

Critically assess Locke's distinction between Primary and Secondary qualities.

Our perception of the world is one of the most important factors of our very existence. We rely on our senses to help us navigate the world around us, in fact they are so pivotal to our experiences that it often comes as a shock when we realise how much our perceptions of objects around us can vary when comparing to someone else's. These differences in perception can be explained via Locke's primary and secondary qualities, however despite his distinctions of the qualities, there are many flaws within his theories.

This essay aims to critically assess Locke's distinction between primary and secondary qualities and further explain and analyse problems and discrepancies within his distinction whilst drawing upon other philosophers such as Berkley.

Before Locke's distinction between primary and secondary qualities can be critically assessed, it is important to determine what the distinction actually is and what the primary and secondary qualities actually consist of.

First and foremost, Locke describes a quality as '*the power to produce any idea in our mind*' (Locke, J. (1689). *An Essay concerning Human Understanding*.). He explains that these ideas represent and stem from an object that has the power to produce such an idea within our minds. These ideas can vary in reality, for instance, for some ideas we distinctly refer to a quality in an object by the same name as the idea within us, such as describing a table as brown. But he highlights the importance that the object is what paints the idea of the colour within us. '*be understood to mean those qualities in the objects which produce them [the ideas] in us*' (Locke, J. (1689). *An Essay concerning Human Understanding*.). In this instance. The table is what produces this idea of being brown within our minds. Hence for us to be able to have ideas these qualities of objects are vital. Locke goes on to separate the qualities into two different categories, those that are Primary and those that are secondary.

The primary qualities are those of which are '*utterly inseparable from the body*' (Locke, J. (1689). *An Essay concerning Human Understanding*.). which means that these are qualities which an object actually possesses, therefore making them mind-independent as they exist not only in the mind but also reality. Such qualities are motion, rest, solidity, number, figure, and extension. These qualities then go on to help create the image and how we perceive the secondary qualities.

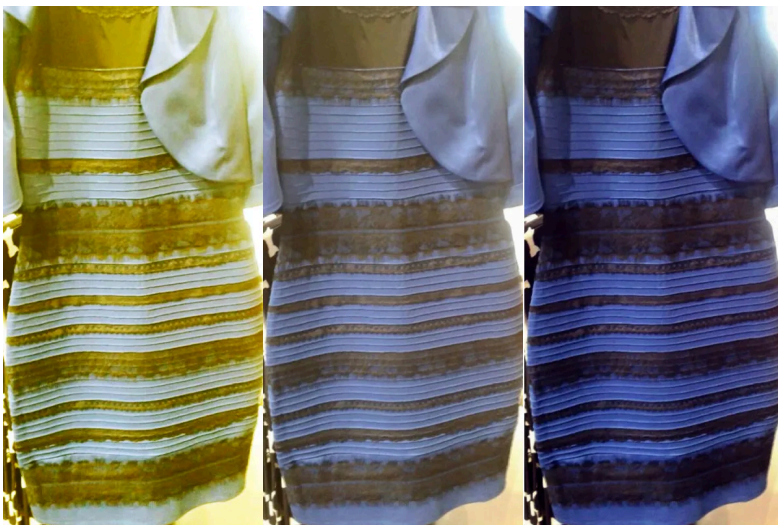
Unlike the primary qualities, Locke describes secondary qualities as '*nothing in the objects themselves but powers to produce various sensations in us*' (Locke, J. (1689). *An Essay concerning Human Understanding*.) Meaning that secondary qualities are those that produce sensations in the mind of the perceivers, such as colour, taste, smell and sound. These qualities according to Locke reflect the object to create the image in our minds. The idea that the Secondary qualities exist not in the object but in the mind means that they are mind-dependent, therefore would not exist without the mind.

Whilst this initial overview of Locke's distinction between Primary and Secondary qualities is plausible and somewhat intriguing there are a few problems within his theory in which this essay will be analysing and critiquing in more depth.

The first problem is that of perceptual variation, We know for a fact that objects can appear differently to each individual, either based on the individual themselves or on the conditions in which it is perceived. From differences in palates in regard to taste or to the appearance of a colour, people can experience different things from their senses even if the object remains the same. For instance, an individual could love the taste of broccoli and find it delicious whilst another person could find it disgusting. This is something we have learnt is normal, after all opinions vary from person to person and this actually supports Locke's idea of Secondary qualities as if they have the power 'to produce various sensations in us' (Locke, J. (1689). *An Essay concerning Human Understanding*.) then it would only make sense that our opinions on things like how we find the taste of broccoli to be delicious or disgusting would vary between individuals as it is compatible with what we know about our senses. However when we take the same idea that our perception can vary and apply it to another secondary quality, this time we will use colour, the theory can become a little less persuasive.

One such and quite famous example of how an object can appear different depending on the perceivers and the conditions in which it is perceived is that of the viral dress which famously became known as 'dressgate'. In 2015 a picture of a dress posted to

buzzfeed went viral and sparked widespread debate about the colour of the dress (image of the dress is pictured to the left).¹. Whilst the dress is and was confirmed by the manufacturing company to be black and blue many claimed that the dress was white and gold. These debates not only sparked curiosity amongst the perceivers but also a number of psychologists and scientists who decided to run tests on this optical illusion in an attempt to discover why some see the dress wrong - as white and gold and others see the correct colours -



blue and black.

¹ Figure one depicts the image of the viral black and blue/ white and gold dress. This image in the centre is the original *unedited* photo whilst the images on the left and the right have been edited to depict how the lighting can affect and change the perception of the colour.

One of the main theories to why people see different colours to others on the dress, and in general is because of colour constancy which is *'the tendency to perceive a familiar object as having the same color under different conditions of illumination.'* (dictionary.apa.org. (n.d.). *APA Dictionary of Psychology*. [online]). Whilst colour constancy can be used to argue in favour of Locke's distinction that secondary qualities exist in the mind alone as colour constancy can mean that an individual's version of a colour could be different from another's. However, to use the dress as an example, the colour itself is black and blue but due to colour constancy, the lighting has affected the colour, so much so that it has changed completely from the original to some, and less than to others. In this case one would argue that it is not the colour that should be the secondary quality as the dress does in fact possess it, but it is the lighting that is the secondary quality as it is what has affected the image within our minds,

Another reason that researchers found that explains why the dress appeared white and gold to some is due to differences in the human eye. *'Researchers found that "macular pigment optical density" was higher in volunteers who saw the dress as white and gold. Macular pigment is found in the retina and a greater density increases the amount of short wavelength light that is absorbed by the eye....another study found that white and gold perceivers tended to have smaller pupils potentially limiting the amount of light that falls on the retina, thus suggesting another early stage influence upon the perception of the dress.'* ([Jarrett, C. \(2018\). Three years of research into #thedress, digested. \[online\]](#)). Whilst this can also support Locke's distinction in a similar sense that no matter the condition of the eye, the idea of the colour is still created in the mind. However once again the conditions that affected the perceivers interpretation of the dress was affected by light, supporting my earlier notion that it is not colour that is the secondary quality, its light. As the light changes the perception of the colour not the colour itself. To further exemplify this point and lay the theory out in finer terms, the object does in fact possess the colour, making the colour of an object a primary quality. It is the underlying factors such as light and physical conditions such as macular pigment optical density or even being colour blind that impact the idea of the colour in our mind. If this were the case, whilst Locke might be right to some degree about the other senses being secondary qualities he would be incorrect in his distinction that colour is a secondary quality.

To then further this, if physical conditions can affect our perception of secondary qualities then surely they would also affect primary qualities. For instance, those who are short sighted may perceive a table that possesses the primary quality of solidity as not due to it being blurry, creating the idea that the table might not be solid as the perceiver would not necessarily be able to determine it is. One philosopher who agreed that the primary and secondary qualities should not be separated was George Berkeley, however he argues from a different perspective. *'Berkeley has been credited with the obvious objection that similar facts about the 'relativity' of our perception of 'primary' qualities show that they do not 'resemble' anything existing in the objects either, so that both 'primary' and 'secondary'*

qualities exist only 'in the mind'. (Stroud, B. (1980). Berkeley v. Locke on Primary Qualities. Philosophy, [online]). Whilst Berkeley's argument that primary and secondary qualities both only exist in the mind and not reality is somewhat problematic, his point that all ideas exist in the mind and should not be separated is incredibly important as both qualities are equally subject to perceptual variation, as even the shape or solidity of an object can vary in individuals perceptions.

The second problem is that of causal explanation. Locke's distinction describes that the primary qualities create the secondary qualities that are produced within our minds (as mentioned in the initial paragraph on Locke's distinction). However, one major flaw with this argument is the notion that the human body itself is a material object itself which Locke regards as such via his description of the primary qualities, which include; solidity, figure, extension, motion and rest – all of which the body possesses. However he does say *"Every man has a property in his own person: this nobody has any right to but himself. The labour of his body and the work of his hands, we may say, are properly his."* (Locke, J. (1982). *Second Treatise of Government*). Which whilst does not outright say that the body is a material object the word 'property' implies it as such.

The problem with this isn't necessarily him considering the human body as a material object but the contradiction it entails. For, if the body is a material object then it must also fall under the same principles in regards to the primary and secondary qualities in which Locke describes, meaning that we would not actually possess our senses as they are secondary qualities. This is a major problem with Locke's distinction as not possessing our senses goes against our idea of our own bodies. As if the senses are in the mind alone then that would mean when we touch a rock we don't actually physically feel the solidity of it as the feeling would be a secondary quality, and exist in our minds alone which is near impossible to comprehend when we associate the feeling with the physicality of the action, taking away the physicality confuses our very idea of what it feels like to touch a physical object. If our bodies are objects then surely the qualities in which we possess as conscious beings would be primary as they are a part of us, and if they are not then everything we know about the human body would have to be called into question.

The final problem that will be assessed in this essay is the inseparability that is seemingly held between some primary and secondary qualities.

As mentioned in the initial description of Locke's distinction between primary and secondary qualities. Locke describes the primary qualities as being inseparable from the objects as the objects actually possess them. Whereas, Secondary qualities such as sound can be separated from the object via factors such as lack of perceivers or darkness. For instance, the classic conundrum of if a tree falls and no one is around, does it make a sound? According to Locke's description of secondary qualities, the quality of sound is not possessed by the object but is created within our minds which in this case is the tree, the

sound of the crash would be created in our minds from the visualisation of the heavy object, that is the tree falling. Therefore according to Locke's description if no perceivers were around to bear witness to the tree falling then there must be no sound, as the crash is created in the mind of the perceiver. However the very notion of this seems inherently wrong and even ridiculous to some extent as sound is not just simply something that we hear, it is also waves of vibrations in the air, that we, as humans can not actually see physically but know exist due to advances in science. However, Locke's distinction can still be plausible if we consider sound as simply what we hear and that alone but knowing the vibrations exist makes this near impossible to do. Linking this back to the problem of inseparability it seems that we cannot separate the idea of the tree and the sound, even if there are no perceivers due to science/ the knowledge of the existence of sound vibrations we know that the tree would still make a sound even if no one witnessed it, therefore proving that sound does not simply exist in the mind alone.

We can also consider the notion that the qualities work together to create ideas, for instance a red ball is the combination of the primary quality of it being a sphere and the secondary of it being red, both qualities are dependent on the other to create the image of the red ball within the mind of the perceiver, without one the complete idea in our minds would be far less detailed and could even fall apart.

Furthermore, whilst Locke's distinction that primary qualities such as solidity, motion, extension and shape are all possessed by the object and are mind-independent whereas the secondary qualities such as colour, smell, and taste are mind-dependent, created ideas in our mind from the primary qualities is somewhat persuasive it has a number of problems that Locke does not necessarily account for such as perceptual variation, causal explanation and inseparability therefore making his distinction and theories far less convincing.

Bibliography:

dictionary.apa.org. (n.d.). APA Dictionary of Psychology. [online] Available at:

<https://dictionary.apa.org/color-constancy>.

Jarrett, C. (2018). *Three years of research into #thedress, digested*. [online] BPS. Available at:

<https://www.bps.org.uk/research-digest/three-years-research-thedress-digested>.

Locke, J. (1689). *An Essay concerning Human Understanding*. London: Dent.

Locke, J. (1982). *Second Treatise of Government*. Wheeling, Illinois: Harlan Davidson, Inc.

Maden, J. (2022). *If a Tree Falls in the Forest, and There's No One Around to Hear It, Does It Make a Sound? | Philosophy Break*. [online] philosophybreak.com. Available at:

<https://philosophybreak.com/articles/if-a-tree-falls-in-the-forest-and-theres-no-one-around-to-hear-it-does-it-make-a-sound/>.

Sitzer, C. (2015). *Check Out The Black and Blue (Or Maybe White and Gold) Dress That Is Destroying the Internet*. [online] InTouch Weekly. Available at:

<https://www.intouchweekly.com/check-out-the-black-and-blue-or-maybe-white-and-gold-dress-that-is-destroying-the-internet-52649/> [Accessed 25 Jan. 2026].

Stroud, B. (1980). Berkeley v. Locke on Primary Qualities. *Philosophy*, [online] 55(212), pp.149–166. doi:<https://doi.org/10.2307/3750580>.