Kant's Negative Answer to Molyneux's Question

Richard David Creek

Thesis submitted to the faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of

Master of Arts

In

Philosophy

Lydia K. Patton, Chair
Walter Ott
Joseph C. Pitt

Kant's Negative Answer to Molyneux's Question

Richard David Creek

ABSTRACT

While it has recently been argued that Kant's views about space in the Transcendental Aesthetic do not commit him to an affirmative answer to Molyneux's question, there has been very little attention given to the issue of what a Kantian negative answer would look like. The paper begins by defending the view that the arguments of the Aesthetic alone do not provide a direct answer to Molyneux's question. I will then argue that addressing Molyneux's question on Kant's behalf is much more complicated, requiring us to pay special attention to his views on the relationship between vision and touch, the specific sort of concepts that are relevant, and some issues involving the schemata for these concepts. To this end, I will examine the extent to which different considerations in each of these areas lead to radically different, competing answers to Molyneux's question. When difficulties surrounding both of these possible answers are examined, the modified framework that is left standing will support a negative answer.

ACKNOWLEDGMENTS

Table of Contents

Introduction

In 1688, William Molyneux posed a question in a letter to John Locke, which Locke would later quote in the second edition of his *Essay Concerning Human Understanding* along with his endorsement of Molyneux's answer. The question as it appears in Locke's *Essay* is the following:

> Suppose a man born blind, and now adult, and taught by his touch to distinguish between a cube and a sphere of the same metal, and nighly of the same bigness, so as to tell, when he felt one and the other, which is the cube, which the sphere. Suppose then the cube and sphere placed on a table, and the blind man to be made to see; *quaere*, Whether by his sight, before he touched them, he could now distinguish and tell which is the globe, which the cube?[1]

Locke agreed with Molyneux that the answer was likely negative. The question was given a considerable amount of attention throughout the eighteenth century with George Berkeley answering it negatively, Leibniz answering it affirmatively, and Thomas Reid offering affirmative and negative answers to different formulations of the question.[2] Missing from the list of major eighteenth century philosophical figures who addressed this problem is Immanuel Kant, who never discusses it.

Kant's silence on the issue is extremely perplexing. His silence cannot be attributed to ignorance, as he was clearly aware of the question and was at one point very interested in resolving it.[3] Complicating the matter further is the fact that he never responded to those criticisms of his account of space in the Transcendental Aesthetic that were built on a specific

---

[1] Locke, Essay II, ix, §8

[2] See Berkeley, *Essay Toward a New Theory of Vision* §132-135; Leibniz, *New Essays on Human Understanding* pg. 136-137; and Reid, *Inquiry* chapters 6.3 and 6.11.

[3] Manfred Kuehn discusses an incident where Kant sought out a doctor to operate on a blind person, hoping to observe the results (pg. 128). Such a surgery would have most likely been an attempt to replicate William Cheselden's cataract surgery. Cheselden published a report of the results of the surgery in 1728. Kant mentions Cheselden by name in the preface to the *Critique of Practical Reason* (Ak 5:14; pg. 147). Also see Apendix A in Nicholas Pastore's *Selective History of Therories of Visual Perception 1650-1950* for Cheselden's account of the cataract surgery.

answer to Molyneux's question. Two of his early critics, Johann Feder and Hermann Pistorius, both took Kant to be committed to an affirmative answer to the question. They each cited Cheselden's report of a cataract surgery on a young boy as providing strong empirical evidence against such an affirmative answer.[4]

As interesting as the mystery of Kant's silence on this issue is, it is not my purpose to speculate on possible responses Kant could have made to his critics, since this has been recently discussed in detail.[5] Instead, I wish to argue that taking a more comprehensive view of Kant's works reveals a framework which strongly supports a negative answer to Molyneux's question. In what follows I will argue that the Aesthetic cannot sufficiently support an affirmative answer to the question. It will be argued that answer to Molyneux's question would require paying attention to the issue of the relationship between vision and touch, the issue of what role concepts and schemata play in allowing us to distinguish objects, and the problem of which specific concepts are being employed.

I will begin by discussing Kant's comments about the senses in the *Anthropology* which suggest that he thinks vision and touch represent objects quite differently, with little to no shared representational content between the two senses. Next, I will discuss the role of specific concepts and their schemata in perception and consider whether the relevant concepts are geometrical or empirical. It will be shown that different answers to this question yield radically different frameworks for addressing Molyneux's question. I will examine two initially plausible ways to answer Molyneux's question on Kant's behalf, highlight difficulties that they encounter,

---

[4] The objections put forth by Feder and Pistorius can be found in Brigitte Sassen's *Kant's Early Critics: The Empiricist Critique of the Theoretical Philosophy*, pg. 95-96 and 121-122.

[5] In her paper "Kant on Molyneux's Question," Sassen discusses in detail various strategies available to Kant if he were to have responded to Feder and Pistorius. She offers an interpretation of the Aesthetic which does not entail an affirmative answer to Molyneux's question.

and then I will construct a framework for answering Molyneux's question that avoids these difficulties. This framework will strongly support a negative answer to the question.

Problems with Proposed Affirmative Answers

While it may be tempting to dismiss criticisms similar to those of Feder and Pistorius as being primarily motivated by early misunderstandings of Kant's views (e.g., reading the Aesthetic as stating that we have an innate geometry, implying that we simply have innate senses of shape, size, and distance), there are still those who would answer Molyneux's question affirmatively on Kant's behalf.[6]   Although the particular details of these "Kantian affirmative answers" vary, they each attempt to answer the question by examining several of Kant's claims about spatial representation in the Aesthetic and piecing them together in such a way that they yield a claim about the relationship between sensory modalities. There are strong reasons for thinking that this project is seriously misguided and that such an answer to Molyneux's question cannot be Kant's answer.

Most of the speculation about how Kant would address Molyneux's question is centered on his account of space in the Transcendental Aesthetic, in particular the four arguments in the section titled "Metaphysical exposition of this concept." In each attempt to attribute an affirmative answer to Kant, his claim in (1) and (2) that spatial representation is *a priori* is paired with his claim in (3) that "one can only represent a single space" (A23-25/B38-39). While the particular details of how these two claims are tied together have varied, they are typically combined with the idea that the different sensory modalities (or at least vision and touch)

---

[6] An example is Mohan Matthen's forthcoming paper "Active Perception and the Representation of Space." Matthen argues that Kant is "swimming against the tide" when it comes to eighteenth century answers to Molyneux's question.

represent the spatial features of things.[7] According to this interpretation, we have a single *a priori* representation of space which is the condition for our representing external things, and our sensory modalities represent spatial features. Since we can only represent one space, it would seem that the various sensory modalities represent a common set of spatial features.[8] This would suggest that there is a sense in which something represented through one modality should appear the same when represented through another modality, since they would be representing a common set of features.

While this line of reasoning is quite tempting, there are significant problems with trying to construct an affirmative answer to Molyneux's question solely from these claims about space in the Aesthetic. There are many questions that must be answered about Kant's views before an answer can be viable. Whether or not the man will be able to distinguish two different objects will depend on his capacity to make certain judgments about those objects. This raises further questions about which concepts this man possesses, what type of concepts they are, and whether or not these concepts are diminished in any capacity by this man's congenital blindness. There are also questions about whether or not the possession of a concept is sufficient for being able to employ it in judgments, which requires the role of schemata to be addressed. Further, it also seems likely that being able distinguish objects visually will require an acquaintance with a set of empirical facts about how objects appear under various illumination conditions, from different perspectives.

---

[7] The details of how these claims are paired together have varied in terms of nativism. Feder and Pistorious read Kant as telling a story about the origin of spatial representation and interpreted him as asserting that we have an innate geometry. Feder described Kant as saying that we have a "common scheme of space and its division in all sorts of figures, distances and outlines" (*Kant's Early Critics*, pg. 122). One does not have to read Kant as being a nativist of this sort in order to combine the claims in such a way to suggest an affirmative answer.

[8] Here I have blurred together similar lines of thought from two sources. This is roughly Matthen's version of what he takes to be Kant's argument for what he refers to as the "premodality thesis." It is also very similar to a broadly construed "Kantian position" in John Schwenkler's paper "Do things look the way they feel?" It is worth noting that he is careful to not attribute this view to Kant.

The greatest flaw with this line of reasoning is that it relies entirely on an extremely small section of Kant's overall writings, oversimplifying the framework within which the question is addressed. As I hope to make clear, the issue of whether or not Molyneux's question can be answered one way or the other on Kant's behalf is much more complicated. It involves answering a complex set of questions about the relationship between the senses and the roles played by both empirical and geometrical concepts and their schemata in making the relevant judgments. When these questions are not addressed, specific answers to them are often assumed where there are strong reasons to resist them. It is the major contention of this paper that when these questions are given sufficient attention and answered, the affirmative answer constructed exclusively from passages from the Transcendental Aesthetic will be inadequate.

Kant on Sensations in the Anthropology Writings

In this section, I wish to examine some of Kant's various comments on sensation and the various senses. I will show that for Kant, sensation is a physiological process with the five senses being individuated on physiological grounds. I will also show that each of the five senses represents distinct features of objects, with little to no overlap between representations of each sense. I will end the section by giving an account of how Kant would have to explain the relationship between the senses since that they do not share representational content, particularly in the case of multimodal perceptions.

I would like to begin with Kant's three major definitions of sensation in the first Critique:

The effect of an object on the capacity for representation, insofar as we are affected by it is sensation. (A19/B34)

They therefore also contain in addition to the intuition the materials for some object in general (through which something existing in space or time is represented), i.e., the real of the sensation, as merely subjective representation, by which one can only be conscious that the subject is affected, and which one relates to the object in general. (A165/B207)

A perception that refers to the subject as a modification of its state is a sensation. (A320/B376)

There are two important points to be emphasized in these three definitions. First, sensations are effects that objects have on our "representative capacity." These sensations refer to the subject insofar as they are changes in the subject. Second, sensations are that by which we are conscious of being affected, allowing us to relate to objects. This still leaves it a wide open question as to what exactly Kant means by "representative capacity" which is modified by our sensations. One could plausibly interpret this as being a mental capacity of some sort or a bodily capacity that is physiological. If we endorse the former, sensations are modifications on our mental states. If we endorse the latter, sensations are modifications of the body.[9]

There are a number of passages in the *Anthropology* that strongly suggest that sensations are physiological effects on our bodies. In particular, Kant distinguishes between inner and outer sense: "But the senses, on the other hand, are divided into *outer* and *inner* sense (*sensus internus*). Outer sense is where the human body is affected by physical things; inner sense, where it is affected by the mind."[10] Immediately in the following section, Kant proceeds to divide "the senses of physical sensation into those of *vital sensation* (*sensus vagus*) and those of *organic sensation* (*sensus fixus*)" and then describes the senses as being found only places where we have nerves.[11]

These passages are significant, not just because they strongly support the view that our representative capacity is something physiological, but also because they provide insight into how Kant would individuate the senses. On Kant's behalf, we can answer the questions of how many senses we have and what counts as a sense. Kant tells us that

---

[9] This point is made by Lorne Falkenstein. See *Kant's Intuitionism*, pg. 119.
[10] Anthropology, §15, Ak 7:153.
[11] Ibid §16, Ak 7:155, pg. 266

there are not "more or less than five" senses, and for each of the five senses we have nerves in specific parts of our body. Thus the "sense of touch lies in the fingertips and their nerve papillae," hearing occurs mediately through the motion of the air, sight occurs mediately by means of light affecting the eyes, taste occurs when the "palate comes into contact with the external object," and smell results from inhalation of "foreign vapors" mixed with air. In each case, there is a specific organ with nerves located in a specific region of the body that gives rise to sensations belonging to each sensory modality.[12]

This account of sensation implies that there cannot be any significant shared content between the senses. Each sense represents things in a different way, since each is responsible for representing different features of objects.[13] Each section in the *Anthropology* discussing a particular sense either states or implies which features are represented through that sense. Touching an object is how we would determine its overall shape, hearing is responsible for picking out vibrations in air, smell picks out "foreign vapors" in the air, and taste results from the object coming into contact with the tongue and the palate. Exactly what vision represents is less obvious from what Kant says:

> Sight is also a sense of mediate sensation, appearing only to a certain organ (the yes) that is sensitive to moving matter; and it takes place by means of light, which is not, like sound, merely a wave-like motion of a fluid element that spreads itself through space in all directions, but a rather a radiation that determines a point for the object in space.[14]

---

[12] Ibid §17-20, Ak 7:155-157, pg. 266-268

[13] These are two very different claims. While I intend to suggest both, my overall argument for a negative answer only requires that each sense represent objects differently. The claim that vision and touch represent different features of objects is more difficult to attribute to Kant, since the features represented by each—if they are not the same—are very closely related. Still, Kant's claim that we could not form any concept of bodily shape without the sense of touch (Anthropology §17) strongly suggests that touch represents a feature of objects that vision does not represent. As I will discuss later in the paper, Kant's account of empirical concept formation requires the representing of a particular feature before a concept corresponding to that feature can be formed.

[14] Ibid Ak 7: 156 pg. 267

Kant seems to be saying that, unlike hearing which can represent an object as being vaguely somewhere else around us by picking out wave-like vibrations in the air made by the object, vision represents objects at specific points in space. In an earlier anthropology lecture, Kant says that vision "presents the shapes of things in space and divides space."[15] We can look at things and locate them spatially and we can identify shapes of objects by simply looking at them.[16] This can shed some light on Kant's interesting claim that "sight comes nearer to being a *pure intuition*," since it is the most valuable sense for locating objects in space.[17]

Since there is not any shared content between the senses, it would seem that our ability to have multimodal perceptions requires explanation. Texture of objects might be represented by the sense of touch, but I can look at a piece of sandpaper and easily be aware of its roughness. Here, I am perceiving something normally represented by one sense with a different sense altogether; I am *seeing* that an object is rough. Kant would have to explain such crossmodal perceptions as a case of our representations under different sensory modalities being so frequently encountered together that we simply associate them. Thus, the roughness of objects is originally represented haptically, but in nearly every case where an object is represented as being rough there also happens to be a certain visual representation which we can associate with the tactile representation of roughness. I can then see objects as rough, but the roughness here is inferred.

---

[15] Anthropology Friedländer Ak 25:494, pg. 66. This lecture dates to the winter semester of 1775-1776.

[16] What Kant means by "shapes" is an issue. Since he uses the term "figure" to describe three-dimensional features, I find it plausible that he is referring to two-dimensional shapes. This seems to fit well with our basic visual experiences: vision only informs us about the side of the object we see, whereas touch provides an opportunity to experience the object from multiples sides. Vision allows us to perceive a wider range of objects and their spatial relation than touch. I am not alone in holding this, as Gary Hatfield argues that vision for Kant only represents objects as two-dimensional. See *The Natural and the Normative*, pg. 105.

[17] Anthropology §19, Ak 7:157 pg. 268

While this may seem like quite a bit of speculation on Kant's behalf, there is textual support for the claim that perception involves an inferential component of this type. While very little is said directly about the role of inference in perception, Kant alludes to it in distinguishing between immediate cognition and inference:

> We draw a distinction between what is cognized immediately and what is only inferred. That there are three angles in a figure enclosed by three straight lines is immediately cognized, but that these angles together equal two right angles is only inferred. Because we constantly need inferences and so in the end become wholly accustomed to them, it happens at last that we no longer even taken notice of this distinction, and often, as in so-called deceptions of sense, we take as immediate what we have only inferred (A303/B359-360).

While this is not directly a passage about perception, it uses an example of perception to illustrate confusion between immediate cognition and mere inferences. This is revealing, since there must be a reason why "deceptions of sense" are useful examples here. Clearly Kant seems to think that when perceiving, something is given immediately and something else is inferred from that which is given. I suspect he has in mind the original content of each specific sense as given immediately, and the associations between senses as inferred. This would explain certain visual illusions where two-dimensional figures seem to have depth, since the shape is given immediately and the depth is falsely inferred.

Kant's views about sensation and the relationship between the senses are highly relevant to answering Molyneux's question on his behalf. Since each sense represents objects differently and there is no shared representational content between the senses, the central assumption made by those attempting to attribute an affirmative answer to Kant (that vision and touch represent a shared set of spatial features) is effectively blocked. Yet this alone tells us very little about what a negative answer would look like. Molyneux's man, having to distinguish objects, has to be in a legitimate position to correctly say which object is the sphere and which is the cube. To do so

requires a judgment, making the answer to this question involve not just our faculty of sensibility, but also the understanding. Answering Molyneux's question on Kant's behalf will therefore require an examination of his views on the type of concepts involved in making such judgments and how we come to possess such concepts.

The Role of Concepts and Schemata in Perception and the Two Options

To have genuine objective cognitions, a sensible manifold ordered by the *a priori* forms of space and time, must be given to us in intuition. The combination of this manifold, however, is not given to us; cognitions can only arise when receptivity is brought together with spontaneity. The combination of the manifold is brought about by synthesis, which is the "action of putting different representations together with each other and comprehending their manifoldness in one cognition" (A77/B103). The concepts that give rise to unity in synthesis are the pure concepts of the understanding, which are the "conditions under which alone something can be, if not intuited, nevertheless thought as object in general…" (A93/B125). Every judgment that can possibly yield knowledge presupposes these pure concepts, which must be schematized so that they can apply to appearances.

While the pure concepts of the understanding must be presupposed for an object to be thought, mere application of the categories does not individuate empirical properties. As concepts of an object in general, the categories are much broader in scope than most of our other concepts; they allow us to perceive something to be an object, but they do not alone allow us to perceive an object to be a particular type of thing. We must possess specific concepts to make judgments of this sort; the difference between the possession or lack of these concepts is quite literally the difference between *seeing* and *seeing as*. Kant illustrates this with the following example:

> In every cognition we must distinguish matter, i.e., the object, and form, i.e., the way in which we cognize the object. If a native sees a house from a distance, for example, with whose use he is not acquainted, he admittedly has before him in his representation the very same object as someone else who is acquainted with it determinately as a dwelling established for men. But as to form, this cognition of one and the same object is different in the two. With one it is mere intuition, with the other it is intuition and concept at the same time.[18]

What makes Kant's "native" different from anyone else is not that he lacks concepts altogether, but that he lacks a specific house concept. For whatever reason, the native has never come into contact with houses and is completely unacquainted with their function. He visually represents the various parts of the house facing him as we would, but something is still very different about what he sees. When we look at the house, we immediately recognize the object before us as being a house. But the native does not see the house as a house; instead he simply sees a large thing in the distance.

What this makes quite clear is that in order to be able to come into contact with multiple different objects and recognize them as being different sorts of things, I must be able to judge one object as being of one sort and the other object as being of another sort, which requires me to possess the relevant concepts for each class of objects. But the matter is still more complicated; since a concept on Kant's account is "a universal representation, or a representation of what is common to several objects, hence a representation *insofar as it can be contained in various ones*."[19] A concept refers to its object "mediately by means of a mark which can be common to several things" (A320/B377). As opposed to an intuition which refers to an object immediately, a concept refers to an object through a set of features that can be predicated to other objects that

---

[18] Jäsche Logic, V, 33, pg. 544. Translation amended slightly.
[19] JL 91, pg. 589

fall under it.[20] Since concepts are inherently universal, there remains the problem of how we are

to apply them to particulars through judgments; this is to be resolved by schemata.[21]

The schema of the concept is what allows us to subsume an empirical intuition under a

concept; it allows us to recognize the intuited particular as having the features contained in the

concept as marks. Kant illustrates this with the example of a triangle:

> No image of a triangle would ever be adequate to the concept of it. For it would
> not attain the generality of the concept, which makes this valid for all triangles,
> right or acute, etc., but would always be limited to one part of this sphere. The
> schema of the triangle can never exist anywhere except in thought, and signifies a
> rule of the synthesis of the imagination with regard to pure shapes in space
> (A141/B180).

The schema functions as a rule that allows the imagination to specify the shape of a triangle in

general, and is not limited to any particular triangle. It allows me to realize that the array of

sensations in front of me satisfy the marks for the concept of a triangle. This is why the image of

a triangle cannot play this role; it is inherently singular and by nature differs from the range of

possible triangles. To recognize a shape as a triangle, one must have the concept of a triangle and

the schema for that concept as well.[22]

Applying this to the case of Molyneux's man, it would seem that he has cube and sphere

concepts and has no trouble applying those concepts since he is able to distinguish them by

touch. The fundamental question is whether his concepts (and their schemata) are the same as

the concepts possessed by someone born able to see. If the concepts are the same in each case, it

---

[20] "Since no representation pertains to the object immediately except intuition alone, a concept is thus never immediately related to an object, but is always related to some other representation of it (whether that be an intuition or itself already a concept)" (A68/B93).

[21] My understanding of the role of schemata parallels Henry Allison's (See Allison, pg. 202-210). I take the role of schemata to be specifying the particular conditions under which a concept can apply and accept that they are needed for both empirical concepts and geometrical concepts. Paul Guyer has argued that Kant does not think that there is any problem in applying empirical and pure sensible concepts and that such concepts "basically are rules for applying predicates to particular objects or their images, and thus virtually identical to schemata" (Guyer, pg. 159). Since this dispute is beyond the scope of my argument and does not seem to affect it, I will simply assume that schemata are required for ordinary empirical and geometrical concepts.

would seem that a Kantian affirmative answer to Molyneux's question is simply unavoidable. However, if a case can be made that the cube and sphere concepts possessed by such a man are different in some crucial way, a case can be made that there is a framework for a negative answer.

In order to answer this question, we must first answer another question: what kind of concepts are being employed in this task? Here, it seems that the relevant concepts are either empirical concepts or they are *a priori* geometrical concepts that are constructed in pure intuition. If they are the geometrical concepts that are constructed in pure intuition, then it would be the case that Molyneux's man has the same cube and sphere concepts as anyone else. On the other hand, if there are empirical cube and sphere concepts that are doing the work, Molyneux's man might have significantly different concepts than someone born with functioning vision.

As I hope to make clear in the next few sections, there is something attractive about adopting either answer, but there are also significant problems with each. My strategy in what follows will be to examine each of these options on its own and consider the motivations for choosing one over the other, how each yields an answer to Molyneux's question, and the set of problems each option faces. I will begin with the option of taking the relevant concepts to be geometrical concepts since I believe that it is the option most attractive at first glance.

The First Option: The Relevant Concepts are Geometrical Concepts

In the first chapter of the Doctrine of Method, Kant contrasts philosophical cognition from mathematical cognition. Philosophical cognition is "rational cognition from concepts," while mathematical cognition involves the "construction of concepts." Kant tells us that the construction of a concept is "to exhibit *a priori* the intuition corresponding to it," which requires a non-empirical intuition and that such a concept must "express in the representation universal

validity for all possible intuitions that belong under the same concept" (A713/B714). His

primary example of geometrical concept construction is the construction of a triangle:

> Thus I construct a triangle by exhibiting an object corresponding to this concept,
> either through mere imagination, in pure intuition, or on paper, in empirical
> intuition, but in both cases completely *a priori*, without having had to borrow the
> pattern for it from any experience. The individual drawn figure is empirical, and
> nevertheless serves to express the concept without damage to its universality, for
> in the case of this empirical intuition we have taken account only of the action of
> constructing the concept, to which many determinations, e.g., those of magnitude
> of the sides and the angles, are entirely indifferent, and thus we have abstracted
> from these differences, which do not alter the concept of the triangle.
> (A714/B742)

Like triangles, cubes and spheres are shapes; they simply have an added dimension. This makes

it easily conceivable that we construct cube and sphere concepts in the same way we construct

the concept of a triangle: by pairing the intuition that corresponds to a figure with specific

features. Just like Kant's triangle example, the construction of these concepts might occur

through a drawing (or sculpted model), or it could be done entirely through imagination. Either

way, these concepts are constructed completely *a priori*, as they are not derived from any

particular experiences we have had.

Since these geometrical cube and sphere concepts are constructed *a priori*, the issue of

the possession or lack of an ability to represent objects through a specific sensory modality

would be completely irrelevant. The fact that one is blind would in no way impact one's ability

to construct these concepts. This would mean that Molyneux's man would possess the same set

of cube and sphere concepts as anyone else, which suggests that when vision is granted to this

man, nothing prevents him from being able to successfully distinguish the cube from the sphere.

But there are some odd, counterintuitive features of this line of reasoning. First, Kant's

discussion of concept construction is primarily focused on the use of these concepts in

geometrical proofs. This activity seems extremely foreign to the case of distinguishing two

different objects we see (e.g. distinguishing a tree and a school bus). Though most cases of this

would involve using empirical concepts, there is a sense in which the task we are interested in

seems to be a lot more like the task of distinguishing between the tree and the bus than it is like

the task of proving things about a given shape.

Second, it would be strange if our ability to make judgments like this were dependent on

our ability to do geometry in any sense. One might worry that the fact that the two figures given

to the man are apparently perfect geometrical shapes is a sort of red herring. It seems easily

conceivable that Molyneux's man could have been given a similar cross-modal recognition task

with entirely different figures as long as the new figures were of a similar size and material.[23]

The question of whether or not a given figure that can be recognized by touch will be recognized

with a new sense of vision still remains, but it seems less likely that one would be employing

constructed *a priori* concepts.

Third, the affirmative answer sketched out above assumes that the man will have no

trouble applying these concepts to representations from a new sensory modality. There is some

plausibility in this assumption because the gap between concept and a particular image would be

much smaller with geometrical concepts than empirical concepts.[24] By this, I simply mean that

there are a range of possible forms a specific shape can take, and in constructing the concept, we

determine what this range is. With empirical concepts, there would seem to be an indeterminate

range of possible instantiations of the concept. There is noticeably more work to be done by the

schema for the concept of a tree than there is to be done by the schema of the concept of a

triangle; there is a finite number of possible proportions a triangle can have, but there is an

---

[23] It would definitely matter how complex the figures are and how noticeably different their dimensions are. If the features are too complex or too similar in overall shape, the man's failure to distinguish them might not tell us anything interesting because such a task might be difficult for an ordinary person.
[24] See Allison, pg. 209

indefinite number of feature combinations that trees might possibly have. But this doesn't solve the problem. Although it should be simpler to recognize that a given empirical intuition instantiates the schema for a square than it is to recognize that it instantiates the schema of a tree, nothing guarantees that the man will be able to do this with an entirely new sensory modality in either case.

The Second Option: Empirical Cube and Sphere Concepts

The difficulties with the first option are the primary motivations for considering the possibility that there might be empirical cube and sphere concepts that are doing the work in distinguishing the cube and the sphere. The fact that cubes and spheres would obviously have corresponding geometrical concepts on Kant's account does not preclude the possibility that there might also be empirical cube and sphere concepts. If these empirical cube and sphere concepts are what we use to distinguish the figures, the strange consequence of linking perception too heavily with geometry is avoided altogether.

If it is the case that empirical cube and sphere concepts are required in the sort of distinguishing task Molyneux's man has to perform, the question of whether or not the congenitally blind have the same empirical concepts as the sighted has to be addressed. To answer the question of what sorts of cube and sphere concepts Molyneux's man might be in possession of, we must examine Kant's views on the formation of empirical concepts through the process of comparison, reflection, and abstraction. In many respects Kant's account of how we form empirical concepts resembles Locke's account of how we come to possess abstract ideas. Locke discusses two different sorts of abstraction in his Essay:

> …the Mind makes the particular *Ideas*, received from particular Objects, to become general; which is done by considering them as they are in the Mind such Appearances, separate from all other Existences, and the circumstances of real Existence, as Time, Place, or any other concomitant Ideas. This is called

ABSTRACTION, whereby Ideas taken from particular Beings become general Representatives of all of the same kind; and their Names general Names, applicable to whatever exists conformable to such abstract *Ideas*…[25]

…when time and a larger Acquaintance has made [children] observe, that there are a great many other Things in the World, that in some common agreements of Shape, and several other Qualities, resemble their Father and Mother, and those Person they have been used to, they frame an Idea, which they find those many particulars do partake in; and to that they give, with others the name Man, for Example.[26]

The first passage is the act of abstracting a simple idea from others, which yields an abstract idea of a single quality (e.g., whiteness abstracted from the color of chalk, snow, and milk). The second passage is the act of abstracting features from particulars in the sense of removing anything specific to each particular so that what remains is an idea of a kind like an abstract idea of a tree or a human being. Kant's account of comparison, reflection, and abstraction roughly follows Locke's account insofar as it involves both types of Lockean abstraction. Kant speaks of abstraction always being an act of "abstracting from *something*" and illustrates this with the example of thinking of the red color of a scarlet cloth exclusively.[27] Paralleling Locke's second type of abstraction, Kant describes how we can acquire a concept of a tree by comparing, reflecting, and abstracting:

I see, e.g., a spruce, a willow, and a linden. By first comparing these objects with one another I note that they are different from one another in regard to the trunk, the branches, the leaves, etc.; but next I reflect on that which they have in common among themselves, trunk, branches, and leaves themselves, and I abstract from the quantity, the figure, etc., of these; thus I acquire a concept of a tree.[28]

This resembles the second type of Lockean abstraction, where we come into contact with a variety of particulars and form a concept of a kind that they each belong to. While there are some differences between Locke and Kant on how we form concepts, there are enough

---

[25] Locke, Essay, II, xi, §9, pg. 159
[26] Locke, Essay III, iii, §7, pg. 411
[27] Jäsche Logic, 95, pg. 592 (Note 2)
[28] Ibid, 94-95, pg. 592 (Note 1).

similarities to make the comparison useful.[29] What is common to both Locke and Kant across

both types of abstraction is that we must first encounter some set of particulars (or qualities)

multiple times in order to abstract from those experiences. Thus, to form a green color concept, I

would need to first encounter a variety of green things. Similarly, to form a concept of a

screwdriver, I would have to encounter a variety of different particular screwdrivers (Phillips,

flathead, torx, hex, and so forth).

Since vision and touch represent objects quite differently with no significant overlap,

lacking the ability to represent objects visually would prevent one from forming any sort of

concepts that are derived from visual experiences. Molyneux's man would lack any empirical

concepts which would require abstraction from visual experiences, since he would have never

had any visual experiences. In effect, his cube and sphere concepts are restricted to concepts of

tangible cubes and tangible spheres. He can recognize each when touching them, since he would

have had a history of encountering cube-like and spherical objects and grouped them under

concepts based on their felt similarities. When vision is restored to this man, he will simply lack

cube and sphere concepts rich enough to make the relevant judgments, yielding a negative

answer.

This option, when traced out fully, commits Kant to a negative answer for Molyneux's

question. It clearly avoids some of the problems raised in the previous section, but it runs into a

problem that might be more severe. The major problem for this line of thought is that it requires

that there are both empirical and geometrical cube and sphere concepts, but the relationship

between these concepts is difficult to establish. The most important feature of Kant's discussion

of geometry is that he thinks that we can prove useful things with our pure sensible concepts and

---

[29] One important difference is that Kant is not committed to Locke's position on universals which denied any real existence to them. On this point, see (Longuenesse pg. 119-120).

that the things we prove are universally valid across all spatial objects. An immediate worry is that if empirical cube and sphere concepts are what allow us to distinguish these figures and not the geometrical concepts, then it becomes hard to see how we can prove anything useful *a priori* with these geometrical concepts. To put the worry slightly differently, if the geometrical concepts aren't being employed when making judgments like this, they seem to only be relevant within the confines of pure intuition.

A different, though not at all unrelated problem, is that this account allows for modality specific empirical concepts for each type of three-dimensional figure and there seems to be nothing unifying them. If these concepts are formed through abstraction, it makes sense that there could be separate concepts for visual cubes and tactile cubes, the first of which Molyneux's man would lack. While this yields a clear answer to Molyneux's question, it would open up the possibility of multiple geometries for each sensory modality. Again, this jeopardizes the usefulness of anything that we can prove using the geometrical concepts of pure intuition.

The Way Out: Modifying the First Option

If anything is clear from the previous two sections, it is that there are problems with trying to answer Molyneux's question on Kant's behalf with either of these strategies. The first option of taking the relevant cube and sphere concepts to be geometrical concepts appears to offer a simpler route to an answer, but has the odd feature of closely linking perceptual tasks of this sort with our ability to do geometry, which seem to be very different sorts of activities. If this leads us to consider the relevant cube and sphere concepts to be empirical concepts, we are faced with the considerably worse problem of trying to explain the relationship between the empirical spatial concepts and their constructed geometrical counterparts in a way that does not threaten the viability of geometry. Given the important status of geometry in Kant's writings,

this is a completely unacceptable option as it stands. If Molyneux's question is to be plausibly answered on Kant's behalf, we must find a more suitable framework for addressing it. In what follows, I will attempt to modify the first option so that its conclusion can be resisted while trying to mitigate some of the considerations that would steer one towards the second option.

Since it seems that the cube and sphere concepts relevant to Molyneux's question have to be the *a priori* concepts constructed in pure intuition, it seems that the initial problems identified with the first approach will have to be addressed. The first problem, that the task of distinguishing objects is at first glance extremely dissimilar to the task of constructing geometrical proofs, was one motivation for thinking that the relevant concepts were empirical. But once the peculiarities of Kant's few examples are noted, the gap between these two activities disappears. Kant's primary example of a constructed geometrical concept is a two-dimensional shape: the triangle. His major example of using this concept is the Euclidean proof that the sum of the three angles of any triangle is 180 degrees:

> [The geometer] begins at once to construct a triangle. Since he knows that two right angles together are exactly equal to all adjacent angles that can be drawn at one point on a straight line, he extends one side of his triangle, and obtains two adjacent angles that together are equal to two right ones. Now he divides the external adjacent angle which is equal to an internal one, etc. (A716/B744)

Contrast this with the standard cases of employing empirical concepts, and the major difference is that the examples of empirical concepts typically involve recognizing a given object as being of a particular type. Once it is pointed out that my geometrical concept of a rectangle would be employed in a judgment about the shape of my desktop, it is obvious that these concepts are not solely used in proofs. Also, since nothing about Kant's account prevents three-dimensional geometrical concepts, the dissimilarity problem vanishes. Both empirical and geometrical

concepts are employed in recognizing a given object; the geometrical concepts are simply employed when recognizing spatial features.

The closely related second problem, that the first option had the strange consequence of committing Kant to the claim that our ability to distinguish objects was dependent on our ability to do geometry in some sense, can also be dismissed. The motivation behind posing this problem was that the cross-modal recognition task given to Molyneux's man does not seem to be cheated if the figures were to be replaced with more complex shapes that one would be less likely to ever bother constructing. But this is likely incorrect because increasing the complexity of the figures too much might make it the case that even a normal person (someone who has never suffered from congenital blindness) would be unable to match felt and seen representations. If Molyneux's man were to try and fail, the failure would be easily explained away by the complexity of the shapes, and the result would be uninteresting. For an answer to Molyneux's question to be illuminating in any important sense, it would have to be the case that the figures be simple enough that a normal person could perform the task, and this limits us to fairly simple figures like cubes and spheres.

Another point about this second problem is that it steers one toward concluding that the relevant concepts are empirical. But if these concepts are empirical, the central marks that distinguish them from each other are that they have (or lack) specific spatial features like a specific number of edges or faces. These marks, on Kant's account, would have to be derived from geometrical concepts and since they are what seem to be doing the work, it seems that the other marks that would make them empirical concepts are superfluous.

The third problem is what requires the most attention. The argument of the first option assumed that since the relevant cube and sphere concepts were empirical and would be same

concepts possessed by Molyneux's man and anyone else, it has to be the case that an affirmative answer follows. But this assumes that there is no difficulty in applying these concepts, and this assumption is unwarranted. It is perfectly conceivable that one might be in the possession of a concept and not be able to apply it correctly in every case. It is the schema of a concept that specifies the conditions under which the marks of a concept are instantiated in an empirical intuition. The first option simply assumes that there are no problems with geometrical schemata processing sensory information in this case, and there are two reasons why this assumption would be problematic to maintain.

First, since cubes and spheres have an added dimension than their two-dimensional counterparts, representing them brings in the issue of perspective as a factor in being able to recognize a figure. Three-dimensional objects differ in appearance when we change perspectives. Consider how differently a cube shaped object might look to you when gaze at it from different angles. Approaching a particular face straight up, I see only one side of the cube. As I move in any direction, I start seeing the other sides and corners where edges meet. Precisely how much of each face I see and how many faces I see is determined by my angle. A similar account can be given for touch, and how what I feel differs based on what part of the cube I am making contact with. This adds a much wider range of possible representations that the schemata for geometrical concepts would have to interpret.

Second, Kant's account of vision and touch discussed earlier makes it even more difficult to maintain that someone would be able to apply concepts to representations from a new sensory modality. The geometrical concepts of cubes and spheres would have marks involving edges and faces that distinguish them from each other. Making the judgment that a particular figure represented in front of you is a particular sort of shape would require you to recognize the marks

in the representation, which in turn requires interpretation by the schema of that geometrical concept. There is not any reason to think that the ability to recognize those features tactually would automatically carry over to new modality unless there is some significant overlap between them. Since on Kant's account vision and touch represent things quite differently, it is *extremely* unlikely that Molyneux's man would be able to do this initially.

This modified framework for addressing Molyneux's question offers several distinct advantages over the two previously discussed options. It offers an account of how the primary motivations for preferring the second option are not as sound as they initially appear. It avoids the most problematic assumption of the first option: that we are automatically able to apply these geometrical concepts to our empirical intuitions without any problems. Finally, it avoids the problems posed by taking the relevant cube and sphere concepts to be empirical and allows for the possibility of a unified Kantian geometry.

There is, however, one thing missing that is needed to complete this framework. Since I am resisting the assumption that these geometrical cube and sphere concepts are able to be applied successfully to representations from a new (visual) sensory modality, I must offer an account of we learn to apply such concepts in judgments to replace the hole left over by ditching this assumption. In the next section, I will offer an account of how we can come to learn that an object instantiates a given geometrical schema based on a set of cues that can be different for the visual and tactile modalities.

Modality Distinct Cues, Examples, and a Secondary Role For Empirical Concepts

Since it is the case that the mere possession of a concept is not always sufficient for being able to apply the concept in a judgment, I must give an account of how we can come to learn that an object instantiates a specific geometrical schema. To do this, I want to pay special attention

to Kant's claim that "understanding in general is explained as the faculty of rules" and that the "power of judgment is the faculty of subsuming under rules" (A132/B171). Most important is his insistence that "although the understanding is certainly capable of being instructed and equipped through rules, the power of judgment is a special talent that cannot be taught but only practiced" (A134/B172). This "special talent" is something that one easily might lack even though one is not suffering from any defect with the understanding. The difficulty that arises from a poor ability to exercise judgment is an inability to apply rules to particular cases:

> A physician therefore, a judge, or a statesman, can have many fine pathological, juridical, or political rules in his head, of which he can even be a thorough teacher, and yet can easily stumble in their application, either because he is lacking in natural power of judgment (though no in the understanding), and to be sure understands the universal *in abstracto* but cannot distinguish whether a case *in concreto* belongs under it, or also because he has not received adequate training for this judgment through examples and actual business. This is also the sole and great utility of examples: that they sharpen the power of judgment. (A134/B173)

This gap between possessing universal rules and being able to apply them to concrete cases is the gap between possessing a concept and being able to recognize that a given object instantiates the marks of that concept, and this gap is closed by the schema of the concept. There are clearly cases where this is more difficult to do than others, making it something that one can improve upon through practicing. Kant is suggesting that one way to improve this faculty is to study examples of rules being applied to particular cases. As Kant puts it, "examples are the leading-strings for the power of judgment, which he who lacks the natural talent for judgment can never do without" (A134/B174).

What I want to suggest is that there are a set of tactile cues that we use to identify an object's shape while touching it. These cues are an awareness of how specific spatial features feel when represented, and are used by geometrical schemata to interpret tactile representations as instantiating the features of particular geometrical concepts. Examples of these cues could be

the specific feeling you get by running your hand over an edge as opposed to a flat surface, or the sharpness of a corner. Similarly, there are a set of visual cues for spatial features that we use to figure out if our visual representation instantiates a given geometrical schema. These cues could be an awareness of how these spatial features look when represented visually, perhaps under differing lighting conditions. Since on Kant's account vision and touch represent objects quite differently, there would have to be different tactile and visual cues; possessing an awareness of tactile cues would not entail an awareness of visual cues.

Where I to lack these cues, I would have a hard time identifying an object as being a particular geometrical shape. This means that I would have to learn to pick up on these cues in order to employ my geometrical concepts in recognizing objects by their specific shapes. One way that we could learn to use these cues that fits neatly into Kant's discussion of judgment is that we acquire the ability to pick up on them through encountering examples and making judgments about them. In effect, we practice making judgments regarding specific geometrical shapes until we are able to do it successfully.

Accepting this into the modified framework for addressing Molyneux's question has an added benefit: we can now offer an explanation for the role of empirical concepts in making judgments about the shape of objects without granting them the primary status they are given in the second option we discussed. We undoubtedly have a large number of empirical concepts that we acquire throughout our lives by abstracting from particular experiences. Many of these concepts will be of specific classes of objects (e.g. tools, trees, dogs, etc.), which typically have specific spatial determinations that are essential to them being what they are.[30] These empirical concepts would have to contain some of these spatial features as marks. Judging that a given

---

[30] I do not wish to be taken too literally on this. Objects of any type can clearly differ in size. There is usually a range of proportions that are highly relevant. Consider what features make a hammer look obviously different from a handsaw.

object is a hammer would require recognizing that it has the features of a hammer, which include

its hammer-like shape as opposed to some other shape. Forming empirical concepts like this and

employing them in judgments provide numerous examples of figures of specific geometrical

shapes. We can practice and improve our capacity to make judgments about spatial features

simply by doing ordinary things, making these some of our most practiced judgments.

Molyneux's man possesses the same cube and sphere concepts that anyone else has, and

is perfectly able to employ tactile cues in recognizing that a given figure has the features to

instantiate the schema of a specific geometrical concept. He can touch the cube and the sphere

and identify each successfully without any difficulty. But granting this man vision and having

him try to match previously felt figures with new visual representations will almost certainly be

unsuccessful. The cues that help us pick up on spatial features would be different for each

sensory modality. This man would simply lack an awareness of the relevant visual cues, making

it very hard for him to interpret a set of visual sensations as possessing the features of a cube or a

sphere. For him to make any useful judgments about spatial figures with vision, he will need

more practice.

Conclusion

I began by discussing attempts to answer Molyneux's question affirmatively on Kant's

behalf that are based on an interpretation of the Transcendental Aesthetic and argued that they

are unable to resolve the issue. Since Kant's discussion of space in the Aesthetic is about the

form of outer appearances and not their *matter*, it has little to tell us about how objects are

represented by each sense and the relationship between sensory modalities. This requires us to

look at Kant's views about the relationship between vision and touch and the role that concepts

and their schemata play in allowing us to distinguish objects. It then becomes a question of

central importance whether or not the blind and the sighted have the same cube and sphere concepts. Providing an answer to this question requires us to first determine whether or not the relevant cube and sphere concepts are *a priori* geometrical concepts or empirical concepts.

This gives us two initial plausible options for constructing a Kantian answer to Molyneux's question. The first option is to take the relevant cube and sphere concepts to be geometrical concepts that are constructed in pure intuition. Since these concepts would be *a priori*, it would have to be the case that a congenitally blind person like Molyneux's man would have the exact same cube and sphere concepts as anyone else. This would suggest that the Kantian answer to Molyneux's question would have to be affirmative. The second option is to take the relevant cube and sphere concepts to be empirical, which leads to the consequence that on Kant's account of empirical concept formation, Molyneux's man would simply possess cube and sphere concepts that are too impoverished to apply to visual representations in any useful way. This strongly supports a negative Kantian answer to Molyneux's question.

The first option suffers from the odd consequence that it seems to be linking the ability to perform basic perceptual tasks to our ability to do geometry, which would be strange to accept. It also assumes that the possession of a concept is sufficient for it to be applied successfully to representations of an entirely new sort. If this turned out not to be the case, the affirmative answer that so easily seems to follow will be inadequate. The second option, while avoiding these particular worries, faces the severe problem of creating a huge gap between empirical cube and sphere concepts and their *a priori* constructed counterparts. This would make it difficult for geometricians to prove anything useful using concepts constructed in pure intuition and it would open up the possibility that there might be multiple geometries for each sensory modality that represents spatial features.

Since there is something unattractive about both options, they both cannot be accepted as they stand. Given that the problems that followed from the second option are specifically tied to the issue of taking the relevant cube and sphere concepts to be empirical, the second option was abandoned altogether for a modified version of the first option. This modified framework accepts that the relevant cube and sphere concepts have to be the same geometrical concepts that are used in geometrical proofs, but resists the assumption that the mere possession of these concepts allows one to apply them successfully in judgments. In place of this assumption, I have offered an account of how we can learn to use tactile and visual cues to tell that a given object instantiates a particular geometrical schema by practicing with examples. Since Molyneux's man would have lacked opportunities to pick up these visual cues and there is not a major overlap between the tactile and visual modalities, it would be highly unlikely that the man would be able to visually distinguish between a cube and a sphere when vision is restored to him.

Works Cited

Allison, Henry. *Kant's Transcendental Idealism.* New Haven: Yale University , 2004.

Berkeley, George. "An Essay Towards a New Theory of Vision." In *Berkeley: Works on Vision*, edited by Colin M. Turbane, 19-97. New York , 1963.

Falkenstein, Lorne. *Kant's Intuitionism: A Commentary On The Transcendental Aesthetic.* Toronto: University of Toronto Press Incorporated, 2004.

Guyer, Paul. *Kant and the Claims of Knowledge.* New York: Cambridge University Press , 1987.

Hatfield, Gary. *The Natural and The Normative.* Cambridge: MIT Press, 1990.

Kant, Immanuel. "Anthropology Friedländer." In *Lectures on Anthropology*, edited by Allen Wood, translated by G. Felicitas Munzel, 37-256. Cambridge: Cambridge University Press, 2012.

—. "Anthropology from a Pragmatic Point of View." In *Anthropology, History, and Education*, by Immanuel Kant, edited by Robert Louden and Gunter Zoller, translated by Robert Louden, 227-429. Cambridge: Cambridge University Press, 2007.

—. "Critique of Practical Reason." In *Practical Philosophy*, edited by Mary J. Gregor, translated by Mary J. Gregor, 133-272. Cambridge: Cambridge University Press, 1996.

—. *Critique of Pure Reason.* Translated by Paul Guyer and Allen Wood. Cambridge: Cambridge University Press, 1998.

—. "Jäsche Logic." In *Lectures on Logic*, edited by J. Michael Young, translated by J. Michael Young, 521-640. Cambridge: Cambridge University Press, 1992.

Kuehn, Manfred. *Kant: A Biography.* Cambridge: Cambridge University Press , 2002.

Leibniz, G. W. *New Essays On Human Understanding.* Edited by Peter Remnant and Jonathan Bennett. Translated by Peter Remnant and Jonathan Bennett. New York: Cambridge University Press, 1982.

Locke, John. *An Essay Concerning Human Understanding.* Edited by Peter H. Nidditch. Clarendon Press: Oxford University Press, 1975.

Longuenesse, Beatrice. *Kant and the Capacity to Judge.* Translated by Charles T. Wolfe. Princeton: Princeton University Press, 1998.

Matthen, Mohan. "Active Perception and the Representation of Space." In *Perception and Its Modalities*, edited by Dustin Stokes, Stephen Biggs and Mohan Matthen. Oxford: Oxford University Press, Forthcoming.

Pastore, Nicholas. *Selective History of Theories of Visual Perception.* New York: Oxford University Press, 1971.

Reid, Thomas. *An Inquiry into the Human Mind on the Principles of Common Sense.* Edited by Derek R. Brookes. University Park: Pennsylvania State University Press, 1997.

Sassen, Brigitte. "Kant on Molyneux's Problem." *British Journal for the History of Philosophy* 12, no. 3 (2004): 471-485.

—. *Kant's Early Critics: The Empiricist Critique of Theoretical Philosophy.* New York: Cambridge University Press, 2000.

Schwenkler, John. "Do things look they way they feel?" *Analysis* 73, no. 1 (2013): 86-96.

Van Cleve, James. "Reid's Answer to Molyneux's Question." *The Monist* 90, no. 2 (2007): 251-270.