Secondary qualities and mind-independence[1]

LOCKE ON PRIMARY AND SECONDARY QUALITIES

In *An Essay concerning Human Understanding*, John Locke argued that we can distinguish the qualities that we perceive – such things as shape, size, colour, warmth, and so on – into two kinds. A 'quality', he says, is a 'power' that a physical object has 'to produce an idea in our mind'. So a snowball has the powers – the qualities – to produce in us the ideas of 'white', 'cold' and 'round'. Locke then argues that qualities are of two different kinds. Primary qualities are qualities that are 'utterly inseparable' from the object whatever changes it goes through, e.g. even if it is divided into smaller and smaller pieces. The object has these properties 'in and of itself'. The primary qualities are extension (Locke also talks of size), shape, motion, number and solidity. Secondary qualities are qualities that physical objects have that are 'nothing but powers to produce various sensations in us'. Locke lists 'colours, sounds, tastes, and so on', later adding smells and temperature.

The important phrase here is 'nothing but'. Primary qualities, of course, also produce sensations in us – both the roundness (primary quality) and the whiteness (secondary quality) of the snowball cause sensations in us. But shape is a quality that the snowball has irrespective of whether we perceive it or not. Colour, by contrast, has to be understood in terms of how the snowball affects us. By definition, colour is something that is experienced in vision. So it is a quality that an object can have only in relation to its being seen by some one. And similarly for sound, taste and the other secondary qualities. By contrast, primary qualities are those properties of an object that are not related by definition to perceivers. The distinction between primary and secondary qualities is a distinction between qualities that physical objects have 'in themselves', and qualities they have that are related to how they are perceived.

DO SECONDARY QUALITIES EXIST IN THE MIND?

Locke's confusion

In trying to explain exactly what secondary qualities are, and how they differ from primary qualities, Locke makes a number of points that are not entirely consistent. He first defines a secondary quality as a quality *of the object*. It is a quality, or power, that the object has to produce certain sensations when perceived. Defined like this, secondary qualities are relational properties of objects.

On the other hand, Locke claims that secondary qualities don't 'really exist in' physical objects in the same way that primary qualities do. If we 'take away the

[1] This handout is based on material from Lacewing, M. (2014) *Philosophy for AS* (London: Routledge), Ch. 2, pp. 44-50.

sensation of them', then secondary qualities 'vanish and cease, and are reduced to their causes'. If you prevent light from reaching a red and white stone, 'its colours vanish'. So it loses its colour, but not, for example, its size or solidity. Furthermore, we shouldn't identify the cause of what we experience (the primary qualities of the 'imperceptible parts') with what we experience (the secondary quality). Suppose you eat something that is white and makes you ill (Locke gives the example of 'manna'). The food has two effects on you in virtue of its primary qualities: it affects your eyes, so you experience it as white, and it affects your stomach, which causes you to experience pain. But just as we don't think of the pain you experience as 'in' the food itself, we shouldn't think of the colour as 'existing in' the food either. This way of speaking inclines us to say that secondary qualities are effects on us, and so exist in the mind, not in physical objects themselves.

But this argument confuses qualities and ideas. Qualities are powers in the object, and the causes of ideas; ideas are the effects of these powers on our minds. If colour is a secondary quality, then it is what *causes* our experience of colour – and this exists as a (relational) property of the object. If colour is an idea, a type of sensation we experience, then it is the effect of the object (its primary qualities) on our minds – it is a property of our experience of the object.

Locke is not consistent about which definition of colour he wants. So, when talking about the red and white stone, he says that it 'has at every time [even in the dark] a configuration of particles that is apt to produce in us the idea of redness when rays of light rebound from some parts of that hard stone, and to produce the idea of whiteness when the rays rebound from some other parts; but at no time are whiteness or redness in the stone'. But if the stone's colour just is its power to produce certain sensations of colour in us, and this power is the result of its 'configuration of particles', then it has its colour 'at every time', even in the dark! Its colours 'vanish' in that they are no longer perceived; but that doesn't mean that its colours cease to exist – because the stone's atomic structure has not ceased to exist.

<u>Discussion</u>
Which definition of secondary qualities – as causes in the object or effects on our minds – is better? Locke provides the following example that seems to support the mind-dependent view: If you have one warm hand and one cold hand, and put both in a bowl of tepid water, the water will feel hot to the cold hand, and cold to the hot hand. The temperature of water can be explained in terms its average molecular kinetic energy (roughly, how much its molecules are vibrating or bouncing around). The water has just one level of average molecular kinetic energy (primary quality), so it can't be both hot and cold. Yet it seems to be both hot and cold, i.e. it seems to have two different secondary qualities.

We can expand this point. Perceptual variation shows that we experience physical objects having conflicting secondary qualities. So secondary qualities only *exist* in our perceptual experience.

This argument suggests that Locke's original definition of secondary qualities as powers of objects is mistaken. Secondary qualities *come into existence* through the

effect of a physical object on a perceiver. They are not qualities of the physical object itself, but exist only in the act of perception, as part of sense-data. By contrast, primary qualities are qualities a physical object has that do not depend, either by definition or for their existence, on the object being perceived.

DIRECT AND INDIRECT REALISM ON SECONDARY QUALITIES

The 'subjective' view of secondary qualities can be used to defend indirect realism. The world as we experience it through our senses and the world as it is 'in itself', as science describes it, are quite different. We experience all the wonderful secondary properties of the senses; the world as described by science is 'particles in motion' and empty space. It must be, then, that we don't perceive physical objects directly. While we perceive the primary properties of physical objects, the secondary qualities we perceive are properties of sense-data.

Direct realism responds by defending Locke's original definition of secondary qualities, understanding them as relational properties. When we perceive secondary qualities, we still perceive the objects but *as they appear to us*. Just as a stick can have the property of 'looking crooked' under certain conditions, it can have the property of 'looking brown'. In fact, to *be* brown is to look brown to normal perceivers under normal conditions. To say that physical objects aren't 'really' coloured misinterprets what it means to say that something is coloured. Science explains *what it is* for physical objects to have the properties we perceive them to have; it doesn't mean that they don't have these properties. Secondary qualities are no less real, no less part of the external world, than primary qualities; it is just that they are a different *type* of property, one defined in terms of how we perceive the world.

The indirect realist can reply that what science in fact explains is what it is *for us to perceive* these properties. Our experience of colour is caused by light entering our eyes. But what we experience directly is nothing like what light is according to physics (photons, electromagnetic vibrations). For instance, a blind man can understand the physics, but can't grasp what colour is. It is not until we turn to human visual experience – something mental – that we need the concept of colour, that we come across 'colour experience'. Colour is the *effect* of the light reflected from physical objects, not its cause.