# 3 Margaret Cavendish on Conceivability, Possibility, and the Case of Colours

# *(author accepted manuscript)*

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# 7 Introduction

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9 Throughout her philosophical writing, Margaret Cavendish is clear in stating that

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11 colours are real; they are not mere mind-dependent qualities that exist only in the mind

12 of perceivers. This puts her at odds with other seventeenth-century thinkers such as

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14 Galileo and Descartes who endorsed what would come to be known as the ‘primary-

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16 secondary quality distinction’.1 According to these thinkers, the physical (or ‘primary’)

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18 qualities of objects (such as size, shape, and surface texture) exist externally to the

19 mind while colours *as they are presented to us in experience* are their mind-dependent

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21 effects. To borrow an example from Galileo, just as we wouldn’t say the ‘ticklish-ness’

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23 of a feather really exists independently of the mind, these thinkers argue we shouldn’t

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25 believe that colours do either (Galileo, *Essential*, 185). Throughout her philosophical

26 writings, Cavendish rejects this distinction, maintaining instead that colours are

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28 inseparable from, and therefore just as real as, the physical qualities of objects like

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30 their size and shape.

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32 In *Observations upon Experimental Philosophy* (published in 1666),2

33 Cavendish puts forward an argument for this position which is premised on what she

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35 sees as the *inconceivability* of colourless objects. She argues that since colourless

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37 objects are inconceivable, they cannot possibly exist in nature.3 Her argument thus

38 consists of the explicit premise that we cannot conceive of an object without colour

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1. 1 The primary-secondary quality distinction was later endorsed by natural philosophers such as Robert
2. Boyle and was most famously articulated (after Cavendish’s death) by Locke in his *Essay Concerning*
3. *Human Understanding* (henceforth: ECHU). Locke contrasts the qualities of objects that are “utterly
4. inseparable from the body, in what state soever it be” and which “the mind finds inseparable from every
5. particle of matter” (ECHU 2.8.9), from those qualities “which in truth are nothing in the objects
6. themselves, but powers to produce various sensations in us” (ECHU, 2.8.10).
7. 2 References to Cavendish’s works are as followers (followed by page numbers): *Philosophical Letters*

51 = PL; *Philosophical and Physical Opinions* = PPO; *Observations upon Experimental Philosophy* = OEP;

1. *Grounds of Natural Philosophy* = GNP.
2. 3 This qualification (‘in nature’) is important. Cavendish is not committed to the view that inconceivability
3. entails impossibility *per se*. Rather, she is committed to the view that something inconceivable could
4. not exist *in nature*. For instance, Cavendish maintains that the nature and attributes of God are
5. inconceivable and that he exists *outside* of nature (OEP, 88-89). In theory, Cavendish could thus allow
6. that colourless objects exist *outside nature*. But this is ruled out by her view that colours are figures of
7. objects and only corporeal objects (i.e., those which exist in nature (OEP, 137)) have figures (OEP, 88-

89). An anonymous reviewer raised the question of whether Cavendish allows for the existence of other

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entities, such as immaterial minds, that exist outside of nature. While that does seem to have been the

60 case in her earlier writing (e.g., PL, 225-26), this is a position she later rejects (see, e.g., GNP 239).

3 and the implicit premise that if something is inconceivable then it could not possibly

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5 exist in nature.

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7 The aim of this paper is to explain why Cavendish accepts both premises of

8 this argument. However, the repercussions of this paper go much further than just

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10 helping us understand why Cavendish thinks colourless bodies cannot exist in nature.

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12 In fact, the interpretation I develop in what follows also has repercussions for our

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14 understanding of some of the most fundamental aspects of Cavendish’s metaphysics

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15 and epistemology. First, I provide new insights into the fundamental role that

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17 perception plays in Cavendish’s metaphysics. While Cavendish’s view that all of

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19 nature *perceives* is well-established, I show that Cavendish is also committed to the

20 view that all of nature is *perceivable.* Second, I provide the first in-depth discussion of

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22 Cavendish’s modal epistemology and her reasons for thinking that inconceivability

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24 entails impossibility (in nature).4 Thus, while on the surface this paper may appear to

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26 be about Cavendish’s philosophy of colour, the interpretation I develop in what follows

27 really concerns the relation between what we can conceive, what can be perceived,

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29 and what can exist in Cavendish’s system of nature.

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31 The structure of this paper is as follows. I begin with an outline of Cavendish’s

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33 remarks on colour and her argument in the *Observations.* In the same section, I also

34 compare Cavendish’s account of the relation between (in)conceivability and

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36 (im)possibility with the views of her contemporaries. In section two, I explain why

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38 Cavendish accepts the premise that colourless objects are inconceivable – focusing

39 on her account of what conception involves. In section three, I demonstrate that

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41 Cavendish is committed to two claims: (i) if an object can be perceived, it can be

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43 conceived, and (ii) if an object can possibly exist in nature, it can be perceived.

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45 Together, these claims explain why she accepts the premise that an inconceivable

46 object cannot exist in nature. Finally, in section four, I explain how Cavendish responds

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48 to the claim that colourless objects are not only *conceivable* but *perceivable* in the

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50 world around us, by outlining her views on transparent objects.

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# 53 1. Cavendish on Colour and Conceivability

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59 4 As Deborah Boyle notes, Cavendish’s “epistemology has received little attention” (*Well-Ordered*

60 *Universe*, 438). Her *modal* epistemology has received even less.

## 3 1.1 Colour

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5 Cavendish’s commitment to the view that colours are as material – and thus *real* – as

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7 any other qualities of objects is consistent throughout her writing.5 For example, in the

8 *Philosophical and Physical Opinions* (1663), she writes:

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10 such Colours as are Inherent, Light onely shews them to the Eye, but doth not

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12 make them in their Substance, for Grass is Green, whether the Eye seeth it or

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14 not (PPO, 216)

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15 Here, she responds to the idea that colour experiences are simply the result of light

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17 interacting with the surfaces of material objects. Her point is that when it comes to an

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19 object’s *inherent* colours – i.e., those colours which truly belong to it and are not simply

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21 the result of, say, abnormal lighting conditions – light might *show* us those colours, but

22 it does not *cause* them. Thus, she states that “Grass is Green” whether we see it or

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24 not. As such, colours cannot exist only in the mind. Similarly, in the *Grounds of Natural*

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26 *Philosophy* (1668) she writes: “there is no such thing in Nature, as a Colourless Body”

27 and that “Matter, Colour, Figure, and Place, is but one thing, as one and the same

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29 Body” (GNP, 12.29). This has led one recent commentator to conclude that, for

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31 Cavendish “sensuous color is an irreducible property of bodies, on a par with size and

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33 shape” (Chamberlain, ‘Material World’, 299), where ‘sensuous colour’ is to be

34 understood as “color-as-it-visually-appears or color-as-experienced” (Chamberlain,

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36 ‘Material World’, 298).6

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38 In a chapter on colour in the *Observations,* Cavendish puts forward an

39 argument for this position:7

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41 Truly, in my judgement, those opinions, that no parts have colour, but those

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43 which the light reflects on, are neither probable to sense nor reason; for how

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45 can we conceive any corporeal part, without a colour? In my opinion, it is as

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1. 5 Cavendish’s view is that all of nature is material (OEP, 137; PL, 187).
2. 6 Following Anna Ortin Nadal’s discussion of Descartes on the primary-secondary quality distinction
3. (‘Descartes on the Distinction’, 4), we could also say that while he is an ‘anti-realist’ about sensuous
4. colours, Cavendish is a ‘realist’.
5. 7 Cavendish actually puts forward two arguments in the *Observations*. The second is based on a case
6. described in Robert Boyle’s *Experiments and Considerations touching Colours* (OEP, 80). She begins
7. with an observable phenomenon: namely, that during the tempering of steel, whenever its material
8. qualities change, its colours do too. Cavendish argues that such changes “prove, that colours are
9. material, as well as steel”. I leave aside discussion of this argument, first, because my focus is on
10. Cavendish’s views on conception and existence, and, second, because it is not an especially convincing

argument. As Chamberlain notes (‘Material World’, 312-13), the observable phenomenon of steel’s

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colour changing every time its physical qualities change is equally consistent with the mechanistic claim

60 that changes in physical qualities cause changes in our colour experiences.

3 impossible to imagine a body without colour, as it is impossible for the mind to

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5 conceive a natural immaterial substance (OEP, 86)

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7 Again, Cavendish is reacting to the view that parts of nature only have colour when

8 light reflects on them. Cavendish rejects this view, which she claims is neither

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10 “probable to sense nor reason”,8 on the basis that we cannot “conceive any corporeal

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12 part, without a colour”. Cavendish then states that it is *as* impossible to imagine a body

13 without colour as it is “for the mind to conceive a natural immaterial substance”. It is

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15 telling that she draws this comparison because, by this point in her life, Cavendish was

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17 committed to the impossibility of natural immaterial substances.9 The passage thus

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19 indicates that Cavendish thinks colourless bodies are likewise impossible.

20 It’s worth reiterating that Cavendish’s argument consists of two premises. One

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22 is explicit – colourless bodies are inconceivable – while the other is implicit; anything

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24 that is inconceivable cannot possibly exist in nature.

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## 27 1.2 Conceivability and possibility

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29 Before explaining why Cavendish accepts the two premises of this argument, I first

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31 want to compare Cavendish’s claims about what we can and cannot conceive with

32 those of Galileo and Descartes. Doing so reveals that Cavendish’s views are

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34 idiosyncratic in at least two ways. First, unlike other seventeenth century thinkers, she

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36 thinks that colourless bodies are inconceivable. Second, her argument requires the

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38 (controversial) premise that if something is inconceivable then it cannot exist in nature.

39 Galileo and Descartes, who were both proponents of what would come to be

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41 known as the ‘primary-secondary quality distinction’, maintain that only the primary

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43 qualities of objects (like their size and shape) exist independently of the mind (see

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45 Galileo, *Essential*, 184-85; Descartes, *Philosophical Writings* (henceforth: CSM) 1:

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1. 8 It might be argued that Cavendish’s view is that colourless bodies are *improbable* rather than
2. impossible based on this remark. However, following Boyle (*Well-Ordered Universe*, 447), we can
3. attribute this claim to Cavendish’s ‘moderate scepticism’ concerning metaphysical truths. On this
4. reading of Cavendish, a proposition can be a metaphysical truth about nature, even if our knowledge
5. of it is not absolutely certain. As such, it is plausible to attribute to Cavendish the view that colourless
6. bodies are impossible, even if that truth is only probably *known* to us. Thanks to David Bartha and Tom
7. Stoneham for raising this concern.
8. 9 By the time she wrote the *Observations* and *Grounds,* Cavendish’s view was that immaterial
9. substances cannot exist in nature (GNP Appendix 1.2; for discussion, see Cunning ‘Thinking Matter’,
10. 120; Wilkins, ‘Exploding’). The best (and perhaps only) example of an immaterial substance is God who
11. Cavendish describes as an “infinite, incomprehensible, supernatural, and immaterial essence, void of

all parts” (OEP, 38). All parts of nature, for Cavendish, are material (OEP, 137). Thus, God, being

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immaterial, is not a part of nature but is “supernatural”. She also adds that God can “no ways be subject

60 to perception”.

3 227). While there is more to be said about how these (and other) thinkers arrived at

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5 this conclusion, what is important for my present concerns is that both agree we can

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7 conceive of objects that have primary, but not secondary, qualities.10 For example, in

8 *The Assayer* (1623), Galileo explains that whenever we conceive of material

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10 substances, we are “drawn by necessity” to conceive of them as having primary

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12 qualities like size or shape. He then claims that, “my mind does *not* feel forced to

13 regard it as necessarily accompanied by such conditions as the following: *that it is*

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15 *white or red*, bitter or sweet, noisy or quiet, and pleasantly or unpleasantly smelling”

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17 (Galileo, *Essential*, 185, my emphasis). In other words, Galileo thinks there is an

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19 important difference between qualities like size and shape and qualities like sound,

20 taste, smell, or colours. Like other proponents of the distinction, Galileo maintains that

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22 the latter, just like the sensation of ‘ticklishness’ in a feather, exist only in the mind

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24 while the former are part of mind-independent reality (Galileo, *Essential*, 185).

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26 Descartes, similarly, notes that we can conceive of objects (such as transparent

27 stones) which possess qualities like size and shape but not colour (CSM 1: 227). The

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29 prevalence of this view – that we conceive of objects that possess primary qualities

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31 but not secondary qualities (including colours) – makes Cavendish’s own view all the

32 more striking. For Cavendish’s argument is premised on what she sees as the

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34 *in*conceivability of colourless objects.

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1. Another striking feature of Cavendish’s argument is that she moves from the

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38 inconceivability of colourless bodies to the impossibility of their existing in nature.

39 Other thinkers from the period, including Galileo and Descartes, move from what we

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41 can conceive to what could possibly exist.11 Cavendish, meanwhile, makes the

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43 stronger (and more controversial) move from what we *cannot* conceive to claims about

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45 the kinds of things that *could not possibly* exist. This distinction may not appear to be

46 hugely significant, but it in fact provides us with a strong motivation to look for an

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48 explanation of where Cavendish’s argument is coming from. First, this difference

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50 means that we cannot simply put Cavendish’s argument down as an attempt to argue

51 *ad hominem* against the likes of Galileo and Descartes.12 *Ad hominem* arguments only

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55 10 For an account of Descartes’ argument for the primary-secondary quality distinction, see Downing,

56 ‘Sensible Qualities’.

57 11 For example, one of the premises in Descartes’ argument for the real distinction between mind and

58 body in the sixth meditation is the claim that we can conceive of minds and bodies existing separately

(CSM 2:54).

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12 I am here using ‘*ad hominem’* consistently with how the Early Moderns understood the term. Whereas

60 today we might think of an *ad hominem* argument as one where the character of the arguer is attacked,

3 work when they are built on the same premises as one’s opponents – Cavendish’s

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5 argument is not. Second, while moves from inconceivability to impossibility were not

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7 unheard of at the time of Cavendish’s writing,13 they were considerably more

8 controversial. While a seventeenth-century thinker might reasonably infer that if *I* can

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10 conceive of an object, then God can too (and hence God could create it), there is no

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12 obvious reason why *my* inability to conceive of an object indicates that God, with his

13 omniscience and omnipotence, would not be able to. Epistemic humility would seem

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15 to recommend holding back from moving from claims about inconceivability to claims

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17 about impossibility. Yet, that is exactly what Cavendish does.

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19 This raises the important question of *why* Cavendish felt entitled to move from

20 the inconceivability of a colourless object to the impossibility of such an object existing

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22 in nature – a question to which, I suggest, there is no simple answer.14 Indeed, I will

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24 turn to this question in section three and it will require an in-depth analysis of

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26 Cavendish’s metaphysics to provide an answer. However, in the next section, I will

27 offer an explanation of why Cavendish thinks that colourless objects are inconceivable

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29 in the first place by examining her account of what conception involves.

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# 34 2. Are Colourless Objects Inconceivable?

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37 Given that Galileo and Descartes both claim that we can conceive of colourless

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39 objects, it seems remarkable that Cavendish’s own argument is premised on a

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41 statement to the very opposite effect. Even laying aside Galileo and Descartes’ views,

42 Cavendish’s remark is striking for it seems far from obvious that colourless objects are

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44 inconceivable. We might very well think that a square circle is inconceivable because

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46 of the *inconsistency* at the heart of such a notion, but there seems to be no such

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1. rather than the argument itself, in the context of Early Modern philosophy, an *ad hominem* argument
2. was one where a thinker’s own premises are used against them. As Clare Marie Moriarty explains, this
3. was part of a wider commitment to the idea that “a philosopher should be able to live in accord with his
4. or her principles” (‘The ad hominem argument’, 436). Locke, for example, construes an *ad hominem*
5. argument as an attempt to “press a man with consequences drawn from his own principles or
6. concessions” (ECHU 4.7.21). Moriarty, ‘The ad hominem argument’ provides a very insightful
7. discussion of Early Modern *ad hominem* argumentation.
8. 13 For example, Hobbes moves from the inconceivability of self-moving matter to its impossibility
9. (Adams, ‘Visual Perception as Patterning’, 212, fn. 11).
10. 14 Chamberlain seems to play down the significance of Cavendish’s move from inconceivability to

impossibility, noting that she was “entitled to this assumption in her dialectical context” (‘Material World’,

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310, fn. 34). However, I hope to have shown that this is not quite as obvious Chamberlain’s remark

60 suggests.

3 inconsistency involved in the notion of a colourless object.15 The question of why

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5 Cavendish thinks colourless objects are inconceivable is thus worth addressing.16

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7 As things stand, Cavendish and her opponents appear to be talking past one

8 another. Galileo and Descartes claim they can conceive of colourless objects, while

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10 Cavendish denies that this is possible. It seems likely, then, that some kind of

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12 equivocation – most likely over the term ‘conceive’ – is taking place.17 At this point, it

13 is crucial to note that Cavendish uses the terms ‘conceive’ and ‘imagine’

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15 interchangeably. That is, for Cavendish, to *conceive* of a colourless object is to

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17 *imagine* one. This has been noted by other commentators (e.g., Boyle *Well-Ordered*

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19 *Universe*, 444; Adams, ‘Visual Perception as Patterning’, 5; Chamberlain, ‘Material

20 World’, 306-7). Even if this observation does not provide us with an obvious solution

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22 to the apparent inconsistency between Cavendish and her opponents’ views, it does

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24 allow us to identify where that inconsistency is coming from. Cavendish’s use of the

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26 term ‘conceive’ marks a point of disagreement with thinkers like Descartes, who, rather

27 than equating conceiving and imagining, associate conception with the grasping of *a*

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29 *priori* truths and the imagination with the senses (see Pasnau, *Metaphysical Themes*,

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31 508; Chamberlain, ‘Material World’, 307; Ortin Nadal, ‘Descartes on the distinction’,

32 3).18 Descartes thus separates conception from imagination, while Cavendish

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34 identifies them as one and the same thing.

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2. 15 As Colin Chamberlain suggested to me, while there does not *seem* to be a contradiction involved in
3. the notion of a colourless object, this could turn out to be Cavendish’s view. If Cavendish really thinks
4. that body and colour are “one thing” (GNP 12.21), she may think that conceiving of a colourless body
5. is akin to (e.g.) conceiving a triangle without three sides.
6. 16 Another reason to address this question is that Cavendish’s claim that colourless objects are
7. inconceivable anticipates Berkeley’s well-known argument against the primary-secondary quality
8. distinction (as articulated by Locke). For instance, Berkeley’s spokesperson in the *Dialogues*,
9. Philonous, asks his interlocutor, Hylas; “[c]an you even separate the ideas of extension and motion,
10. from the ideas of all those qualities which they who make the distinction, term *secondary?*” to which
11. Hylas replies, “I do not find that I can” (‘Three Dialogues’*,* 194, emphasis in original). Berkeley thinks it
12. follows from the inconceivability of an object with primary qualities and not secondary qualities (such
13. as colours) that no such object could exist in nature. It remains unclear why Berkeley accepts this claim
14. (for discussion, see Holden, ‘Berkeley on Inconceivability and Impossibility’) but perhaps understanding
15. why Cavendish does can provide us with some clues. For further discussion (albeit, brief) of similarities
16. between Cavendish and Berkeley views, see Wilson, ‘Two Opponents’, 41; Chamberlain, ‘Material
17. World’, 305-306; Allen, ‘Cavendish and Boyle’, 71.
18. 17 Another way one might try to explain this disagreement is psychologically and with reference to the
19. conceptual capacities of the individual thinkers involved. Perhaps, for instance, Cavendish, Galileo, and
20. Descartes simply had varying capacities for mental imagery such that Cavendish couldn’t conceive (or
21. imagine) of colourless bodies while Galileo and Descartes could. They would, in that case, be working
22. on the basis of conflicting introspective evidence. Jacovides, ‘How Berkeley Corrupted’, discusses this

possibility with regard to Berkeley’s conceptual capacities.

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18 See, for example, Descartes’ ‘wax argument’ in CSM 2: 30. In using ‘conceive’ interchangeably with

60 ‘imagine’, Cavendish is much closer to Hobbes (e.g., *Leviathan*, 2.10).

3 Recall the difference between the inconceivability of a square circle and the

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5 apparent inconceivability of a colourless body. The former seems to arise from an

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7 *inconsistency* at the heart of that notion. However, there does not seem to be any such

8 inconsistency in the notion of a colourless body. On what grounds, then, does

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10 Cavendish maintain that a colourless body is inconceivable? The answer lies in

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12 Cavendish’s commitment to the interchangeability of conceiving and imagining.

13 Consider the way in which Cavendish phrases her argument for the impossibility of

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15 colourless bodies:

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17 how can we *conceive* any corporeal part, without a colour? In my opinion, it is

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19 as impossible to *imagine* a body without a colour, as it is impossible for the

20 mind to *conceive* a natural immaterial substance (OEP, 86)

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22 In this passage, Cavendish switches from talking about ‘conceiving’ to ‘imagining’ and

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24 back to ‘conceiving’ again. The argument is only valid (and the principle of charitable

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26 interpretation recommends we assume it is) if she is using these terms

27 interchangeably.

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29 Indeed, much turns on the fact that when Cavendish refers to what she can

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31 conceive, she likewise refers to what she can imagine. That she uses the terms

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33 ‘conceive’ and ‘imagine’ interchangeably shows that she does *not* see conception as

34 uniquely privileged in accessing *a priori* truths. In fact, Cavendish explicitly denies the

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36 existence of the purported faculty of the intellect (OEP, 47, 88, 272). For Cavendish,

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38 the objects of conception and imagination are one and the same. It is for this reason

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1. that Cavendish thinks we *cannot* conceive of a colourless body – since we cannot

41 *imagine* one – while Galileo and Descartes think we can. The reason being that, for

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43 Cavendish, we cannot imagine that which could not, in principle, be perceived.19 If one

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45 wishes to object to Cavendish’s claim, the burden is on them to provide an alternative

46 account of what ‘conceiving’ involves. But Cavendish thinks no such alternative is

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48 available: all mental activity is either patterning or figuring, and (as we will find in the

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50 next section) it is not possible to pattern or figure a colourless object.

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# 53 3. Why Does Inconceivability Entail Impossibility (in Nature)?

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2. 19 Again, in this regard, Cavendish is consistent with Hobbes (e.g., *Leviathan*, 2.2)

3 In the previous section, I explained what Cavendish has in mind when she uses the

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5 term ‘conceive’. For Cavendish, to ‘conceive’ an object is to *imagine* that object. This

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7 can help us to understand her disagreement with Galileo and Descartes. Cavendish

8 thinks that a colourless object cannot be conceived because it cannot be imagined.

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10 Galileo and Descartes, meanwhile, find that there is nothing inconsistent in the notion

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12 of a colourless object. Since they associate conceiving with *a priori* analysis, they find

13 that a colourless object *is* conceivable.

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15 In this section, I focus on the implicit premise in Cavendish’s argument; the

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17 claim that if an object is inconceivable then it cannot possibly exist in nature. In section

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19 1.2, I suggested that Cavendish’s commitment to this claim cannot be explained by

20 her dialectical context or as an *ad hominem* argument, since the move from

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22 inconceivably to impossibility is more controversial than the move from conceivability

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24 to possibility employed by Galileo and Descartes.

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26 Instead, I identify which of Cavendish’s metaphysical and epistemological

27 commitments explain why she accepts this premise. I argue that Cavendish’s view is

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29 that everything that exists in nature is perceivable and that everything that is

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31 perceivable can be conceived. More formally, I attribute to her the following claims:

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33 P1. If an object can be perceived, it can be conceived.

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36 P2. If an object can possibly exist in nature, it can be perceived.

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38 Together, these claims entail that if a colourless body cannot be conceived then a

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40 colourless body cannot possibly exist *in nature*.20 In the following subsections, I

41 explain why Cavendish accepts P1 and P2.

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## 46 3.1 Perception and conception

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49 In this subsection, I explain why Cavendish thinks that if an object can be perceived,

50 it can be conceived. Before proceeding, however, it is necessary to provide some

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52 exposition of Cavendish’s account of perception. Once this is accomplished, and the

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54 distinction between figuring and patterning has been made clear, we will be in a

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56 position to see why Cavendish accepts P1.

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59 20 Again, this qualification (‘in nature’) is important. Recall that Cavendish is not committed to the view

60 that inconceivability entails impossibility *per se*.

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3 Cavendish holds a materialist account of the mind. Like every other part of

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5 nature, for Cavendish, the mind is material and the operations of the mind are matter

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7 in motion (Cunning, ‘Thinking Matter’; Detlefsen, ‘Atomism, Monism, and Causation’,

8 200).21 She thus also construes *perception* in materialist terms. However, unlike other

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10 materialists, such as Hobbes, she does not hold (and in fact explicitly argues against)

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12 ‘pressure-based’ accounts of perception where the mind is passively acted on by

13 external objects via the sense organs similarly to how wax is acted upon by a stamp

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15 (OEP, 140; for discussion, see Detlefsen, ‘Atomism, Monism, and Causation’, 165;

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17 Adams, ‘Visual Perception as Patterning’, 195–96; Boyle, *Well-Ordered Universe*,

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19 ch.4). Instead, she characterises perception as “an exterior knowledge of foreign parts

20 and actions” that involves “an action of figuring or patterning” (OEP, 15). For

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22 Cavendish, nothing is imprinted on the mind in perception. Rather, the matter in the

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24 mind figures or patterns – that is, *copies* – the figures of whatever objects it perceives.

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26 Importantly, the matter in the mind is *active* and not passive in perception.22 For she

27 maintains that “self-motion if the cause of all exterior perception”.

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30 ‘Figuring’ and ‘patterning’, for Cavendish, are technical terms and make up an

31 exhaustive (dichotomous) list of the kinds of perceptual activities the mind engages in.

32

33 The two activities are closely related but differ in terms of the *freedom* with which they

34

35 operate and the scope of their objects. Figuring is the mental activity which operates

36

37 with the greatest freedom. Nonetheless, it always involves the matter in the mind

38 organising itself into the form of some object. All mental activity, for Cavendish,

39

40 involves figuring and thus all mental activity, she thinks, involves *picturing* something.

41

42 In fact, at times, she uses the terms ‘picture’ and ‘figure’ interchangeably (e.g., OEP,

43 88-89). According to Cavendish, if I am thinking of something, I am figuring something

44

45 and, in turn, the matter of my mind is organising itself into the form (or picture) of

46

47 something. For instance, if I recollect something I previously perceived, such as the

48

1. sun in the sky when I lie in bed at night, that figure is of an external object. But

50

51

52

53 21 In fact, Cavendish holds that (like every other part of nature) the human mind is composed of three

54 kinds of matter: rational matter, sensible matter, and dull or inanimate matter (OEP, 157-58, 206-7). For

55 more on the role that Cavendish’s tripartite account of matter plays in her system of nature, see

56 Shaheen, ‘Parts of Nature and Division’.

57 22 Cavendish’s account of perception can be understood as part of her wider commitment to occasional

58 causation in nature. Unlike Hobbes, she construes external objects not as *causes* but as *occasions* for

human and animal perception. For discussion, see James, ‘Philosophical Innovations’, 231-39;

59

Detlefsen, ‘Atomism, Monism, and Causation’ & ‘Reason and Freedom’; Boyle *Well-Ordered Universe*,

60 97-100.

1 1

2

3 oftentimes, Cavendish claims, figuring happens “without the presentation of exterior

4

5 objects” and “without taking any copies of foreign objects” (OEP, 170) such as when I

6

7 imagine a unicorn. This kind of figuring results in “[i]maginations, fancies, conceptions,

8 passions, and the like” (see also PL 179).

9

10

11 Patterning, for Cavendish, is a very similar activity. In fact, it is *a kind* of figuring;

12 so there is no genuine distinction between the two activities. Patterning is the mental

13

14 activity whereby the matter in the mind copies the motions of an object (or objects)

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15

16 that is *currently* presented to the sense organs. As such, patterning has considerably

17

18 less freedom than figuring. We can only *pattern* what is right there in front of us. In that

19 regard, patterning is much closer to how we would ordinarily think about perception

20

21 since, generally speaking, we tend to say that we can only perceive things that are

22

23 actually present. Cavendish acknowledges this and sometimes refers to patterning as

24 “sensitive perception” (i.e., perception via our senses, as opposed to figuring in the

25

26 mind). As she puts it, “sensitive perception can go no further than the exterior shape,

27

28 figure and actions of an object” (OEP, 175).23

29

30 Patterning is akin to our ordinary way of thinking about perception. But where

31

32 does *conception* come in? Since we can conceive of things that *are not* right there in

33

34 front of us (like the sun in the sky when we lie in bed at night) or which we might never

35

36 perceive via the senses (such as a unicorn), conception is a kind of figuring. Like other

37 ‘rational’ activities of the mind (as opposed to its ‘sensitive’ activities), such as

38

39 remembering, contemplating, and judging (OEP, 158; PL, 185; Boyle, ‘Margaret

40

41 Cavendish’, 444), conception is not present-object-dependent. As she puts it, when

42 we conceive of things our rational activity is “not encumbered with any other parts of

43

44 matter” (OEP, 150).

45

46

47 To return to the question of why Cavendish accepts P1 (‘if an object can be

48 perceived, then it can be conceived’), the answer has to do with the fact that figuring

49

50 and patterning, while they differ in scope and freedom, are the *same kind* of mental

51

52 activity. Every instance of patterning is, for Cavendish, an instance of figuring. Thus,

53

54

55

56 23 In this passage from the *Observations,* Cavendish is also making a point about the difference between

57 exterior and *interior* motions of objects. Interior motions, she explains, are “not subject to the perception

58 of our exterior senses”. In fact, her criticisms of microscopy make it clear that she thinks the interior

motions of objects could never be perceived (OEP, 50). It is important to note, therefore, that her claims

59

about perception and what is perceivable (which I discuss in what follows) are restricted to the *exterior*

60 motions of parts of nature.

1 1

2

3 not only *can* anything that is perceived (patterned) be conceived (figured), everything

4

5 that is perceived *is* conceived (in a sense). But our conceiving powers, unlike our

6

7 perceiving (patterning) abilities go beyond just figuring those objects currently present

8 to the senses and include all the possible objects of the imagination. The scope of

9

10 what can be conceived, for Cavendish, is therefore much wider than the scope of what

11

12 can be perceived.24 There are a whole range of (potentially infinite, in Cavendish’s

13 system) things which I can conceive but only one set of objects I can, at any one time,

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14

15 *perceive*. As such, if something lies beyond the limits of my conceptual abilities, which

16

17 are much freer and wider in scope than my perceptual abilities, then it will inevitably

18

19 also lie beyond the scope of my perceptual abilities.

20

21

22

## 23 3.2 Perception and existence in nature

24

25

26 In the remainder of this section, I justify attributing to Cavendish P2: if an object can

27

28 possibly exist in nature, it can be perceived.

29

30 Cavendish’s metaphysics is one in which perception plays a fundamental role.

31

32 In the *Observations*, she claims that “every action of nature is a knowing and

33 perceptive action” (OEP, 15) and that “natural knowledge and perception, is the

34

35 ground and principle… of all the infinite particular actions of nature” (OEP, 137).

36

37 Similarly, in the *Philosophical Letters,* she writes that “Perception and Action is one

38

39 and the same” (PL, 175). Her view that all of nature *perceives* is thus explicit and well-

40

2. 24 Note that this suggests there are things we can conceive but not perceive. In *Philosophical and*
3. *Physical Opinions,* Cavendish introduces the concept of ‘notions’ (PPO, 89; see also GNP 6.1). A
4. notion, she explains, is an “Obscurity of perfect Figures […] made not by the Rational Animate motions
5. from outward Objects or Senses, but […] out of their voluntary and intire Motions, without the help of
6. the Sensitive Prints” (PPO,89). When we have ‘notions’, for Cavendish, we are figuring things that could
7. not be patterned*.* Examples include our notion of “Infinite” and our notion of “Nothing” (PPO, 89). Are
8. Cavendish’s claims about notions consistent with the views I have attributed to her so far? First, note
9. that they *are* consistent with P1 (if an object can be perceived, it can be conceived). Cavendish’s talk
10. of notions simply indicates that she would not go so far as to say if *and only if* an object can be
11. perceived, can it be conceived. Whether her claims about notions are consistent with P2 (if an object
12. can possibly exist in nature, it can be perceived) depends on whether the things we have notions of can
13. exist *in nature*. In the case of “Nothing” it’s clear that she is not referring to something that could exist
14. in nature (see PL 198). “Infinite” is less clear. Cavendish herself certainly thinks that nature itself is
15. infinite but it is less obvious that she would accept that infinity is something that exists *in* or *as a part of*
16. nature. It is also a contested issue whether Cavendish is committed to infinite divisibility in nature (see,
17. e.g., Detlefsen, ‘Atomism, Monism, and Causation’; McNulty, ‘Order and Infinitude’; Shaheen, ‘Parts of
18. Nature and Division’). It seems to me that, on the balance of evidence, either Cavendish thinks our

notion of “Infinite” is not a notion of something that could exist in nature or that this constitutes an

59

inconsistency in her view. In any case, I do not think Cavendish’s account of notions threatens the

60 reading I have attributed to her thus far.

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2

3 established. However, in what follows I will show that Cavendish also believes that all

4

5 of nature is *perceivable.* To do so, I will show that Cavendish thinks that if an object

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7 could not be perceived then it could not exist in nature.25

8

9 The textual evidence on offer in the *Observations* and the *Grounds* supports

10

11 attributing to Cavendish two claims: (i) that all of nature is corporeal, and (ii) that

12 anything corporeal is perceivable. The textual support for both claims is explicit and

13

14 together they commit her to the view that all of nature is *perceivable*. It follows that

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15

16 anything could not be perceived could not exist in nature. In support of (i) consider the

17

18 following remark from the *Observations*:

19

20 Nature is purely corporeal or material, and there is nothing that belongs to, or

21

22 is a part of nature, which is not corporeal; so that natural and material, or

23 corporeal, are one and the same (OEP, 137)

24

25

26 Similarly, in the *Philosophical Letters*, she writes: “Nature is Material, or Corporeal;

27

28 and whatsoever is not composed of matter or body, belongs not to Nature” (PL, 187).

29 In both cases, her point is clear: all parts of nature are corporeal, or material, to the

30

31 extent that the terms ‘natural’, ‘corporeal’, and ‘material’ are virtually interchangeable.

32

33 Now consider the following remark from the *Grounds* which supports (ii):

34

35 Whatsoever is Corporeal, is Perceivable; that is, may be perceived in some

36

37 manner or other, by reason it hath a Corporeal Being: but, what Being an

38

39 Immaterial hath, no Corporeal can perceive. Wherefore, no Part in Nature can

40 perceive an Immaterial, because it is impossible to have a perception of that,

41

42 which is not to be perceived, as not being an Object fit and proper for Corporeal

43

44 Perception. (GNP Appendix 1.3).

45

46 Again, Cavendish is explicit: “*Whatsoever* is Corporeal, is Perceivable”. This passage

47

48 (which appears almost verbatim in the 1668 edition of the *Observations* (see OEP,

49

50 89)) reveals that something about parts of nature – corporeal things – makes them “fit

51 and proper” for perception. Thus, Cavendish’s view is that the perceptibility of parts of

52

53 nature is something that necessarily follows from their corporeality. Whatever it is that

54

55 makes corporeal parts of nature perceivable is lacking from immaterial things which

56

57

58

59 25 Note that this is compatible with Cavendish’s view that inconceivable entities, including God, can

60 exist *outside* nature and cannot be conceived by corporeal beings (OEP, 88-89; GNP Appendix, 1.2).

1 1

2

3 are *not* “fit and proper for Corporeal Perception” (GNP Appendix 1.3). Lacking

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5 corporeality, and therefore perceivability, immaterial things cannot be perceived:

6

7 “because it is impossible to have a perception of that, which is not to be perceived”.

8 With the discussion in 3.1 in mind, this is enough to establish that, for Cavendish,

9

10 anything that can exist in nature is conceivable, since she thinks that anything that can

11

12 be perceived can be conceived.26

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14 Having established that Cavendish accepts P2 (‘if an object can possibly exist

15

16 in nature, it can be perceived’), it’s worth considering *why* she accepts it.

17

18 Unfortunately, Cavendish’s reasons for doing so are not made explicit.27 For that

19 reason, I offer, by way of a “Cavendishian proposal”,28 an explanation derived from

20

21 her commitment to the view that nature is a *plenum*. Cavendish, like Hobbes and

22

23 Descartes, is a plenist insofar as she thinks that there are no genuine vacuums or truly

24 empty spaces in nature and that all parts of nature are material or corporeal (see, e.g.,

25

26 PL 451-52, 521). Cavendish’s commitment to plenism (so defined), in conjunction with

27

28 her view that where there is matter there is perceptual activity (OEP, 15, 157-58, 206-

29

30 7), can help us understand why she thinks all of nature is perceivable.

31

32 Cavendish’s view is that all parts of nature are surrounded by other

33

34 ‘neighbouring’ parts, all of which are material and all of which are perceiving. It seems

35

36 highly likely, then, that Cavendish would accept that all parts of nature perceive their

37 neighbouring parts. This is because, as was established in 3.1, perception, for

38

39 Cavendish, is present-object dependent and, in the plenum, all of nature is surrounded

40

41 by other present objects. Consider, for example, the following claim from the

42 *Observations*:

43

44

45

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48

49

1. 26 The claim that, for Cavendish, something that is not part of nature (and therefore not corporeal or
2. material) cannot be conceived is also supported by her discussion of our knowledge of God in OEP.
3. There, she explains that “though the finite parts of nature may have a perception or knowledge of the
4. *existence* of God, yet they cannot possibly *pattern or figure* him” (OEP, 88, my emphasis). This is
5. because, “it is impossible for man to make a figure, or picture of that which is not a part of nature; for
6. pictures are as much part of nature, as any other parts”.
7. 27 It’s possible that Cavendish takes the perceivability of the corporeal as a basic fact. However, as will
8. become clear, I think there is evidence that this view is motivated by other commitments.
9. 28 I borrow this phrase from Detlefsen (‘Atomism, Monism, and Causation’ & ‘Reason and Freedom’) to

describe an interpretation of Cavendish that attributes to her a position that is not explicit but *is*

59

consistent with her writing. It involves putting forward a position Cavendish could – and perhaps ought

60 – to have accepted, based on the textual evidence available.

1 1

2

3 there is knowledge and perception in every part, by which each part doth not

4

5 only know itself, and its own actions; but has also a perception of some actions

6

7 of its neighbouring parts (OEP, 152)

8 Admittedly, Cavendish’s claim here is that each part of nature perceives “some*”*

9

10 actions of its neighbouring part. Nonetheless, since every part of nature perceives it is

11

12 hard to see how anything could slip through the net, so to speak, and fail to be

13

14 *perceived.*

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15

16 David Cunning leans towards the view that all parts of nature are perceived by

17

18 their surrounding parts when he writes:

19

20 [for Cavendish] because each body is always surrounded by other bodies ad

21

22 infinitum, all the bodies in nature depend for their properties and structural

23

24 integrity on the bodies that immediately surround them (Cunning, *Margaret*

25 *Cavendish*, 11).

26

27 Cunning’s claim is that, for Cavendish, all bodies are causally dependent on the bodies

28

29 that surround them in the plenum. This is not an explicit reference to perception. But

30 elsewhere Cavendish herself is explicit in holding that all interaction, including causal

31

32 interaction,29 *pre-supposes* perception. As she puts it in the *Observations*:

33

34 there can be no commerce or intercourse, nor no variety of figures and actions;

35

36 no productions, dissolutions, changes, and the like, without perception; for how

37 shall parts work and act, without having some knowledge or perception of each

38

39 other? (OEP, 15)

40

41 Taking into account, then, that for Cavendish, all causal action pre-supposes

42

43 perception, it is not much of a stretch to move from Cunning’s reading to one in which

44 all parts of nature are perceived.30 In fact, if Cunning is right and all of parts of nature

45

46 are causally dependent on their surrounding parts, then it follows that all parts of

47

48 nature must be perceived (at least by their surrounding parts). Note that this results in

49

50 the conclusion that all parts of nature are *perceived* as opposed to “Perceivable”,

51 which is the term we find Cavendish using in the *Grounds*. But something which is

52

53

54

55

56 29 Although strictly, in Cavendish’s system, that should be *occasional* causal interaction.

57 30 Eileen O’Neill compares Cavendish’s vitalism with the view, endorsed by the Stoics, that an action

58 on behalf of one part of nature affects “all the other parts of the universe” (‘Introduction’, xxii). If indeed

59 Cavendish does hold something like this view, and if all activity pre-supposes perception, again it would

60 seem to follow that all parts of nature are perceived.

1 1

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3 perceived must also be perceivable. As Cavendish puts it, “it is impossible to have a

4

5 perception of that, which is not to be perceived” (GNP Appendix 1.3).

6

7 There are two concerns that might be raised against this reading. First, some

8 textual evidence seems to indicate Cavendish does *not* think all parts of nature

9

10 perceive their neighbouring parts.31 Consider the following passage:

11

12 some parts may make perceptions of distant parts, and not of neighbouring

13

14 parts; and others again, may make perceptions of neighbouring and adjoining

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15 parts, and not of those that are distant: As for example, in the animal perception,

16

17 taste and touch are only perceptions of adjoining objects, whenas sight and

18

19 hearing do perceive at a distance; for if an object be immediately joined to the

20

21 optic sense, it quite blinds it. (OEP, 184)

22 In this instance, Cavendish seems to say that *some* parts of nature perceive their

23

24 neighbouring parts, while some do not. This suggests that there could be parts of

25

26 nature that ‘slip through the net’ and are not perceived.

27

28 However, this concern can be alleviated by considering the passage in detail.

29 Cavendish is referring to a specific case where it becomes impossible to see

30

31 something when it is too close to one’s eyes (where the object is “immediately joined

32

33 to the optic sense”). She is not casting doubt on the *perceivability* of such an object

34 *per se*. There are still circumstances in which the same object could be perceived

35

36 (e.g., by someone who was further away from it). What’s more, this has no bearing on

37

38 whether that object continues to be perceived by the parts of nature that are

39

40 surrounding it. It is simply that the object it is too close to the optic sense of a specific

41 individual to be seen by that individual*.* As such, this passage that does not conflict

42

43 with the view I have attributed to Cavendish so far.

44

45 The second concern is about Cavendish’s modal epistemology. My claim is that

46

47 Cavendish’s modal epistemology is such that if I cannot conceive an object then I

48 *know* that object cannot possibly exist in nature.32 This seems to require the claim,

49

50 stronger than P2, that if an object can possibly exist in nature it can be perceived *by*

51

52 *me or by a creature like me.* Given that all parts of nature perceive, for Cavendish, it

53 seems possible that even if *I* (or any other creature like me) cannot conceive an object,

54

55

56

57

58 31 Thanks to Colin Chamberlain for raising this concern.

59 32 Again, this does not apply in the case of God’s incomprehensibility since God exists beyond or outside

60 nature (OEP, 17).

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2

3 something *else* could.*33* This certainly would be possible – and would indeed pose a

4

5 problem for Cavendish’s modal epistemology – if she thought that human perception

6

7 were different in kind from the perception taking place elsewhere in nature. As it

8 happens, though, that *is not* Cavendish’s view. While she admits that human (and

9

10 animal) perception involves the use of sense organs, which of course other parts of

11

12 nature are not equipped with (OEP, 222), she also seems to think this makes very little

13 difference.34 She is categorical in stating that perception – which as we saw in 4.1

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14

15 involves patterning or figuring (OEP, 15) – occurs wherever there is self-motion and,

16

17 for Cavendish, self-motion is fundamental to nature (OEP, 138). Other passages

18

19 indicate that she thinks ‘perception’ means the same thing wherever it is applied; for

20 instance, when she writes:

21

22 Wherefore rational and sensitive corporeal motions, cannot change from being

23

24 motions, though they may change from moving thus, to move thus; nor

25

26 perceptions from being perceptions, though they may change from being such

27 or such particular perceptions; for the change is only in particulars, not in the

28

29 ground or principle, which continues always the same. (OEP, 142)

30

31 Here, the suggestion is that motion and perception are so fundamental to nature that,

32

33 even if certain instances of motion or perception seem to differ in their particularities,

34 the “ground or principle” – that is, the *actions themselves* – are always the same. It’s

35

36 also worth noting that Cavendish maintains that both sensitive and rational matter exist

37

38 “not onely in every part of Mans Body, but in every part of nature” (PL, 185; see also

39 OEP, 24). Thus, given Cavendish’s metaphysical commitments, there are no grounds

40

41 on which to distinguish between what *I* can perceive and what other parts of nature

42

43 can perceive. Either an object is perceivable by parts of nature, or it cannot be

44

45 perceived at all.

46 In this section, I have shown the textual evidence is explicit in committing

47

48 Cavendish to the view that all parts of nature can be perceived. While Cavendish does

49

50 not provide an explicit explanation for *why* she holds that view, I argued that it can be

51

52 explained by an appeal to her plenism and the view that all action pre-supposes

53 perception. In conjunction with her view that inconceivability entails imperceptibility,

54

55

56

57

58 33 Many thanks to an anonymous reviewer for the BJHP for encouraging me to address this concern.

59 34 In turn, this raises the question of why Cavendish thinks human and other animals have sense organs

60 in the first place – but that is beyond my present aims.

1 1

2

3 Cavendish’s reasoning entails that an inconceivable object could not possibly exist in

4

5 nature.

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7

# 8 4. The Case of Transparent Objects

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12 Before concluding, I want to return to Cavendish’s disagreement with those

13

14 seventeenth-century thinkers who held that colours are mind-dependent qualities,

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15 distinguishable from physical qualities like size and shape. More specifically, I want to

16

17 consider how Cavendish might respond to an objection along the following lines:

18

19 *transparent* objects are colourless, so colourless objects are evidently possible since

20

21 they actually exist.

22 In 1.2, I argued that the disagreement between Cavendish and her opponents

23

24 over whether colourless objects can be *conceived* can be explained by appealing to

25

26 her use of the term ‘conceive’ as interchangeable with ‘imagine’. However, in

27

28 Descartes’ remarks on colours we also find a stronger claim: that we can actually

29 *perceive* colourless objects in the world around us such as when we come across

30

31 “stones so transparent as to lack colour” (CSM 1:227-28). If Descartes is right then

32

33 colourless objects are not only conceivable, and thus possible, but they actually exist.

34

35 There are signs that Cavendish anticipated this kind of objection. At the very

36 least, she was obviously familiar with the case of transparent stones since she

37

38 dedicates a chapter of her *Philosophical and Physical Opinions* to them (part V,

39

40 chapter 25). She makes no attempt to dispute their existence – or, indeed, their

41 transparency – but simply remarks that they are “somewhat of the nature” of glass

42

43 (PPO, 187-88). She explains that they are “made by such kind of Motions” as other

44

45 stones but “seem to be made by Stronger motions, and more Pure Tempered Matter”

46

47 (PPO, 188).

48 How might Cavendish respond to the suggestion that transparent objects are

49

50 examples of *colourless* bodies existing in nature? Initially, one might think her reply

51

52 would be that we never actually perceive a body, even a ‘transparent stone’, *as*

53

54 *colourless*. The argument might go like this: when we perceive a transparent body, we

55 inevitably perceive it as having the colour of whatever other body is on the other side

56

57 of it (and one might extend that claim to conception/ imagination too). Chamberlain

58

1. suggests that this kind of response, in which transparent bodies are construed as

60

1 1

2

3 “*chameleons* rather than colorless”, is available to Cavendish (‘Material World’, 308).

4

5 In other words, she might claim that even the mental pictures we form of transparent

6

7 objects are necessarily coloured-in.

8 However, this is not the response Cavendish offers (although, as will become

9

10 clear, it perhaps *ought* to have been). As Keith Allen notes, Cavendish’s view is that

11

12 objects like transparent stones “are not genuinely colourless, we are just unable to

13

14 perceive their colours in specific circumstances” (‘Cavendish and Boyle’, 72). In other

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15 words, Cavendish rejects the move from transparency to colourlessness. How does

16

17 she justify this claim? The first clue lies in her response to the idea (from Robert

18

19 Boyle’s *Experiments and Considerations touching Colours*) that if a flax seed is divided

20 enough times it will lose its colour. Her reply is that

21

22 they being divided into such small and fine parts, it makes their colours, which

23

24 are the finest of their exterior parts, not to be subject to our optic perception; for

25

26 what is very small or rare, is not subject to the human optic sense (OEP, 81-

27 82)

28

29 She adds that one of the conditions required in order for us to have “optic perception

30

31 of an exterior object” is that, “the object must not be too subtle, rare, or little, but of a

32

33 certain degree of magnitude” (OEP, 82).

34 This claim cannot simply be imported as an explanation of why Cavendish does

35

36 not think a transparent object is *colourless*. A transparent stone, unlike the tiny

37

38 fragments of a flax seed, is not itself too small to be subject to our optic sense.

39

40 However, Cavendish’s view seems to be that certain *figures* of an object *are*. Figures,

41 for Cavendish, are simply matter in motion – and the different colours of objects are

42

43 grounded upon their various figures (see, e.g., PL, 149-151; OEP, 82). As she puts it

44

45 in *Philosophical Letters,* “different figures, in my opinion, are the cause of different

46

47 colours” (PL, 475). Consider again her remark that what makes transparent stones

48 different from other stones is that “they seem to be made by Stronger motions, and

49

50 more Pure Tempered Matter” (PPO,188). Cavendish claims that transparency is the

51

52 result of a difference between the strength of the motions and purity of the matter that

53 makes up those stones. Since figures, which are the grounds of various colours, are

54

55 simply matter in motion, we can assume that an object with strong motions and pure

56

57 matter is an object with strong and pure *figures*.

58

59

60

1 2

2

3 Cavendish’s point is thus that certain figures of transparent stones – those

4

5 which constitute their *colours* – are too “subtle, rare, or little” to be perceived by the

6

7 optic sense. In other words, for Cavendish, transparent stones *have* a colour, but one

8 that cannot be seen by the human eye. For that reason, we should not be so quick to

9

10 jump from the observation of a *transparent* object to the existence of a genuinely

11

12 *colourless* one.

13

14 Cavendish’s claim that transparent objects do in fact have a colour but that it is

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15 too “subtle” or “rare” to be seen by the human eye is unlikely to convince her

16

17 opponents. But perhaps at this point it is more prudent to stop thinking of Cavendish

18

19 as *disagreeing* with the likes of Descartes. Instead, it is perhaps more helpful to think

20 of Cavendish as *radically re-conceptualising* what it means for an object to be

21

22 coloured. After all, Descartes and Galileo wouldn’t have agreed with the claim that

23

24 colours are figures in the first place; let alone figures too “little” to be perceived.

25

26 However, a more pressing question about Cavendish’s response to the case of

27 transparent objects is whether it is consistent with the modal epistemological claims

28

29 she defends elsewhere (which I outlined in section three). It does appear to be the

30

31 case that by conceiving of a transparent stone we could conceive of something

32

33 colourless – even if that the actual transparent stones in the world around us really

34 are ‘coloured’ (in Cavendish’s sense of having the right kind of figures).

35

36 Cavendish could avoid this concern by claiming that transparent objects are

37

38 “chameleons”, as Chamberlain puts it (‘Material World’, 308). Given her view that

39 conceiving is the same as imagining, it seems plausible to suggest that when we

40

41 imagine a transparent object we inevitably imagine it as having the colour of whatever

42

43 is on the other side of it (even if that is a non-descript black or white background).

44

45 Unfortunately, there is no textual evidence that this was Cavendish’s view, even if it

46 plausibly should have been.

47

48 Based on the textual evidence that *is* available, it is plausible to suggest that

49

50 Cavendish was not totally happy with her own response to the case of transparent

51

52 objects – perhaps because she came to appreciate that it was inconsistent with her

53 modal epistemological views. There is a sustained discussion of colours in each of

54

55 Cavendish’s major philosophical works, from the *Philosophical Letters,* through the

56

57 *Philosophical and Physical Opinions,* and her final published works the *Observations*

58

59 and the *Grounds.* However, while a chapter is dedicated to transparent stones in the

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3 *Philosophical and Physical Opinions*, any such discussion is conspicuously absent

4

5 from the works that followed it. Most conspicuously, the chapter on transparent stones

6

7 was omitted from the *Grounds*, which was Cavendish’s attempt to significantly rework

8 the *Philosophical and Physical Opinions.* There are two mentions of transparent

9

10 stones in the *Grounds,* but both are cursory (GNP, 3.9; 13.4). For whatever reason,

11

12 she evidently decided not to hold on to that discussion in her most mature natural

13 philosophical writing. In the *Observations,* meanwhile, she uses the example of

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15 transparent objects to make a point about the difference between exterior and interior

16

17 motions of parts of nature (OEP, 59) but there is no sustained discussion – and there

18

19 is no mention of transparency in the chapter on colour.

20 To return to the objection raised at the beginning of this chapter, and the

21

22 question of whether we can perceive colourless objects in the world around us, the

23

24 evidence suggests that Cavendish *did* have a response but that it was one she later

25

26 decided not to publish, perhaps because it was inconsistent with her modal

27 epistemology. As we’ve seen, a more convincing response which does not raise any

28

29 concerns about consistency – namely, the claim that transparent objects are

30

31 ‘chameleons’ – was available to her but, for whatever reason, she did not endorse it.

32

33

34 **Conclusion**

35

36

37

38 I began this paper with a reconstruction of Cavendish’s argument for the view that a

39

40 colourless body could not possibly exist in nature. Cavendish’s claim about the

41 inconceivability of colourless objects then served as a prompt for an examination of

42

43 her views concerning conception, perception, and existence in nature. I began by

44

45 explaining Cavendish’s disagreement with other seventeenth-century thinkers like

46

47 Galileo and Descartes, about the apparent inconceivability of colourless objects, by

48 appealing to her use of ‘conceive’ interchangeably with ‘imagine’. I then set out to

49

50 explain why she thinks that *if* a colourless body is inconceivable then such an object

51

1. cannot exist in nature. I argued that Cavendish’s reasoning relies on two claims: (P1)

53 if an object can be perceived, it can be conceived and (P2) if an object can possibly

54

55 exist in nature, it can be perceived.

56

57 Cavendish’s view that all parts of nature *perceive* is well-established. However,

58

59 the discussion in this paper has provided two further insights into her metaphysics.

60

1 2

2

3 First, the textual evidence commits Cavendish to the view that all parts of nature are

4

5 *perceivable*. Second, as I have argued, Cavendish believes that whatever can be

6

7 perceived can be conceived, meaning that *anything* that exists in nature can be

8 conceived. These metaphysical claims also have repercussions for our understanding

9

10 of Cavendish’s modal epistemology. Cavendish draws a close connection between

11

12 conception, perception, and existence in nature. Anything that is part of nature can be

13 perceived and, in turn, conceived. Furthermore, since Cavendish equates conceiving

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15 with imagining, this means that conceiving an object involves forming a mental ‘picture’

16

17 of it. Since Cavendish thinks that anything that could possibly exist in nature could be

18

19 perceived, and since anything perceivable can be ‘pictured’ (conceived or imagined)

20 in this way, it follows that the inability to form such a picture of something entails that

21

22 such a thing could not possibly exist in nature.

23

24 It is for *this* reason that Cavendish premises her argument for the impossibility

25

26 of a colourless body existing in nature on the *inconceivability* of a colourless body. For

27 Cavendish, when we conceive of objects we necessarily think in colour. That is, our

28

29 ‘pictures’ of nature are necessarily coloured-in. Since it is impossible, she thinks, to

30

31 form a *colourless* picture of any part of nature, it follows that a colourless body could

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33 not possibly exist in nature.35

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51

52

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