PhiMiSci
Philosophy and the Mind Sciences

Jackson, Diderot and the round and red cherries

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Abstract
This article explores what Diderot's treatment of Molyneux's question can teach us about *qualia*. Is there within perception an irreducible dimension of sensory donation that grants us access to specific knowledge, which cannot be obtained otherwise? In section 1, I place the story of the child who would never have seen red in the *Essay Concerning Human Understanding* in relation to Jackson's example of Mary the physicist who knows the whole theory of optics without ever having seen a colour. In section 2, I reinterpret Diderot's response, which offers an alternative approach to Molyneux's question and consequently to the problem of *qualia*. Indeed, Diderot considered the idea that a blind mathematician, upon gaining sight, could distinguish and demonstrate the respective properties of the circle and the square.

Keywords
Diderot · Jackson · Locke · Molyneux · Qualia

This article is part of a special issue on "Molyneux's question today", edited by Gabriele Ferretti and Brian Glenney.

Molyneux's problem not only involves the transferability of haptic information to the visual image, but also, through it, the question of the relationship between conception and perception. A blind person may possess some understanding of shapes and colours: however, one might question the extent to which having the concept of shape or colour constitutes a complete knowledge of it.

The Molyneux's question is rooted in Locke's philosophy as it concerns the relationship between idea and experience. Is there within perception a qualitative dimension that grants us access to specific knowledge, which cannot be obtained otherwise? Thus, can a blind person who knows by touch what is a cube and a sphere apply these terms to an experience with different qualitative properties? The transferability of empirical knowledge from one particular sensory modality to another can be interpreted in terms of the type of knowledge that a new experience is likely to provide, and the role that our concepts play in perception.

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Pierrès, R. (2024). Jackson, Diderot and the round and red cherries. *Philosophy and the Mind Sciences*, *5*. https://doi.org/10.33735/phimisci.2024.11581

This brief study is aimed at two main types of reader. Firstly, of course, to specialists in Locke and Diderot, who will find here, I hope, a new way of approaching the classic question raised by Molyneux. However, while my work is grounded in a historical study, it responds here to the call to propose a type of reading that fits into a contemporary context of discussion. In this sense, this interpretation is not strictly contextualist, but makes use of historical contributions to shed light on present-day problems, and the way in which they have been constituted. My aim in this brief article is not to reconstruct all the links in this great chain, but to indicate a general line. Thus, this study is aimed at a second type of reader, who is above all curious about the implications of Molyneux's question in contemporary philosophy of perception.

I will explore this set of questions through two stages. In section 1, I place Locke in relation to the contemporary discussion of *qualia*. In section 2, I reinterpret Diderot's response, which offers an alternative approach to Molyneux's problem and consequently to the problem of *qualia*.

1 Jackson and the color-blind physicist

I set the framework for this investigation by recalling its context in Locke, and its contemporary issues. On the one hand, the context of Molyneux's problem in the *Essay concerning Human Understanding* bears a striking resemblance to Frank Jackson's formulation of the *qualia* question. On the other hand, this interpretation poses a challenge to the conventional interpretation of Molyneux's problem. Let's remember that Locke did indeed develop what he meant by simple ideas, by means of the offbeat invocation of the Cartesian example of the piece of wax:[1] although sight and touch excite in the mind different ideas of the same object, like the color seen and the softness felt of the piece of wax, each of the qualities taken in itself is simple.[2] Thus, sight and touch each separately deliver specific, simple ideas: yellow is one simple idea, soft is another. If simple ideas are the materials of our knowledge, this means that just as man cannot create the physical materials he assembles to construct a building, so he cannot create the empirical materials he assembles to construct a reasoning.[3] So one can't create *ex nihilo* the idea of a perfume that he would never have smelled: if it were possible, a blind man could have the idea of colors.[4] Here's how the question was formulated in the *Essay*:

> He that attentively considers the state of a child, at his first coming into the world, will have little reason to think him stored with plenty

[1] Descartes (1982), II, AT, vol. IX-1, p. 23 and vol. VII, p. 30.

[2] Locke (1975), II, ii. 1.

[3] This is the point made in §2 of chapter 2, which unfolds all the consequences of conceiving ideas as materials.

[4] An argument that comes from Gassendi in the *Fifth Objections*. (See Descartes, 1982, vol. VII, p. 256).

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> of ideas, that are to be the matter of his future knowledge: It is by degrees he comes to be furnished with them. And though the ideas of obvious and familiar qualities imprint themselves before the memory begins to keep a register of time or order, yet it is often so late before some unusual qualities come in the way, that there are few men that cannot recollect the beginning of their acquaintance with them: And if it were worth while, no doubt a child might be so ordered as to have but a very few even of the ordinary ideas, till he were grown up to a man. But all that are born into the world being surrounded with bodies that perpetually and diversely affect them; variety of ideas, whether care be taken of it or not, are imprinted on the minds of children. Light and colours are busy at hand every-where, when the eye is but open; sounds and some tangible qualities fail not to solicit their proper senses, and force an entrance to the mind; but yet, I think, it will be granted easily, that if a child were kept in a place where he never saw any other but black and white till he were a man, he would have no more ideas of scarlet or green, than he that from his childhood never tasted an oyster, or a pineapple, has of those particular relishes.[5]

On first reading, this passage highlights the idea that children do not have a pre-existing stock of ideas at birth, but that they gradually acquire their knowledge, first through their sensory experiences with the world around them. Locke stresses the importance of the environment in the development of ideas, asserting that if a child were deprived of varied experiences, this would prevent the development of his ideas. We only have ideas that correspond to our limited number of senses, and we can't even imagine what a creature with different senses would perceive. What's more, a variety of ideas are imprinted on children's minds, whether they pay attention to them or not. This feature reinforces the passive nature of the acquisition of simple ideas: no form of judgment or even special attention seems to be involved. What's particularly remarkable in his argument is the final example, according to which if a child were kept in a place where he would never see anything but black and white until adulthood, he would have no ideas of red or green. On the one hand, this example foreshadows the case of the blind person, who is deprived of the simple ideas of vision. On the other hand, it presents a specificity around the idea that certain particular qualities would not be given to perception, like someone who would be color-blind or who would never have perceived a particular shade of color.[6] Vision and blindness are not an all or nothing relationship: someone might be color-blind or shape-blind. This Lockean example finds a thread in a contemporary argument by Franck Jackson in his discussion of physicalism:

[5] Locke (1975), II. iii. 20.

[6] Thus, I agree with Paterson when he describes blindness as "a too broad label" (Paterson, 2016, p. 3). See also the first section of Mounsey (2019). On the second point, see Hume (1992), I. i. §10, vol. 1, p. 315.

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> Mary is confined to a black-and-white room, is educated through black-and-white books and through lectures relayed on black-and-white television. In this way she learns everything there is to know about the physical nature of the world. She knows all the physical facts about us and our environment, in a wide sense of 'physical' which includes everything in completed physics, chemistry, and neurophysiology, and all there is to know about the causal and relational facts consequent upon all this, including of course functional roles. If physicalism is true, she knows all there is to know. For to suppose otherwise is to suppose that there is more to know than every physical fact, and that is just what physicalism denies. [...] It seems, however, that Mary does not know all there is to know. For when she is let out of the black-and-white room or given a color television, she will learn what it is like to see something red, say.[7]

Jackson gives the argument an anti-physicalist twist. Mary, although she has no experience of colors, knows all that is possible to know about them in the third person: in Lockean terms, she has access to all the *physical considerations* regarding experience. Yet she has no access to first-person information, to "what it is like": the non-conceptual contents of perception that Jackson calls *qualia*. In this respect, Mary is comparable to a color-blind subject suddenly given the ability to perceive colors. Jackson's question, however, is not so much whether Mary would be able to distinguish green from scarlet, whose physical properties she has learned from books. Rather, his question is whether Mary would learn anything from seeing red. Jackson suggests that the most likely answer is that Mary would indeed learn something new. But this answer raises an interpretative difficulty for us: how are we to understand its relation to the Molyneux problem? Are we to deduce that the fact that Mary is learning something *new* means that she wouldn't be able to distinguish between red and green immediately? Or should we understand the mere fact that Mary is *learning* to mean that red and green will immediately teach her something, that she will immediately receive non-conceptual information?

This background sheds new light on Molyneux's problem and the various responses to it. In a way, Molyneux's problem contrasts with the *scenario* of the child who would never have seen the color red. In the former case, seeing red appeared as the necessary and sufficient condition for receiving the idea of red. However, in terms of perception, not only does Locke emphasize in chapter 9 that we can better know what perception is by reflecting on what we do when we perceive,[8] but he also seems to suggest that a form of attention, or even judgment, is necessary for perception to be effective.[9] In this sense, it is not so clear that we can simply align Locke's and Jackson's answers. The claim that Jackson squarely fits

[7] See Jackson (1986), p. 291.

[8] Locke (1975), II, 9, §2.

[9] Locke (1975), II, 9, §3.

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within Locke's intellectual lineage is not straightforward. Rather, the answer to Molyneux's problem hinges on the premise that judgment can significantly influence perception.[10] So we perceive a shaded plane on a painting as a sphere. This context has given rise to a dispute of interpretation as to the status of the idea of space, which Locke claims can be acquired through various sensations, both sight and touch. Thus some interpreters explain that Molyneux's man is endowed with the ability to see in three dimensions as soon as his sight is restored, but not with the knowledge that his visual and tactile ideas refer to the same objects.[11] In contrast, others claim that the material given in experience is reduced to lights and colours, not figures, or even a two-dimensional image.[12] Finally, a more moderate position insists that Molyneux Man's failure involves his inability to use experience to generate a three-dimensional image from a two-dimensional image.[13]

But above all, on the other hand, what is at stake is the transformation of external experience by an internal factor, and hence the transformed character of experience as a whole. As such, my point is less about the spatiality of perceived experience than about the transferability of concepts drawn from touch to the visual image and the way sensations are altered by judgment. Habit makes us infer cause, or perceive form through the colors and shadows actually given.[14] This point is decisive for two reasons. Firstly, it is crucial to understanding and defining Locke's notion of experience. What we call experience does not so much designate a kind of given, of sense data, bringing thought or ideas back to their origins, as when we say that ideas come from experience, but rather a certain way of giving form to elements that are initially apprehended as new or strange, impossible to distinguish, since recognition presupposes a form of habit. Secondly, it has implications for contemporary theory of perception, in terms of the debate between conceptualism and non-conceptualism. Is the content of perception inherently informed by our concepts, or is there an essential dimension of experience that goes beyond or before our concepts?[15] This question appears in the way Locke quotes Molyneux's response, which refers to the way « he has not yet attained the experience, that what affects his touch so or so must affect his sight so or so ». From this angle, Locke's answer appears more complex: he does not deny concepts any role in perception, nor does he simply oppose sensation and concepts, but this conceptual judgment is based not so much on innate categories, as on habits constructed by the accumulation of similar experiences. Sensation does not immediately give ac-

[10] Chottin (2014).

[11] Berchielli (2002), p. 47-65.

[12] See Jacovides (2012; 2015); as well as Bolton (1976).

[13] See Ayers (1993) and Hamou (2018).

[14] See Paterson, *op. cit.*, p. 43 and Tabb (2022), p. 385 sq.

[15] See Sandikcioglu *et al.*, (?).

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cess to knowledge as such; it only becomes a structuring concept through habit.[16] This brings us back to a difficulty that remains, and that Locke's relation to Jackson makes clear: does what enables experience to make sense (*i.e.* to be distinguished and to take on a determined meaning for us) come from habits acquired through experience, or from concepts constructed by reason?

In fact, Jackson attempted to restrict and clarify the scope of his own point: "The knowledge argument does not rest on the dubious claim that logically you cannot imagine what sensing red is like unless you have sensed red."[17] Thus, against a possible Humean objection, Jackson specifies that powers of imagination are not to the point. On the other hand, there is indeed a dimension in Jackson's perspective which relates to the relationship between first person experience and the experience of others: "[A]fter Mary sees her first ripe tomato, she will realize how impoverished her conception of the mental life of others has been all along. She will realize that there was, all the time she was carrying out her laborious investigations into the neurophysiologies of others and into the functional roles of their internal states, something about these people she was quite unaware of." This argument is of the greatest importance from our perspective. It involves the reduction of phenomenality to *data* that are only accessible in the first person. It is therefore a question of the place of phenomenality, or of *qualia*, in knowledge, and of the relationship of these qualitative aspects to the quantitative order. *Qualia* designate what in experience is irreducibly extra-conceptual, what it feels like to see a red cherry or a blue sphere. Although Jackson and Locke have different horizons, corresponding to different intellectual contexts, it seems possible to draw a general lesson that can be approached from two angles. On the one hand, Jackson's position seems to defend the idea that the blind child who is given his sight back would have access to new, non-conceptual knowledge, including his experience of figures, the sphere and the cube. But on the other hand, Locke's response does not univocally refer to the inadequacy of the concept acquired by touch to ensure recognition by sight: the relationship between custom and concept opens a breach into which Diderot's critique will develop.

2 Diderot and the blind mathematician

Diderot reopened the case in his *Lettre sur les aveugles*, which can be reinterpreted from the dual point of view of his relationship with Locke and the contemporary issues developed by Jackson. Diderot introduces an important methodological shift in tackling Molyneux's problem: one seeks to restore sight to the blind, but if one were to look more closely, one would find that there is just as much to be gained

[16] In return, the structuring concept must be understood as having a passive synthesis function, if indeed "habituation can be understood as the process by which actions become passions." (Tabb, 2022, p. 387).

[17] Jackson (1986).

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for philosophy by questioning a blind man "de bon sens".[18] The key point is the reference to the blind man's "*bon sens*". We can understand what Diderot means by this by first considering the two examples he offers. Diderot then starts from a methodological precaution, and from a critique of experience. He finally offers his own response, discussing the immediacy clause, and analyzing the status of the analogy.

Firstly, the blind man from Puiseaux, whom he questions, seems able to talk about and judge things that he cannot see.[19] From this point of view, like Mary the physicist, he seems to be talking about properties of the experience of others of which he does not have a complete experience.[20] From the outset, the blind person is presented not so much as disabled, but as having developed remarkable and singular abilities: for example, faces offer no greater diversity than that which he is able to observe in voices.[21] But the decisive point arises around the question of how a congenitally blind person forms ideas about figures.[22] Diderot replied that where a sighted person combines visible points, a blind person combines palpable points.[23] What is the relationship between visible points and tactile points, and therefore between visible figures and tactile figures? I will return to this question which requires separate examination.

Secondly, Diderot uses the example of Saunderson, a blind mathematician, and his calculating machine.[24] Saunderson taught mathematics at Cambridge Univer-

[18] I quote the translation of Diderot, *Letter on the Blind* included in the work of Tunstall, *Blindness and Enlightment,* New York, Continuum, (2011), p. 204 "People are trying to give sight to those born blind, but on closer examination, I think it would be found that philosophy has much to gain by questioning a blind man of good sense."; Diderot, *Lettre sur les aveugles,* Paris, Flammarion, (2000), p. 65: "On cherche à restituer la vue à des aveugles-nés; mais si l'on y regardait de plus près, on trouverait, je crois, qu'il y a bien autant à profiter pour la philosophie, en questionnant un aveugle de bon sens".

[19] Diderot, (2011), p. 172 sq.; Diderot, (2000), p. 30 sq.: The blind man may use the term 'beautiful' advisedly, but then he is not judging, he is reporting the judgement of those who can see. But does this mean that there is only beauty for sight in Diderot's perspective? Compare this passage to the way Diderot suggests that Saunderson saw through his skin, and that there could be a painting for the blind: one in which their own skin is used as a canvas (p. 58). Moreover, Diderot adds that: "l'aveugle discourt si bien et si juste de tant de choses qui lui sont absolument inconnues, que son commerce ôterait beaucoup de force à cette induction que nous faisons sans savoir pourquoi, de ce qui se passe en nous, à ce qui se passe au-dedans des autres." (p. 31) Thus the blind man at Puiseaux is even able to explain how a mirror works; however, this mention is ironic, as the blind man only achieves erroneous knowledge.

[20] Diderot in turn draws on a certain relationship with Descartes and the way he uses the figure of the blind man to explain vision in the *Dioptrique* (2000, p. 33). See Charrak (2000).

[21] Diderot, (2011), p. 176; Diderot, (2000), p. 34. The man-born-blind is also able to apply correctly the term 'beautiful'; see Duflo (2003), p. 103.

[22] Diderot, (2011), p. 181; Diderot, (2000), p. 39.

[23] Ibid.; Diderot, (2000), p. 40. My aim here is not to discuss the reduction of the figure to a series of points, because it seems to me that Diderot's argument goes beyond this question. See Cohen & M. Matthen (2020), p. 325.

[24] Diderot, (2011), p. 185; Diderot, (2000), p. 45. See also Tunstall's commentary about Saunderson, *op. cit.*, p. 42, as well as Paterson, *op. cit.*, p. 124, and Cléro (1999).

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sity with astonishing success. He lectured in optics, gave speeches on the nature of light and colour, and explained the theory of vision. In this sense, his situation bears more than a resemblance to the figure of Mary in Jackson's example. Saunderson knows everything there is to know about the theory of vision, to the point of being able to teach it, without being able to see himself. How should we interpret this extreme case of the "ignorant master"?[25] Diderot offers a remarkable interpretation of this case, distinguishing between what in a physicomathematical explanation is phenomenon, hypothesis and calculation. However great the acuity of his mind, the phenomena of light and colour were unknown to Saunderson.[26] As such, he was able to understand the hypotheses, but not the reasons for preferring one over the other on the basis of the phenomena: for him, the question became purely mathematical. Thus, in scientific practice (at least, in certain areas of science), there is an attention to phenomenality as such, which gives reasons for choosing between different theoretical models. There is not so much an opposition between the quantitative domain of the physical sciences and the qualitative domain of ordinary experience, but a link between the two: physical knowledge involves a relationship to phenomenality that constitutes an essential criterion for deciding between different equally rational hypotheses. Knowledge of optics is not completely impossible for the blind person, but a qualitative part of the question effectively escapes him. This qualitative dimension is not so much what is irreducible to the physical explanation as one of its anchor points.

Within this framework, Diderot came to propose his own answer to Molyneux's problem. He begins by formulating a methodological precaution: "If the experiments were to be at all reliable, the subject would need, at least to have been prepared for them a long time in advance, and have been brought up as and perhaps made into a philosopher."[27] The fact that the subject should have been "prepared" can mean two things. Firstly, to avoid the uncertainty associated with the way in which the subject recovers from the operation, according to Diderot, observations should not begin until long after the operation. But then, Diderot suggests that the subject of the experiment should be qualified in a particular way. Indeed, according to Diderot, Molyneux's problem really covers two issues.[28] It is quite remarkable that he pays attention to both dimensions at the same time. On the one hand, there is the physiological problem of the time needed for the eye organ to recover from cataract surgery. On the other hand, once the eye has become able to see, there is the epistemological problem relating to the ability to discern figures. Or, to put it better, once this physiological condition

[25] On this point, see Rancière (1987) and Mounsey, (2019).

[26] For a discussion of this point, see T. Reid, *An Inquiry into the Human Mind,* chap. VI, section II; and Powell, (2021), p. 119 sq.

[27] See Diderot, (2011), p. 204 (as well as her commentary p. 131); "Si l'on voulait donner quelque certitude à des expériences, il faudrait au moins que le sujet fût préparé de longue main" Diderot, (2000), p. 65 ; see Duflo (2003), p. 141 sq.

[28] Diderot, (2011), p. 208; Diderot, (2000), p. 69.

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has been met, Diderot diffracts Molyneux's problem into a triple capacity: to discern, to designate and to demonstrate. In other words, Diderot does not consider Molyneux's problem in the abstract, without meddling with physical considerations. But neither did he reduce the question to a practical case, which Cheselden's operation would be able to settle unequivocally.

Diderot offers a critique of the surgical operation, performed by surgeon Cheselden, to lower the cataracts of a young patient blind from birth, and of the interpretation that was made of it. For a long time, the young man operated on by Cheselden was unable to distinguish between sizes, distances and figures. He found it difficult to assess the relative size of objects, and to understand that their apparent size varies according to whether they are closer or further from the eye.[29] Thus he could not distinguish what he had judged to be round, using his hands, from what he had judged to be angular: which seems, on first reading, to vindicate Locke. Another aspect mentioned by Diderot even seems to support Locke's line of response. This is the mention of the painting, which the young man does not immediately perceive as being in relief, and whose mode of action he fails to understand.[30] In short, what Diderot initially highlights is the naivety of this young blind man whose sight is restored. Thus, the experienced eye can see better than the new organ of the child or the naive one of the newly-sighted person.[31]

When we begin to see, we are affected by a multitude of confused sensations, which only gradually become distinct through reflection. One could understand that it is up to reflection to untangle the skein and allow a distinct experience. But reflection is itself part of experience, or a dimension of it, in Locke's sense. As a result, temporality makes it possible to identify regularities: the work of reflection speeds up this identification, but is itself inscribed in time. Within the multitude of mixed affects that make up experience, it is a matter of identifying these complex sets that constitute objects, what Diderot refers to as seemingly conventionnal analogies.[32] These analogies involve the possibility of transferring lessons learned from one sense to another: when an object seems rough to the touch, it often looks striated to the eye, and conversely, a smooth surface visually appears plain. Let us emphasise the significance of this "analogy", to which we shall return. On the one hand, Diderot seems to be suggesting that this transfer is arbitrary, implying that it is only through experience that such associations are possible. On the other hand, if this transfer feeds experience, it in no way precludes the possibility of learning

[29] Diderot, (2011), p. 209; Diderot, (2000), p. 71.

[30] This reaction is paralleled by the reaction of the "savages", who take the painted figures to be real, and are surprised that they do not respond. This suggests a cultural construction of the aesthetic attitude, and more specifically, of the way of relating to a painted image. See Descola, (2021).

[31] See Paulson (1987).

[32] Diderot, (2011), p. 210 "the analogy between them, which seems to be purely conventional". Nevertheless, However, Tunstall's translation here leaves out the important notion of *institution*: "des analogies qui semblent être de pure institution" Diderot, (2000), p. 72. See Chottin, (2014), p. 455-456.

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from a single sense, or of the eye learning, or "experiencing itself".[33] This leads to a subtle theoretical argument: the use of one of the senses can be perfected and accelerated by observations of the other but there is not necessarily any essential dependence between their functions. While one sense can benefit from observations made by another, they aren't fundamentally reliant on each other. They complement each other, providing mutual support, but they still retain individual autonomy, given enough time to develop.[34]

In this sense, Diderot does indeed raise the question of the immediacy clause ("at first sight"). He discusses it in two ways, by referring it to the physiological period of convalescence, but also to the formation of reflection. Admittedly, Cheselden can offer a fact: the young blind man he operated on was not able to distinguish the sphere from the cube; however, the interpretation of this fact is complicated, as long as the time of habituation of the eye,[35] and the training of the blind person, have not been specified. It is this second aspect of Diderot's response that seems to us to be the most relevant with respect to the contemporary problem of *qualia*. His answer leads him to distinguish between several kinds of people, from uneducated people to a blind metaphysician on whom we would try the experiment.[36] But the decisive point is actually made when we move from Locke to Saunderson. If the geometer and the metaphysician are both sufficiently educated to distinguish the circle from the square by reasoning, the metaphysician remains in a state of uncertainty.[37] On the contrary, the geometer is able to demonstrate the properties of the circle, and to distinguish them with certainty from the properties of the square.[38] I note an implicit concession by Diderot, who substituted the circle for the sphere and the square for the cube, recognising that we judge distances only by experience.[39] But this reservation only serves to highlight the decisive point: the judgement discerning the circle from the square is possible without the time of experience, provided we have acquired sufficient mathematical knowledge. The point concerns the status of perceptual judgement.

[33] Diderot, (2011), p. 211 "give itself experience"; or in French: "s'expérimenter lui-même" (*Ibid.*)

[34] So it is not touch that teaches the eye to distinguish colours (see Duflo (2003), p. 143; Diderot, (2011), *Ibid.*; Diderot (2000), p. 73-74).

[35] Diderot, (2011), p. 213 "However, if you were to tell me that a man-born-blind would not be able to see anything for two months, I should not be surprised. I should simply conclude that the organ needs experience and not that it needs touch for that experience." Diderot, (2000), p. 75 "Me dira-t-on qu'un aveugle-né n'a rien distingué pendant deux mois, je n'en serai point étonné; j'en conclurai seulement la nécessité de l'expérience de l'organe, mais nullement la nécessité de l'attouchement pour l'expérimenter."

[36] D. Diderot, (2011), p. 215 ; Diderot, (2000), p. 78.

[37] On why Metaphysics seems to lead to skepticism., see Duflo, *op. cit.*, p. 148.

[38] Duflo shows that the geometer is able to demonstrate this correspondence that others, including the metaphysician, can only intuitively guess (*Ibid.* "Car le géomètre, quant à lui, peut donner une réponse qui remplit les conditions posées et qui démontre cette correspondance que les autres ne peuvent que pressentir.").

[39] See Evans (1985).

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The ability to discern figures takes a certain amount of time to acquire. But reasoning condenses this time to such an extent that, once the physiological conditions have been met, the perceptual judgement itself can be correct without repetition of experiments, provided we are already sufficiently informed. Strictly in terms of the properties of the figure, Saunderson would learn nothing if his sight were restored. It should be pointed out, however, that this does not apply to objects in volume (what Diderot calls "saillies") and especially to concrete, everyday objects (gloves or shoes) or to people whom a blind person might confuse with machines. It is true that the analogies that allow properties to be transferred from one sense to another are most often acquired through repetition of similar cases, but they are not then fully stabilised. On the other hand, these analogies can be fixed by mathematical reasoning. Even if we don't need explicit mathematical reasoning to help us organize our daily experience, geometry can help us to unfold and stabilize the anticipations performed in the ordinary perception. Indeed, geometry determines certain analogies that are presaged by experience. In other words, sensible experience can stabilise and organise itself. But mathematical reasoning makes it possible to determine the analogies that organise experience, and in particular enable information to be transferred from one sense to another.

3 Conclusion

I began by reinterpreting Locke's philosophy in light of the contemporary problem of *qualia*. Initially, it appeared that Locke leaned towards the notion that the blind lack a complete understanding of color, and that gaining sight would introduce new knowledge. There is indeed within perception an irreducible dimension of feeling that grants us access to specific ideas, which cannot be obtained otherwise. What we say about the red of cherries to a blind person remains foreign to him. However, I observed from this stage that Locke's answer was not unambiguous, because the blind man who regains his sight is also not immediately capable of learning something from visual experience, nor of transferring his knowledge acquired through touch to their newfound ability to see.

Diderot reopens the question of whether this transfer is possible, but with stricter methodological precautions. He finds the immediacy condition inherent in the Molyneux problem somewhat ambiguous. According to him, it is crucial to allow sufficient time for the eye to adjust physiologically to sight, and to differentiate between various cases of blindness. While an uneducated individual might struggle to translate tactile knowledge into visual understanding, a mathematician could successfully navigate this transition and even provide a demonstration of it. In this sense, certain relations of analogy between our senses are capable of being determined and demonstrated by geometric means.

However, Diderot does not exclude any phenomenal dimension akin to *qualia* in a contemporary perspective. What is true for round is not entirely true for red. The blind mathematician can understand the hypotheses, but he lacks one of the

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criteria which properly pertains to phenomenality. The qualitative aspect is not separate from the quantitative; rather, they are intertwined. On one hand, scientific description is not for Diderot a castle in the air, it must be grounded in lived experience. On the other hand, scientific methods help delineate, determine and demonstrate cross-modal relationships observed in experience. In this vein, geometry enables us to translate similarities into analogies. This approach to determining the potential for transfer is what enables the blind mathematician to bridge haptic properties with visible ones.

References

Ayers, M. (1993). *Locke: Epistemology xand ontology*. Routledge.

Berchielli, L. (2002). Color, space and figure in Locke: An interpretation of the Molyneux problem. *Journal of the History of Philosophy*, *40*(1), 47–65. https://doi.org/10.1353/hph.2002.0002

Bolton, M. B. (1976). The origins of Locke's doctrine of primary and secondary qualities. *The Philosophical Quarterly*, *26*(105), 305. https://doi.org/10.2307/2218861

Charrak, A. (2000). Géométrie et métaphysique dans la lettre sur les aveugles de Diderot. *Recherches Sur Diderot Et Sur l'Encyclopédie*, *28*. https://doi.org/10.4000/rde.112

Chottin, M. (2014). *Le partage de l'empirisme: Une histoire du problème de Molyneux aux XVIIe et XVIIIe siècles*. Honoré Champion éditeur.

Cléro, J.-P. (1999). Saunderson ou l'âme au bout des doigts. *Voir*, *18*, 30–45.

Cohen, J., & Matthen, M. (2020). What was Molyneux's question a question about? In G. Ferretti & B. Glenney (Eds.), *Molyneux's Question and the History of Philosophy* (1st ed., pp. 325–344). Routledge. https://doi.org/10.4324/9780429020377-29

Descartes, R. (1982). Méditations métaphysiques (1641). In C. Adam & P. Tannery (Eds.), *Oeuvres de descartes: Vols. 7 & 9*.

Descola, P. (2021). *Les formes du visible: Une anthropologie de la figuration*. Éditions du Seuil.

Diderot, D. (2011). Letter on the blind. In K. E. Tunstall (Ed.), *Blindness and enlightment*. Continuum.

Diderot, D., Hobson, M., & Harvey, S. (2000). *Lettre sur les aveugles à l'usage de ceux qui voient: Lettre sur les sourds et muets à l'usage de ceux qui entendent et qui parlent*. Flammarion.

Duflon, C. (2003). *Diderot philosophe*. Honoré Champion.

Evans, G. (1985). *Collected papers*. Clarendon press.

Hamou, P. (2018). *Dans la chambre obscure de l'esprit: John Locke et l'invention du mind*. Ithaque.

Hume, D. (1992). Treatise of human nature. In T. Green & T. Grose (Eds.), *The philosophical works*. Scientia Verlag.

Jackson, F. (1986). What mary didn't know. *The Journal of Philosophy*, *83*(5), 291. https://doi.org/10.2307/2026143

Jacovides, M. (2012). Locke and the visual array. *Philosophy and Phenomenological Research*, *85*(1), 69–91. https://doi.org/10.1111/j.1933-1592.2010.00439.x

Jacovides, M. (2015). Locke on perception. In M. Stuart (Ed.), *A companion to locke* (pp. 175–192). Wiley-Blackwell.

Locke, J. (1975). *An essay concerning human understanding* (P. H. Nidditch, Ed.). Clarendon Press.

Mounsey, C. (2019). *Sight correction*. University of Virginia Press.

Paterson, M. (2016). *Seeing with the hands: Blindness, vision, and touch after Descartes*. Edinburgh University Press.

Paulson, W. R. (1987). *Enlightenment, romanticism, and the blind in France*. Princeton University Press.

Powell, R. (2021). *Perception and analogy: Poetry, science, and religion in the eighteenth century* (1st ed). Manchester University Press.

Rancière, J. (1987). *Le maître ignorant: Cinq leçons sur l'émancipation intellectuelle*. Fayard.

Tabb, K. (2022). Locke on habituation and the association of ideas. In J. Gordon-Roth & S. Weinberg (Eds.), *The Lockean mind*. Routledge.

Pierrès, R. (2024). Jackson, Diderot and the round and red cherries. *Philosophy and the Mind Sciences*, *5*. https://doi.org/10.33735/phimisci.2024.11581