Cavendish and Berkeley on Inconceivability and Impossibility

(Working title: ‘I’ll conceive it when I see it: Cavendish and Berkeley on Inconceivability and Impossibility’)

Abstract:
In this paper, I compare Margaret Cavendish’s argument for the view that the colours of objects are inseparable from their ‘physical’ qualities (such as size and shape) with George Berkeley’s argument for the view that the secondary qualities of objects are inseparable from their primary qualities. By reconstructing their respective arguments, I show that both thinkers rely on the ‘inconceivability principle’: the claim that inconceivability entails impossibility. That is, both premise their arguments on the claim that it is impossible to conceive of an object that has size and shape but (e.g.) no colour. I argue that Cavendish, like Berkeley, accepts the inconceivability principle on the grounds that it is impossible to conceive of something that could not, in principle, be perceived and, in turn, that something imperceptible could not possibly exist. Consequently, I argue, both Cavendish and Berkeley are committed to an ‘empiricist’ modal epistemology: one wherein we gain knowledge of what is possible on the basis of what we could, in principle, perceive. For this reason, I conclude that there is more empiricism (albeit of the Berkeleian rather than, say, the Baconian variety) in Cavendish’s epistemology than current scholarship suggests.

Keywords: Cavendish, Berkeley, inconceivability, impossibility, colour, primary and secondary qualities
**Introduction**

In her 2015 paper, ‘Margaret Cavendish on Perception, Self-Knowledge, and Probable Opinion’, Deborah Boyle explains that

> Although scholarly interest in Margaret Cavendish’s philosophical views has steadily increased over the past decade, her epistemology has received little attention, and no consensus has emerged. (2015, 438)

Boyle’s point is that there is no consensus on how best to characterise Cavendish’s epistemology. She goes on to explain that Cavendish has been interpreted variously as a sceptic, as “immoderately devoted to Cartesian rationalism”, and as committed to an alternative epistemology to that of both the empiricists and the rationalists. Over the last half-decade, scholarly interest in Cavendish’s philosophy has continued to grow. However, the jury is still out regarding how we should characterise Cavendish’s epistemology and still no consensus has emerged. With that in mind, my aim in this paper is to draw attention to a feature of Cavendish’s epistemology that, I suggest, ought to open a new line of inquiry. Note that, on Boyle’s reading of the situation, the possibility that Cavendish is an empiricist, of some form or another, has not been seriously pursued. This is perhaps understandable since there is at least one *prima facie* reason for thinking that Cavendish is unsympathetic to empiricism. One of the aims of her *Observations Upon Experimental Philosophy* (1666) (henceforth: OEP) is to critique the empirical method in the natural sciences made famous by Francis Bacon and later practised by members of the Royal Society. The experimental philosophers she has in mind include Robert Hooke and Robert Boyle (OEP 4-5, 48-49). It thus seems reasonable to attribute to her a certain degree of hostility towards empirical approaches to knowledge.

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1 Similarly, in her 2009 paper, Kourken Michaelian suggests that there has not been a “sustained enquiry into the epistemological dimension of Cavendish’s natural philosophy” (2009, 31). Boyle’s paper goes some way to rectifying that, but it remains the case that several aspects of Cavendish’s epistemology are under-discussed.
2 Boyle herself concludes that Cavendish is a ‘modest’ sceptic and that Cavendish’s epistemology is closest to Hume’s ‘mitigated’ or ‘constructive’ scepticism (2015, 447).
3 Meyer (1965, 2).
Yet, it’s worth noting that what Cavendish thinks should take precedence over the arts of experimental philosophers is what she calls “a perfect natural eye” and “regular sensitive perception”. As such, while she is sceptical of the empirical method as it is employed by experimental philosophers, it is not implausible to suggest that she is sympathetic to ‘ empiricism’ more broadly construed. In fact, her emphasis on the reliability of the naked eye, rather than microscopes and telescopes, brings her into alignment on this issue with at least one thinker typically characterised as an ‘ empiricist’, namely, Berkeley.® Like Cavendish, Berkeley rejects the claim that scientific instruments like microscopes – much-lauded by experimental philosophers like Boyle (see, e.g., 1665, Preface iii–iv) – provide us with knowledge of the “real natures of things” in the world (DHP 185) and instead maintains what we see through a microscope is a different world entirely from the one we see with the naked eye (DHP 245).® Similarly, Cavendish picks up on the experimental philosophers’ claims that scientific instruments show us “new worlds” (e.g., Boyle 1665, Preface iv) and raises the question of how learning about new worlds can possibly help us to better understand our own (OEP, 4). Berkeley’s views constitute clear evidence that one can be an ‘ empiricist’ whilst also expressing scepticism towards the empirical sciences. This common ground, then, constitutes a prima facie reason to think there might be at least a touch of empiricism, albeit of the Berkeleian rather than the Baconian variety, in Cavendish’s epistemology.

To be clear, it is by no means my intention to argue that Cavendish should be characterised straightforwardly as an empiricist. My aim is more modest (and less controversial): I simply want to argue that, on top of their shared scepticism of scientific instruments, there is a further important similarity between Cavendish and Berkeley’s epistemologies. The respect in which their views are similar, I argue, is that both accept the claim that ‘inconceivability entails impossibility’ for reasons concerning the relationship between conception, perception, and existence. Both argue that we could not possibly perceive something that it is not possible for us to conceive. In turn, both have reasons for thinking this means that something inconceivable could not possibly exist. My claim is that, consequently, Cavendish and Berkeley both accept what we

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5 Following Shapiro (2016), I take it that the canonical ‘ empiricists’ are Locke, Berkeley, and Hume, while the canonical ‘ rationalists’ are Descartes, Leibniz, and Spinoza.

6 For discussion of Berkeley’s views on microscopes, see Wilson (1997, 244-48).
might call an ‘empiricist’ modal epistemology. Both maintain that we can know what is and is not possible, on the basis of what it is possible, in principle, for us to perceive. That is, both take knowledge of what could possibly exist to be one and the same with knowledge of what could possibly be perceived. I make the case for this interpretation by comparing Cavendish’s argument for the inseparability of colours from the physical qualities of objects like size and shape, with Berkeley’s argument for the inseparability of primary and secondary qualities.

The remainder of this paper is structured as follows. In section one, I begin by outlining Cavendish’s commitment to ‘vitalist’ materialism before introducing her philosophy of colour. I then reconstruct her argument for the conclusion that colours, typically construed by her contemporaries in the seventeenth-century as mind-dependent qualities of objects, are as inseparable from material bodies, and therefore as mind-independent, as ‘physical’ qualities like size and shape. In section two, I highlight the similarities between Cavendish and Berkeley’s views on colour, before reconstructing Berkeley’s argument against the primary-secondary quality distinction. In doing so, I show that Cavendish and Berkeley’s arguments are structurally analogous, and that both are grounded on an implicit acceptance of the claim that ‘inconceivability entails impossibility’. Finally, in section three, I explain why Cavendish and Berkeley accept this claim. It will become clear that for both thinkers there is an important connection between what we can conceive and what we can perceive, and, in turn, between what we can perceive and what could possibly exist. It is for this reason that I attribute to both Cavendish and Berkeley an ‘empiricist’ modal epistemology, for both maintain that we know what could possibly exist on the basis of what could, in principle, be perceived. I thus conclude that there are grounds for thinking that Cavendish’s epistemology is ‘empiricist’ in at least one important respect.

1. Cavendish’s materialism about colours

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7 I use the phrase ‘physical qualities’ to refer to qualities of objects, like size, shape, place, magnitude, and surface texture, which can be described by the physical sciences. This is in contrast to colours (as well as tastes and sounds) which, whether they are mind-independent or not, cannot be described by the physical sciences.
1.1 Vitalist materialism

The aim of this section is to outline Cavendish’s commitment to what Eileen O’Neill has called ‘vitalist materialism’ (O’Neill 2001, xiii) before focusing more narrowly on her account of colours.8 This will be important when it comes to understanding Cavendish’s account of perception, which I discuss in §3.3. While my aim in this paper is to defend a particular reading of Cavendish’s epistemology, a discussion of metaphysical issues cannot be bypassed. For, as with many of the Early Moderns, in Cavendish’s philosophy these two domains are intricately connected (Michaelian 2009, 32). I thus begin by explaining what it means to call Cavendish a ‘vitalist materialist’, and her reasons for accepting this metaphysical view, before outlining how this connects to the more specific issue of Cavendish’s arguments concerning colours.

Like other seventeenth-century materialists such as Thomas Hobbes, whose writing is one of the most notable influences on Cavendish’s philosophy (O’Neill 2001, xiii), Cavendish is committed to the view that every part of nature, from the microscopic to the macroscopic, including the minds of humans and other animals,9 is material. She thus denies the existence of immaterial substances or incorporeal spirits in nature.10 She is also consistent with Hobbes, and other mechanistic philosophers such as Descartes, in holding that all parts of nature, which are material, are physically extended.11 For Cavendish, nature is infinite but nonetheless exhaustively made up of material parts. As such, she is, as Marcus Adams puts it, a “plenist” (2016, 198; see also Cunning (2019, 1, 11)). For example, she explains that there can be no genuine vacuums in nature since it is impossible for nature’s parts to “start or remove from the infinite body of nature, so as to separate themselves from it; for there’s no place to flee to, but body and place are all one thing” (OEP, 48; see also GNP 1.1). Even an apparent vacuum, she thinks, would nonetheless be composed of material parts. Cavendish’s commitment to materialism about the natural world can be effectively summed up by reference to her work of fiction, The Blazing World, where she writes

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8 In what follows, I discuss Cavendish’s views as espoused in her works of natural philosophy from the 1660s. For an outline of her views prior to that, see Boyle (2016, ch.2).
9 David Cunning suggests that Cavendish is “an important precursor to contemporary philosophers of mind” in this regard (2006, 118).
10 Cavendish is committed to the existence of one immaterial entity, namely, God who exists outside of nature and is characterised as an “inmaterial essence” (OEP, 38).
that the very term ‘world’ “implies a quantity or multitude of corporeal creatures” (2004, 174).

However, Cavendish differs from both Hobbes and Descartes in maintaining that extension is not the only essential attribute of material bodies. For her view is that every part of nature also perceives. As she puts it in the Observations, “every action in nature is a knowing and perceptive action” (OEP, 15, my emphasis). It is for this reason that Cavendish’s materialsim can appropriately be described as ‘vitalist’ since, she claims, everything that perceives also possesses life and knowledge. It should, however, be noted that Cavendish is careful to qualify this view. She does not believe that all parts of nature perceive in the same way that humans and other animals do, i.e., via the senses. Rather, she distinguishes between ‘exterior’ perception, which is unique to beings in possession of sense organs (OEP, 15, 46-47), and ‘interior’ perception which is perhaps best understood as a kind of outward awareness each part of nature possesses of what is going on around it. While exterior perception, that is, perception via one of the five senses (taste, touch, smell, vision, or hearing), is limited to humans and other animals, all parts of nature are in possession of interior perception. Unfortunately, Cavendish never makes it totally clear what she thinks interior perception consists in, but in the Grounds of Natural Philosophy (1668) (henceforth: GNP) she characterises it as “a sort of knowledge, that hath reference to objects” (GNP 1.9) and later claims that “there is information between all creatures” (GNP, 2.9). It is thus at least clear that for Cavendish every part of nature possesses knowledge of things external to itself.

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12 Cavendish’s definition of the word ‘world’ echoes Hobbes’ claim that “The World, (I mean not the Earth onely… but the Universe, that is, the whole masse of all things that are) is Corporeal, that is to say, Body; and hath the dimensions of Magnitude, namely, Length, Bredth, and Depth” (1996, 463).

13 Cavendish argues that every part of nature consists of three kinds of matter: rational matter, sensible matter, and dull or inanimate matter (OEP, 157-58, 206-7). As Boyle puts it, “the three degrees are completely blended, so that regardless of how small a part of nature we consider, it will contain all three types of matter” (2015, 438; see also O’Neill 2001, xxiii). Cavendish’s views concerning this ‘triumvirate’ of matter do not play a significant role in her arguments concerning colours and an in-depth discussion of them is not requisite to defend the interpretation I develop in what follows, so I omit such a discussion for the sake of brevity.

14 Michaelian uses the term ‘animal perception’ (2009, 37). Cavendish also refers to exterior perception as “perception properly so called” (OEP, 173).

15 It is notoriously difficult to pin down exactly what Cavendish means when she says that all parts of nature perceive. In other words, it is difficult to provide a clear definition of ‘interior’ perception. See, for example, Cunning 2006, 135-36 (fn. 55); Michaelian 2009, 45; Boyle 2015, 448 (fn. 6). The analogy I employ in what follows should at least make it clear why I have characterised it as a kind of ‘awareness’.
Cavendish argues for the view that all parts of nature have interior perception on the grounds that this is the only account of the fundamental nature of things capable of explaining how it is that we live in a “well-ordered universe” (OEP, 8). Starting with the claim that we cannot help but observe order, regularity, and predictability in the world around us, Cavendish identifies the view that all parts of nature perceive as the only reasonable explanation.\(^{16}\) She writes:

> perception is an exterior knowledge of foreign parts and actions; and there can be no commerce or intercourse, nor no variety of figures and actions; no productions, dissolutions, changes, and the like, without perception; for how shall parts work and act, without having some knowledge or perception of each other? (OEP, 15)

An analogy may help to clarify how Cavendish’s argument is supposed to work. Imagine you are walking down a busy street with scores of people bustling past one another on their way to some place or another. If these people manage to get from A to B without bumping into one another, then you could reasonably infer that they were aware of one another. That is, you could infer that they had some degree of, in Cavendish’s words, “knowledge and perception of each other”. Similarly, if two people do collide, you would be justified in putting it down to a lack of awareness of one another – perhaps one individual was looking at their phone. Cavendish is making a similar claim about nature as a whole. She is at pains to emphasise that the world we inhabit is not chaotic but is remarkably well-ordered. Her view is that this could only be possible – and thus is only possible – because every part of nature possesses some form of awareness of what is going on around it.

We’ve seen, then, that Cavendish is consistent with Hobbes in holding that all of natural is material, and consistent with both Hobbes and Descartes in holding that all material substances are extended. However, she departs from both thinkers in arguing that the only explanation for the orderliness we see in the world around is a commitment to the view that all parts of nature perceive. In the next subsection, I explain how these wider metaphysical claims relate to her account of colours, before

\(^{16}\) She denies that either atomistic or mechanistic natural philosophy can explain the orderliness of nature. Her primary objection to these views is that they posit basic entities, atoms or corpuscles, which are “inanimate” (OEP, 16) and are passively moved by external objects, lacking any basic awareness of what is going on around them. A world composed of such entities, she thinks, would have inevitably deteriorated into chaos (OEP, 8). See Boyle (2016, 62-3).
reconstructing her argument for the conclusion that colours are inseparable from the physical qualities of bodies.

1.2 Colour as material

Cavendish clearly dedicated a considerable amount of thought to our experience of colours. In the *Observations*, for example, there are signs that Cavendish is attempting to articulate concepts such as ‘colour constancy’ (OEP, 83; Allen, forthcoming), the phenomenon whereby we perceive an object to remain the same colour despite variance in lighting, and ‘metamerism’ (OEP, 85), where objects with different (micro)physical properties appear to be the same colour. Both are concepts that play an important role in contemporary perception debates (see, e.g., Allen 2016).

In a recent paper, Colin Chamberlain argues that Cavendish offers a “refreshing alternative to the early modern consensus about colour” (2019, 299). His claim, which I build on in what follows, is that, unlike mechanistic natural philosophers who dominated the intellectual landscape in the seventeenth-century (this includes Descartes and Hobbes), Cavendish holds that “sensuous color is an irreducible property of bodies, on a par with size and shape” and is thus more consistent with a “naïve or commonsense view of color than other early modern accounts” (2019, 299). Sensuous colours are to be understood as “color-as-it-visually-appears or color-as-experienced” (2019, 298). Put a little differently, Chamberlain’s point is that, for Cavendish, colour sensations, such as the greenness I pre-theoretically take a post box to possess, are mind-independent qualities of objects, as inseparable from those objects as the qualities described by the physical sciences, like size and shape. This is not to be mistaken with the view that colour sensations are reducible to, or caused by, the physical qualities of an object, such as a post box’s size, shape, or surface texture. This view was commonplace amongst mechanistic philosophers.

Chamberlain expresses the contrast between Cavendish’s view and that of her mechanistic opponents like so:

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17 See, for example, Allen (2016) for a recent defence of naïve realism about colours.
18 We might also, following Allen (2016, 2), construe sensuous colours as the colours that inhabit our ‘manifest image’ of the world.
19 Note also that Cavendish is not defending a sense-data theory of colours. Rather, her view is that colours, as sensed, are one and the same with colours as they exist in mind-independent objects.
20 Following Anna Ortin Nadal (2019, 4) we could also say that while mechanistic philosophers are ‘anti-realists’ about colours, Cavendish is a ‘realist’.
Cavendish’s material world is in Technicolor, as compared to the drab, geometrical world of the mechanists. Her world is the Oz to their Kansas, colorful rather than colorless. (2019, 299)

Chamberlain’s point is that, for Cavendish, colours – as they are presented to us in experience – are something that exists ‘out there’ in the world, and not just in our minds. In the Observations, Cavendish herself writes:

the colour of a creature is as well corporeal, as the creature itself; and (to express myself as clearly as I can) colour is as much a body, as place and magnitude, which are but one thing with body. (OEP, 81)

This passage supports Chamberlain’s reading, since the view that Cavendish is eager to express as clearly as possible is that colours are just as much “one thing with body” as ‘physical’ qualities like place and magnitude.

Before continuing, I wish to point out one interpretative issue on which Chamberlain and I differ. Chamberlain characterises Cavendish’s view in terms of the irreducibility of colours to physical qualities of objects, whereas I will make the case for thinking that Cavendish is more interested in demonstrating that colours are inseparable from physical qualities – and, indeed, objects themselves. While this distinction is subtle it is nonetheless important, especially in regard to understanding why Cavendish argues for the materiality of colours. Framing her view in terms of the inseparability of colours from material bodies, I suggest, is more consistent with the argument that Cavendish develops, which I discuss in what follows.

In the Observations, Cavendish appears to offer two arguments for the view that colours are inseparable from material bodies. As is characteristic of her wider approach to understanding the natural world, she begins with an observable phenomenon: namely, the fact that when the physical qualities of an object (e.g., its shape, size, or surface texture) “do alter, so do their colours” (OEP, 80). Citing a case from Robert Boyle’s Experiments and Considerations touching Colours (OEP, 80, fn. 53), she suggests that this proves that colours are material:

Wherefore it [is] no more wonder to see colours change in the tempering of steel (as some are pleased to allege this experiment [i.e., Boyle]) than to see steel change and rechange its temper from being hard, to soft; from tough to brittle, etc. which changes prove, that colours are material, as well as steel; so

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21 By ‘creature’, Cavendish means a created thing, that is, a distinct part of the natural world.
that the alteration of the corporeal parts, is the alteration of the corporeal figures of colours. (OEP, 80)

Cavendish emphasises that whenever steel is tempered, and thereby physically changes from hard to soft, its colours change too. Yet, despite her claim that this proves "that colours are material", this isn’t an especially convincing argument, and is unlikely to have won over many of her opponents. For it relies on the premise that ‘if changes in one quality of an object always coincide with changes in another quality, then those qualities are inseparable from one another.’ Without further argumentation, however, there is no good reason to accept this premise since, as Chamberlain notes (201, 312-13), the observable phenomenon of the colour of steel changing every time its physical qualities change is equally consistent with the mechanistic claim that changes in physical qualities cause changes in colour (see also Ortin Nadal 2019, 2).

In short, if colours were caused by the material qualities of objects, then changes in those qualities would result in changes of colour, i.e., we would observe the same phenomenon. Therefore, the principle of charitable interpretation, I suggest, should encourage us to disregard this as an explicit argument for Cavendish’s view, and instead take it as an attempt to demonstrate that her account is just as compatible with the observable phenomena as the mechanistic alternative. This is supported by the fact that it is Boyle, a proponent of the primary-secondary quality distinction (which I discuss in §2.2), who is in her crosshairs in this instance.

As the chapter continues, however, Cavendish does go on to present an explicit argument for the conclusion that colours are inseparable from material objects. It is in the course of putting forward this argument that Cavendish reveals her commitment to the claim that ‘inconceivability entails impossibility’. Following Thomas Holden, we can call this claim ‘the inconceivability principle’ (2019, 107). She writes:

Truly, in my judgement, those opinions, that no parts have colour, but those which the light reflects on, are neither probable to sense nor reason; for how can we conceive any corporeal part, without a colour? In my opinion, it is as impossible to imagine a body without colour, as it is impossible for the mind to conceive a natural immaterial substance; and if so pure a body as the mind, cannot be colourless, much less are grosser bodies. (OEP, 86)

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22 The inconceivability of immaterial substances in nature is consistent with the claim, discussed in §1.1, that all parts of nature are physically extended; that, as Cavendish puts it, "body and place are all one thing" (OEP, 48).
Although her acceptance of the inconceivability principle is implicit here, it clearly plays a role in Cavendish’s argument for the view that colours are inseparable from material bodies. On the basis of the inconceivability of colourless bodies, Cavendish argues against any view that tries to separate colours from the physical qualities of material objects – such as the view that colours are reducible to light reflecting on an object’s surface. With the inconceivability principle and Cavendish’s reasoning from it in mind, we can reconstruct her argument as follows:

1. If I cannot conceive of two things existing separately, then they cannot exist separately.
2. I cannot conceive of physical qualities of objects existing separately from colours.
3. Therefore, physical qualities of objects cannot exist separately from colours.

In this way, Cavendish provides a response to the mechanistic view that while physical qualities like place and magnitude are inseparable from bodies, colours exist only in the mind, by arguing that since a colourless body is inconceivable, colours are inseparable from physical qualities and thus from material bodies too. An important question, yet to be addressed, is why Cavendish thinks that the inconceivability of a colourless body entails that a colourless body could not really exist. However, I will refrain from answering this question until §3.3. Before doing so, I will introduce Berkeley’s account of colours and show that he develops an argument which is structurally analogous to the one outlined above. By comparing these two arguments, I will show that Cavendish and Berkeley have similar reasons for thinking that inconceivability entails impossibility.

2. Berkeley’s Inseparability Argument

2.1 Berkeley on colour

Thus far, we’ve seen that Cavendish develops an argument for the view that colours are inseparable from the physical qualities of objects which relies on the inconceivability principle. From the fact that a colourless body is inconceivable, she argues that “there is no such thing in Nature” (GNP 12.29). In this section, I will show

23 Cavendish is here responding to a popular view espoused by experimental philosophers, like Boyle, that an object’s colour depends on the qualities of the light that shines on it. For a discussion of this view and Cavendish’s response to it, see Allen (forthcoming).
that, like Cavendish, Berkeley argues from the inconceivability of a colourless object to the *impossibility* of such an object. However, I will show that Berkeley's inconceivability argument stretches beyond just the colours of objects and is intended to undermine what had come to be known as the 'primary-secondary quality distinction'.  

Apart from a few scattered remarks, there is virtually no literature that brings together Cavendish and Berkeley’s respective views in concerning conceivability and impossibility. Keith Allen (forthcoming) briefly notes that both Cavendish and Berkeley think it is impossible to conceive or imagine a body without colour. Chamberlain considers the issue in a little more depth, arguing that while Berkeley is often credited with emphasising that a colourless body is no more conceivable than one lacking in qualities such as shape or size, Cavendish “anticipates” him in this regard (2019, 305-306, fn. 24). However, neither offers a sustained discussion of the issue. In what follows, I will show that Cavendish and Berkeley develop structurally analogous arguments against the mechanistic claim that colours are not ‘real’ qualities of objects, before arguing (in §3) that they have very similar reasons for thinking that inconceivability entails impossibility.

Berkeley has quite a lot to say about colour in both his published works and his Notebooks, although his philosophy of colour, specifically, still remains a relatively unexplored area of scholarship. Berkeley’s Notebooks were never intended to be published and sometimes give the impression of a thinker whose views are yet to completely settle. Nonetheless, some of the remarks therein are of interest to our current concerns and, if taken at face value, closely align some of Berkeley’s views with those of Cavendish. Perhaps most notably, he writes, “I differ from the Cartesians in that I make extension, Colour etc to exist really in Bodies and Independent of Our

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24 Chamberlain claims that Cavendish’s realism extends to other secondary qualities (such as sounds) but concludes that “Cavendish does not indicate whether her conceivability arguments are supposed to generalize” (2019, 311, fn. 37, my emphasis). In other words, it’s not clear that Cavendish rejects the primary-secondary quality distinction more widely on the basis of the inconceivability principle. For Cavendish’s arguments for realism about other ‘secondary qualities’ like sounds and sensations of heat and cold, see OEP, 147-49.

25 Berkeley’s philosophy of vision, more widely, has attracted considerable attention. See, for example, Berkeley (1963); Atherton (1990). Berkeley’s arguments have also been discussed in contemporary debates about colour, such as Allen (2016, 135); Evans (1980, 272-74).
Mind" (NB 801). He then adds that “All [this] carefully & lucidly to be set forth”, referring to the treatises he would go on to publish. Indeed, his first publication, *A New Theory of Vision* (1709), contains several passages where he maintains that colours are inseparable from visual extension, figure, and motion. For example, in NTV §143, Berkeley outlines the dominant theory of colour accepted by his contemporaries:

> at this time it seems agreed on all hands, by those who have any thoughts of that matter, that colours, which are the proper and immediate object[s] of sight, are not without the mind... [and that] by sight we have also the ideas of extension, and figure, and motion; all which may well be thought without, and at some distance from the mind, though colour should not.

He then provides the following response:

> In answer to this, I appeal to any man’s experience... Is not the extension we see coloured, and is it possible for us, so much as in thought, to separate and abstract colour from extension? Now, where the extension is, there surely is the figure, and there the motion too. (NTV, §43)

Notice the similarity here with Cavendish’s claim that colour is inseparable from the physical qualities of an object like place and magnitude. Also note that Berkeley supports this claim by appealing to the fact that we cannot conceive of a body’s extension and figure without also conceiving of it as coloured.

It is important to emphasise, before proceeding, that Berkeley is, of course, an immaterialist whereas Cavendish, as we saw in §1.1, is a materialist. In his philosophical writing subsequent to the first edition of *A New Theory of Vision*, Berkeley explicitly maintains that there are no material substances in nature and that the objects of sense (‘sensible things’ like apples, tress, mountains, and other peoples’ bodies) are mind-dependent. As he famously puts it, in *A Treatise Concerning the Principles of Human Knowledge* (1710) (henceforth: PHK), “[t]heir esse is percipi” (§3).

Hence, contrary to Cavendish, in his published works, Berkeley is not arguing that colours, along with extension and figure, are mind-independent. He *is*, however,

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26 Things are a little complicated when it comes to the status of material objects in the *Notebooks* and *New Theory* because it is not clear whether Berkeley’s position therein is consistent with the immaterialism he espouses in the *Principles* and *Three Dialogues*. For the most part, in the *New Theory* Berkeley seems willing to concede to his opponents (‘materialists’) that tangible objects are mind-independent. However, this, he explains in a letter to his friend Percival, is because he hoped his immaterialism would “steal unawares” on his readers (Hight 2013, 44). From the *Principles* onwards Berkeley explicitly denies that nature contains any mind-independent, material substances.
arguing that they are inseparable from the ‘physical’ qualities of bodies, such as size and shape.

With that caveat in mind, there are three similarities between Cavendish and Berkeley worth noting. First, both reject the view, held by their mechanistic opponents, that there is a distinction between those qualities which ‘really exist’ in objects and their colours, which exist only in the mind. Second, both philosophers premise their argument for this view on the claim that it is impossible to conceive of an object with qualities like extension and figure without also conceiving of it as coloured. Third, both implicitly accept that there is an entailment relation between what it is impossible for us to conceive and what could possibly exist. As such, although we might find it surprising to find an immaterialist and a materialist in agreement, it should be clear that both thinkers rely on the inconceivability principle.

2.2 Against the primary-secondary quality distinction

The inconceivability principle also plays an important role in the Principles and Three Dialogues. However, we now find it employed against not only mechanistic accounts of colour but what had come to be known as ‘the primary-secondary quality' distinction by the time that Berkeley was writing. This distinction was most famously articulated in Book Two of Locke’s Essay Concerning Human Understanding (henceforth: EHU) where Locke contrasts the qualities of objects that are “utterly inseparable from the body, in what state soever it be” and which “the mind finds inseparable from every particle of matter” (EHU 2.8.9), from those qualities “which in truth are nothing in the objects themselves, but powers to produce various sensations in us” (EHU 2.8.10).

Berkeley argues against the primary-secondary quality distinction in both the Principles (§§9-10) and the Three Dialogues (188-196). I will focus primarily on the Dialogues, which take place between Philonous, Berkeley’s spokesperson, and Hylas, a materialist who expounds similar views to Berkeley’s opponents, most prominently Locke. Philonous’ aim in the first dialogue is to establish the following: if one maintains that for a sensible thing to exist is for it to be mind-independent, one is inevitably committed to scepticism. Berkeley defines a sceptic as one who “denies the reality of sensible things, or professes the greatest ignorance of them” (DHP 173). For much of the dialogue, Hylas defends the view that real things and their qualities are to be distinguished from the immediate objects of perception; ideas, which exist only in the mind.
About midway through the dialogue, Philonous uses the example of colours to summarise Hylas’ position: “the red and blue which we see are not real colours, but certain unknown motions and figures which no man ever did or can see, are truly so” (DHP 187, emphasis in original). He then asks, “[a]re not these shocking notions, and are not they subject to as many ridiculous inferences[?]”. Berkeley’s point here is that accepting materialism requires radically re-evaluating our account of what it means for an object to be coloured. It involves denying that sensuous colours, “the red and blue which we see”, really exist in objects. It is at this point that Hylas introduces the primary-secondary quality distinction, in the hope that it will help him avoid Philonous’ accusations of scepticism:

you must know sensible qualities are by philosophers divided into primary and secondary. The former as extension, figure, solidity, gravity, motion, and rest. And these they hold exist really in bodies. The latter are those above enumerated; or briefly, all sensible qualities besides the primary which they assert are only so many sensations or ideas existing no where but in the mind.

(DHP 188)

Colours, along with tastes and sounds, are included amongst the latter: secondary qualities, which are characterised as “sensations or ideas existing no where but in the mind”.

In response, Philonous claims that “the same argument which is brought against secondary qualities, will hold good against these [i.e., primary qualities] also”. In other words, he claims that the same arguments that philosophers use to prove that secondary qualities are mind-dependent, such as those premised on perceptual relativity, will show that the same is true of primary qualities. He then argues against the possibility of extension (DHP 189), motion (DHP 190), and solidity and gravity (DHP 191), which are all characterised as primary qualities, existing outside the mind. The argument I want to focus on, however, is aimed at the primary-secondary quality distinction more generally.

Having tackled each of the primary qualities one-by-one, Philonous then asks: “[c]an you even separate the ideas of extension and motion, from the ideas of all those qualities which they who make the distinction, term secondary?” to which Hylas replies, “I do not find that I can” (DHP 194). It becomes clear that Berkeley thinks that this is a significant issue for those who wish to uphold the primary-secondary quality distinction. He continues:
Since therefore it is impossible even for the mind to disunite the ideas of extension and motion from all other sensible qualities, doth it not follow, that where the one exist, there necessarily the other exist likewise? (DHP 194)

In response, Hylas reluctantly agrees. Similarly, in the *Principles*, Berkeley writes:

Now if it be certain that those original qualities are inseparably united with other sensible qualities, and not, even in thought, capable of being abstracted from them, it plainly follows that they only exist in the mind. (PHK §10)

In both cases, Berkeley's line of reasoning is clear. He argues from the fact that it is impossible to conceive of primary and secondary qualities as existing separately, that they could not possibly exist separately. In turn, this means that wherever the one exists, the other exists too. We might reconstruct Berkeley's argument like so:

1. If I cannot conceive of two things existing separately, then they cannot exist separately.
2. I cannot conceive of primary and secondary qualities existing separately.
3. Therefore, primary and secondary qualities cannot exist separately.27

On this basis, Berkeley argues that primary and secondary qualities exist "in the same place" (DHP 194). The argument that Berkeley puts forward here is strikingly similar to Cavendish's argument for the view that colours are inseparable from physical qualities. Both accept the premise that 'if I cannot conceive of two things separately, then they cannot exist separately', which appears to be motivated by a commitment to the inconceivability principle. In turn, both then both put their conceptual abilities to work in order to test the possibility of conceiving a body that possesses only primary qualities, like size or shape, and find this impossible. Thus, according to both Cavendish and Berkeley, the mechanistic worldview, in which bodies only 'really' possess primary qualities and colours exist only in the mind, must be rejected.

The similarities between Cavendish and Berkeley’s arguments should now be clear. In the next section, I address the question of why both thinkers accept premise (1) above and what motivates each thinker’s commitment to the inconceivability principle.

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27 For a similar reconstruction of Berkeley’s argument, see Rickless (2013, 197).
3. Why Do Cavendish and Berkeley Accept the Inconceivability Principle?

3.1 Ad hominem?

Both Cavendish and Berkeley rely on the premise that ‘if two things cannot be conceived as existing separately from one another, then they could not exist separately from one another’. This premise relies on an implicit commitment to the inconceivability principle: the claim that inconceivability entails impossibility. In this section, I begin by considering two versions of a plausible, but ultimately unsuccessful, explanation for why they accept this claim which has been suggested by commentators. I then defend my own explanation by showing that Cavendish and Berkeley accept the inconceivability principle on the basis of their account of the relationship between conception, perception, and existence.

At least two commentators have suggested that the reason Cavendish accepts the inconceivability principle is that it was widely accepted amongst her contemporaries. Since the targets of Berkeley’s arguments are the same as Cavendish’s targets – proponents of mechanistic natural philosophy such as Galileo, Descartes, and Hobbes – this might reasonably be extended to both thinkers. Chamberlain raises the question of why Cavendish would think that “the impossibility of conceiving of a body without color implies that bodies cannot be without color?”, which he describes as a puzzling inference (2019, 310, fn. 34), before answering that Cavendish is “entitled to this assumption in her dialectical context” (my emphasis). As he points out, both Galileo and Descartes rely on claims about conceivability and possibility to establish that only the physical qualities of objects are inseparable from them.28 Chamberlain also emphasises that Descartes draws on the inconceivability principle explicitly when he argues that “from the fact that I cannot think of God except as existing, it follows that existence is inseparable from God, and hence that he really exists” (CSM 2:46). Similarly, Marcus Adams maintains that “[c]onceivability as a constraint for philosophizing” is something Cavendish inherits from Hobbes, who argues against the possibility of self-moving objects on the grounds that (as Hobbes sees it) they are inconceivable (Adams 2016, 212, fn. 11).

A variance on this answer, consistent with the observation that Cavendish and Berkeley are not alone in appealing to claims about conceivability and possibility, suggested (but ultimately rejected) by Samuel Rickless, is that they are developing *ad hominem* arguments against their mechanistic opponents (2013, 183).²⁹ It’s worth noting that I am talking here of *ad hominem* argumentation as it was understood by the Early Moderns. As Clare Marie Moriarty explains, in the seventeenth- and eighteenth-century *ad hominem* arguments were seen as a perfectly legitimate way of responding to one’s opponents (2018, 436). While today we tend to think of *ad hominem* attacks on the arguer, rather than the premises of an argument, as largely irrelevant to philosophical scrutiny, the Early Moderns were more likely to hold that “a philosopher should be able to live in accord with his or her principles” (Moriarty 2018, 436). Locke, for example, construes an *ad hominem* argument as an attempt to “press a man with consequences drawn from his own principles or concessions” (EHU 4.7.21). It is in this sense, then, that we might plausibly interpret Cavendish and Berkeley as developing *ad hominem* arguments. If so, we should expect to find them picking up on one of their opponents’ premises and showing that it commits those thinkers to more than acknowledge. This certainly seems consistent with both Cavendish and Berkeley’s claims that the premise ‘if it two things existing separately is inconceivable, then those two things existing separately is impossible’ means that both physical qualities and their colours are inseparable from objects.

However, I do not think these interpretations adequately explain why either Cavendish or Berkeley accepts the inconceivability principle. First, it is not clear that it is the *inconceivability* principle that motivates Galileo and Descartes’ arguments for the view that physical qualities, like size and shape, are inseparable from objects. Rather, it is the *conceivability principle* (Holden 2019, 107), the claim that conceivability entails possibility, that does the work. For example, Descartes argues that since we *can* conceive of a stone that lacks colour, it is possible that a colourless stone could exist (CSM 1:227). Thus, if Cavendish or Berkeley were intending to develop an *ad hominem* argument, they would be in danger of arguing against a straw-person.³⁰ Descartes and Galileo’s reliance on the conceivability principle also

²⁹ Rickless is referring to Berkeley specifically but, again, it would be plausible to extend this reading to Cavendish too.

³⁰ Furthermore, as Stewart Duncan (2019) notes, Descartes’ arguments rely on a particular kind of conception, namely, *clear and distinct* conception. Since neither Berkeley nor Cavendish’s own
undermines the suggestion that Cavendish and Berkeley are entitled to help themselves to the *inconceivability* principle on the basis of their dialectical context. For, while it certainly seems to play a role in Descartes’ argument for the existence of God, it is less clear that that *inconceivability* was widely taken to be of immediate significance to the qualities of objects perceived via the senses.

Second, it does not seem quite right to suggest that Cavendish and Berkeley only employ the inconceivability principle in order to show what *their opponents* are really committed to. For both put the inconceivability principle to work elsewhere and both rely on it to argue for positions that are part of their own larger philosophical systems. For example, Cavendish argues from the inconceivability of an object that is not composed of both animate and inanimate matter to the conclusion that *all parts of nature* contain “a commixture of these parts of matter” (OEP, 158). 31 Meanwhile, Berkeley’s argument against the primary-secondary quality distinction is typically seen as a crucial step in his case for immaterialism (e.g., Rickless 2013, 181-87). This indicates that both thinkers are committed to the inconceivability principle for reasons above and beyond simply showing where their opponents’ principles lead.

For these reasons, I do not think we should characterise Cavendish and Berkeley’s arguments as *ad hominem* responses to their opponents or accept that the inconceivability principle is simply assumed on the basis of their dialectical context. As I will show in the remainder of this section, there are good reasons for thinking that both Cavendish and Berkeley have independent reasons for accepting that inconceivability entails possibility.

### 3.2 Berkeley’s inconceivability principle

Berkeley’s views concerning inconceivability and impossibility clearly play an important role in several arguments in his published works. These include his argument against abstract ideas in the Introduction to the *Principles* (PHK, Introduction §13), the so-called ‘master argument’ (PHK §23 and DHP 200) where he claims to be

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31 Note that Cavendish’s opponents, such as Descartes and Hobbes, are very unlikely to accept this inconceivability claim, which further indicates that Cavendish does not simply accept the inconceivability principle on *ad hominem* grounds.
willing to rest his entire case for immaterialism on the assumption that we cannot conceive of a sensible object like a tree existing unperceived, and the argument for the inseparability of primary and secondary qualities outlined above.

It is uncontroversial to suggest that Berkeley is committed to the ‘conceivability principle’, the claim that ‘conceivability entails possibility’, since he explicitly endorses something very like it. Towards the beginning of the Principles, he states that “my conceiving or imagining power does not extend beyond the possibility of real existence or perception” (PHK §5). Amongst commentators, the consensus view is that Berkeley is also committed to the inconceivability principle. For example, Kenneth Winkler states that “[o]ne of Berkeley’s most deeply held beliefs is that conceivability and possibility coincide” (1989, 30-31). As we have seen so far, the inconceivability principle certainly seems to play an implicit, but nonetheless important, role in Berkeley’s argument for the inseparability of primary and secondary qualities.

However, against this consensus view, Thomas Holden (2019) has recently argued that Berkeley only commits himself to the ‘contradiction principle’: the claim that ‘inconsistency entails impossibility’. As such, Holden argues that all apparent inferences from inconceivability to impossibility, in Berkeley’s writing, really involve an inference from inconsistency to impossibility. Holden claims that the only reason for thinking that Berkeley accepts the inconceivability principle is the fact that he appears to rely on it in “actual argumentative practice” (2019, 108). Thus, Holden’s argument for the claim that Berkeley does not accept the inconceivability principle involves explaining away what he takes to be a common misconception. Holden’s argument can be reconstructed like so:

i. If it can be shown that Berkeley does not rely on the inconceivability principle for the success of any of his arguments, then we should deny that he accepts the inconceivability principle.

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32 The significance of the ‘master argument’ for Berkeley’s wider case for immaterialism remains contested. I am more sympathetic to those readings which play down the significance of these passages as an independent, all-or-nothing argument for immaterialism (e.g., Downing 2020). Instead, I take Berkeley’s aim to be to refute objectors who might claim that since an unperceived sensible thing is conceivable, an unperceived sensible thing is possible.

33 See also Rickless (2013, 112, 132, 181-82). For a full list of commentators who explicitly endorse the claim that Berkeley accepts the inconceivability principle, or think it is very likely that he does, see Holden (2019, 107, fn. 1).
ii. It can be shown that Berkeley does not rely on the inconceivability principle for the success of any of his arguments [by showing that he relies on the ‘contradiction principle’].

iii. Therefore, we should deny that Berkeley accepts the inconceivability principle.

I do not have space, in this paper, to provide an in-depth response to Holden’s argument. However, I will provide reasons for thinking that premise (ii) should not be accepted, by showing that the textual evidence does not support reading the inseparability argument as relying on the ‘contradiction principle’ rather than the ‘inconceivability principle’.34 So while Holden’s reading of other arguments that seem to rely on inconceivability might plausibly stand, I will provide at least one reason for thinking that the consensus view is more plausible. In any case, since my focus has been on Berkeley’s inseparability argument, it is enough for my current purposes to show that Berkeley does rely on the inconceivability principle in this instance.

Holden’s reading implies that when it comes to Berkeley’s modal epistemology, all of his apparent appeals to inconceivability are really appeals to inconsistency (Holden 2019, 109). Applied to the inseparability argument, this implies that Berkeley thinks there is an inconsistency involved in the view that primary and secondary qualities are separable. Holden admits that this would not be a plausible reading, were we to focus on the argument as it is presented in the Principles, for there is no mention of inconsistency or contradiction in the relevant passages therein. Indeed, Berkeley places considerable weight on our conceptual abilities in the Principles formulation of the argument. Consider, for example, the following line of reasoning:

if it be certain that those original qualities are inseparably united with the other sensible qualities, and not, even in thought, capable of being abstract from them, it plainly follows that they exist only in the mind. (PHK §10)

Subsequently, having found that “it is not in my power” to conceive of primary and secondary qualities separately from one another, Berkeley concludes that they are indeed inseparable.

However, the way Berkeley formulates the argument in the Three Dialogues lends weight to Holden’s reading since it seems to rely on a claim about what Berkeley

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34 Holden himself accepts that the inseparability argument is, of all the arguments he discusses, the most resistant to his reading (2019, 108).
calls “repugnancy”. In response to Hylas’ appeals to the primary-secondary quality distinction, Philonous asks: “can you think it possible, that should really exist in nature, which implies a repugnancy in its conception?” (DHP 194). The point seems to be that positing a distinction between primary and secondary qualities involves an inconsistency or contradiction of some sort.

Holden argues that the inconsistency lies in the fact that since primary qualities, for Berkeley, are sensible qualities, they cannot help but be either seen as colours or felt as tangible sensations, which are secondary qualities (2019, 121). As such, since sensible things’ esse is percipi, to posit an object that has primary qualities but not secondary qualities, is to posit an object that contains a “repugnancy”: it would have to both possess and fail to possess a particular quality. But is it plausible to suggest that this inconsistency alone is what Berkeley relies on for the success of the inseparability argument? On the balance of textual evidence, I suggest that it is not.

While Philonous’ question of whether something could “really exist in Nature, which implies a repugnancy in its conception” (DHP 194) is no doubt important, it is flanked by two appeals to inconceivability, both of which press the same line argument Berkeley develops in the Principles. The first comes immediately prior to it, where Philonous encourages Hylas to “try if you can frame the idea of any figure, abstracted from all particularities of size, or even from other sensible qualities.” The second, discussed previously, immediately follows the appeal to repugnancy. Here, Philonous lays out what looks like another clear line of inferential reasoning:

Since therefore it is impossible even for the mind to disunite the ideas of extension and motion from all other sensible qualities, does it not follow, that where the one exist, there necessarily the other exist likewise? (DHP 194)

Just as in the Principles, where the emphasis is squarely on our conceptual abilities, Berkeley here emphasises that the mind is simply unable to “disunite” primary and secondary qualities from one another. On that basis he infers that primary and secondary qualities cannot exist separately.

There certainly remains a possibility that Berkeley thinks a contradiction is involved in maintaining that primary and secondary qualities are separable, as his use of the term “repugnancy” suggests, but that does not necessarily indicate that Berkeley’s inconceivability claims are entirely reducible to inconsistency claims, which Holden’s reading requires. Thus, I suggest that the conjunction of the fact that the
inseparability argument in the *Principles* does not involve any reference to inconsistency, contradiction, or repugnancy, along with the fact that, in the *Dialogues*, Berkeley appeals to inconceivability twice (and inconsistency only once) indicates that Berkeley relies more heavily on inconceivability than inconsistency for the success of his argument. On the balance of things, the textual evidence does not support the claim that Berkeley’s inseparability argument can be explained by appeals to inconsistency alone. In turn, I suggest, this provide us with one reason to doubt the plausibility of premise (ii) in Holden’s argument.

Having now established that Berkeley *does* accept the inconceivability principle, it remains to explain *why* he accepts it. The first thing to note is that when he claims that “my conceiving or imagining power does not extend beyond the possibility of real existence or perception” (PHK §5), Berkeley equates the existence of a thing in nature with *it’s being perceived*. This is not surprising since Berkeley famously maintains that the very *esse* of a sensible thing is its *percepti* (PHK §3). Since for a sensible thing to exist just is for it to be perceived, it follows that a necessary and sufficient condition for a sensible thing to exist is that it is perceived.

What is important for our present concerns is that, in turn, this means that for it to be *possible* for a thing to exist it must be possible, in principle, for that thing to be perceived. If, as Winkler puts it, Berkeley thinks that something is conceivable “if and only if it is possible” (1989, 31-31), we should expect to find that Berkeley thinks something is conceivable *if and only if it could, in principle, be perceived*. And that is precisely what we find him committed to. We’ve seen already that Berkeley maintains that our conceiving powers do not extend “beyond the possibility of real existence or perception”. While this does commit him to the conceivability principle, it should now be clear that, in light of his claim that for a sensible thing to exist is for it to be perceived, it also commits him to the claim that whatever cannot be *conceived* cannot possibly exist in nature. While there is a difference in the *scope* of what I can conceive, since it is not limited to things actually or currently presented to my senses, anything conceived must be, in principle, perceptible (PHK §5).

To sum up, then, Berkeley thinks that what is inconceivable is not *perceivable*, and any sensible thing that is imperceptible, by definition, could not possibly exist. It is those who assert the contrary to this, Berkeley argues, who are committed to a
“manifest contradiction” since for a sensible thing to exist is one and the same as it’s being perceived (PHK §4).

3.3 Cavendish’s inconceivability principle

Cavendish implicitly relies on the inconceivability principle when she argues from the inconceivability of a material body “without a colour” to the impossibility of a colourless body (OEP, 86). Insofar as there actually is a consensus on this issue, the consensus view is that Cavendish’s reason for accepting the inconceivability principle is her “dialectical context” (Chamberlain 2019, 310, fn. 34; see also Adams 2016, 212, fn. 11). Having already provided reasons for rejecting this interpretation (in §3.1), I will argue that she in fact has independent reasons for thinking that inconceivability entails impossibility and that this commits her to what I have called an ‘empiricist’ modal epistemology.

Understanding why Cavendish thinks inconceivability entails impossibility is a two-step process. It requires, first, understanding why she thinks something inconceivable could never be perceived and, second, why something that could not be perceived could not possibly exist. Together, these claims lead to the inconceivability principle.

After claiming that colourless bodies are inconceivable, Cavendish writes:

But if no creature can have imagination without figure and colour, much less can the optic sensitive parts; for the exterior sensitive parts are more gross than the rational; and therefore they cannot be without colour, no more than without figure (OEP, 86)

Her point here is that if I cannot imagine or conceive an object that does not possess both colour and figure\(^{35}\) – in other words, if it is impossible for me to separate colour and figure from one another even in thought – then I could not possibly see, via my “optic sensitive parts”, an object that does not possess both colour and figure. First off, then, she is establishing a connection between what it is possible to imagine or conceive, and what it is possible to see. However, the implications of this reasoning go beyond just what we can see, for Cavendish moves from this narrow claim to the more general claim that “the exterior sensitive parts cannot be without colour, no more

\(^{35}\) Cavendish uses the terms ‘imagine’ and ‘conceive’ interchangeably. See Boyle (2015, 444); Adams (2016, 5); Chamberlain 2019 (306-7).
than without figure”. What she actually means, then, is that if I cannot conceive of an object without both colour and figure, then I could not possibly perceive such an object.

Cavendish’s reason for thinking that inconceivability entails imperceptibility can be explained by appeal to her views concerning the metaphysics of perception; and her distinction between ‘sensitive and ‘rational’ perception, more specifically. We saw (in §1.1) that Cavendish distinguishes between ‘exterior’ perception, which is unique to humans and other animals, and ‘interior’ perception, which exists in every part of nature. But within the domain of human and animal perception, Cavendish draws a further distinction between ‘sensitive’ and ‘rational’ perception (Michaelian 2009, 48; Adams 2016, 197-98). Sensitive perception involves perceiving external objects via our sense organs, while rational perception encompasses a range of mental acts such as thinking, remembering, contemplating, judging, imagining, and, importantly for our purposes, conceiving (Boyle 2015, 444; OEP, 158).

All perception, for Cavendish, involves ‘figuring’ which is the self-directed act whereby matter in the mind takes on the form of an external object that is currently, or has previously been, subject to one’s sense-organs, by copying it’s motions (OEP, 170). However, only sensitive perception involves a specific kind of figuring which Cavendish calls “patterning”, which is when the matter in the mind takes on the motions of an object that is currently presented to the sense organs. For example, Cavendish would maintain, if I look out the window at the sun in the sky, the matter in my mind patterns the motions of the sun. What’s more, in this case, the matter in my mind cannot help but copy the motions of the sun. Sensitive perception is thus involuntary. However, if I lie in bed at night and remember or imagine the sun I saw in the sky, my mind will figure the motions of the sun, but it will not pattern them. Cavendish maintains that this would not be an instance of patterning, since the matter in my mind is acting voluntarily; the movement of the matter in my mind is not determined by the motions of an external object. Thus, while all patterning is figuring, not all figuring is patterning. For this reason, she writes:

although our sensitive perception can go no further than the exterior shape, figure and actions of an object; yet, the rational being a more subtle, active, and

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36 Cavendish rejects ‘pressure-based’, mechanistic accounts of perception, where the mind is passively acted on by external objects, such as the account defended by Hobbes (Adams 2016, 195-96).
37 This should not be taken to suggest that the matter in my mind doesn’t also figure the sun, in this instance, since all patterning is figuring.
piercing perception, by reason it is more free than the sensitive, does not rest
in the knowledge of the exterior figure of an object (OEP, 175)

It is not totally clear what Cavendish means when she says that rational perception is
“more subtle” than sensitive perception, but it seems to be closely connected to her
view that, unlike sensitive perception, it is a voluntary action, undetermined by the
presence of an external object. The figures that result from rational perception, she
claims, are “made without the presentation of exterior objects” (OEP, 170). She also
claims that rational perceptions are “not encumbered with any other parts of matter”
and thus move “in their own degree” (OEP, 150).

To return to the question at hand, it is because of the greater freedom that
rational perception enjoys, compared to sensitive perception, that Cavendish thinks
that something inconceivable could never be perceived. Conceiving is a kind of
rational perception, which is a voluntary act of the mind and thus unconstrained by the
presence of external objects. Perceiving, in the ordinary sense of the word, however,
is what Cavendish calls sensitive perception, and is solely determined by external
objects. The scope of what can be conceived, for Cavendish, is thus much wider than
the scope of what can be perceived. There are a whole range of (potentially infinite, in
Cavendish’s system) things which I can conceive of but only one set of objects that I
can, at any one time, perceive. As such, if I cannot conceive of something, then I could
not possibly perceive it either. We can now make sense of the passage where
Cavendish writes:

But if no creature can have imagination without figure and colour, much less
can the optic sensitive parts; for the exterior sensitive parts are more gross than
the rational; and therefore they cannot be without colour, no more than without
figure (OEP, 86)

Her point here is that if I cannot imagine or conceive an object that does not possess
both figure and colour, then I could not possibly see something that does not possess
both figure and colour. This follows from the fact the rational perception, such as an
act of the imagination, is not “encumbered with inanimate parts” (OEP, 156) in the way
sensitive perception, such as seeing with the eye, is.

If my interpretation is accurate so far, then Cavendish’s metaphysics of
perception entails that if something is inconceivable then it could not possibly be
perceived. In order to understand why Cavendish accepts the claim that ‘if two things
cannot be conceived as existing separately, then those two things could not possibly exist separately’ (premise (1) of the argument in §1.2) it remains to be shown why she thinks that something which is, in principle, imperceptible could not possibly exist.

For Cavendish, it is not analytically true that things that exist in nature are perceived, for she is not committed to the Berkeleian claim that for a sensible thing to exist just is for it to be perceived. However, Cavendish’s metaphysics is like Berkeley’s in the sense that it is one in which perception plays an essential role. For example, Cavendish maintains that “every action of nature is a knowing and perceptive action” (OEP, 15) What’s more, she argues, the universe could not be orderly and regular, in the way that we observe it be, were it not for the fact that all parts of nature perceive. We know, then, that in Cavendish’s system, every part of nature perceives. Still, this is not the same as saying that every part of nature is perceived. Is there any good reason, then, for attributing to Cavendish the view that if something were in principle imperceptible then it could not possibly exist?

We’ve seen already that Cavendish is, at Adams puts it, a “plenist” (2016, 198). That is, she is committed to the view that there are no genuine vacuums or truly empty spaces in the universe and that all parts of nature are extended and material. What’s more, we know that she thinks the following holds: where there is matter, there is perceptual activity (OEP, 15, 157-58, 206-7). Even seemingly immobile or inactive objects, she claims, are composed of matter in motion for, as she puts it, “there is no such thing as rest in nature” (OEP, 19). We have also seen that, in the most general sense, Cavendish characterises perception as a sort of knowledge a part of nature has of other parts external to it (GNP 1.9).

I suggest that the conjunction of these three theses – (i) a commitment to plenism, (ii) the claim all parts of nature perceive, and (iii) the claim that perception is knowledge of things exterior to oneself – indicates that she is committed to something which she does not make explicit: namely, that all parts of nature are perceived.38 Her commitment to plenism means that each and every part of nature is surrounded by

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38 O’Neill claims that, for Cavendish, an action on behalf of one part of nature affects “all other parts of the universe” (2001, xxii). Since all actions are, for Cavendish, perceptive this supports my claim all parts of nature are in fact perceived. Likewise, Cunning gestures towards a similar reading when he writes: “[for Cavendish] because each body is always surrounded by other bodies ad infinitum, all the bodies in nature depend for their properties and structural integrity on the bodies that immediately surround them” (2019, 11). If all bodies are, as Cunning puts it, “causally dependent” on the bodies that surround them, and all activity (including causal activity) is perceptual activity, then it seems to follow that all bodies are perceived.
other parts, all of which are perceiving. As such, it is hard to see how anything could slip through the net, so to speak. What’s more, if this were the case, we should expect to find an explanation of how this is possible. But no such explanation is forthcoming. In fact, Cavendish claims even that *apparently* imperceptible qualities of objects, such as colours that are too small to be seen by the eye, can nonetheless be perceived by “a general sense”, namely, touch (OEP, 82-83; see also Chamberlain 2019, 38, fn. 32).

For these reasons, and without any clear evidence to the contrary, it is plausible to attribute to Cavendish the view that all parts of nature are perceived and, in turn, the claim that ‘if a thing could not, in principle, be perceived, then it could not possible exist’. My contention, then, is that this claim, along with Cavendish’s commitment to the view that inconceivability entails *imperceptibility*, explains why she accepts the inconceivability principle. All of which means that, for Cavendish, we can gain knowledge of what is possible by reflection on what it is possible, in principle, to perceive.

**Conclusion: ‘Empiricism’ in Cavendish’s philosophy**

Like other Early Moderns, Cavendish and Berkeley believe that our conceptual abilities – i.e., what it is possible for us to conceive – can provide us with knowledge about what could possibly exist. However, I have argued that Cavendish and Berkeley are both committed to an ‘empiricist’ modal epistemology; one in which conception provides knowledge of what could be perceived and, in turn, what could possibly exist. Anna Ortin Nadal has recently claimed that Early Modern arguments which are based on claims about what it is possible to conceive involve “*a priori* conceptual analysis” (2019, 3; see also Pasnau 2011, 508; Chamberlain 2019, 307). However, it should be clear now that this is not the case for Cavendish or Berkeley, neither of whom offer any indication that they take modal epistemology to be concerned with *a priori* truths. Rather, as I have shown, both take knowledge of what could possibly exist to be reducible to knowledge of what we could possibly be perceived.\(^{39}\) Since a rejection of *a priori* principles, in favour of sense-experience, is typically identified as a criterion

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\(^{39}\) To use a metaphor borrowed from Raphael’s *The School of Athens*, which is interpreted as depicting Plato pointing upwards towards the realm of the Forms while Aristotle points down towards reality, Cavendish and Berkeley both take modal truths to be determined from ‘below’ rather that from the *a priori*, conceptual realm ‘above’.
according to which a thinker can be characterised as an ‘empiricist’ (e.g., Shapiro (2016, 369); Markie (2017)), this lends support to my characterisation of Cavendish and Berkeley’s modal epistemologies as ‘empiricist’.

To conclude, the upshots of this paper are threefold. First, I have demonstrated that both Cavendish and Berkeley develop inseparability arguments that rely on an implicit commitment to the inconceivability principle. Second, I have shown that this commits both thinkers to an ‘empiricist’ modal epistemology: one in which we can gain knowledge of what is possible on the basis of what we could, in principle, perceive. Third, this paper has repercussions for how we should characterise Cavendish’s epistemology; for the comparison I have drawn between Cavendish and Berkeley’s inseparability arguments, and their reasons for accepting the inconceivability principle, reveals that there is at least one aspect of her epistemology that can appropriately be characterised as ‘empiricist’.

Thus, while at first glance we may not expect to find much in common between Cavendish, a materialist, and Berkeley, an immaterialist, there are clearly insights to be gained by drawing such a comparison. As such, this paper constitutes further evidence that we should continue to examine and re-assess the ways historical thinkers are typically characterised and the connections we draw between them.40

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40 acknowledgements


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