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“Locke, Judgment, and Figure: A Consistent Answer to the Molyneux Problem”

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Introduction

Ever since Locke published the ‘Molyneux Problem,’ in his *Essay Concerning Human Understanding* (1694), philosophical discussions surrounding it have touched on whether there are innate cross-modal connections in the mind, with modalities conceived as the particular senses of the body conveying ideas to the person from the environment. A cross-modal connection is where representational content is shared by two or more sense modalities; or if the mind is unimodal, then mental connections are thought to occur only after experience. Rationalists have typically affirmed cross-modal connections in the mind, but empiricists have denied such a possibility, maintaining that connections between the various modalities are made only after a sufficient amount of experience has occurred. For his part, Locke, agreeing with Molyneux, held the opinion that such connections could only be known for certain through experience. Many have argued that Locke, by answering in the affirmative, has put a strain on the consistency of his epistemology and philosophy of mind.¹ I will show that it is within the scope of Locke’s body of work for him to consistently maintain cross-modal connections are another faculty of the mind, while the verification of that faculty’s representational content must be empirically verified. I hope to achieve this by analyzing his notion and use of judgment, and paying close attention to how his views on causation evolved throughout his career.

In order to tease out my interpretation of Locke, I will begin with a layout of the Molyneux problem, providing a historical sketch, and note some early criticism. Next, I will highlight the pertinent points in Locke’s philosophy, and then I will critically examine a recent

¹For an excellent overview of the reaction to the Molyneux question, and Locke’s answer to it, by the early modern philosophers, see: Davis, John, “The Molyneux Problem,” *Journal of the History of Ideas* Vol. 21, No. 3 (1960): 392-408.

paper by Ralph Schumacher, in which he claims that Locke's use of judgment is untenable given his empiricist epistemology and philosophy of mind. These taken together, I believe, provide the means for a consistent answer to the Molyneux Problem.

A Historical Sketch

Irish scientist, William Molyneux (1656-1698), after reading the first edition of Locke's essay, wrote to him, sending his famous thought experiment. In it he inquired, whether a person born blind, who could, by touch, distinguish the shape of a sphere from the shape of a cube, would they be able, upon gaining their sight, distinguish the shapes without touching them?² Molyneux answered his question by claiming that although the person has gained the experience of these shapes by touch, they have yet to gain the experience of how their touch affects their sight. In other words, according to Molyneux the cognitive mechanism needed to associate the mental content gained from the modality of sight, with the content gained from touch is created by experience. Conversely, if the identification were to be made upon sight, the cognitive mechanism would be innate. Epistemically, this boils down to the prior claiming the distinction can only be known through experience, while the latter claims it can be made known through reason.

John Locke inserted Molyneux's thought experiment in the second edition of the *Essay*, where it remained through each subsequent edition. Locke agreed with Molyneux's answer, claiming that at first sight the person would not be able to say for certain which shape was which, though they could name them by touch. Locke supports this claim by appealing to an act

² Locke, John, *An Essay Concerning Human Understanding*, Edited by Peter H. Nidditch. (New York: Oxford University Press, 1979), II.ix.8. All references to the *Essay* will cite Peter H. Nidditch's 1979 edition, in the order of book, chapter, and section.

of judgment which through custom seems to convert the visual input of a two-dimensional figure in to a three-dimensional figure.³

Bishop George Berkeley (1685 – 1753) was one of the first to insist the need to abandon the doctrine of common sensibles in order to justify a negative answer. Descartes and Locke were largely credited with rediscovering the distinction between primary and secondary qualities from Aristotle, who had distinguished between *common sensibles* and *proper sensibles*.⁴

Under the heading of common sensibles are qualities such as extension, figure, motion, rest, and number. The proper sensibles, on the other hand, include the sensations of color, sound, taste, and temperature. It is clear Locke is committed to this distinction when he lists extension, figure, motion, and rest, as ideas we get from both seeing and feeling.⁵ With this in mind, Berkeley objected, that if the figure of an object perceived by touch is the same figure perceived by sight, then nothing new is introduced in one's mind.⁶ That is to say, if there is a cross-modal connection, at least relative to figure, then Locke and Molyneux are supposedly wrong.⁷ Consequently, Berkeley defended a heterogeneous thesis where ideas of sight are of a different

³ Ibid, II.ix.8.

⁴ Aristotle. *De Anima*, trans. Hugh Lawson-Tancred (London: Penguin Classics, 1986), 189-191: 425a-b.

⁵ *Essay*, II.v.

⁶ Berkeley, Geogre, *A New Theory of Vision*, (London: Aldine Press, 1969), 74-75.

⁷ I will argue below that Locke differed with Molyneux in justifying his negative answer.

kind than ideas of touch. Vision for Berkeley was like a language with an arbitrary connection between the signs and what they stand in for.⁸

I propose that Locke held there are two ways of accessing the idea of three-dimensional figure. One we receive from bodies through the relation of resemblance, and the other through perceiving colors causally. The prior is a representation of figure as the genuine article, with the latter *just appearing* as figure—which I will henceforth call *zigure*. In order to draw out this distinction more needs to be said about Locke's divide between ideas of primary and secondary quality, and how they are conveyed to the mind.

Ideas of Primary and Secondary Quality

Locke distinguishes primary qualities as those that are inseparable from a body. Of the primary qualities found in bodies, Locke lists: solidity, extension, figure, mobility, motion or rest, number, bulk, texture, motion, size, and situation. Locke claims that such qualities are found by the senses in every perceivable bulk of matter, and that the mind finds them in every particular particle.⁹ This notion is attested by considering Locke's example of the division of a grain of wheat.¹⁰ Locke seeks to show that one can continue to divide an object conceptually, even when one cannot physically divide it any longer, yet whatever remains will be conceived of as having primary qualities.

⁸ Atherton, Margaret, "Berkeley's Theory of Vision and its Reception," In *The Cambridge Companion to Berkeley*, by Kenneth P. Winkler, 94-124. (New York: Cambridge Press, 2005),

⁹ *Essay*, II.viii.9.

¹⁰ *Ibid*, II.viii.9.

Locke describes secondary qualities as powers possessed by particular particles of matter to bring about ideas in a perceiver.¹¹ He holds secondary qualities as separable from bodies, and as ones that do not resemble bodies as they are in-themselves. Michael Jacovides explains, concluding from Locke's wheat example, that although it can be known by reason that the minute pieces of flour retain their primary qualities, none of the ideas of primary quality are conveyed to perceivers. This is precisely because those bits of matter do not have powers to produce ideas of primary qualities, or else they would be perceived.¹² Secondary qualities, on the other hand, are the powers of certain particles of matter that produce ideas in us. For example, the idea of the whiteness of the flour is conveyed to us by particles, which possess primary qualities, yet have the additional property of a power to bring about an idea of whiteness in a perceiver. Locke says manna has, in addition to the primary qualities, the power to cause sickness in us, but the sickness is not 'in' the manna, it is 'in' us.¹³ Consequently, Locke thinks of secondary qualities as separable from bodies. Locke explicitly says ideas of secondary qualities are not really 'in' the objects—like ideas of primary quality—but are features of an object's primary qualities.¹⁴

¹¹ Ibid, II.viii.10.

¹² Jacovides, Michael, "Locke's Distinctions Between Primary and Secondary Qualities," In *The Cambridge Companion to Locke's "Essay Concerning Human Understanding"*, by Lex Newman, 101-129. (New York: Cambridge University Press, 2007), 116.

¹³ *Essay*, II.viii.18.

¹⁴ Ibid, II.viii.10.

Locke maintains ideas of secondary quality are only represented as effects of their causes and this relationship is insufficient to represent ideas of primary quality—like figure. Thus Locke chose the relation of resemblance to convey the representation of ideas of primary quality. Representation by way of resemblance occurs in the mind as images.¹⁵ Jacovides explains that the idea of figure is really an image of figure, and an image is any mental content you can draw a picture of.¹⁶

Thomas Lennon commenting on Locke's theory of representation, echoes Jacovides, in maintaining that Locke denies that secondary qualities represent by resemblance as being crucial for his advancing of the corpuscularian theory of substance.¹⁷ On the corpuscularian theory, substances consist of primary qualities, such as figure, motion, size, etc., and secondary qualities subsist on the primary ones. Lennon interprets Locke as holding that ideas of secondary quality, like whiteness, represent, and accurately correspond to the unit(s) in the substructure of an object, but not the structure of the object itself.¹⁸ Thus, Locke holds that particles of imperceptible bulk, relative to the modalities of sight and touch, impinge on us in a causal

¹⁵ Ibid, II.xi.17; III.iii.7.

¹⁶ Jacovides, Michael, "Locke's Resemblance Thesis," *The Philosophical Review* Vol. 108, no. 4 (1999): 467.

¹⁷ Lennon, Thomas M, "Locke on Ideas and Representation," In *The Cambridge Companion to Locke's "Essay Concerning Human Understanding,"* by Lex Newman, 231-257. (New York: Cambridge Press, 2007), 247.

¹⁸ Ibid, 249.

relationship to convey ideas of secondary quality. These ideas are mere effects of their causes. Ideas of primary quality, on the other hand, are conveyed by resemblance.

There are broadly two interpretations of how Locke might think primary qualities are conveyed to the mind. Both interpretations agree that Locke comes to admit that the explanatory scope of corpuscularian mechanism is limited in some fashion. The disagreement is whether this limitation should be conceived of epistemically, or metaphysically. One major intersection of contention, amongst others, comes from Locke's letter to Stillingfleet. In it Locke backs away from the claim that all bodies interact by impulse, but also remarks that he can yet conceive of another way they could interact. Locke goes on to mention that he has been persuaded by Newton's *Principia*, not to presume to limit God's power to put into bodies 'powers and operations' beyond what we can explain by matter.¹⁹

For the purpose of this essay I am not daring to venture an account of how the connection through resemblance is made. E. M. Curley has flatly stated Locke has no 'general thesis' of the perception of primary qualities.²⁰ It will suffice for my purposes that at least he holds they can be conveyed, and in a different manner than the ideas secondary qualities are—whether ultimately in some alternative causal manner, or by God's active will.

On my interpretation, the idea of three-dimensional figure can be received two ways simultaneously and coextensively with one another. First, two-dimensional figures are received

¹⁹ Locke, *The Works of John Locke* (London: Printed for W. Strahan, 1777), 561.

²⁰ Curley, E. M., "Locke, Boyle, and the Distinction between Primary and Secondary Qualities," *The Philosophical Review* 81, no. 4 (1972): 459.

causally via colors, which, through an act of judgment, appear as three-dimensional *zigure*. While, through the relation of resemblance, figure is represented as the genuine article. Consequently, Molyneux's patient would have to touch the object to be certain whether the figure perceived was not merely *zigure*. To further tease out this interpretation and in particular how Locke, by positing two kinds figure, can maintain a passive judgment, and thereby remain faithful to his empiricist predilections we will need to examine how he conceives of an act of *judgment*.

Judgment for Locke

David Owen explains Locke's view on judgment as analogous to his explanation of knowledge.²¹ For Locke, knowledge is the perception of the agreement or disagreement between ideas.²² Locke lists four ways how ideas can agree or disagree: identity or diversity, relation, co-existence or necessary connection, and real existence.²³ Locke, then, offers three ways how these agreements (or disagreements) are perceived: intuitively, by demonstration, or through the senses.²⁴ Locke gives the example of knowledge of our own existence by intuition, the existence of God by demonstration, and of external things by sensation.²⁵ Judgment follows the same

²¹ Owen, David, "Locke on Judgment," In *Cambridge Companion to Locke's An Essay Concerning Human Understanding*, by Lex Newman, 406-435. (New York: Oxford University Press 2007), 406.

²² *Essay*, IV.i.2.

²³ *Ibid*, IV.i.3.

²⁴ Owen, "Locke on Judgment," 410.

²⁵ *Essay*, IV.ix.2.

course as knowledge, except for there is not a perception of an agreement or disagreement between ideas, only the *presumption* of one, or the other.²⁶ This is precisely why Locke takes the *presumption* of *zigure* as mere 'mark' of figure, and he explicitly says judgments are quick to be mistaken as perception.

Abandon Common Sensibles, or Judgment?

In Ralph Schumacher's essay, '*What Are The Direct Objects Of Sight?*,' he insists that positing judgment to perceive figure would undermine Locke's empiricist epistemology. As a good empiricist, Locke holds that all simple ideas are received passively by the mind. Locke compares the mind to a mirror, unable to refuse simple ideas, whether we want them or not.²⁷ Locke explains ideas are immediate objects of perception, thought, or understanding.²⁸

Vere Chappell notes that Locke uses the term idea indiscriminately, while those before him had used different names for different designations.²⁹ Therefore, a lot of confusion has arisen in discussing Locke's use of ideas, but what is clear is that they come in two flavors: simple and complex.

Simple ideas for Locke either have a uniform appearance, or while being reflected upon in the mind, cannot be conceived to break down into other ideas.³⁰ Chappell suggests Locke defines simple ideas in two sorts of ways, phenomenally, and logically. If an idea is perceived as

²⁶ Owen, "Locke on Judgment," 410; Cf. *Essay*, IV.xiv.4.

²⁷ *Ibid*, II,i,25.

²⁸ *Ibid*, II.viii.8.

²⁹ Chappell, Vere, "Locke's Theory of Ideas," In *The Cambridge Companion to Locke*, by Vere Chappell, 26-55. (New York: Cambridge Press 1999), 28.

³⁰ *Essay*, II.ii.1.

a unity with no division in it, it is phenomenally simple, whereas, if an idea cannot be thought of as containing another idea it is logically simple.³¹ Locke often invokes ideas of secondary qualities—or the proper sensibles—as prime examples of simple ideas. In addition to simple ideas, Locke also holds that there are complex ideas, which are also passively received. Chappell explains, for Locke, ideas we acquire from sensation or reflection are the products of compounding simple ideas. Ultimately, for Locke all the ideas we have can be abstracted in reverse to simple ideas, which we passively receive.

Schumacher agrees with all the above regarding the passivity of receiving simple ideas. Therefore, he argues that since the passivity of the mind ensures for Locke that simple ideas are reliable signs of their external cause, any causal action by the mind—like judgment—in the reception of these simple ideas would cast aside the reliability of their cause.³² Schumacher then contends, rightly, that Locke rejects innate ideas of the mind. Any ideas produced by the mind are complex ideas made out of simple ones. Thus, the Lockean mind cannot comprise the simple idea of figure out of the simple ideas of colors. No simple ideas can be created out of other simple ideas. With this in mind, Schumacher explains that if Locke's use of the word 'form,' as an action of a judgment, is to be taken to mean 'alter' or 'change,' then several difficulties arise.³³ The first is an altered idea cannot be a simple idea because part of the definition is simple ideas cannot be altered. The second is that Schumacher thinks it is difficult to conceive of the visual idea of figure as composed of various colors, since simple ideas have a uniform appearance. Lastly, since Locke says this visual idea of figure is different from all other visual

³¹ Chappell, "Locke's Theory of Ideas," 36.

³² Schumacher, Ralph, "What are the direct objects of sight?," *Locke Studies* 3 (2003): 55.

³³ *Essay*, II.ix.9.

ideas, Schumacher reasons, Locke takes ‘form’ to mean ‘produce,’ which would clearly be in conflict with Locke’s empiricism.³⁴ Schumacher, concludes, that while Locke’s use of judgment makes his negative answer to Molyneux intelligible, it runs afoul central claims of his empiricist epistemology, and it is for those coherence reasons that it should be jettisoned. Moreover Locke should have given a positive answer to Molyneux given his commitments to the common sensibles and that figure is a primary quality that resembles.³⁵

I agree with much of Schumacher’s view. We agree that Locke cannot say figure is a simple idea, while it is composed of other simple ideas like color. Where I disagree, is that Locke takes the act of judgment to actually ‘produce’ the simple idea of figure. He specifically says that it takes the ‘mark’ of figure. On my account—which I will explain more of below—the idea of *zigure* that arises from the judgment occurs from the *presumed* agreement of ideas in the mind. That is to say, Molyneux’s patient *presumes* the idea of a two-dimensional figure, variously shaded, agrees with the idea of figure received by resemblance.

A Novel Interpretation

I will now weave together the core details above into a coherent account, which results in an answer to the Molyneux question that allows Locke to adhere to his various philosophical doctrines. By my lights, Molyneux’s patient upon regaining their sight, in the case of the sphere, would see a variously shaded two-dimensional circle, contemporaneously, as they perceived a three-dimensional figure. The idea of the two-dimensional circle is causally conveyed to a person, while the representational content of figure, originally conveyed via the modality of touch, via resemblance, would also be presented.

³⁴ Schumacher, “What are the direct objects of sight?,” 56.

³⁵ *Ibid*, 58.

Presumably, the idea of three-dimensional figure would be colorless in its representation, since color is peculiar to the modality of sight. Perhaps, ideas of primary quality represent in the mind as in Flemish painting, with multiple points of view, being perceived by someone suffering from complete achromatopsia. Regardless of how an object is represented through resemblance it seems reasonable to assume it would scarcely be taken noticed of relative to the colors that enshroud the surface on an object. In the same way, with the modality of touch the simple idea of heat searing ones flesh would take the lion's share of one's attention, rather than shape of the hot rock felt.

The role of judgment, collecting the various colors in the idea of a circle forming an idea of three-dimensional *zigure*, I take as entirely passive. On my view, the idea of two-dimensional figure is be *presumed* to agree with the idea of three-dimensional figure, thus passing off the appearance of *zigure*. It is strongly suggested Locke may have thought it was possible for someone to *presume* the agreement without the aid of touch. But they would not be able to know for certain until the object was touched.

This claim is consistent with Locke's wording in response to Molyneux. Locke seems to agree with Molyneux's answer, but not necessarily with all of his reasoning. Locke explicitly states he agrees with this thinking man, not the thinking of the man. Furthermore, Locke says that *at first* a person would not be able to say *for certain* which was which, but could unmistakably name them via touch.³⁶

³⁶ Essay, II.ix.8.

It is helpful to note that Locke composed most of his essay while in Holland, during exile. During his stay he frequented many art galleries.³⁷ Locke explained that someone unskilled in painting would not believe there were no ‘protuberances’ in the images they saw, unless they touched the painting. An interesting point about judgment can be taken from this. The person viewing the painting could not be certain that they did not perceive ideas of primary qualities in the shapes of the objects, since the judgment *presumed* falsely an agreement between ideas of secondary quality of two-dimensional shapes with those of primary qualities. This is precisely why Locke takes ideas of secondary quality, such as colors, only to represent their causes, but not bodies.

Concluding Remarks

What I have endeavored to show is that Locke need not abandon his doctrine of common sensibles, or the resemblance of ideas of primary quality, or posit an over active judgment to remain consistent in his answer to Molyneux. I take it within the scope of Locke’s philosophy that visual input taken from colors is received two-dimensionally, and that we passively judge it to agree with our ideas of three-dimensional figure received by resemblance. In other words, it is within the pale of Locke’s philosophy to hold that there is an innate cross-modal faculty for representational content of ideas of primary quality, but this content needs to be empirically verified. This interpretation relies heavily on two theses. The first is that Locke held there was kind of figure, which I have referred to as *zigure*. The second, and likely more controversial claim, is that Locke came to believe that the mechanical philosophy of his day, either could not epistemically account for the interaction of some bodies, or that it could not metaphysically

³⁷ Jacovides, Michael, "Locke and the Visual Array," *Philosophy and Phenomenological Research* 85, no.1 (2012): 77-78.

account for this interaction. Regardless, it is clear that Locke came to hold that the conveyance of information through the impulse between bodies is the only causal interaction understandable to us, but there nonetheless were other casual modes of interaction.