

Space Represented and Experienced

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ABSTRACT:

This presentation takes the form of a historical collage in order to illustrate some important and, I think, far-reaching observations about the representation and theorisation of space. As a city, Aberdeen has made its own unique but largely unacknowledged contributions to this subject. For this reason, I will limit my principal reference points to several figures with close biographical connections to the city with the intention of exemplifying the scope and relevance of my research even within a very restricted geographical context.

My account begins with the Scottish Enlightenment philosopher Thomas Reid who was strongly opposed to the Idealism of his more famous contemporary, David Hume. This is followed by an outline of the physicist James Clerk Maxwell's contribution to the invention of colour photography which dovetails into a discussion of the work of Aberdeen born philosopher Dominic McIver Lopes, who in a paper from 2003, claims: "When we look at photographs we literally see the objects that they are of." If this is true, then when someone looks at a photograph of their grandmother, they literally see their grandmother. With the help of the work of Emeritus Professor of Psychology at Aberdeen University, Jan Deregowski, I aim to show that Lopes' theory, and the philosophical Idealism that underlies it, is founded on various misconceptions about resemblances and the nature of illusion. The implications of this research both for theories of representation and for educational practice will also be sketched in outline.

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IN THE EYES OF A REALIST



This dreadful picture was taken in the Reid Seminar room of the Philosophy Department of Glasgow University in 2012. The painting in the centre is of the Scottish Enlightenment philosopher Thomas Reid. I took this photograph at a conference where I also met the Aberdeen-born philosopher Dominic McIver Lopes whose work I will be discussing later.

Here’s a clearer image of the painting by James Cranke the younger (1748-1826):



Thomas Reid was born 20 miles from here in Strachan in 1710, and studied at Aberdeen University where he later taught until 1764 when he replaced Adam Smith as Professor of Moral Philosophy at Glasgow University. Reid was a key figure in the Scottish Enlightenment, although he has subsequently become somewhat eclipsed by his contemporaries David Hume, Adam Smith and the famous puddin’ of the bard race: Robbie Burns. Nonetheless his influence has been significant, especially in North America, most notably upon the foundations of American Pragmatism.

Reid is probably most renowned for his fierce criticism of the philosophical Idealism of David Hume. Idealism in philosophy is the view that reality as we know it, is a construction of the mind. Thus, according to Idealism, we have no direct access to reality—to “things in themselves”, to put it in the Kantian way—but only to ideas or images in the mind.

According to Reid Hume’s “only argument” is of the following form:

[T]he table we see seems to diminish as we remove farther from it; that is, its apparent magnitude is diminished; but the real table suffers no alteration, to wit, in its real magnitude; therefore it is not the real table we see. (1827 p.110)

Reid denies Hume’s conclusion on the grounds that Hume has confused real magnitude with apparent magnitude. He illustrates his point with the following argument:

Let us suppose, for a moment, that it is the real table we see: must not this real table seem to diminish as we remove farther from it? It is demonstrable that it must. How then can this apparent diminution be an argument that it is not the real table?

In Reid’s view, we are inevitably led to the conclusion that it is the real table that we see: “...for this plain reason”, he says “that the table we see has precisely that apparent magnitude which it is demonstrable the real table must have when placed at that distance.”

For Reid, our perception of the real magnitude of things is learned through physical engagement and this experience develops our perceptual abilities to the point where we can usually judge the real magnitude of objects by sight alone.

Hence, it is evident, that the visible figure and extension of objects is so far from being incompatible with the tangible, that the first [the visible figure and extension of objects] is a necessary consequence from the last, *in beings that see as we do*. [My emphasis]

PROPENSITIES FOR PERCEPTUAL ILLUSION

What is clear from these considerations is that the apparent magnitude of a table is neither a property of the table, nor a figment of the observer’s mind. It is what we might describe as an *observer-dependent effect* and is attributable not to any mysterious psychological intricacies but to the characteristics of the visual system. The point Reid makes about “beings that see as we do” is crucial then, because seeing as we do necessarily involves various photomechanical constraints and limitations. Seeing something from a fixed point of view is not to see it in the round, so to speak. And seeing something at a great distance is not to see it in great detail (telescopes notwithstanding). Our perceptual faculties are limited in numerous ways that need not be listed here but the point to bear in mind is that these limitations are shared amongst beings that perceive as we do. Baker and Hacker (2010, p.215) emphasise precisely this point:

Shared discriminatory capacities are a precondition for shared concepts of colour, taste, sound, smell, etc. Moreover, shared propensities for perceptual illusion are a precondition for shared concepts of perceptual appearances as distinct from

actualities, viz. concepts of objects publicly looking thus-and-so although not being so. (Baker and Hacker 2009, p.215)

One of the principal aims of my research is to show how appearance concepts—as distinct from actualities—are linguistic outgrowths from our widespread use of illusionistic representational techniques. In other words, without these techniques—of which perspective is an obvious example—it would make no sense to say that a distant barn looks small, that the table we are approaching appears to get bigger or that a static white cinema screen looks like a multi-coloured window onto a world of moving objects and people.

TWO SORTS OF RESEMBLANCE

At the root of these enquiries lies a frequently overlooked but vital distinction between two strictly different sorts of resemblance. Things can resemble one another either because they share properties in common (including approximate similarities of course) or else they can resemble one another due to some degree of illusion or illusionistic appearance. So, for example, Millie’s passport photograph resembles her largely—although not entirely—in virtue of illusionistic techniques, whereas her twin sister, Molly, resembles her in virtue of shared features. Another way of articulating this distinction is to say that the resemblance between Millie and Molly is observer-independent, whereas the resemblance between Millie and her passport photograph is not. This resemblance depends upon seeing as we do, which includes having a propensity for perceptual illusion in certain contrivable circumstances. So to return to Reid again:

A sphere may be painted upon a plane, so exactly, as to be taken for a real sphere, when the eye is at a proper distance, and in the proper point of view. We say in this case, that the eye is deceived, that the appearance is fallacious... (p.146)

Reid is invoking the concept of illusion here and he clearly regards some appearances—those we have under the influence of illusion—as being fallacious. Notice though that he stresses the viewing constraints necessary for the illusion to work. In other circumstances we wouldn’t say that such a painting’s appearance is deceptive or fallacious because there is no illusion, merely the possibility of illusion in more tightly controlled circumstances.

So I’m not suggesting that representations involving illusionistic techniques are illusions. Nobody mistakes passport photographs for their depicted subjects. What I mean is that illusionistic techniques can be used to pull off full-blown illusions when the circumstances of presentation are sufficiently well controlled.

Time is short, but it will be enough for present purposes simply to emphasise that resemblance falls into these two distinct categories: things can be genuinely alike or else they can merely seem so according to principles that can be used to generate full blown illusions *for beings that perceive as we do*.

PURE AND COMPOUND COLOURS

The next protagonist in this story is a physicist whose work on the nature of light is regarded as being of outstanding importance. Richard Feynman even went so far as to claim that

“[T]en thousand years from now - there can be little doubt that the most significant event of the 19th century will be judged as Maxwell's discovery of the laws of electrodynamics”

James Clerk Maxwell taught at Aberdeen University between 1856 and 1860 when he published a paper entitled: “On the Theory of Compound Colours, and the Relations of the Colours of the Spectrum.” In this paper, Maxwell established for the first time in history that the primary colours of light are Red, Green and Blue.

At the beginning of the paper Maxwell observes “Any colour which has the same relation to the standard colours, will be identical in appearance, though its optical constitution, as revealed by the prism, may be very different.” So, for instance, blue light may be formed either by light of a single wavelength or else of equal quantities of magenta and cyan. Now the relevance of this insight to my research should already be fairly clear. Something can appear to be a pure colour, yet in fact be formed by a mixture of two different wavelengths and in fact this is precisely how modern digital displays function. Two distinct forms of resemblance are clearly implicated here.

In order to demonstrate his new discovery to the Royal Society in 1861, soon after leaving Aberdeen, Maxwell was to produce the first permanent colour photograph using three overlapping projections of red, green and blue.



Sticking with photography but moving the clock forward a century, Dominic McIver Lopes was born in Aberdeen to Anthony Lopes and Anita Macfarlane in 1964. Now if I remember correctly, Anita’s aspirations to graduate from Gray’s School of Art were cut short by her pregnancy and the family were soon to move to Canada where Lopes now teaches philosophy at the University of British Columbia.

EXPERIENCE

Lopes has published several books and articles on the subject of depiction and he is a prominent advocate of a version of what is known as the “transparency theory” most closely associated with the work of Kendal Walton. In his first book “Understanding Pictures” (1996) Lopes claims that “when people look at a picture, they typically have a visual

experience of its subject." This seems innocuous enough. Pictures trigger many of the same sorts of responses as the things they depict. But this isn't quite what Lopes is claiming. He is claiming that looking at photographs involves literally having an experience of the things they depict. Consider his opening remarks from a 2003 paper: "When we look at photographs we literally see the objects that they are of." If this is true, then when someone looks at a photograph of a dead relative, they literally see their relative alive right there before them. I'm certainly not the first person to smell a rat in Lopes' theory. But rather than rehearse the standard arguments I'd instead like to make a couple of observations about the concept of experience. These also have important implications for education and I'd be happy to discuss these later. We do not gain any experience from looking at photographs, reading books or watching films. Or at least the experience we do gain is merely of looking at photographs, reading books or watching films. We often gain knowledge in these ways of course, but the distinction between these two concepts is a sharp and important one. If someone spent their life in a room looking at photographs of animals, they would gain no experience of looking at animals. The knowledge they gain might be encyclopaedic, but someone else with the briefest visit to a zoo would immediately gain more experience.

So the claim that we "literally" experience the things in pictures threatens to obliterate a vitally important distinction. To experience a representation is plainly not to experience the thing represented, even if the responses involved are in many ways equivalent. A visit to the Louvre will usually involve an experience of The Mona Lisa, not The Mona Lisa's namesake.

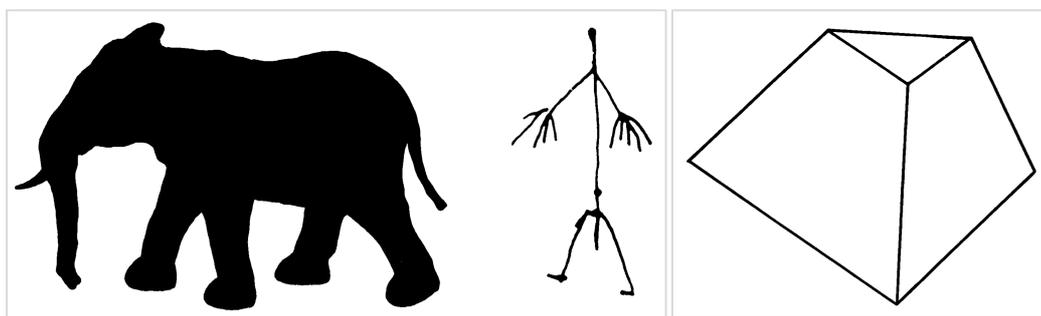
Let's examine another of Lopes' claims': "When we experience a picture in the right way, we have an experience which represents the world as having the properties the picture represents it is having." This isn't just a convoluted sentence: it is confused. There is no such thing as an experience representing the world. Lopes is evidently under the impression that all experiences are necessarily representational. So, in his view, an experience of a picture is itself re-represented in the mind/brain of the observer. Wittingly or unwittingly, Lopes has smuggled a 20th Century version of 17th Century metaphysics into the discussion in order to back up a theory that already runs counter to our ordinary and perfectly justifiable understanding of pictures. I want to make it clear that our understanding of pictures is not a theory requiring some sort of critique or conceptual upgrade that only philosophers can provide. What is needed, and what philosophers are eminently equipped to do, is to analyse the conceptual structures at work in our ordinary discussions of pictures. This is something that Wittgenstein advocated about language in the hands of philosophers. He urged us "...to bring words back from their metaphysical to their everyday use" (Wittgenstein PI 116).

CROSS CULTURAL EMPIRICAL EVIDENCE

Last on my list of Aberdeen connected contributors to this research is Emeritus Professor of Psychology at Aberdeen University, Jan Deregowski. Over the last 50 years Deregowski has conducted numerous studies of cross-cultural variations in the understanding of pictures and optical illusions. In 1989 he published a paper entitled "Real Space and Represented Space: Cross Cultural Perspectives" in which he identifies two distinct forms of two-dimensional representation that he describes as follows:

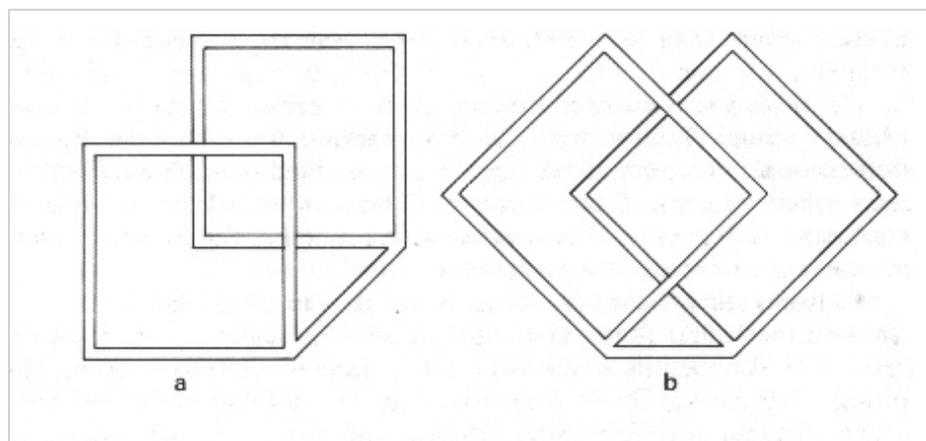
Two-dimensional images may be seen as representing three-dimensional objects for two distinct reasons. They may either contain cues that lead indirectly to the

recognition of a three-dimensional object without evoking the illusion of space (such as the elephant and manikin shown in Figure 4) or they may evoke the illusion of space directly (such as the truncated pyramid in Figure 5).

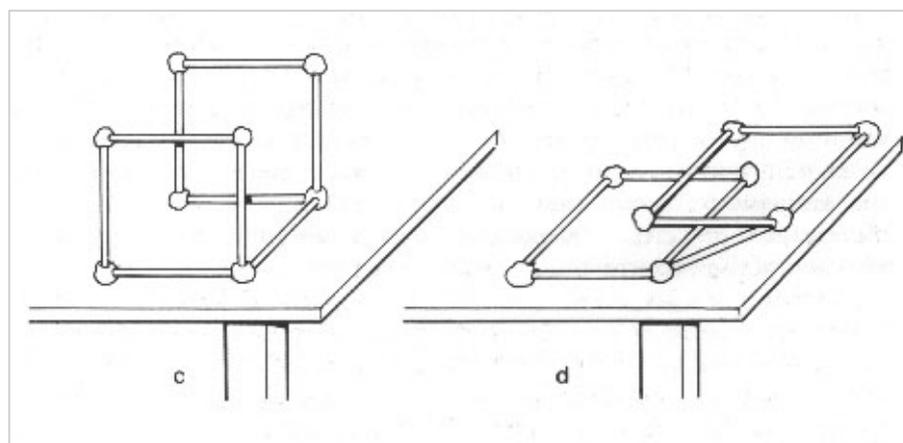


Again, two different sorts of resemblance are clearly implicated.

In one study, Deregowski asked Scottish and African children to use bamboo sticks and modelling clay to build models in response to these illustrated diagrams.



Both diagrams actually differ only in orientation. In both groups of children, the responses fell into two clear categories. Some children reproduced the diagrams as flat layouts whereas other children interpreted them as three-dimensional figures.



Revealingly, the first diagram (a) tended to elicit a significantly higher proportion of 3D responses in both groups. Nonetheless, both responses are equally viable in representational terms. They just exploit different forms of resemblance.

CONCLUSION

So to conclude, obviously the immediate implications of my research lie within the field of image theory, but what wider implications might be identified if there really is a sharp distinction between degrees of illusion on the one hand and degrees of genuine similarity on the other? Before I very briefly outline some of these implications, I would first like to point out that this distinction does not merely apply to images but to all forms of perceptible resemblance and thus to all forms of representation that exploit such resemblances. The only other sort of representation available, and sadly I don’t have time at the moment to back this up here, is symbolization which relies upon normative practices rather than resemblances.

In the fields of contemporary cognitive neuroscience and the philosophy of mind as well as language evolution, developmental psychology and even artificial intelligence, it is widely believed that cognitive function is necessarily representational; that consciousness is mediated by mental and even neural vehicles of a representational sort. We have already encountered versions of this belief expressed in both Hume’s Idealism and Lopes’ theory of pictorial transparency. What my research helps to make clear is that representation is a sociocultural practice, based—at least in the first instance—upon the representational potential of resemblances and of effects in particular. Representation could not evolve at a biological or neural level because the possibility of exploiting perceived resemblances simply isn’t available in such a context. Furthermore, it makes no sense to attempt to explain consciousness by reference to the very things that consciousness enables us to produce and to understand. Fortunately, there is a growing body of philosophers and scientists who share this view. I believe my research has the potential to make an important contribution here that goes far beyond its application to image theory.

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