The Empiricists // Spring 2016

Handout 10

Berkeley: Moon illusion, visual and tactile perception

Modern explanations of the Moon illusion. How does the second explanations fare in the light of the modern research? As far as I can see, surprisingly well! In the first place, there is no consensus on how to explain the illusion. One explanation is that the horizon moon appears to be located across a large plane, whilst the zenith moon appears to be located at a smaller distance. The idea is to say that we perceive the sky above as a flattened dome (Figure 1). Since the perceived size of an object is proportional to its perceived distance (Emmert's law), the zenith moon perceived

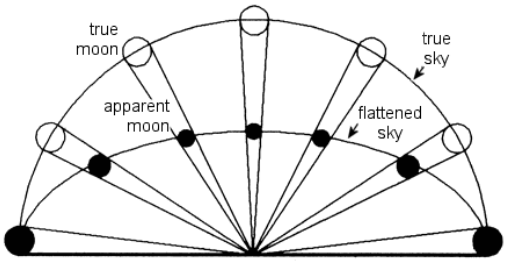

Figure 1: Flattened dome explanation (©NASA)

to be at a smaller distance appears smaller. But this explanation clashes with the finding (check it yourselves!) that the observers report the belief that the horizon moon is located closer than the zenith moon.

According to other explanations, the perceived size of the zenith moon is the cue to the perceived distance (as reported by observers). And what is responsible for the perceived small size of the zenith moon? The visual cues, far and few between, suggest to the observers a small distance. And in such situation the eyes may adjust to focus of 1-2 meters from the face, thus causing 'micropsia'. By contrast, with the horizon moon having many cues, we have 'macropsia'.

The cue given by the angle of view is currently incorporated into the so-called 'angle-of-regard' explanations. Gauss is sometimes credited with attempting first such explanation, but, as we have seen, Berkeley got ahead of him. One version of this explanation appeals to evolution: the brain allocates fewer resources for the observation of objects high up. A complex model of neuronal mechanism (the retinoid model) then predicts that the zenith moon is bound to appear smaller for this very reason. See Trehub (2007) for more details.

Abstract ideas. The discussion of abstract ideas in NTV occurs in the context of Berkeley's argument for the distinctness of visible and tangible objects. He has already established earlier that the two classes of objects are distinct (see claim (10-2)). But the remaining issue is whether they nevertheless can share certain properties. For example, while NTV 121
agreeing that the visible ball and the tangible ball are distinct, one might nevertheless suppose that they both have the property of being round.

Why should that be so? *Perhaps* because there is an abstract idea of roundness exemplified by v-balls and t-balls. Thus in NTV 122–126 Berkeley attacks the coherence of the doctrine of abstract ideas. First, one can never perceive NTV 123
or form an idea of abstract roundness. One can only imagine or perceive a round body with particular characteristics. Second, geometry is said (by Descartes) to be concerned with abstract extension. Yet that is not the case, as it is concerned NTV 124
with particular figures. Berkeley announces further that the generality of geometry will not suffer as a result. Thirdly, NTV 125
Locke claimed that one could not conceive the ideas of mixed modes (say, the idea of revenge). By the same token, one cannot conceive the idea of an abstract triangle. Finally, we have no ideas of pure space or of vacuum. That is, we cannot NTV 126
represent them in our imagination.

Visible and tactile properties. It has to be said that the discussion of abstract ideas in the present context is somewhat of a distraction. Even if there are no abstract ideas, it would still have to be shown that the v-ball and the t-ball do not share the very *same particular* quality of being round. Vice versa, even if there *are* abstract ideas, we still cannot infer that the t-ball and the v-ball have the same property of roundness. It might be that the t-ball is t-round and the v-ball is v-round, the term 'round' being used equivocally.

Berkeley seems to be aware at least of the first of these complications. Thus he embarks on giving three arguments to NTV 127
the effect the particular properties of t-objects and v-objects cannot be the same. Still, the moves from the abstract ideas discussion will be reproduced in these later arguments as well.

Born blind. Suppose t-extension and v-extension are the same. Then a man born blind, upon recovering his vision, would NTV 128
be able to identify v-squares immediately, merely on the basis of his experience of t-squares. But in fact this does not happen. This argument presupposes that the visual experiences of a formerly blind person resemble our own experiences. For otherwise his inability to identify squares would not be surprising.

This is a large assumption. But suppose it is true. One might still argue that the formerly blind person, though aware of how a square feels, cannot 'immediately' tell how it looks. That he is able to do that after trial and error is no proof that the property of squareness is not one and the same, accessible by touch and by sight. I suppose this is not a very persuasive objection. For I do not at present see what examples can be brought in its support. For example, from the look of an apple I cannot tell how it tastes. But that is precisely a good reason for thinking that roundness and sweetness, or greenness and sourness, *are* distinct properties.

Inseparability in imagination. All that we immediately see is light and colours. Neither is identical with any of the tactile properties, and in particular, with extension. Therefore, t-objects and v-objects do not share the property of extension. Stated this way, the argument is ambiguous. Are we supposed to conclude that we do not perceive extension? Helpfully, Berkeley explicitly rejects this view. Thus we have to rephrase the argument. We cannot visually represent to ourselves, in imagination, extended objects unless we also visually represent them as coloured. We cannot detach the property of v-extension from the property of colour. So the property of v-extension is identical to the property of colour. But, on the other hand, t-objects—i.e. objects of tactile perception—do not have colour. Thus the property of t-extension is distinct from the property of v-extension. NTV 129 NTV 130

Remark 1. The same kind of argument is repeated in DHP 177.

Question 2. Assess the viability of this argument.

Additivity failure. We cannot add v-extended figures to t-extended figures to form new figures. I can imagine a v-square, and then another v-square, and brought them together to form a larger v-square in my imagination. I can (can I not?) imagine a t-square added to another t-square to form a larger t-square. But I cannot in such procedure mix t-squares and v-squares to form a larger v-square, or a larger t-square. I presently think this is a strikingly beautiful argument, but I cannot say much more than that. NTV 131

A THEORY OF SENSE PERCEPTION. The Dialogues begin in a playful manner, reminiscent of Plato (see *Phaedrus*, for example), but without the added value of historical characters and Plato's singular magic. Hylas (the name's meaning comes from 'matter', or *hyle*, in Greek) acts as Berkeley's materialist opponent, whilst Philonous (the name's meaning comes from 'love of mind' in Greek) acts as Berkeley's mouthpiece. The First dialogue begins with a squabble over who is a sceptic. Neither wants to be one. Hylas accuses Philonous of being a sceptic on account of denying matter. Philonous in turn accuses Hylas of being a sceptic himself, on account of his own views. He also promises to show that Hylas's view would lead to the denial of common sense. DHP 172

And soon enough we encounter an already familiar claim that all sense perception is immediate. All that can be properly said to be perceived is perceived immediately. We perceive immediately shapes (or rather, v-shapes by sight, t-shapes by touch), colours, sounds, odours. DHP 174

Once we 'take away' sensible qualities, nothing is left. Therefore, to be perceived is the essence of sensible things. Hylas nevertheless insists that beside objects of our perception, contents of our experience, there are things that cause perceptions and experiences. Those cannot be perceived, but must be inferred by reason. Furthermore, a potentially important distinction is drawn that the concept of existence and the concept of being perceived are different. DHP 175

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