# Primary and secondary qualities transcript

## Speaker 1

Primary qualities are qualities that the objects have independently of the experience of them and qualities which can be understood independently of the idea of experience. So, for example, the idea of square is a primary quality because you don't have to refer to anyone's experience of squareness in order to say what it is for something to be square.

Secondary qualities are qualities that you can only understand in terms of their relation to experiences, to sense experiences. So, colours of the paradigm, secondary qualities because you can only understand what a colour is, something like red in terms of the experience of red. Similarly with smell, you can only understand the smell of an object in terms of the experience of smell, so this is why Locke said secondary qualities were dispositions or powers in the objects to produce experiences in us. They're essentially understood in terms of experience.

It's the glass of red wine the primary qualities of the wine are its liquidity, its structure, the secondary qualities of the wine are its colour and its taste and its smell. The secondary qualities can only be understood in terms of the experiences that they give rise to, whereas the primary qualities are ones that are there anyway, independently of any experience. Primary qualities are more objective and secondary qualities are more subjective.

Locke's ideas were closely related to the science of the time in particular, Robert Boyle's idea that matter was made up of tiny, invisible corpuscles, or these tiny little bodies.

These bodies collect together and they have a certain kind of texture and this texture is an objective property of the matter. But this texture, in the presence of things like light and someone sense organs, will give rise to a subjective experience of a colour, which then we think is a property of the object. But according to Locke, it's just a way of perceiving the texture of the surface, which is a disposition to produce an experience of colour in us.

So colour is a very subjective property of an object. It isn't there in the object in itself and this means that different perceivers could see different objects as having different colours which we know to be the case.

Locke’s view here has been very, very influential, and the idea that colours are not in the objects themselves but are the result of an interaction between the object and our sense organs is a very widely accepted view in science today.

## Speaker 2

Qualities thus considered in bodies are first, such as are utterly inseparable from the body. These I call original or primary qualities of body, which I think we may observe to produce simple ideas in us viz. solidity, extension, figure, motion or rest and number.

Secondly, such qualities which in truth are nothing in the objects themselves, but powers to produce various sensations in us by their primary qualities i.e. by the bulk figure, texture and motion of their insensible parts, as colours, sounds, tastes, etc.

## Speaker 3

What we call early modern philosophy started in the 17th century as a result of major scientific advances by people like Galileo and Descartes.

They were attracted to what was called the mechanical philosophy. The idea that what we see in the physical world can be explained as a result of mechanical interactions at a microscopic level.

There were various theories about this ultimate matter. Rene Descartes, often considered the father of modern philosophy, thought that matter was simply extended stuff wherever you have extension, you have matter. It followed from his theory that all of the universe was a plenum, absolutely full of this matter.

Robert Boyle, often thought of as the father of chemistry, disagreed. He thought that you could have extension without matter. You could have empty space along with what he called corpuscles of matter.

So he'd brought in the ‘corpuscularian’ hypothesis, which explained the actions of material things in terms of little hard corpuscles of universal matter.

John Locke, who was a friend of Boyle, took over that theory. He was somewhat agnostic about it, but he thought this was the best explanation we have of how things interact. So that at the bottom level things are made of corpuscles of solid stuff, and it is the interactions between these corpuscles of solid stuff that give rise to the world we perceive.

But then it automatically follows that what we perceive of things when we see them, say, as yellow, or when we smell them, or when we taste them. The perceptual qualities that we receive from things don't match the intrinsic qualities of the thing itself.

If the thing itself is simply made up of corpuscles of solid matter interacting in various mechanical ways, it follows that the smells and colours that we perceive are the effects on our minds of what is going on externally. But they do not resemble any intrinsic qualities of the thing itself.

So we get a distinction between what Locke called primary qualities and secondary qualities. The primary qualities are those like size and shape and texture and motion and solidity. Qualities that are supposed to be there in the object itself, properties of its corpuscles and of the arrangement of those corpuscles. On the other hand, we get secondary qualities like colour and taste and smell and feel which are the result of the interactions between the physical world and our senses.

To take an example, suppose I've got a yellow chunk of pineapple. I throw it up in the air and I catch it in my mouth.

So the size and the shape and the motion of the chunk they're primary qualities, but the colour, the taste, and the smell are secondary qualities. Now you might ask, is the pineapple really yellow, or is the yellow only in my mind?

Well Locke’s answer is very clever and subtle. What he says is this - for the pineapple to be yellow is simply for it to have a power to produce yellow in my mind, to produce the idea of yellow. And since the pineapple does genuinely have that power, it follows that the pineapple is genuinely yellow.

And I can be quite sure of that too, because after all there's the pineapple in front of me. Here is the idea of yellow in my mind and I'm confident that that idea is being caused by the pineapple.

So I can be quite confident that the pineapple really has that power. It is genuinely yellow. So Locke isn't being a sceptic about material things. He's not casting doubt on whether things really have the qualities that we attribute to them but his answer is that the quality in the object doesn't necessarily resemble the idea in our mind.

In the case of primary qualities like shape and size, the property in the object does resemble our idea. Our idea of a triangle, for example, really does resemble the shape of a triangular object, but our idea of yellow is different.

It does not resemble the quality in the object which is yellow-ness. The property in the object which is yellow-ness, is the power to produce the idea.

So Locke’s is not a sceptical theory, it's a theory of the nature of objects, which says that fundamentally they possess primary qualities, not secondary qualities, and the secondary qualities arise when we perceive them.

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