

Locke on Ideas and (Primary and Secondary) Qualities

I'd like to discuss some themes in Locke's *Essay Concerning Human Understanding*, Book II ("Ideas"), Chapter viii ("Some further considerations concerning our simple ideas"). This is pp. 53-58 in our packet.

In class yesterday, we discussed some of the general issues relevant to understanding his discussion here, and now I'd like to connect those issues to what he actually says in the text.

(Take a deep breath. This is going to take a while.)

Ideas vs. Qualities

In paragraph 8 (on p. 54), Locke says the following:

Whatsoever the mind perceives in itself—whatever is the immediate object of perception thought or understanding—I call an *idea*; and the power to produce an idea in our mind I call a *quality* of the thing that has that power.

(In a little bit I will come back to things he says in the remainder of this paragraph.)

The distinction here is clear enough: Ideas exist in our minds. They are what we are immediately aware of in conscious experience. So, for example, in sense perception, what I am immediately aware of is a sensation in my own mind. I believe (if I'm not hallucinating) that this sensation was caused by an external

object—something in the world outside of my mind. But ideas are those things inside my mind that I am directly aware of.

Qualities, on the other hand, exist in the external objects that (again, if I'm not hallucinating) caused me to have the ideas or sensations I am directly aware of. Locke uses the word "quality," but we could just as easily talk about "properties." Qualities are properties of objects, and so exist "in" these external objects, and not "in" our minds.

Locke speaks of qualities as "powers to produce ideas in our minds." The word "power" here is a little unusual, but all he is saying is that it is these qualities of object that *cause* us to have ideas or sensations in our mind.

All of this is pretty straightforward. Ideas exist in our minds, and qualities exist in objects that exist in the "external world," and so are "outside" our minds. Consider an object that is, say, blue and rectangular. Being blue and being rectangular are properties or qualities of the object. We say that the object is blue, that the object is rectangular. We mean that it has both of these properties. In sense experience (under normal light, when we are not hallucinating, etc.) this blue rectangular object causes us to have a sensation *of* a blue and rectangular object. So, we have a sensation of color (of blue) and a sensation of shape (of being rectangular). But the sensations are distinct from the properties that caused them. The sensations exist in our minds and the properties or qualities exist in the object.

If we are going to talk about the process by which external objects cause us to have sense experiences, we need to keep these two things separated in our discussion. Remember what Locke said back on p. 53 when he was talking about our ideas of shadows. We have ideas of shadows, but these are caused not by "things" in the world, but rather by "absences" in the world. So, "looking into those causes [i.e., the causes of our ideas of shadows] is an enquiry that belongs not to the idea as it is in the understanding, but to the nature of things existing in

the world outside us. These are two very different things” That is, if we’re going to talk about how objects in the world cause ideas or sensations in our minds, we need to be clear when we are talking about the ideas or sensations in our minds and when we are talking about the causes, in the external world, of these sensations in our minds.

So far, so good.

But we are immediately faced with a textual problem. The distinction between ideas and qualities is clear enough in paragraph 8 (or at least in the beginning parts of it that we cited above), and we can see why making this distinction is important if we are going to discuss how one of these (qualities) causes the other (ideas or sensations). Yet, in the very same breath that Locke makes the distinction between ideas and qualities, he uses language that explicitly confuses them. Not only does he use language that confuses them, he immediately admits this to us and tells us that sometimes he uses one term when really he means the other.

The passage from paragraph 8 from above continues as follows:

Thus a snow ball having the power to produce in us the ideas of white, cold, and round, the powers to produce those ideas in us, as they are in the snowball, I call *qualities*; and as they are sensations or perceptions in our understanding, I call them *ideas*. If I sometimes speak of ‘ideas’ as in the things themselves, please understand me to be talking about the *qualities* in the objects that produce them in us. [I added the underlining to call your attention to these phrases.]

Pay attention to the sentence structure; "... the powers to produce those ideas in us as they" "They" here clearly refers back to the "powers" just mentioned. And powers, of course, are qualities or properties. So this sentence first talks about powers as they (i.e., qualities) are in the object in contrast to as they (qualities) are sensations in our mind. So, immediately after clearly distinguishing ideas as different from qualities, in the next sentence he contrasts qualities *as qualities* vs. qualities *as ideas*. (What in the world, you may ask, is a "quality as an idea?") He then tells us that sometimes he will speak as though ideas were really in the objects (rather than in the mind, which is where he thinks they exist). So when he speaks of ideas as being in the objects, we are warned, he really means to be talking about the qualities in the objects.

Before I try to analyze what is going on, note that we see the same confusion in the previous paragraph, paragraph 7 on p. 53:

To distinguish the nature of our ideas better, and to talk about them intelligibly, it will be convenient to distinguish them [i.e., *ideas*] as they are ideas or perceptions in our minds, and as they are states of matter in the bodies that cause such perceptions in our minds. That may save us from the belief (which is perhaps the common opinion) that the ideas are exactly the images and resemblance of something inherent in the object. That belief is quite wrong. [Again, I added the underlining to focus your attention.]

Once again, he confuses the very distinction he claims is important: He will shortly argue that sensations don't always resemble the qualities in objects that cause us to have those sensations, but uses language that confuses the very distinction he claims to be so important. He thinks we must clearly distinguish

ideas in our minds from the qualities in objects that cause us to have those ideas, and yet, in the very same paragraph, he contrasts “ideas as ideas” with “ideas as states of matter” (i.e., as qualities). (Again, you may ask, what in the world is an idea “as a state of matter?”)

So, he thinks the distinction between ideas and qualities is crucial, but yet he will sometimes talk of “ideas as qualities” and at other times talk of “qualities as ideas.” And this “sloppiness” doesn’t occur over the span of hundreds of pages, but in the very paragraphs in which he is telling us that it is critical to keep these two things distinct. What in the world is going on?

Good question. I can’t really give you a complete and compelling answer here, but I think I have a plausible suggestion. Instead of talking generally about “ideas” and “qualities,” let’s talk about specific examples. Previously we considered, as an example, our perception of a blue, rectangular object. So let’s use “blue” and “rectangular” in his confusing sentences rather than “idea” and “quality.” If we do so, we will see him saying that we must distinguish “blue,” as a sensation in our minds from “blue,” as a quality of objects. Likewise, we must distinguish “rectangular,” as an idea, from “rectangular” as a property. This points to an important (and potentially confusing) point about the way that we typically speak: **even though we all understand the difference between sensation** (in our minds) **and properties** (in objects), **we often use the very same words to refer to each of these things**, in spite of the fact that (upon reflection) we know that they are different things.

I don’t want to engage in a long discussion here (these notes are already getting too long), but I think a crucial point is that the language we use to describe our sensations is often derivative from the language we use to describe the *causes* of our sensation. What can I say about what it is “like” to have a sensation of blue? We don’t really have a language to describe, for example, how a sensation of

blue differs, *as a sensation*, from a sensation of red. We don't have any words to describe sensations other than in terms of the perceived objects that typically cause sensations of these kinds. So we talk about sensation *of* blue, *of* red. What is it to have a sensation *of blue*? It is to have the kind of sensation we typically have in presence of something that *is* blue, that has the quality or property of *being* blue. So, the words we use to refer to different kinds of sensations is taken directly from the words we use to refer to the properties that typically cause those kinds of sensations. And so perhaps we use words to talk about ideas when really we mean to be talking about qualities, or vice versa, because the only words we *have* to talk about the ideas already describe them in terms of the qualities in object that typically cause them.

Well, that's my best guess as to why Locke is so frustratingly sloppy in the midst of making what is, for him, and important distinction. In order to understand what he is about to say about primary and secondary qualities, we must be vigilant about distinguishing talk about the ideas and sensation in our mind from talk about qualities or properties in objects, but the language that we typically use systematically blurs this very distinction. So, Locke may be sloppy, but if we want to understand what he says next, we don't have that luxury. How do we know when he really means to be talking about sensations and when he really means to be talking about qualities? We can't always trust the words he uses, so we must instead rely upon our best understanding of what it is that he is trying to say. That is, we must understand what he *means*, so that we can sometimes "correct" what he actually *says*. Engaging in this kind of "interpretive reconstruction" is part and parcel of what it is to study the history of philosophy.

(Whew! Ok, take a break. Get some fresh air. I still want to discuss what Locke says about primary and secondary qualities in light of what we just said, but give yourself some time to take in the above discussion. Think about it. Internalize it. Explain it to yourself in your own words. When you feel comfortable with it, then continue with what follows.)

Primary and Secondary Qualities

Let's begin with lists of which qualities Locke calls "primary" and which he calls "secondary."

Primary qualities: Size, shape, texture, weight, spatial location, and motion.

Secondary qualities: Color, smell, taste, sound, and temperature.

There are (at least!) two things to discuss here: what he has to say about our *ideas* of these two groups of qualities, and how he came up with this distinction to begin with. Let's start with the first: how our *ideas* of them differ.

Paragraph 15 (p. 55) makes explicit an important distinction Locke wants to make about our *ideas* of primary qualities vs. our *ideas* of secondary qualities:

From this we can easily infer that the ideas of primary qualities of bodies resemble them, and that their patterns do really exist in the bodies themselves, but the ideas produced in us by secondary qualities don't resemble them at all. There is nothing *like* our ideas of secondary qualities existing in the bodies themselves.

(There is more to this paragraph, and I will return to that later.)

Be clear about what is going on here (at least in the portion cited thus far): Locke isn't directly talking about a difference between primary and secondary qualities, but about a difference between *the ideas* we have that are caused by primary qualities and *the ideas* we have that are caused by secondary qualities. Our ideas of primary qualities “resemble” the qualities in the object that caused those ideas or sensations in us, while our ideas of secondary qualities do **not** “resemble” the qualities that caused us to have those ideas. Put another way, even though there is something in the world which *causes* us to have our ideas of secondary qualities, there is nothing in those objects which is “like” the sensations they cause in us.

Remember that in “normal” sense perception (i.e., when the lighting, etc., is good and we're not hallucinating), objects cause us to have sensations. Different sensations (in our minds) are caused by different qualities or properties in the object. I look at one object, for example, and have a sensation of blue, and then turn my head, look at a different object, and have a sensation of red, and this is because the first object *is* (has the property of being) blue while the second object *is* (has the property of being) red. In both cases, my sensation is caused by a property or quality in the object. What Locke is saying here is my sensations of blue and red (and my sensation of all secondary qualities) do not resemble the qualities of *blueness* and *redness* in the objects. There is nothing in these blue and red objects that is “like” my sensations *of* blue or *of* red. (By contrast, he is also saying that my ideas of primary qualities *do* resemble those qualities. So, my sensation of shape, for example, *does resemble* the shape of the object—i.e., the property it has (of having a certain shape) that causes my sensation of shape.)

This is perhaps confusing at first, but it is really part and parcel of our understanding of the scientific explanations we have for how our senses work. We talked about this in class, so I won't go into much detail here. We believe heat, as

measured by a thermometer, is really just a matter of how quickly the molecules in the air, or in any object, are moving. When I touch a hot burner, I have a sensation of heat, and that is caused in me by the fact that the molecules in the burner are bouncing around much faster than the molecules in my hand. But my *sensation of heat* (what it *feels like* to touch a hot burner) doesn't "resemble" the speed of the bouncing molecules. My sensation is a *response* to that speed, it is *caused* by that speed, but it doesn't "resemble" that speed. Likewise, I have a sensation of blue when looking at my Levis because the Levis absorb certain wavelengths of light and absorb others. There is something about the surface of my jeans that allows certain wavelengths of light to "pass through" the cloth and causes other wavelengths to "bounce back." But my sensation of blue doesn't "resemble" the qualities of the material in virtue of which certain wavelengths of light are reflected and others aren't. It is these qualities in the material that *cause* me to have the sensations that I do, but my sensations of blue don't "resemble" the qualities in the object that cause me to have these sensations. My *sensation of blue* doesn't resemble the quality of *being* blue.

The above is true with respect to all of what Locke calls "secondary qualities." He is not really saying anything here that you don't already know, though you may never have paid close attention to this particular point. Science explains how the senses work. It explains what kinds of properties objects must have in order to cause the various sensations we have of them. But the properties in the objects that cause us to have sensation of them don't typically resemble the sensations they cause in us.

(Once again, take some time to think this through. I'm not trying to convince that this is true. I'm trying to convince that you already believe this is true.)

My last goal is to explain the origins of the distinction Locke is making between primary and secondary qualities. We have already seen that they cause different kinds of ideas in us (primary qualities cause ideas in us that resemble those properties, but the ideas secondary qualities cause in us don't resemble those qualities). But this is not what makes them "primary" vs. "secondary." Understanding this requires us to understanding something about "atomic" theories, and will also help us understand the confusing things Locke suggests about "where" secondary qualities "really exist."

Don't worry, you don't have to know anything about particle physics to follow this line of thought. The atomic theory, for our purposes here, is simply the idea that "big" things are composed out of "little" things. Consider a "big thing" like the table at the front of our classroom that I often sit on while lecturing. It is composed out out little things. Now, what the "ultimate" little things may be out of which it is composed—molecules, atoms, electrons, quarks, whatever—doesn't really concern us here. The word "atom" comes from ancient Greek for "uncuttable," and so "atoms" are, by definition, the smallest particles out of which things are in fact composed. The term "atom" as you learned it in some science class was introduced in the 19th century when scientists believed they had discovered the ultimate particles of nature, the smallest units out of which everything else was composed. But, Ooops!, we "split" the atom. That means that what we called "atoms" were not the true or ultimate atoms after all. For our purposes here, it doesn't matter what the "true" atoms really are. All we need to understand about the role of "atomism" in this discussion is that for thousands of years we have explained "big things" in terms of the little things—the atoms—that we believe they are composed of.

“Big things,” like the table in our classroom, are not, in the end, really “things” at all. Instead they are *collections* of things. To say that the table is composed of atoms is to say that what it *really is* is just a collection of lots and lots of these atoms. Tables, therefore, in some strict sense aren’t things, but collections of things. The true “things” in nature are the ultimate particles out of which they are composed. If I destroy the table, all I’m really doing is redistributing the atoms out of which it is composed. The atoms, or ultimate smallest particles, still continue to exist, but they’re no longer “collected” in the right way.

So, what does that tell us about “big things” like tables? Are tables “real?” Well, yes and no. Tables are real in the sense that there really are tables. That is, there are collections of atoms organized in the right way to be called tables. (By contrast, unicorns aren’t real in this sense. There are no collections of atoms collected in the right way to be called unicorns.) But in another sense, they are not real because they aren’t really “things” but merely collections of things, collection of atoms. According to atomism, the “real” things in the universe are the atoms out of which everything is composed.

So tables, we might say, are “real,” but not “ultimate.” There really are collections of atoms that meet whatever criteria they must in order to be called tables, but tables are not themselves among the ultimate “real” things that make up the world. Tables are real, but they’re really just collections of atoms. To use a technical term, tables are “reducible” to collections of atoms. Likewise, the property of “being a table” is real in the sense that some things (some collections of atoms) really have this property, but it is not “ultimate.” The property of being a table is not a property had by any of the atoms out of which a table is composed. Atoms themselves have properties. When the atoms in a collection of atoms has certain properties, then, we say, the collection has the property of being a table. So the property of being a table, likewise, is “reducible” to the ultimate properties of

the ultimate particles out of which it is composed. The property of being a table is not “illusory” or “false” (again, some collections of atoms actually have this property), but it is not an ultimate property. It is not one of the basic or core properties found in the ultimate particles out of which everything is composed.

(Almost there!)

So, what are primary qualities? What *makes* them “primary?” What is “primary” about them?

Primary qualities are just these basic or core properties of the atoms out of which everything is composed. That’s what makes them *primary*.

Locke was writing at a time when Newton’s physics was accepted as the fundamental account of nature. Things have changed since Newton, but that really needn’t concern us here. Newton thought the ultimate particles—the ultimate atoms—were little “clumps” of matter, things had a weight (or mass) and occupied space. As little clumps of matter existing in space, they had weight (again, mass is a more accurate term, but we needn’t fuss about that for our purposes here), size, shape, location (in space), and motion (or lack of motion) as they moved through space. These are precisely the qualities that Locke labels “primary.”

Let me emphasize this: what makes this group of qualities *primary* has nothing to do with what kinds of ideas (resembling or not resembling) they cause in us, but reflects the fact that these qualities are, according to the science of Locke’s day, the fundamental properties of the basic particles that everything is composed of.

What about what Locke calls secondary qualities? What makes them “secondary?” This is one of the places where the sloppiness we discussed at the very beginning makes it difficult to know for sure exactly what Locke means. If

we have the time, I will discuss some of these confusing passages in class. But before we finish here, let me look at one of the passages where Locke says something pretty clear and understandable about secondary qualities.

In the text, remember, we are talking about the sensations caused in us by various qualities, primary vs. secondary. In paragraph 10 (p. 54), Locke describes how secondary qualities cause sensations in us:

Secondly, there are qualities that are, in the objects themselves, really nothing *but powers to produce various sensations in us by their primary qualities*. Examples of these are colours, sounds, tastes, and so on. I call these *secondary qualities*.

On the next page, in paragraph 14, Locke concludes this discussion by repeating the same claims:

What I have said about colours and smells applies equally to tastes and sounds, and other such sensible qualities. Whatever reality we mistakenly attribute to them, they are really nothing in the objects themselves but powers to produce sensations in us. These qualities depend, as I have said, on those primary qualities, namely, size, shape, texture, and motion of parts.

Consider the first passage above: Secondary qualities, like colors and sounds, are really just powers to produce ideas in us. That much is not controversial given how he defined qualities back in paragraph 8. Qualities in objects are powers to produce ideas or sensation in our minds. But the sentence continues that secondary qualities are powers to produce ideas in us “by their

primary qualities.” So, blue, for example, is a quality an object has to produce certain sensation in us “by” the primary qualities of the object. That is, it is the primary qualities of the atoms of which something is composed that cause us to have a sensation of blue. Does that mean that blue, as a property of objects, isn’t “real” or that blue doesn’t exist in the objects? Like the similar question above about the table, the answer is “yes and no.” Things really are blue. This is a real property that some things have. But our full explanation of how this happens talks about the primary qualities of the atoms out of which the object is composed. So, blue is a real property that things have, but what “being blue” really is can be explained solely in terms of primary qualities of fundamental particles. The property of being blue, like all secondary properties, is reducible to the primary properties of atoms. Colors, sounds, tastes, etc., are “secondary” because they are “reducible to” (i.e., are explained in terms of) the primary properties of the ultimate particles that the world is composed of.

So, like the property of being a table, colors, sounds, etc.—what Locke calls secondary qualities—are real (things really have these properties), but what they *really are*, on our atomic theory, can be explained in terms of the primary qualities of the atoms things are made of. Secondary qualities are *real* but not *fundamental*: they are *reducible* to primary qualities.

One last point, then I’ll leave you be. Look at the second quote above, from paragraph 14. “Whatever reality we mistakenly attribute to them, they [i.e., secondary qualities] are really nothing in the objects themselves” I left out the rest of the sentence on purpose. If you read the entire sentence, it supports the interpretation I have been spelling out here. But if you omit it, it sounds like Locke is saying that secondary qualities “are really nothing in the objects

themselves.” There are other passages that, if you don’t focus on the complete passage (in light of what I have been saying here), it looks like Locke is saying that secondary qualities do not exist in the objects. (Look at paragraph 17 for another example.) Of course, what I have been arguing here is that Locke is saying that secondary qualities are “nothing but” collections of primary qualities. That doesn’t mean that they don’t exist in the objects (any more than it means that no collection of atoms has the property of being a table), but only that they are not “ultimate,” but are to be explained in terms of collections of primary qualities.

A common understanding of Locke (one I have argued here is mistaken) is that Locke claims that secondary qualities don’t exist in the object but only in our minds. Berkeley is one of the people who reads Locke this way. But I think this misunderstands what Locke has to say about how objects cause sensations in our mind. Locke claims, of course, that our *sensation of blue* does not resemble the *quality* in the object that causes us to have this sensation, but that doesn’t mean that *the quality of being blue* exists in our mind. The *quality of being blue*, according to Locke, exists in the object, and *what it really is* is some collection of primary qualities inherent in the particles the object is composed of. Secondary qualities exist in the object, not in our minds. But what they really are, in the object, is explainable in terms of collections of primary qualities. That is simply what it means to explain big things in terms of the small things they are composed of. “Being a table” is not a property of atoms, but is instead *explained* in terms of properties of atoms. But that doesn’t mean that tables, or the property of being a table, exists only in our minds. Likewise color is not a property of atoms, but that doesn’t mean that colors exist only in our minds. Color is a secondary quality *of objects*, which means that it is a real quality of objects that, in an atomic explanation, gets explained in terms of the fundamental properties of the

fundamental particles out of which everything in the material universe is composed.

I hope this helps!