. There is much more in the book that I would have liked to discuss. In particular, I found Hyman's discussion of *frames of reference*, in relation to the supposed relativity of colour, to be both instructive and stimulating. Time and space dictates, however, that these issues must await another occasion.

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THE GENEALOGY OF A CONCEPTUAL TRUTH

I [...] discuss the historical sources of some ideas in considerable detail because many of the ideas we find convincing today were originally designed to answer specific intellectual needs, which differ substantially from our own. This means that it can be easier to distinguish what is sound from what is erroneous in our own thought if we are aware of its history (OE, p. xvi)

1. Introduction

One of the great pleasures of John Hyman's *The objective eye* is its unconventionality: it argues for ideas that are rarely defended today (e.g., a resemblance theory of depiction) and it does so by utilizing methods that are rarely employed by works in analytic philosophy (e.g., by attending to the historical sources of the ideas in question). It is this second aspect of Hyman's book that I am going to discuss here: its *genealogical method*. Repeatedly, Hyman is at pains to illustrate how ideas that we find convincing today have histories, and how exploring their histories is useful for separating the truth from falsity in them. My goal here is to encourage Hyman to resolutely embrace this genealogical method and explore the history of an idea that he himself finds convincing, an idea that is at the core of his own positive account of the nature of

colour. Here is the idea: «Our basic conception of colour is rooted in one fundamental principle, namely, that an object's colour is part of its appearance, in other words, that it is part of how it looks» (OE, p. 15). Hyman never suggests that this fundamental principle (hereafter, FP) might have a history, or that understanding that history might allow us to see how the FP contains both insights and confusions. On the contrary, he simply treats the FP as a timeless *a priori* truth. In what follows, I do four things: first, I spell out what Hyman takes the FP to mean; second, I outline the crucial role that the FP plays in Hyman's account of the nature of colour; third, I describe why Hyman takes the FP to be true; and, fourth, I say why I think a genealogy of the FP is needed.

2. What does the FP mean?

Hyman takes the FP to express an *a priori* truth about colours: namely, that there is a necessary connection between *being* and *looking* colored. As a way of spelling out the necessity involved here (i.e., between *being* and *looking* a certain way), Hyman contrasts the case of colour with the case of age. If someone *is* sixty, then they might well *look* sixty. But they might not. They might look young or old for their age, after all. In the case of *being* a certain age, *looking* that age is at best evidence of being that age, but it is neither the only nor the best evidence of that fact. As a name for the sort of connection between *being* and *looking* exhibited by the age case, call it an *epistemic connection*.

Hyman clearly thinks that the connection exhibited by the colour case is not merely a particularly reliable sort of epistemic connection; that is, his point is not just that looking at something is the best way of finding out what colour it is. Rather, his point is that «we cannot understand what colour is without some notion of the sense of sight» (OE, p. 17). Call this sort of connection between *being* and *looking* a *conceptual connection*. In short, Hyman thinks the necessary link between colour and sentience expressed by the FP is a conceptual connection, not merely an epistemic one.

3. What role does the FP play in Hyman's argument?

Hyman takes the FP to have a number of consequences, chief among them that «an object's colour [...] unlike its shape, cannot affect what happens – it cannot influence the course of history – except as a consequence of being perceived» (OE, p. 18). Once again, this marks a significant contrast between colour and age.

The age of something can be causally efficacious regardless of whether someone perceives it to be that age. One can, after all, die from old age even if no one notices. But Hyman does not think that the colour of something can be causally efficacious if no one notices it. This is a significant restriction on the causal efficacy of colours, one that, if true, has a number of significant consequences of its own.

The chief consequence Hyman draws from the *inertness* of colour (as he puts this point) is that colour cannot play any useful explanatory role in explaining anything beyond the behaviour of those beings capable of seeing it (it cannot even explain what produces the experience of colour in these beings). And, if colour cannot play any useful explanatory role, it is a category mistake to treat it as a theoretical posit akin to mass or energy, since the whole point of such theoretical posits is to play an explanatory role. This implies that philosophers who have used Occam's Razor to decide the question of whether colours exist are guilty of a category mistake, because they have assumed that whether colours exist depends upon how explanatorily useful they are as theoretical posits. Invoking the conceptual connection between colour and sentience, Hyman concludes that colours are «not fanciful enough» to play the role of theoretical posits, since, «like aches, they lie too securely within» the «ambit of experience» for natural science to discover that they do or do not exist (OE, p. 25).

In much the same way that someone might 'prove' that aches exist by first acknowledging a necessary link between aches and experience, and second noting that we do, in fact, sometimes experience aches, Hyman 'proves' that colours exist by combining the FP with the everyday observation that we do, in fact, experience things as colored. The FP thus plays a crucial role in Hyman's account of colour.

4. Why does Hyman take the FP to be true?

Given the crucial role the FP plays in his account of colour, Hyman says surprisingly little about *why* he thinks it is true. The most he says is that «it is implicit in the basic conception of colour that our simplest colour statements presuppose» (OE, p. 21). On the whole, he says as much about what it is *not* based upon as what it *is* based upon. We are repeatedly told that the FP «is not a discovery of modern physics» (OE, p. 21) and that it «is essentially an a priori philosophical insight and not a discovery of natural science»

(OE, p. 20). Hyman seems to think that the main reason why one might contest the FP is because of conceptual confusion. If this is right, then an awful lot of philosophers have been conceptually confused: a short list would include Aristotle, Descartes, Locke, Bernard Williams, and Thomas Nagel, as well as quite a number of contemporary philosophers working in the philosophy of colour (such as Alex Byrne and David Hilbert). Of course, Hyman would not be the first philosopher to accuse others of conceptual confusion. But I wonder whether this really is the best explanation for why the FP does not find universal acceptance.

5. The beginnings of a genealogy of the FP

Hyman himself notes that Aristotle denies the FP. Specifically, Aristotle denies that colours are inert, since he claims that they cause changes in the eye jelly⁹. And Hyman admits that Aristotle's claim is not merely based on conceptual confusion; he allows that it is also based on «scientific speculation» (OE, p. 28). But one gets the sense that Hyman calls the problem «scientific *speculation*» for a reason – i.e., that he thinks *speculation* is the real problem, rather than ignorance of modern scientific discoveries about colour; after all, Hyman is clear that he thinks the FP «is not a set of factual assumptions about colours» (OE, p. 19). As such, one gets the sense that Hyman thinks conceptual clarity would have sufficed to lead Aristotle to accept the FP, if only he had reined in his speculative tendencies and resisted trying to give colours an explanatory role.

I think that this is a mistake on Hyman's part, that the FP is based on more than conceptual clarity. More precisely, I think it is a mistake to assume that there is a static concept of colour that has remained unchanged from Aristotle's time to our own, one which, if we could just get clear about it, would thereby resolve all of the problems we are worried about in the philosophy of colour. But this is not to say that I think the FP is baseless; it is to say that I think the FP is based largely in a *reaction* to certain early modern philosophical and scientific innovations and discoveries¹⁰.

⁹ I am here following Hyman's own reading of Aristotle. Myles Burnyeat contests such a reading of Aristotle, in his *What happens when I see red and hear a middle C?* in M. Nussbaum - A. Rorty, A. (eds.), *Essays on Aristotle's De anima*, Oxford, Oxford University Press, 1995.

¹⁰ In support of the claim that the FP only emerged as a way of *reacting* to early modern philosophical innovations and scientific discoveries, it is useful to reflect on the historical fact that dispositional theories of colour (such as Locke's) only first emerged in the

Nevertheless, Hyman is right to think that the connection expressed by the FP between colour and sentience is not merely an epistemic connection. It is an expression of something more about colour – something about the role colour plays in our lives, about what we *need* colour to be – than about how we tell the colours of things. But it is seriously unclear what it means to say that sort of thing. And it is equally unclear what it means to say that colours are inert. After all, what is it for the *causal efficacy* of a property to be restricted by how we *understand* that property; what sort of property is causally efficacious *only* on the behaviour of a being capable of experiencing it? (I do not think it is helpful to compare colours to aches in this regard, for two related reasons: first, our experiences of aches do not have objective purport – they do not purport to be of properties that exist independently of these experiences; second, if no one experienced aches, there would not be any aches, whereas, on Hyman's view of colour, the absence of colour experiences would not imply that there are no colours).

Given these unclarities, I think a genealogy of the FP would be helpful, as a way of separating out the distinct strands of thought that are bound together in the idea that there is a necessary link – a conceptual connection – between colour and sentience, one which implies that colours are inert¹¹. More than once, Hyman himself offers the beginnings of such a genealogy, as when he notes that «a sketchy grasp of optics is more than enough to dispose» (OE, p. 21) of the idea that colour can play an explanatory role; a full genealogy, however, would require spelling out what, exactly, this sketchy grasp of optics involves, as well as making explicit the philosophical and scientific presuppositions underlying it.

modern era. The emergence of dispositional theories is telling because, as Hyman himself notes, they propose to «explain the intrinsic tie between colour and sentience in a lucid and simple way» (OE, p. 46). Contrast this with pre-modern theories of colour, such as Aristotle's, which deny the FP.

¹¹ In the interest of full disclosure, I should say that I myself am currently working on just such a project, a genealogy of the historical origins of contemporary ways of thinking about colour. But it is because I am taking my lead from Hyman, as well as because I think he has so much to contribute to such a project, that I am encouraging him to engage in such a project as well.

6. Conclusion

In this short comment on Hyman's views on colour in *The objective eye*, I have focused on his discussion of the fundamental principle that there is a necessary link between colour and sentience, one which implies that colours are inert. My goal has been to encourage Hyman to apply his own genealogical method to this principle, in the hope that doing so might lead to increased clarity about what, exactly, it means to say that an object's colour is part of how it looks, as well as why this principle might be true. Getting clear about this probably would not solve all of the problems there are in the philosophy of colour. But if the other genealogies that Hyman offers in *The objective eye* are any indication, it would be a fertile place to start¹².

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SOME REMARKS ON HYMAN'S *THE OBJECTIVE EYE*

In his book Hyman encourages us to reflect on an antithesis that has an ancient history: the antithesis between objectivistic and subjectivistic conceptions of various properties. Many different examples can be provided for such an antithesis. We can ask if we desire something because it is good, in its own right, or if instead we say something is good only because we desire it. But we can also wonder if our perceptions of secondary qualities have an objective meaning, conveying properties that belong to the objects we experience, or if we must acknowledge that colours and flavors are not in things, but only in the mind of the person who experiences them. Hyman takes the side of objectivism, and the first three chapters of his book are devoted to an extremely subtle and persuasive defense of an objectivistic conception of colour. His analyses, to a great extent, seem to me rather accurate and full of useful teachings: nevertheless, there is one point I believe requires deeper examination.

The concepts defining reality are constrained by an externalistic premise: we know that the progress of our knowledge can force us to re-evaluate the nature of our concepts. The meaning of words like mass, energy, cell, or even water or iron, is something

¹² I am grateful to Alyssa DeBlasio, Nat Hansen and Chauncey Maher for helpful comments and suggestions.

that has not been defined once and for all, but depends on what we discover about reality, step after step. This, in principle, does not seem to apply to the system of concepts of colour that establish and exhaust the way of being of their objects. Chromatic terms have a history that may be influenced by many different factors, but in principle it is not possible that future experience will force us to correct our system of concepts, or that an unexpected experience will force us to change our idea of yellow or red. So chromatic concepts do not seem to depend on what experience may teach us in the future, and this is why their position with respect to the problem of reality does not seem to me to be entirely clarified by the statement «our colour concepts do not ‘carve nature at the joints’».

After the considerations regarding colours, Hyman continues with a discussion on the concept of depiction – I would like to concentrate precisely on these pages. The perspective of the analyses is again dictated by the antithesis between objectivist and subjectivist positions: again in this case, in fact, the problem «is about defining the relationship between a property the objects we perceive seem to possess – such as beauty or pictorial content – and a response that objects that seem to possess this property arouse» (OE, p. 3).

It will suffice, however, to delve just a bit into the reading to realize that the problem Hyman is inviting us to approach is different, at least in part, because the question regarding figurative content is actually transformed into a reflection on the nature of the depictive *link* between the painted surface and what is represented on it. It is this link whose nature needs further study, to decide if it should be understood from an objectivist or a subjectivist perspective, whether we should (that is) seek the nature of depiction on the plane of an objective relationship between the surface of the image and its content, or whether we should instead investigate the role of the viewer. This shift cannot help but raise some doubts. Hyman seems to take for granted that an objectivist conception of figurative content must coincide with, or at least imply, an objectivist conception of the depictive link. But this does not seem so obvious or inevitable to me, because in principle we could assert that the figurative contents are objects – though particular ones – which we have experienced, even if we do not have a direct experience of the depictive link that allows us to grasp them in the play of the chromatic marks that stand out against a surface.

Later on we will have to return to this point. For the moment, instead, I would like to focus on the path Hyman proposes we follow. This path implies, first of all, a dense critique of the theories that claim to dissolve the objectivity of the relationship of



depiction, either in a merely conventional relation – this is the case of Goodman – or in a merely psychological relation, as in the works of Wollheim. To counter this subjectivist dissolving of the depictive link, Hyman proposes the objectivist path that, in his view, must take on the forms of the theory of resemblance: we should, that is, be able to trace back the depictive link to a dual objective basis – to the fact that the aperture colours of the

painting are the same as the aperture colours of the objects depicted, and that there is a relationship of resemblance, actually of identity, between the *form* of the chromatic configurations of the painted surface and the occlusion shapes of the depicted objects.

As I observed, Hyman speaks of resemblance theory, but resemblance is an elusive notion. Similarities have an objective nature: they may be perceived, but they may also escape us. Along general lines, however, we speak of resemblance to refer to a relationship of correspondence that can be perceived and grasped with the senses. Thus we say that two faces are similar because we can perceive their resemblance, but a relationship of correspondence can exist even if we are not able to perceive it because it is too complex to be captured by the senses.

Just as there are operations that cannot be mentally performed, so there are correspondences that do not array themselves in resemblance: a shadow can be traced back to the object that casts it by means of a rule that can be geometrically formulated and usually translates into a resemblance. Things are not, however, always so: to make this clear, it will suffice to look through a manual on shadow plays, or observe the shadow sculptures of Tim Noble and Sue Webster. We understand that fingers and hands can be arranged to cast a shadow we see on a wall, yet we do not *see* the relationship of resemblance between the position of the hands and the design cast on the wall's surface. If we then imagine

casting shadows on a curved surface, we realize that the geometric relationship becomes too complex to be seen – even though this does not mean that a relationship of projection does not exist.

This leads to the question that must be asked: what is the state of things in the case of depiction? Is the presence of an objective relationship between the surface of the image and its figurative content always and *necessarily* that of a perceptible relationship? The answer has to be negative: images like anamorphoses or the autostereograms of Julesz and Tyler are clearly capable of showing us images, though it is not possible to identify a relationship of resemblance between the chromatic pattern of the surface and that which – with a certain effort – we can glimpse there. This is tantamount to saying that the criterion of resemblance does not seem to be a necessary condition for depiction.

It might be objected that these images are exceptions that should not concern us too much, and that in principle it is possible to set them aside. Nevertheless it is worth observing that Hyman himself acknowledges that the identity between the occlusion shape of the depicted objects and the chromatic pattern of the painted surface that portrays them cannot suffice to identify what we see depicted. As Gombrich observed, in the *Portrait of Jan Six* by Rembrandt we see, amongst other things, a gold chain; but the resemblance that links it to the form of the painted sign does not seem capable of explaining why the painting shows us something, and shows us precisely and only what we see there: the occlusion shape principle, then, does not even seem to be a *sufficient* condition of the figurative link. In short: all that it seems to be possible to assert is that at times a relationship of resemblance exists between the pattern of the figurative surface and the content represented. After all, what is true in certain paintings by Rembrandt or the later Titian seems to be true for many different figurative styles: Pointillism or Fauve painting, for example. Here the configuration of chromatic marks does not repeat the configuration of the occlusion shapes of the depicted objects, yet we see faces, bodies, landscapes.

Hyman is aware of this and therefore acknowledges that there is some partial truth in the subjectivist hypothesis: in the end, when we ask ourselves what an image is showing, we must first of all recognize that it depicts exactly what it is seen in it by a viewer with a certain amount of expertise. The reasons of subjectivism, however, are joined by the dominant voice of objectivism:

if this is what we see in a painting it is because there are objective reasons that bring us to the occlusion shape or to specific objective relationships concerning the relationship between the colour of the painted surface and the colour we attribute to the objects that are depicted.

Hyman says as much, but to speak of subjectivism in this case does not seem to me to have the meaning of what is said in the introductory pages of the book. The fact that we can glimpse a face in the cracks of the plaster is a fact that might be difficult to explain entirely in terms of some resemblance, but our observance of a face with a certain expression precisely at that point on the wall is a fact that not only has objective causes, but is itself an objective given. We do not see a face depicted because we are made like that or because something happens in our sensory organs: we see a face represented because there is a face depicted right there, before our eyes. And it does not seem relevant to me if the depictive link does not manifest itself on phenomenological ground, because something similar also happens, for example, when we look at an image on video: we see many colours in RGB images, but the reasons we now see orange, now yellow, now violet are not seen, eluding the phenomenological dimension. Does this mean we have to say that those colours are only subjective? I don't think so¹³. So why talking about subjectivism, in this case?

Further enquiry on this point is important to understand why resemblance plays such a major role in Hyman's analysis. If the aim is simply to assert that there is an objective relationship that links the painted surface to its figurative content, then talking about resemblance would not seem to be fully appropriate, because the notion of resemblance is too limited to truly explain that connection. If it makes sense to talk about resemblance, it is only because resemblance is an intuitive connection that promises to support a certain conception of our perception of images: the conception according to which we see first of all a certain configuration of marks on the painted surface and then, on this foundation, we construct – based on resemblance – a depictive link and therefore also a figurative content. But is this really the way things are?

¹³ After all, even the colours the painter applies to the canvas are composed of pigments of different kinds and appear to us as they do only because they array themselves for the observer in an overall effect, though this does not seem to be a good reason to say that they are only subjective.

I don't think so. Let's take a look at images that respond to Hyman's requirements – perspective depictions – and ask ourselves if the resemblance that exists between the chromatic surface and the content is also the *ratio cognoscendi* of the figurative connection, or if instead it is simply the *ratio essendi*. In the first case we would say that the image constitutes itself for the observer by *following* the rule of resemblance; in the second, instead, we would say that the resemblance is there, but it is not necessarily perceived, because the essential point is only that the canvas presents a situation of stimulus that acts in a way similar to reality on the perceiving subject. In my view the path to follow is the second of the two, but let us in any case ask ourselves about the implications of the thesis that resemblance is the cognitive basis of the relationship of figuration.

To support such a thesis, it would first of all be possible to claim that we see both the arrangement of the chromatic marks on the painting's surface and the occlusion shape of the bodies the depiction presents to us; but this cannot really be taken for granted. From a phenomenological point of view, it is not obvious that the observer of a painting sees first of all the chromatic marks that cover the canvas: to have a glimpse of the painting's surface as such the observer has to come very close to the painting, to focus on details, and so on. From a logical point of view, I do not see any plausible reason which makes such an assumption necessary: we do not have to see the alternation of pigments to understand that the face we see before our eyes is just a painting, because there is a way of appearing that is specific to depicted objects – a weak depth that does not fit into real depth, that does not contradict the awareness of the surface that hosts the figurative space, a reduced luminosity of the depicted objects, their particular grain, and so on¹⁴. We can of course see only marks of paints on the canvas, but to do so we have to assume a particular position with respect to the painting that coincides with the weakening of its fi-

¹⁴ Similar considerations are found in Koffka and, above all, in Michotte, who wrote: «In the present case, the effect of the conflict is not restricted simply to making the picture 'less three-dimensional', as claimed by Koffka; for, in addition to the flattening of the apparent depth of the object, previously noted, it is primarily the character of reality that is impaired. Its destruction seems to be the essential condition for the resolution of the conflict. Although integration of a real volume on a fiat surface would be contradictory, in fact only the surface and the traces on it are real, whereas the volume loses all reality» (*Le réel et l'irréel dans l'image*, in G. Thinès - A. Costall - G. Butterworth (eds.), *Michotte's experimental phenomenology of perception*, Hillsdale, Erlbaum, 1991, pp. 187-97).

gurative capacity¹⁵, and it is not always easy to make ourselves see the image dissolve into its material parts – try, for example, to look at an image on a screen and to perceive the fact that it is composed of lights of different colours.

In short: it is very hard, normally, to see a mere arrangement of pigments in a painting, though normally we see faces and landscapes *made* of chromatic substances or strokes of charcoal. But even if we did always and simply see the painting's surface with its particular configuration of marks, we could still not say that we grasp what it is supposed to resemble: the configuration of the occlusion shapes. Of course Hyman is right when he says that form and occlusive size are not subjective givens; nevertheless, to recognize their objective character does not yet imply that they are properly perceived and that the depictive link appears by virtue of our perception of them. Likewise, I believe we must acknowledge the accuracy of the arguments advanced to refute the subjectivist interpretations of perspective (Reid, Hauck, Panofsky, Goodman and many others) that urge us to think that the perspective image is simply an attempt to return the retinal image¹⁶, but recognizing that perspective does not have to do with the proximal stimulus does not yet imply denial of the fact that in the final analysis perspective is a useful technique precisely because it is capable of reproducing, on the painted surface, the *distal* conditions of the stimulus, re-creating on the canvas a pattern that gathers the essential information that allows us to see a given object *depicted* there.

Now saying that the perspective construction permits us to create a distal condition of stimulus (a) on the canvas that is similar, though not identical, to the distal condition of stimulus (b) that arises when we perceive a given object is not the same as saying that there is some perceived resemblance between (a) and (b). We do not see distal conditions of stimulus, but percepts: we see a white triangle resting on three circles in the Kanizsa illusion, just as we see horizontal lines of different sizes in the Ponzo illusion – we see this way even though the distal stimulus, in one case, includes three black disks, each missing a triangular portion and equal horizontal lines in the other. Alberti was well aware of this,

¹⁵ On this point (though only on this one) the assertions of Gombrich on the duality of the perception of the image ring true.

¹⁶ I have outlined considerations very close to those of Hyman in *Il palazzo di Atlante. Contributi per una fenomenologia della rappresentazione prospettica*, Milano, Guerini, 1997, pp. 215-60.

and in the end, among the many metaphorical reasons connected with his veil experiment, there is one concrete factor: the veil is a ploy that allows us to see what otherwise is there, but we do not see fully – the reduction and foreshortening of perspective.

It was above all Gibson who emphasized that a depiction is first of all characterized by its ability to reproduce the information required to perceive the image of the depicted object, in a series of essays that deserve recollection for many reasons, but also because they urge us to consider depictions not as the result of a particular kind of perception, but as *particular objects*. In other words: Gibson invites us to assert that the perception of images can be grasped and described starting not with the depictive link or the relationship that exists between two different forms of perception – normal seeing and seeing-in, in Wollheim's formulation – but with the particular nature of the figurative content as such, its effective way of presenting itself.

This is a thesis that prompts us to discuss one final point of Hyman's book: his critique of the position of Wollheim. Part of the critique can, in the end, be traced back to the claim according to which it is not possible to account for an experience without starting from the objective context in question. For Hyman, «the final objection to Wollheim's theory of depiction – that it does not explain how the experience of seeing a boy in something differs from the experience of seeing a tulip in it or a pair of boots – cannot be overcome. If we search for a form of words to define the kind of experience that a picture produces in the mind of a spectator, and exclude a word such as 'depict' or 'represent' itself, there will be nothing useful we can substitute for the vague and unsatisfactory idea that a cowrie shell and an eye 'release the same response' or that perceiving the content of a picture involves 'discerning something standing out in front of [...] something else'» (OE, p. 141).

It follows that the attempt to explain the depictive link by defining the type of experience it stimulates in a spectator has to be set aside. In fact, if we think of an image as a type of artifact that produces a particular kind of subjective experience – the experience of seeing in – then we find ourselves in the situation of not being able to explain what this particular experience is, unless we say that it is that experience one has when one sees a painted surface and its depiction of just what it depicts.

The situation changes, on the other hand, if instead of putting ourselves in a subjectivist perspective and attempting to

unravel the depictive relationship through a description of experiences that images provoke in us, we acknowledge an objective status of the figurative contents and position ourselves on the terrain of description of the figurative contents – of these particular objects that have an intersubjective presence and can be described in their characteristics, precisely as objects in general can be described. So instead of asking ourselves how a surface should be made so that we can perceive a figuration in it – a problem that in principle belongs to the neurophysiology of perception – it is better, I believe, to try to characterize the nature of the figurative contents, to then identify the characteristics that set them apart and that are directly manifested to perception.

This is a perspective Hyman does not think has to be pursued, not only because his analyses are marked by the thesis of the centrality of the depictive link, but also because it seems possible to draw arguments from his pages to assert that there are no specific properties of depicted objects as such. This conviction seems to guide the phenomenological dimension of the criticisms Hyman aims at Wollheim: Hyman denies that it is possible to identify, in the manifestation of an apparent depth, the characteristic feature of figurative content¹⁷. To refute Wollheim's claim according to which seeing-in consists of perception of something that advances or retreats with respect to the painted surface, Hyman suggests that we think of particular images: the isolated figures of children's drawings or the decontextualized figures of certain kinds of primitive art. These figurative contents have no background and therefore seem to not be covered by Wollheim's description. Hyman writes: «All of these are exceptions because of a combination of two factors. First, in each case the surface on which the figures are drawn does not contribute to the picture's content: it is a ground, but not a background. Second, the figures themselves are not shown in depth. As it happens a silhouette can

¹⁷ The term apparent depth is not intended to allude to some illusory character of images. The observer of a drawing clearly sees that it would make no sense to try to grasp the depicted objects, and sees with great clarity that the arrangement of the objects drawn on the sheet of paper corresponds to a spatial positioning that cannot be put into a relationship of effective continuity with the surrounding space. To talk about apparent depth, then, means recognizing that the depth of images manifests itself to perception as a depth that is entirely and solely present in its *visible* appearance, but it also means giving a title to that set of differences that permit us to see that the arrangement of objects in a depiction is visibly different from the arrangement of the objects in real space.

represent depth surprisingly well [...] but there is no reason why it must» (OE, p. 136).

Hyman is right: there are drawings that do not establish a relationship with a background, and there are figurative spaces that do not seem to venture beyond the contours of the drawn figure – like the stick figure made of simple straight lines that start from the oval that indicates a face. Recognizing that these drawings cannot be covered by the description Wollheim proposes does not, however, mean denying that such drawings can have an apparent depth. To decide this we needn't operate on the plane of observations of an introspective nature; instead, it is necessary to try to identify characteristics of a structural nature that allow us to give our considerations a more definite meaning. So instead of asking ourselves about our subjective impression of depth, which in any case is an elusive fact that is difficult to describe, we should be asking ourselves about the function played by the lines of a drawing when we see it as a drawing.

Here's an example: in the uncertain forms of a drawing by a child of four we see a little man with big ears and long, slender legs. The drawing has no background, so the man is not in front of or behind any other element of the figurative space, for the good reason that the drawing coincides with the figurative space. But a figurative space is there, and it will suffice to ask ourselves if the line that forms the contour of the face traces a division of the surface of the page in order to understand that the manifestation of a drawing has altered the sense of our perception. Those lines do not subdivide the sheet into parts, but cut out – as Gustaf Britsch would put it – a new space on the sheet that does not belong to it because it *has* first of all an invisible back: the drawing represents a little man seen from *in front*. The back of his neck is *hidden* by his face, and if it is possible to make this kind of statement – namely that the face hides the back of the neck – it is because the drawing presents us with a relationship of occlusion – and every relationship of occlusion determines a depth.

Furthermore, precisely because the drawing shows us something – a face and a body – that does not belong to the surface of the sheet of paper, it is possible and makes sense that the lines of the hair can be traced to show us what is there *in front of* the fore-



head. We are not able to see those lines as if they were on the same plane as the line that forms the head, just as we see the mouth, or the oval of an eye, as being *on* the face and not in the surface of the sheet, as a mark that determines its chromatic configuration. But this is tantamount to saying that even if a child's drawing like this one does not contain something that can function as background, an apparent depth is nevertheless given, in terms of perception: to deny the presence of a background does not mean denying that there is an apparent depth or that it is impossible to distinguish a figurative space from the real space of the surface on which the drawing is made.

These are some of the remarks I think must be made regarding Hyman's book – a very absorbing book that does not only have the appeal of authentic philosophical enquiry, but is also enlivened by a remarkable ability to come to grips with the concrete problems of thinking about art. *The objective eye*, in short, is a book from which there is much to learn – at least that was my experience of it.

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PICTORIAL PERCEPTION

John Hyman's *The objective eye* is a major contribution to our understanding of the concept of depiction and the nature of pictorial art. It identifies, explores and advances accounts of all the main fundamental aspects of pictorial representation; it is written with great clarity and precision; it is a storehouse of information about the history of thought about both the nature of depiction and the perception of pictures; it throws light on each area of the subject that it investigates; its scholarship is both immaculate and extraordinarily impressive in its range; and it displays a mind of high intelligence with first-rate analytical and critical powers and an absolutely firm grasp of the issues dealt with and the various positions that have been taken up about them by the best thinkers. But perhaps its most remarkable feature is that nearly all the conclusions reached, whether about such different topics as the ontological status of colours, the relationship between the shapes and colours on a picture's surface and the objects that it depicts, or the various ways in which pictorial realism can be understood, to

mention just a few, are, I believe, not only correct but demonstrated to be so by meticulous and convincing arguments that both reveal the flaws in rival views and bring out the merits of those Hyman embraces or advocates. I write 'nearly all' because there seems to me to be one clear exception, and it is this exception that I shall focus upon in what follows.

The claim I have in mind is that just as the pleasurable sentiment that Hume postulates to explain the beauty of an object cannot, Hyman maintains, be defined except in terms of the thought that the object seems beautiful, rendering the supposed explanation useless, so the kind of perception involved in the perception of a picture as depicting a certain state of affairs cannot be defined except as the perception that the object depicts that state of affairs. In other words, the kind of perception intrinsic to the perception of what a picture depicts cannot be defined without using the concept of depiction itself. Accordingly, the idea that depiction can be explained in terms of the character of the experience that a spectator undergoes in seeing what a picture depicts must be abandoned: it is a viciously circular project.

But what is the argument for this claim? It seems to consist of the following line of thought (OE, pp. 140-9). Depiction could be explained in terms of the character of the experience that a spectator undergoes in seeing what a picture depicts only if there were a kind of predicate that satisfies two conditions: it ties the marks on the surface of a picture to the kinds of object they depict and it does not include the notion of depiction. But no such predicate exists. For the basic principles of pictorial art that Hyman has established – the occlusion shape principle, the relative occlusion size principle, the principles concerning surface and aperture colours and the principle that there must be a visible difference between a picture's surface and its content – «relate the surface and the content of a picture without referring to its psychological effect», and these principles indicate the limit of any possible definition «of the visible relationship between the marks on a picture's surface and the objects they depict» (OE, p. 147).

Now I agree that no such predicate exists, and if it needed to exist in order for depiction to be explained in terms of the distinctive nature of pictorial perception, Hyman's conclusion would follow. But there appears to be no compelling reason why a predicate of this kind is required if the distinctive nature of pictorial perception is to be defined without making use of the concept of

depiction. Consider, for example, Kendall Walton's well-known account of pictorial perception in which the character of the experience of looking at a picture and seeing it as depicting a certain state of affairs is represented as being a matter of one's imagining of one's experience of seeing the picture that it is an experience of seeing that state of affairs¹⁸. Now it is immaterial whether this is the correct or a mistaken account of pictorial perception. It is true that the idea of imagining of an experience one is undergoing that the experience is a different one might well be thought obscure or problematic, and even if this idea is made as clear as it could be, it might be thought not to be a true account of the experience of looking at a picture and seeing it as a depiction of something or other. But what this example shows is that the lack of a predicate that satisfies the two conditions specified above does not in itself rule out the possibility of defining (without the definition incorporating the concept of depiction) the experience a spectator undergoes in looking at a picture and seeing what it depicts. For it would be perfectly possible to recognize this lack, to accept the occlusion shape principle and Hyman's other basic principles of pictorial art as governing the content of a picture, and then to add to these principles a definition along Waltonian lines of the experience of seeing a picture as a depiction of a woman, a battle or whatever. There would be no inconsistency in such a view.

In fact, the amalgamation of the occlusion shape principle and the other principles Hyman identifies with Walton's conception of the nature of seeing a picture as a depiction of a certain object – an amalgamation that does not run counter to any of Hyman's other conclusions – might well help to answer an objection that might be brought against Walton's view or at least to close a gap that has been perceived in it. For why should anyone when perceiving a picture that in fact depicts X imagine of their seeing the picture anything at all? And in particular why should they imagine of their experience of seeing the picture that it is an experience of seeing X, rather than Y or Z or something else? Now although the occlusion shape principle and its allies do not in any way explain why imagining anything of one's experience of seeing a picture should take place in front of the picture, if such imagin-

¹⁸ In agreeing that a predicate of the required kind does not exist I am assuming that Hyman would not countenance as such a predicate (a predicate that follows 'I can see marks on a surface that') the predicate 'are such that in seeing them I am imagining of my seeing them that it is an experience of seeing a battle'.

ing does take place then these principles are well-suited to figure in a plausible explanation of why, when the picture is seen correctly, the imagining takes the form it does.

Perhaps Walton's conception of the nature of pictorial perception is wrong (I myself have expressed doubts about it)¹⁹. And Walton has distanced himself from the idea that the concept of depiction requires that the principles governing depictive representation should be of any specific kind – a stance antipathetic to Hyman. But if – and this is what I have argued – Hyman has given no good reason for his claim that any attempt to define the character of the experience of seeing what a picture depicts without using the concept of depiction must founder, then there seems to be no reason why, if a plausible account of this experience that does not use the conception of depiction were to be forthcoming, he should not welcome into his conception of the fundamental character of pictorial art a specification of the nature of the experience of seeing what a picture depicts, even if Walton's account of this experience must be clarified if it is to be accepted or even if it is mistaken and must be replaced by an alternative.

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REPLIES

I am very grateful to Will Davies, Zed Adams, Paolo Spinicci and Malcolm Budd for taking the trouble to write about *The objective eye*, and for writing about it both generously and critically. I learned a good deal by thinking about their comments, and enjoyed grappling again with the problems that absorbed me when I wrote the book, after an interval of several years. I have divided my comments into two parts: first colour, then depiction.

1. Colour

Will Davies says that my treatment of colour relies on a «theory of meaning» or a «picture of linguistic meaning», and he refers to my «linguistic approach to colour ontology». I found these remarks puzzling, because no particular theory or picture of meaning is either stated or assumed in the book, and I explicitly reject the

¹⁹ M. Budd, *Aesthetic essays*, Oxford, Oxford University Press, 2008, pp. 208-15.

Whorfian idea that colours are carved out of an undifferentiated visual flux by words, or by habits of mind instilled by learning words, which a number of philosophers, including Quine, endorsed in the 1950s and 60s. To this extent, I explicitly oppose a linguistic approach to colour ontology²⁰.

What my discussion of colour actually relies on, as I explain in the first chapter, is a basic principle, which I claim is implicit in all our thought and talk about colours, namely, that «an object's colour is part of its appearance, in other words, that it is part of how it looks» (OE, p. 15). Some philosophers (e.g. P.F. Strawson) would call this kind of principle a «conceptual truth», others (e.g. Frank Jackson) would call it a «prime intuition» or a «subject-determining platitude», yet others would call it something else. But it doesn't matter what we call it. What matters is whether it is true, and what follows if it is.

Is it true? I acknowledge in the book that it is not self-evident, but arguments need premises and this is mine. So I do not try to prove that it is true, but I explain it at some length. The basic idea is that being red is the same kind of property as *looking* round or *looking* tough, rather than *being* round or *being* tough, and hence that *looking* red is the same kind of property as looking square-*looking* or tough-*looking* rather than looking square or tough, or looking handsome (good-looking) rather than being handsome²¹.

As I say, this is not self-evident, but it explains a lot about colours, if it is true. For example, it has often been claimed that colours are unlike shapes inasmuch as an object *is* red if and only if it *looks* red to normal observers in normal conditions, whereas it is not true that an object *is* round if and only if it *looks* round to normal observers in normal conditions. For example, a hydrogen atom is round but it is too small to *look* round to any observer in any conditions. The biconditional about colours has been criti-

²⁰ Research published since 2006 continues to support my view, which is completely independent of the issues about colour-processing in the visual system Davies mentions. For a useful review of the evidence, see T. Regier – P. Kay, *Language, thought, and colour: Whorf was halfright*, «Trends in cognitive sciences» 13 (2009), pp. 439-46.

²¹ Davies also says that I claim that «looks» is «semantically ambiguous». In fact, I distinguish between statements about looks that are relativized to specific conditions (e.g. «Ruddy boys look pale in blinding sunlight») and ones that are not (e.g. «Anemic boys look pale»), and I point out that «look» in «Anemic boys look pale» is a pleonasm, in other words, a redundancy, in the sense that «look» can be replaced by the copula «are» in this sentence, but not in the other. This is a difference in use, but it is not an ambiguity by normal criteria.

cized (notably by J.L. Austin and C.L. Hardin²²) and it is not true without qualification, but there is something right about it, and the idea that being red is comparable to looking round rather than being round explains what. Because there is evidently something right about the claim that something *is* X-looking if and only if it *looks* X-looking to normal observers in normal conditions. For example, a good-looking man may not *look* good-looking if he has been seasick for three days, and a man who is *not* in fact good-looking may *look* good-looking thanks to some clever make-up or a trick of the light. But it is at least roughly true that a man *is* good-looking if and only if he *looks* good-looking to normal observers in normal conditions.

Davies's own starting-point («subject-determining platitude», «prime intuition») is different. It is this: «First and foremost [...] colours are *visibilia*, properties which are canonically presented or represented in visual perception». Is this a better premise to adopt? Colours are certainly *visibilia*, as of course are shapes. But why should *visibilia* be glossed «canonically presented or represented in visual perception»? «[C]olours are *visibilia*» means 'Colours are visible', and the gloss does not make the statement any clearer. Is there meant to be a difference between «presented» and «represented»? If so, which of them is right? And what is «canonically» supposed to mean? Presumably, the idea isn't that colours are *standardly* seen, but can also be heard or tasted. But what exactly is it?

Setting «canonically» aside, I suspect that the idea that colours are «presented or represented in visual perception» is attractive because it can seem to lead in pretty short order to the idea that colours are physical properties such as microstructures, the «Australian» theory of colours, as Jackson calls it, which Davies castigates me for giving too short shrift. Thus, Jackson's own «prime intuition» is similar to Davies's: «'Red' denotes the property of an object putatively presented in visual experience when that object looks red». But, Jackson claims, it is «relatively uncontroversial» that the property putatively presented in an experience is a property that typically causes the experience, and this, in the case of red, is a physical property, the property physics identifies as responsible for causing experiences of red, such as a certain

²² J.L. Austin, *Sense and sensibilia*, Oxford, Oxford University Press, 1962, p. 66; C.L. Hardin, *Colour for philosophers*, Indianapolis, Ind., Hackett, 1988, pp. 67 ff.

kind of microstructure of an object's surface. So this must be what 'red' denotes²³.

I do not find this argument convincing. If we allow causation by properties, the idea Jackson says is «relatively uncontroversial» seems to me (roughly, since the terminology is rough) true in the case of the properties conventionally classified as primary and false in the case of the ones conventionally classified as secondary. Jackson's assumption that it is true in the case of colours therefore seems question-begging in a rather obvious way.

Compare looking crooked and being crooked (as properties of sticks). Looking X is not the same property as being X and looking X-looking is not the same property as being X-looking. Handsome men do not always look handsome and, as Grice once pointed out, someone might look tough-looking in the dim light of the passage, although as soon as he moved into the room it could be seen that really he looked quite gentle²⁴. Furthermore, *looking* X can be «putatively presented» in an experience without *being* X being «putatively presented» too. For instance, Al Jolson in black-face looks black-looking but does not look black. In Davies's terminology, when one sees Jolson on the screen the property of looking black is «represented in visual perception», but not the property of being black. Similarly, a straight stick partly immersed in water looks crooked-looking but does not exactly look crooked, at least when one is used to the trick (I do not just mean that one is not inclined to *judge* that it is crooked, I mean that it does not look as if it is a crooked stick).

Now presumably, the property that *typically* causes an experience in which being crooked is «putatively presented» is the property of being crooked. And presumably, the property that *typically* causes an experience in which *looking* crooked is «putatively presented» is *also* the property of being crooked (sticks partly immersed in water are not typical cases). But in that case the property «putatively presented» is the same as the property that typically causes the experience in the case of being crooked, but *not* the same in the case of looking crooked. That is why I say Jackson's argument is question-begging. He assumes – wrongly, I think – that being red is like being crooked rather than looking crooked,

²³ F. Jackson, *From metaphysics to ethics*, Oxford, Oxford University Press, 1998, p. 89.

²⁴ P. Grice, *Some remarks about the senses*, reprinted in *Studies in the way of words*, Cambridge, Mass., Harvard University Press, 1989, p. 258.

in other words, that it is a primary quality and *not* part of a red object's appearance, *not* part of how it looks.

As I have pointed out, Davies's statement that colours are «presented or represented in visual perception» is less clear than the statement that colours are *visibilia*, which he wants it to explain. So why does he use this phrase? I suspect the reason is that it sounds right if one already believes that colours are physical properties, because it presents a *picture* that is congenial to this theory. It invites us to imagine that physical properties produce signs of themselves in our minds, which *either* represent them as they are in reality, *or* represent them in disguise. In the latter case, perception alone does not reveal what the physical properties are like in reality, but science can. But in both cases there is the property itself, which is physical, and the sign of the property, which represents it, which is psychological.

I think this ignores the possibility that a property is neither a physical property, in the object, nor a sign of a physical property, in the mind, but part of the *appearance* of an object, in other words, that the reality of the property is neither physical nor psychological, but phenomenal.

Some properties certainly *are* appearances, such as being round-looking, tough-looking and good-looking. And if we think about them carefully they turn out to have several interesting properties, such as only belonging to visible objects, and (simplifying for the moment) not influencing events except as a result of being seen. The idea that colours are properties of this kind cannot be dismissed out of hand, and it shows how one can be a realist about colours without identifying them *either* with physical structures that are too fine-grained to be visible (as Jackson does) *or* with dispositions, which are not visible either (as Lockeans do)²⁵, and without denying (as non-physicalist realists generally do)²⁶ that there is a metaphysical difference between colours and shapes of *very roughly* the sort that most philosophers and scientists since the seventeenth century have insisted on, whatever theory of colours they endorsed.

²⁵ I reject the view, which Davies mentions, that dispositions should be identified with structures. But for present purposes, there is no need to consider it, because it changes the reason why colours would be invisible if they were dispositions, but does not change the fact.

²⁶ P.M.S. Hacker, *Appearance and reality*, Oxford, Blackwell, 1987; J. Campbell, *A simple view of colour*, in J. Haldane - C. Wright (eds.), *Reality, representation and projection*, Oxford, Oxford University Press, 1993.

This tightrope between the traditional options in the metaphysics of colour must be there, because properties such as being good-looking and being round-looking are perched on it. So it makes sense to see whether it will support the weight of colours and other sensible qualities as well.

Zed Adams also challenges the principle that an object's colour is part of its appearance, part of how it looks. He focuses on the idea that if this principle is true, then colours are inert, in other words, they cannot affect what happens, except as a result of being seen. If this is right, the *esse* of colours is not *percipi* – as it would be if they were sensations – but their *efficere* is. In a phrase I borrow from Jonathan Bennett, the behaviour of sentient animals is the bottleneck through which colours affect the world.

Adams points out that I do not say much about why I think the basic principle is true, and he suggests that I do Aristotle an injustice by wrongly assuming that «there is a static concept of colour that has remained unchanged from Aristotle's time to our own». He thinks the concept *has* changed, and that the idea that colours are appearances (in the sense explained) is «a *reaction* to certain early modern philosophical and scientific innovations and discoveries». He agrees with me that it is difficult to make progress in philosophy unless we understand the history of philosophical ideas, but he criticizes me for ignoring the history of *this* idea. He is also sceptical about the idea that colours are inert: «what is it for the causal efficacy of a property to be restricted by how we *understand* that property, and what sort of property is causally efficacious only on the behaviour of a being capable of experiencing it?». Has the concept of colour changed since Aristotle's time? The answer, I think, is the same as the answer to the same question about shape or weight. The concept has *ramified*, so that we now have a larger system of colour concepts. For example, we distinguish between spectral and non-spectral colours and employ the concept of a metameric pair. These modern colour concepts are developments of the ancient ones, just as the physical concept of gravity is a development of the concept of weight. But the names of colours (the words we use to express colour-concepts) do not refer to a different kind of property today from the kind of property they referred to in classical or pre-classical Greece, any more than the names of shapes do. We teach children to use these words in the same way as we always have, and the

purposes for which use them are the same as they have always been.

So while our understanding of the physical and physiological mechanisms involved in colour perception has developed substantially, especially in the twentieth century, and while it would obviously be silly to think that philosophical theories advanced in the twentieth or the twenty-first century might just as well have been advanced in the fourth century BC, this does not mean that a theory of colour invented today does not apply to colours as Aristotle knew them, or that Aristotle's theory does not apply to colours as we know them.

What about the idea that colours are inert? Adams asks «what is it for the causal efficacy of a property to be restricted by how we *understand* that property, and what sort of property is causally efficacious only on the behaviour of a being capable of experiencing it?». And he says that comparing colours with sensations cannot help us to answer these questions, even if the comparison is useful for some other purposes.

I agree. If the idea that colours are inert is puzzling, the obvious comparison to make is with values – obvious, I should add, thanks to Hume's brilliant essay *Of the standard of taste*. For example, the wickedness of a criminal act can influence the sentence, and the beauty of a landscape can affect the route to be taken by a new road, but only if the judge *recognizes* the wickedness of the act and the planners *acknowledge* the beauty of the landscape. An act may be wicked even if noone except the perpetrator ever knows that it was done, and a landscape may be beautiful even if noone ever sees it. But the wickedness of the act or the beauty of the landscape cannot affect the course of history by one iota if they are not perceived. Now if we assume for the sake of argument that values are non-natural qualities which we perceive by a 'faculty of moral intuition', so that the perception of values seems quite like the perception of colours (more like it, no doubt, than it really is) the point of the comparison should be clear.

What would it be like if the behaviour of sentient animals were *not* the bottleneck through which colours affect the world? We may as well ask what it would be like if the «Australian» theory were true, since microstructures have many effects independently of sentient animals. For example, the microstructure of a substance can make it an electrical conductor or cause it to melt at a particular temperature, or fracture with a particular pattern.

So if it turned out that the same microstructural property of a steel rod gave it a bluish cast and caused it to fracture in a certain way, and if the colour *were* the microstructural property, then we would have to accept that its colour caused it to fracture that way.

I am not saying that noone would accept this. Some philosophers have an appetite for bullets. But considered independently of any metaphysical theory of colour, which might predispose one to accept it, it is surely less plausible than Aristotle's views about causation by colours. Remember: Aristotle thought that red things make things red and blue things make things blue (it is controversial how he applied this principle to the visual process, as Adams notes, but not that he accepted it). And while he did not understand the physics or the physiology of colour vision, even at a rudimentary level, in this he was dead right. For as I point out in the book, the principle that colours are inert needs to be qualified. Strictly, we ought to say that an object's colour can only make a difference *other than to the appearance of something* by being seen, just as values can only make a difference *other than to the value of something* by being recognized or perceived. For example, the colour of the dye in which a cloth is soaked affects the colour of the cloth, and the beauty of Cleopatra's nose contributed to the beauty of her profile.

Finally, on the topic of colour, Paolo Spinicci writes as follows: «The meaning of words like mass, energy, cell, or even water or iron, is something that has not been defined once and for all, but depends on what we discover about reality, step after step. This, in principle, does not seem to apply to the system of concepts of colour that establish and exhaust the way of being of their objects. Chromatic terms have a history that may be influenced by many different factors, but in principle it is not possible that future experience will force us to correct our system of concepts, or that an unexpected experience will force us to change our idea of yellow or of red. So chromatic concepts do not seem to depend on what experience may teach us in the future, and this is why their position with respect to the problem of reality does not seem to me to be entirely clarified by the statement 'our colour concepts do not "carve nature at the joints"'». I am not certain how to interpret this remark, which is why I have quoted it in full, but I think the claim that colour concepts «establish and exhaust the way of being of their objects» is in effect a rejection of the theory that colours are physical properties, such as microstructures,

whose nature we can discover by scientific investigation. Next, Spinicci seems to say that since colours are not physical properties «future experience», in which he clearly includes future science, cannot require us to modify or replace our colour concepts, in the way that it can require us, and past science *has* required us, to modify or replace our physical concepts, at least for scientific purposes. Finally, he concludes that my comment (at the end of chapter two) that «our colour concepts do not ‘carve nature at the joints’» is not entirely satisfactory.

If this interpretation is right, I agree with the first point, but I think the second point needs to be qualified, and it needs to be qualified because of a fact about colours that my comment about carving nature at the joints was meant to summarize. Let me explain.

Colours are phenomenal properties, not physical properties, so *physics* cannot require us to modify or replace our colour concepts. But we use them to explain the behaviour of sentient animals, and so ethology *can*. This does not mean changing «our idea of yellow or of red», it means setting aside our ideas of yellow and red for the purposes of explaining the behaviour of animals with different visual systems from our own. I explain this in detail in chapter two, and I shall summarize it as briefly as possible here, simplifying the facts considerably, but not distorting them, I hope.

Consider a rainbow. The wavelength of light varies continuously across its width, at least the discontinuities are negligible for our purposes, but what we see when we look at a rainbow is broad bands of approximately the same colour, divided by narrow transitional bands. The reason for this is that we are more sensitive to small differences in wavelength in some parts of the spectrum than others (the parts where we are relatively sensitive are the transitions). The same is true of all animals with colour vision, but the wavelength-ranges within which they are especially sensitive will vary depending on the characteristics of their visual system, and so they will divide the rainbow in different ways. That is why I said in the book that the colours we learn to identify by name are tightly constrained by the physiology of the human visual system. If a lion could talk about colours, we could learn to understand him, but his basic colour vocabulary would not translate word for word into ours.

Spinicci reports me as saying that «our colour concepts do not ‘carve nature at the joints’». But the quotation is incomplete,

and the meaning of the remark is completely altered as a result. For what I actually wrote is this: «our colour concepts do not ‘carve nature at the joints’ – or rather they do, but this is human nature, and not the nature of the visible objects we perceive». If this remark is applied to the rainbow, its meaning is clear. The rainbow has effectively no physical discontinuities or «joints», and its *phenomenal* joints, the discontinuities we see, and record in our basic colour vocabulary, are explained by human nature, that is, by the nature of the human visual system. That is why we need to set this vocabulary aside in order to explain the colour-sensitive behaviour of animals with very different visual systems from our own.

2. Depiction

If colours are phenomenal qualities, and phenomenal qualities have the characteristics I have said they have, the names of colours do not refer to sensations, and they cannot be defined in terms of sensations. Locke wrote, «*Flame* is denominated *Hot* and *Light*; *Snow White* and *Cold*; and *Manna White* and *Sweet*, from the Ideas [i.e., sensations] they produce in us». But this is the reverse of the truth. White is applied in the first instance to bodies, surfaces and light and is applied by analogy to sensations.

In the second part of *The objective eye*, I argue that the representational properties of pictures cannot be defined in terms of sensations either. Wollheim labelled the experience of seeing either a particular thing (e.g. Socrates) or a kind of thing (e.g. a bearded man) represented in a picture «seeing-in». But noone has succeeded in replacing the label with an explanation, in other words, in defining the experience of «seeing-in» without using the concept of depiction itself. The «seeing-in» that normally occurs when a spectator encounters a picture of Socrates or a bearded man is of course the experience of seeing Socrates or a bearded man *depicted*; but I argue that a definition excluding ‘depict’ and cognate terms is not feasible, and so the project of explaining representation by pictures by defining the experience of «seeing-in» is bound to fail. «Seeing-in» can be defined as the kind of visual experience normally caused by pictures; but a picture cannot be defined as the kind of thing that normally causes «seeing-in».

What is the alternative to this kind of theory of depiction? Of course there are several, but the alternative I defend is this. We should think of the experience of seeing what is represented in a

picture as the result of a two-part process (the parts are aspects rather than stages, they do not occur in a temporal sequence). Take the simple case of a silhouette. Other kinds of pictures require more complex analysis, because of the use of line or colour, and because of the representation of space and light. But the two parts of the process can be described more concisely if we make this simplification. So, in the case of a silhouette, I maintain, the black shapes the silhouettist has cut out fix the occlusion shapes of the objects represented and their parts, relative to an implicit line of sight²⁷. And the spectator's ability to recognize, say, a girl or a cat, enables him to see a girl or a cat depicted in a silhouette by seeing its occlusion shape and the occlusion shapes of its parts.

This simple two-part theory preserves part of the old resemblance theory, and is immune to the objections to the resemblance theory, both the classic objections stated in Descartes's *Optics* and the modern objections stated by Goodman and Wollheim (see OE, chs. 4, 6). It also avoids the fatal objection stated above to the project of defining the representational properties of pictures in purely psychological terms, because the most basic kind of content (the occlusion shapes of the objects it depicts) is fixed *independently* of the visual experience the picture produces in a spectator's mind. But the two-part theory also does justice to the idea that artists exploit the characteristics of our visual system in subtler and more ingenious ways than the old resemblance theory can accommodate. For whereas the old theory limited the «beholder's share» (as Gombrich nicely called it) to perceiving similarities in shape and colour between the marks on the surface of a picture and familiar kinds of visible things, the two-part theory places no limits on the ways in which a depicted form with a specific occlusion shape can engage a spectator's disposition to recognize objects of a given kind.

Budd agrees with me that the project of explaining depiction by defining the experience of seeing what a picture represents fails unless it is possible to define the experience without using the concept of depiction. And he does not insist that this *is* possible. But he says that I have failed to show that it is *not* possible. My argument is as follows. The only way in which we can define a visual experience is by specifying its content. But the canonical (standard) way of specifying the content of the visual experience that

²⁷ I explain the concept of occlusion shape in detail in OE, pp. 74-9. It is also called «outline» or «perspectival» shape.

occurs when we see what a picture represents uses the concept of depiction. For example, if the picture represents a girl, the experience is of *a design that depicts a girl*. Specifying the content of the experience *without* using the concept of depiction means, in effect, devising a term that will replace the verb ‘depicts’ in the italicized phrase without compromising the accuracy with which it specifies the content of the experience. Some philosophers have attempted this (e.g. Peacocke and Hopkins) but it cannot be done.

I shall not explain here why I do not think it can be done, because Budd agrees. But he does not think it is necessary to do it, in order to define the experience of seeing what a picture represents without using the concept of depiction. For as he points out, a theory of depiction might propose a way of defining this experience that is not simply a definition of a *visual* experience. In fact, Kendall Walton proposes a theory of this kind. He proposes that the experience of seeing what a picture of a girl represents can be defined as a combination of a first-order visual experience of seeing the picture and a second-order non-visual experience of imagining that the first-order experience is an experience of seeing a girl.

Budd is absolutely right to point out that I ignore this kind of theory. In the chapter of *The objective eye* in which I discuss seeing-in, I equate the ‘perception’ and the ‘experience’ caused by pictures (I deliberately referred to «the experience» in the first sentence of the last paragraph but one, and «the visual experience» in the fifth sentence, to repeat the equation). In other words, I assume that the experience of seeing what a picture represents *is* a visual experience. But I do not accept that Walton’s account shows this assumption was mistaken, and hence that I did not succeed in ruling out the possibility of defining the experience of seeing what a picture represents non-circularly, *whether the account is right or wrong*. For if it is wrong it shows nothing at all. And it *is* wrong, because the experience of seeing a girl in a picture does *not* always involve imagining that one is seeing a girl. The claim that it does assimilates the experience of seeing pictures in general to the experience solicited by *trompes l’oeil*. It is easy to miss this if we lazily accept the conventional idea that *trompes l’oeil* cause illusions. But as I argue in the book (and as Ruskin already pointed out) this is a mistake²⁸. The right description of the experience solicited by *trompes l’oeil* is «imagining that one is seeing what the

²⁸ J. Ruskin, *Modern painters I*, in *The complete works of John Ruskin*, ed. by E.T. Cook - A. Wedderburn, London, George Allen, 1903, vol. 3, p. 100; OE, p. 132.

picture represents», and not «having the illusion of seeing what the picture represents».

But perhaps I was hasty in saying that if Walton's account is wrong it shows nothing at all. Perhaps what is wrong with it shows something. For if it really describes the experience solicited by *trompes l'oeil*, it does not describe it *completely*. Take Veronese's *trompe l'oeil* painting of a girl between half-open doors in the Villa Barbaro. On Walton's account, the experience caused by the painting has two parts: first, seeing the frescoed wall, and second, imagining that one is seeing a girl. But if the second experience,

imagining that one is seeing a girl, is what distinguishes *trompes l'oeil* from pictures in general, then he has left out part of what they have in common – exactly the part I argue cannot be defined without using the concept of depiction, namely, *seeing a girl in a picture*. So he has not *analyzed* this experience is, he has *eliminated* it. And it surely *is* a visual experience. One could contend that it *should* be eliminated, that it is a fiction. Wittgenstein considers this possibility: «Is it superstition to think I *see* the horse galloping in the picture?»²⁹. But if Budd agrees with me that it is not a fiction, that it is a visual experience, and that it cannot be defined without using 'depict' or a cognate term, he must surely agree that my argument succeeds.



Finally, I should like to comment briefly on Spinicci's remarks about depiction. I agree with much of what he says on this topic. I agree in particular that the occlusion shape principle should not lead us to imagine that the content of the «seeing-in» experience caused by a picture of a girl is *a design whose shape is the occlusion shape of a girl*. As Wittgenstein put it we do not decipher pictures, although of course we see the girl in the picture *by*

²⁹ L. Wittgenstein, *Philosophical investigations*, trans. by G.E.M. Anscombe, second edition, Oxford, Blackwell, 1958, p. 202.

seeing the design (something similar can be said about intentional action. My intention when I lift a suitcase onto a rack is not *to raise my arms in such a way as to lift the suitcase*, although of course I lift the suitcase *by* raising my arms). But two remarks in particular puzzle me.

First, Spinicci says, quite rightly, that anamorphic pictures are exceptions to the principle that the shapes on the surface of a picture are the same as the occlusion shapes of the objects they depict. As I explain in the book, the rule for anamorphoses is that the occlusion shapes on the surface of a picture relative to the intended line of sight are the same as the occlusion shapes of the objects they depict³⁰. But he also claims that some paintings by Titian and Rembrandt, and Pointillist and Fauve paintings, are exceptions. He writes: «Here the configuration of chromatic marks does not repeat the configuration of the occlusion shapes of the depicted objects, yet we see faces, bodies, landscapes». But this is quite wrong. These paintings have something distinctive in common. They draw attention to the design on the surface, the pigment, the brushstrokes, the process of painting. They are at the opposite pole to *trompes l'oeil*³¹. And in some cases (not all) the objects they depict are less sharply delineated than in a painting by Raphael or Ingres. But the occlusion shape principle applies to them in exactly the same way, because the imprecision in the occlusion shape of a face or body corresponds exactly to the imprecision in the shape of the part of the design that depicts it. The boundary of one is no more and no less exact than the boundary of the other, because the boundary of one *is* the boundary of the other.

Second, I object in the book to Wollheim's claim that «seeing-in» involves seeing one thing in a picture «standing out in front of [...] something else»³². I claim there are many exceptions, including a child's stick-figure drawing and a frieze of mourners on a Geometric vase. They are exceptions because (a) the unmarked surface does not contribute the picture's content: it is a ground but not a background; and (b) the figures themselves are not represented in depth, with some parts closer to the picture

³⁰ I discuss the implications of the exception on the general theory of pictorial art in OE, pp. 94 ff.

³¹ Pointillist painting has other exceptional characteristics, which relate to the representation of colour rather than form. See OE, pp. 99-104.

³² R. Wollheim, *Painting as an art*, London, Thames & Hudson, 1988, p. 46.

plane than others. Spinicci quotes this explanation, but he objects that every picture that represents a solid object «determines a depth», because the front surface of the object hides its back surface. Perhaps. But «determin[ing] a depth» means *implying* depth, and depth which is only implicit is not seen. Nevertheless, Spinicci is surely right to emphasize how strongly inclined we are to tease information about depth from the most unpromising material, and his example of a four-year-old's drawing illustrates the point well.