

## REVIEW

**D. Brown, F. Macpherson (eds.), *The Routledge Handbook of Philosophy of Colour*, Routledge, London 2020, pp. 496, ISBN 9780415743037**

«Why has the examination of many different aspects of colour been a prominent feature in philosophy, to such an extent that the topic is worthy of a handbook?». This is the question that opens the editors' introduction to *The Routledge Handbook of Colour*. This volume is intended not so much as a technical investigation on colour, or at least not only as such, but rather as a wider examination of its philosophical value. Colour is something «exceedingly familiar» and «seemingly simple», but it is also very «difficult to capture in any familiar-sounding, unsophisticated theory», as the many works that have been published and still are being published on the topic show. The *Handbook* tries for the first time to give the reader a map of the philosophical researches on colour, and to find some common threads among them.

The contents are divided into six parts: 1. The Importance of Colour to Philosophy, 2. The Science and Spaces of Colour 3. Colour Phenomena 4. Colour Ontology 5. Colour Experience and Epistemology 6. Language, Categories, and Thought.

The first part aims to show how colour can contribute to some of the main philosophical questions. One of the most important challenges raised by colour is, according to the editors, that of building a bridge between our everyday experience of the world and the scientific knowledge of it. When we see colours in our everyday life we don't see particles or wavelengths. Nevertheless, modern physics tells us that colours don't exist as we usually see them. Colours are the result of the interaction between our perceptive system and the way objects reflect light. As Brian McLaughlin notes in the first paper of the *Handbook*, «Current physics doesn't posit colours, at least as such. It contains no talk of red, green, grey, or the like. Macrophysics posits light dispositions that surfaces can possess such as reflectances, spectral reflectances, and triples or integrated reflectances. But in so doing, it doesn't, thereby, posit colours as such, even if surface

colours should turn out to be reflectance properties of some sort (a controversial matter)». This was already true for Newton: «the [light] rays, to speak properly, are not coloured», he wrote in 1721. «The problem of colour ontology» as Mazviita Chirimuuta remarks in her paper «has been diagnosed as a by-product of the modern scientific worldview and for this reason the history and philosophy of science are highly relevant to the philosophy of colour». Colour, therefore, places us before a fundamental «challenge», as the editors write in the *Introduction*, that of «incorporating phenomenal character, or what we acquire via experience, into our understanding of the physical world. The challenge is non-trivial».

Another important question that colour raises has to do with its intrinsically unstable and variable character. Colour varies together with the illumination, with the backgrounds of objects, and with the observers. Sometimes, even when the conditions of observation remain the same, colour is perceived differently by different perceivers. One of the clearest cases, from this point of view, is that of «unique hues», examined by Mohan Matten in the third part of the volume. If different shades of a colour are shown to different subjects, they often give different answers on which one is the unique hue. One of the most difficult ones to find an agreement on is unique green.

How can objects remain the same, then, and their colours vary? This question can raise a skeptical concern about our capacity to know the world, as Duncan Pritchard and Christopher Ranalli note in their paper. Yet colours have rules, and even very precise ones. Some colours are incompatible with some other ones – this is the famous Wittgensteinian question of the reddish-green, that Jonathan Westphal and Frederik Gierlinger address in their paper –, and colour categories are well defined. However, colours also melt into one another, as Diana Raffman states in her paper. They are a clear case of vagueness: «Vagueness is often defined in terms of two phenomena: (i) *soriticality*, the property of generating the notorious sorites paradox, about which I will say more shortly; and (ii) possession of *borderline cases*, viz., cases where it is supposed to be unclear whether the word applies».

This elusive character of colour is evident also in depictions. As John Kulvicki shows in his article, the colours of a painting do not simply correspond to those of the depicted reality. Colour, in both cases, is something that *results* from different factors: illumination, spatial dimension etc. Are perceived colours, then, something merely

subjective? And if so, what is their relationship to our categories of colour, as Joshua Gert asks in his paper? These are only some of the philosophical questions that colour is shown to raise in part I of the *Handbook*.

The second part of the volume is dedicated to the science of colour. It is an important contribution, because it offers an overview of the science of colour as it is understood today, accessible also to the non-specialist readers. Alex Byrne and David Hilbert's paper explains the basic notions of colour vision. How do we perceive colour, both from an optical and a physiological point of view? Another interesting question is that of animal colours, which can be very different from ours. The second text of the section, by David Brigg, addresses the different «colour spaces», that is, the geometric representations of the relationships between colours. They comprehend the Wittgensteinian octahedron, but also the circle and the sphere... One striking aspect is certainly the great number of «colour spaces» that have been constructed during the centuries. As the editors remark in their *Introduction*: «one might argue that the mere proliferation of colour spaces contains an important lesson about colour. There are comparatively few perceptual or psychophysical spaces for other domains such as shape, sound, odours, and so on. Our understanding of colour is thus systematizable, but there are glaring constraints on how “unified” the resulting understanding is, making colour an intriguing topic of study».

The third part of the volume addresses some questions about colours that «have been puzzling philosophers in recent years (and in many cases for much longer)» (*Introduction*). They include unique hues, to which we referred previously, but also “novel colours”, synesthesia and “spectrum inversion”. Novel colours, often also called “impossible colours” or “alien colours”, are all colours that humans usually don't see: colours that exceed the usual “colour spaces”. They can result from the union between two opposite colours, like Wittgenstein's famous “greenish red”, or from anomalous vision. Some scholars think, for example, that colour-blind people see new colours. In her paper on novel colours, Fiona Macpherson examines an experiment that has been done by Thomas Crane and Hewitt Piantanida on impossible colours, to which Christopher Norris also refers in one of the poems published in this issue. If “impossible” colours would show themselves to be possible, what would be the consequences for the philosophy of colour?

The second paper of this part, by B. Brogaard, addresses a question that is also central to this issue of “Itinera”, that of synesthesia. In synesthesia «an experience of one thing in one sensory or cognitive stream causes a non-veridical experience (or image or thought) of another thing in a different sensory or cognitive stream». For example, in the cases examined by Brogaard, a certain alphabet letter or sound immediately evoke a particular colour. Colours are implied in most synesthetic phenomena. They are colours that don’t exist, according to the common vision of the world – and also according to the classic physicalist theory of colours, as Brogaard shows. What does this mean for the philosophy of colour?

The question becomes even more difficult if we consider the last colour phenomenon examined in this part of the *Handbook* by Peter Ross, the spectrum inversion. The hypothesis of the inverted spectrum is very old and dates back to Locke. Why shouldn’t someone call something “red”, but really see it as green? How can I be sure that “my” red is also someone else’s red? This calls into question the possibility of colours communication, and also that of a common experience of them. As the editors remark in the *Introduction*, «Synaesthesia brings our attention to unexpected associations between experiences of colour and other perceptual qualities. Colour blindness highlights the potential for colour experiences that cannot be communicated between humans with disparate colour visual systems. Spectrum inversion is an extreme case involving both unexpected experiential associations and potentially incommunicable experiences».

The exploration of the borders of our usual colours continues with Keth Allen’s paper on animals’ colours and V. Watkins’ text on colour illusion. The last paper of this section, by Derek Brown, focuses on colour constancy. Colour constancy is a phenomenon of our everyday life. It occurs every time «one sees a thing in one’s environment to have a stable colour despite differences in the way it is illuminated at a time (simultaneous constancy) or over time (successive constancy)». For example, if we look at a white wall that is partially in the shade, we are able to see that the colour of the whole wall is one and the same (i.e. white), even if the shaded parts look darker. A question, then, arises: «How can something look to be both the same colour and differently coloured?» (*Introduction*). Brown’s answer will involve, as the reader will see, both colour’s ontology (what colour really is) and its function (why do we see colours?).

The ontology of colour is the object of the fourth part of the *Handbook* (with papers by A. Byrne, D. Hilbert, J. Gert, J. Cohen, M. E. Kalderon, H. Robinson, W. Wright). It is interesting that the editors chose to begin from other questions – primarily the importance of colour for philosophy – and address the ontology after. In fact, ontology is the main subject on which the Anglo-American debate on colour has focused until now. The editors’ idea is that perhaps the discussion should be open to new subjects (as Derek Brown wrote in his paper for this issue of “Itinera”). This doesn’t mean that ontology should disappear. On the contrary, it is always presupposed in the way these other questions are addressed (this is what Derek Brown, in the same paper, calls the «metaphilosophical commitments» that have to be discovered within the philosophical researches on colour).

The *Handbook* offers a new systematization of the different positions regarding the ontology of colour. Are colours dependent on the observers, or do they exist independently from them? Moreover, can colours be reduced to something else (for example physical properties of the objects), or not? The answers to these two questions determine the different ontological positions that are examined in this part. Physicalism, i.e. the position according to which the ultimate reality of things must be sought in the way physics can describe them, has been a dominant position within “analytical” philosophy. Yet colour, as noted above, is difficult to describe in purely physicalistic terms. Therefore, different positions arose which tried to grasp the phenomenon of colour in all its various aspects.

The fifth part of the volume is dedicated to the question of colour experience (with papers by A. Pautz, B. Maund, D. Campbell, W. Breckenridge). As the editors remark in the *Introduction*, it is difficult to talk about colours without paying attention to how colours *look*: to the experience of colours. Yet what is the relationship between our experience of the world and the world itself? Is experience a representation of the world (representationalist theory)? Or do we directly experience the qualities of objects as qualities of our own experience (direct or naive realism)? Yet would it not be possible (as indirect realism states) for the contents of experience to exist only in our minds? As the editors remark, colour, as «a vivid, familiar phenomenon», is «a fantastic case study for theories of perceptual experience».

The last part of the *Handbook* addresses the question of the relationship between colour, colour language and colour concepts. In fact, the colour spectrum is a continuum. The question then is: how do we divide this continuum into different colours? Are the divisions something that depends merely on language and culture, or do they also have a natural basis? This question gave rise to a long debate, which is the object of Don Dedrick's and R. Briscoe's papers. It is difficult to draw conclusions on this issue, but it seems in any case that the two opposite positions – the culturalistic and the naturalistic one – have come closer to one another in recent years. Apparently, some natural and physiological constraints are indeed present within the construction of colour categories and colour words. Yet these natural factors are intertwined from the outset with a variety of cultural, environmental and symbolic factors (and also with beliefs and desires, as D. Stokes shows in the last paper). Only the result of this intricate knot is what we call “colour”. If a criticism can be raised against this amazing volume, it is that perhaps it could devote more space to this encounter between natural and symbolic elements within colour. This would mean, perhaps, that it would also pay more attention to the variety of artifacts (artistic, but also everyday objects and narrations), in which our experience of colour is reflected. There we might see colour emerging from the encounter between history and nature; memory and the present. And in light of this encounter every usual colour may show itself, in a certain sense, as “novel colour”.

[by Alice Barale]

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