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CHAPTER 3

Modality and Essence in Early Modern Philosophy

DESCARTES, MALEBRANCHE, AND LOCKE

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I. INTRODUCTION

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Philosophers in the 17th century engaged in a range of debates about modality, including its *nature* (what it is for something to be necessary, possible, or impossible), *scope* (what is necessary, possible, or impossible), and *knowability* (how, if at all, we can know modal facts). They also debated the explanation or *ground* of modality: that in virtue of which something is necessary, possible, or impossible. My interest in this essay is to explore this latter debate, and to tentatively defend two theses about it.

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The first thesis is that for central philosophers in the period, a range of important modal facts are grounded in essences. That is, what explains why something is necessary, possible, or impossible is that some entities have the essences they do—where an entity's essence, as will be discussed further below, is what it is to be that entity. The

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second thesis is that as the 17th century progresses, we witness growing reluctance to admit that some facts are necessary, due to growing reluctance to admit that certain properties belong to essences, or even that essences exist.¹

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I will explore the relation between modality and essence in the 17th century, seeking support for these two theses through three case studies, arranged in chronological order: Descartes' treatment of substance and mode; Malebranche's treatment of causation; and Locke's treatment of necessary connections among properties. In each of these cases, claims about necessity and possibility take center stage. Substance, according to Descartes, is a being that *can* exist apart from other beings, whereas a mode *cannot* exist without its substance. A true cause, according to Malebranche, is such that there is a *necessary* connection between it and its effect. And a central question in the natural sciences is which pairs of properties are *necessarily* connected. I will argue that in each of these cases, the alleged modal facts are explained by essences of certain entities, as per the first thesis. I will also argue that as we move from Descartes to Malebranche to Locke, concerns about the scope and indeed the very existence of essences, and alongside them of modal facts, grows—as per the second thesis.

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I should note that in discussing these cases, I will not aim for a full defense of the interpretive claims I will make, which are discussed in detail elsewhere in the literature. Instead, I will aim to motivate the proposed interpretations, and argue that if these interpretations are

1 Anstey claims that for many philosophers in the period, “the most important of [the] necessary facts about the world are facts about the essential natures of things.” Peter Anstey, “Locke and the Problem of Necessity in Early Modern Philosophy,” in *Logical Modalities from Aristotle to Carnap: The Story of Necessity*, ed. Max Cresswell, Edwin Mares, and Adriane Rini (Cambridge: Cambridge University Press, 2016), 176. This is close to my first thesis, though it omits the explanatory connection on which I will focus. I also part ways with Anstey when it comes to my second thesis, since Anstey regards the main change of attitude in the period as increasing skepticism about our epistemic access to the modality-essence link.

correct, an interesting pattern emerges about the link between essence and modality, one captured by our two theses.

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2. DESCARTES ON SUBSTANCE AND MODE

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In a well-known passage from *Principles of Philosophy* (1644), Descartes characterizes substance in terms of independence, and modes (his term for accidents or properties) in terms of dependence:

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By *substance* we can understand nothing other than a thing which exists in such a way as to depend on no other thing for its existence. . . . In the case of created things, some are of such a nature that they cannot exist without other things, while some need only the ordinary concurrence of God in order to exist. We make this distinction by calling the latter ‘substances’ and the former ‘qualities’ or ‘attributes’ of those substances. (*Principles* I.51, AT VIII A 24/CSM I 210)²

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Scholars have disagreed about how to understand Descartes’ notion of dependence and, accordingly, how to understand the notions of mode and substance (which are characterized in terms of dependence). One popular interpretation takes its cue from the second sentence of the above passage, where, following the claim that substance is an independent being, Descartes contrasts substance with entities that “cannot exist without” other things. This is taken to imply that the relevant notion of dependence is *modal*, concerning what is and is not possible for the entity in question. Let us call it *the modal interpretation*.

2 Citations from Descartes are from René Descartes, *The Philosophical Writings of Descartes*, trans. John Cottingham, Robert Stoothoff, and Dugald Murdoch, 3 vols. (Cambridge: Cambridge University Press, 1985–1992) (abbreviated as CSM for volumes 1 and 2 and CSMK for volume 3), and are given by volume and page number. The original French or Latin are in René Descartes, *Oeuvres de Descartes*, 12 vols., ed. Charles Adam and Paul Tannery (Paris: J. Vrin, 1996–1976) (abbreviated as AT), also given by volume and page number.

C3P8 Put formally, the modal interpretation consists of the following three claims:

C3P9 x **depends on** y just in case $y \neq x$ and necessarily, if x exists then y exists.

C3P10 x is a **substance** just in case for any $y \neq x$, possibly, x exists and y does not exist.

C3P11 x is a **mode** just in case there is a $y \neq x$ such that necessarily, if x exists then y exists.³

C3P12 Informally, the proposal is that for Descartes, one entity depends on another (in the relevant sense) just in case it is *necessary* that if the former exists the latter exists as well. A substance is independent in this sense: for any given entity e , it is *possible* that a substance exists and e does not exist. By contrast, a mode depends on another entity, namely its substance: it is *necessary* that if a mode exists, its substance exists as well.

C3P13 In addition to the second sentence in the passage from *Principles of Philosophy*, there are other passages in Descartes' corpus that highlight various modal facts about substances and modes—what we might call their “modal profile.” And some of these facts cohere with the modal interpretation. For example, Descartes claims that mind and body—both substances—can exist apart; that a body, such as a piece of wax, can exist even when various modes it possesses at one time, such as its color, shape, or scent, cease to exist at another time; and that the mind can exist while modes of thought such as perception or volition come and go.⁴ In contrast, modes such as color and shape, or perception and volition, cannot exist without the substances of which they are modes.⁵

3 Gonzalo Rodriguez-Pereyra, “Descartes's Substance Dualism and His Independence Conception of Substance,” *Journal of the History of Philosophy* 46, no. 1 (2008): 80.

4 See the Second Meditation (AT VII 30/CSM II 20); the Sixth Meditation (AT VII 78/CSM II 54); the Second Replies (AT VII 169–170/CSM II 119); and *Principles* 1.60 (AT VIII 28–29/CSM I 213).

5 *Principles* 1.48 (AT VIII 23/CSM I 208–209).

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At the same time, the modal profiles of substances and modes encompass certain facts that do not sit as well with the modal interpretation. Although Descartes thinks that the mind and the body can exist apart, he also thinks that a body cannot exist without other bodies surrounding it (if it could, it would be surrounded by empty space, as in a vacuum, which Descartes thinks is impossible).⁶ Moreover, a substance cannot exist without some mode or another; e.g., a body cannot exist without having some shape, nor a mind without having some thought.⁷ And finally, a body cannot exist without some other body bringing it into existence.⁸ But if the modal interpretation were correct, these claims would render minds and bodies dependent, *pace* Descartes' repeated claim that they are substances, and hence independent.⁹

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A second problem is that the modal interpretation does not explain *why* substances and modes have the modal profiles they do. My mind, for example, can exist without my body—but why? My belief that I am writing cannot exist without my mind, though it can exist without any other thought—but why? What is it about my mind that explains why it can exist without my body, and what is it about my belief that explains why it cannot exist without my mind, though it can exist without any other thought? It is natural to think that these profiles are not the end of the explanatory road. While perhaps there is no further explanation of them in Descartes' view, it is worth searching for an explanation, in case one exists.

6 *Principles* II.18 (AT VIII A 50/CSM I 230–231).

7 Descartes makes this observation in the *Conversations with Burman*: “But the mind cannot ever be without thought; it can of course be without this or that thought, but it cannot be without some thought. In the same way, the body cannot, even for a moment, be without extension” (AT V 150/CSMK 336).

8 I make this observation in Anat Schechtman, “Substance and Independence in Descartes,” *Philosophical Review* 125, no. 2 (2016): 185.

9 Some scholars have responded to these observations by revising the theses above so as to focus on a modal relation to some particular entity (see, e.g., Rodriguez-Pereyra, “Descartes's,” 80–81)—what I call a ‘strict’ rather than ‘generic’ modal relation. This revision, however does not address the last concern mentioned. Other scholars have responded by denying that finite bodies are Cartesian substances; see, e.g., Alice Sowaal, “Cartesian Bodies,” *Canadian Journal of Philosophy* 34, no. 2 (June 2004): 217–240. I argue against this view in Schechtman, “Substance,” §2.2.

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So let us consider an alternative to the modal interpretation, one that arguably better captures—and explains—the modal profiles of substances and modes. At its core is the idea that the type of dependence Descartes invokes in characterizing substances and modes has to do with the *essences* or *natures* of the entities in question. In general, thinkers in the period regard the essence of an entity as what it is to be that entity—what defines it, or what it is “at its core.”¹⁰ Descartes himself emphasizes that the whole essence of mind is thought, whereas the whole essence of body is extension; further, he regards thought and extension as monadic, non-relational properties.¹¹ To be sure, these (and other) essential properties are necessary properties: whatever holds of the essence of an entity holds of it necessarily, for it could not be what it is without that property. But not all necessary properties or relations are essential. For example, it is arguably necessary for human beings to be capable of learning grammar, even though this is not an essential property of human beings.¹² Early modern thinkers, following their predecessors, distinguish between essential properties and necessary but non-essential properties, which in some cases follow necessarily from essential properties.¹³

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We will come back to the connection between essentiality and necessity in a moment. But before we do, let us spell out in more detail the alternative to the modal interpretation we are now considering. First, according to this alternative, the relevant sense of dependence in Descartes’ characterization of substance is *essential*: one entity depends on another just when the former’s essence or nature involves a relation to the latter. In such a case, the former entity is defined partly in

10 This traditional understanding of essence goes back to Aristotle, who writes: “the essence of a thing is what it is said to be in respect of itself” (Aristotle, *Metaphysics* Z 1029b14). The expression ‘at its core’ is from Martin Glazier, “Essentialist Explanation,” *Philosophical Studies* 174 (2017): 2879. I will follow Descartes in using ‘nature’ and ‘essence’ interchangeably (see, e.g., the Fifth Meditation, AT VII 64/CSM II 45).

11 See *Principles* I.53 (AT VIII A 25/CSM I 210).

12 See Aristotle, *Topics* I.5 for this example.

13 Aristotle, *Topics* I.5.

terms of its relation to the latter; so, the former depends on the latter. Second, a substance, according to this interpretation, is independent in this sense: its essence involves no relations to any other entities. In effect, it is “self-contained.” Finally, a mode is an entity that is dependent (in the relevant sense): its essence involves the *inhering-in* relation to its substance.¹⁴ Let us call this *the nature-based interpretation*, which advances the following three claims:

C₃P₁₈ x **depends on** y just in case $y \neq x$ and (1) there is some relation R such that xRy , and (2) xRy by x 's nature but not by y 's nature.

C₃P₁₉ x is a **substance** just in case for no $y \neq x$ is there a relation R such that xRy by x 's nature but not by y 's nature.

C₃P₂₀ x is a **mode** just in case there is some $y \neq x$ and a relation R such that xRy by x 's nature but not by y 's nature.¹⁵

C₃P₂₁ With this interpretation in hand, let us now return to the two concerns raised above about the modal interpretation, and see whether the nature-based interpretation fairs better. They were, first, that the modal interpretation does not accurately capture the modal profiles of substances; and second, that it does not explain why substances and modes have the modal profiles they do.

C₃P₂₂ The nature-based interpretation captures the modal profiles of both substances and modes. Recall that essential properties are necessary, but not all necessary properties and relations are essential. Recall also that the whole essence of mind is thought, and the whole essence of body is extension; additionally, part of what it is to be a mode is to inhere in some substance. Given these facts about the natures of substances and modes, the nature-based interpretation captures the relevant modal facts: substances can exist apart, a substance can exist even

¹⁴ See *Principles* I.64 (AT VIII A 31/CSM I 215–216).

¹⁵ See more detailed discussion in Schechtman, “Substance,” §5.

when changing its modes, and modes cannot exist without the substances in which they inhere.

C3P23 All this is compatible with the above observation that, on Descartes' view, substances bear necessary connections to other entities. Again, a body cannot exist without other bodies surrounding it, a substance cannot exist without some mode or another, and a body cannot exist without some other body bringing it into existence. On the nature-based interpretation, this trio of modal facts does not render minds and bodies dependent. Not all necessary properties or relations are essential ones, so these necessary connections do not entail any conclusions about dependence. The interpretation preserves the coherence of Descartes' claims about the modal profiles of substances and modes.

C3P24 The interpretation also explains *why* substances and modes have the modal profiles that they do. A mode cannot exist unless its substance exists *because* it is part of the essence of a mode to stand in the inherence relation to its substance. It is possible for one substance, whether a mind or a body, to exist without another substance or mode *because* the essence of a substance does not include a relation to another substance or mode.

C3P25 What about the other modal facts mentioned above? It may be that there are explanations for various modal facts about an entity that do not appeal to the essence of that entity. Perhaps some are grounded in God (or God's will). More interesting for our purposes is the prospect of a modal fact about one entity being grounded in the essence of another entity. For example, we have seen that Descartes holds that one body cannot exist without other bodies surrounding it. This is not because a body is related to other bodies by *its* essence. Instead, it is arguably something about the essence of space that explains why a vacuum is impossible, and hence why a body cannot exist without other extended substances. If this is correct, then this component of the modal profile of a body is grounded in essence, just not the essence of body.

C3P26 To summarize, according to the nature-based interpretation, Descartes' notions of dependence, substance, and mode are to be

understood in terms of essences, and not in terms of possibility and necessity. At the same time, this interpretation does not merely accommodate but also explains the modal profiles of substances and modes, in terms of essences. If this interpretation is on the right track, then Descartes' treatment of these notions—which is arguably among the most important and influential in 17th-century philosophy—corroborates the first thesis about the period that I set out to defend in this essay: that the ground or explanation of a range of important modal facts is essence.

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This understanding of Descartes' view also paves the way for an assessment of our second thesis, concerning changing of attitudes among 17th-century figures toward modal facts. I will argue that subsequent thinkers in the period—in particular, Malebranche and Locke—are more cautious or skeptical about essences than Descartes, and that this explains why they are also more cautious or skeptical about the modal facts that essences allegedly ground.

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3. MALEBRANCHE ON CAUSATION

C3P28

Let us turn now to a second well-known treatment of modal claims in the 17th century, in Nicholas Malebranche's discussion of causation in the *Search after Truth*, published in 1675. Malebranche there and elsewhere adopts occasionalism, the thesis that God is the only true causal agent in nature, and that no other entity possesses causal powers. When one billiard ball collides with another, for example, it is not the first ball that causes the second to move, but God who causes it to move *on the occasion* of the collision.¹⁶ Similarly, it is not the case “that fire burns, that the sun illuminates, and that water cools,” appearances to the contrary notwithstanding.¹⁷ Rather, it is God who does each

¹⁶ Nicholas Malebranche, *Search after Truth*, trans. and ed. Thomas Lennon and Paul Olscamp (Cambridge: Cambridge University Press, 1997), 660.

¹⁷ Malebranche, *Search*, 660.

of these things, *on the occasion* in which fire, sun, or water are present. The ball, fire, water, and sun are what Malebranche calls “occasional causes”: their presence is the occasion on which God acts.

C3P29 Malebranche presents a series of arguments for occasionalism, one of which turns on the modal profile of causal connections. The “No Necessary Connection” (NNC) argument, as it has come to be known in the literature, is stated in the following passage from *The Search after Truth*:

C3P30 A true cause as I understand it is one such that the mind perceives a necessary connection between it and its effect. Now the mind perceives a necessary connection only between the will of an infinitely perfect being and its effects. Therefore, it is only God who is the true cause and who truly has the power to move bodies.¹⁸

C3P31 The argument can be reconstructed as follows:

- C3P32** 1. There is a necessary connection between God’s will and its effects.
- C3P33** 2. There is no necessary connection between any created entity (i.e., any being other than God) and its putative effect.
- C3P34** 3. Something is a true cause only if there is a necessary connection between it and its effect.
- C3P35** 4. Therefore, God’s will is the only true cause of any effect.

C3P36 It follows that created entities are at most merely occasional causes of their putative effects.¹⁹

¹⁸ Malebranche, *Search*, 450. The label NNC is introduced in Steven Nadler, “No Necessary Connection: The Medieval Roots of the Occasionalist Roots of Hume,” *The Monist* 79, no. 3 (1996): 450.

¹⁹ I am here loosely following the reconstructions offered by Sukjae Lee and Sydney Penner. I agree with both that the argument is concerned with the *existence* (or non-existence) of necessary connections, rather than the *mind’s perception* (or non-perception) of such connections. See Sukjae Lee, “Necessary Connections and Continuous Creation: Malebranche’s Two Arguments

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There has been considerable scholarly debate about the merits of this argument. Some scholars accuse Malebranche of equivocating on its central notions. For example, they have argued that premises 1 and 2 are most plausibly read as invoking *metaphysical necessity*, or truth in all possible worlds, whereas premise 3 is true only when “necessary” is interpreted in terms of *nomological necessity*, or truth in possible worlds with the same laws of nature as our own. For example, in worlds in which our familiar laws of mechanics hold, one billiard ball will cause another billiard ball to move in some way upon collision. But in a world with different laws of mechanics, the first ball might cause the second to move in some different way, or not at all. However, there is no world in which God wills something to happen and the willed effect does not follow.²⁰ The trouble, according to the critics, is that true causation requires only a nomologically necessary connection between cause and effect, and such a connection may hold between a created entity and an effect. Once we acknowledge the distinction between the two types of necessity, we see that premise 3 is true only if 2 is false, and premise 2 is true only if premise 3 is false. Either way, the critics allege, the argument fails.

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In response, other scholars have argued that the premises employ a single notion of necessity, and that Malebranche’s contemporaries would have found both premises, interpreted accordingly, quite compelling. These scholars claim is that it is anachronistic to invoke nomological necessity: although this is perhaps the plausible reading of premise 3 nowadays, Malebranche’s contemporary readers in the 17th century would not have insisted that premise 3 is true only if it invokes

for Occasionalism,” *Journal of the History of Philosophy* 46, no. 4 (2008): 542–543; and Sydney Penner, “Suárez (and Malebranche) on Necessary Causes,” unpublished manuscript, 2018.

20 See, e.g., Steven Nadler, “Malebranche on Causation,” in *The Cambridge Companion to Malebranche*, ed. Steven Nadler (Cambridge: Cambridge University Press, 2000), 113–114. I believe that Lee, too, can be fruitfully understood as accusing Malebranche of equivocating on the notion of a cause, though Lee himself does not frame his criticism of NNC as involving an equivocation. Lee’s charge is that premise 3 invokes a *total* cause whereas premise 2 invokes a *partial* cause. See Lee, “Necessary Connections,” 549.

nomological rather than metaphysical necessity. The reason, these scholars allege, is that such readers viewed causal relations as holding in virtue of the essences of their relata, and hence as holding with metaphysical necessity. So Malebranche's argument does not equivocate, and premise 3 would have been dialectically effective in the period.²¹

C3P39 For our purposes, it is not crucial to determine whether Malebranche's argument involves an equivocation. Rather, what is important in the present context is that if the response just discussed is right, then Malebranche's immediate predecessors and contemporaries endorsed the thesis that the necessity of causal relations is grounded in essences.

C3P40 Among the evidence offered for this claim—I lack the space to consider it all—are passages by the late scholastic author Francisco Suárez (1548–1617). In his magnum opus the *Metaphysical Disputations*, Suárez writes:

C3P41 [A]mong created causes there are many that operate necessarily once all the things they require for operating are present. . . . For the sun illuminates necessarily, and fire produces warmth necessarily, and so on for the others. The reason for this must stem from the intrinsic condition and determination of [the cause's] nature, as we will explain in the next assertion.²²

C3P42 Invoking some of the same examples as Malebranche, Suárez asserts that there is a necessary connection between the sun and its effect, illumination; and between fire and its effect, warmth. In general, he

²¹ For this line of argument, see Walter Ott, *Causation and Laws of Nature in Early Modern Philosophy* (Oxford: Oxford University Press, 2009), 21; and A. R. J. Fisher, "Causal and Logical Necessity in Malebranche's Occasionalism," *Canadian Journal of Philosophy* 41, no. 4 (2011): 533–537.

²² Francisco Suárez, *On Efficient Causality: Metaphysical Disputations 17, 18, and 19*, trans. Alfred Freddoso (New Haven, CT: Yale University Press, 1994), 270 (DM 19.1.1). My discussion of Suárez was informed to some extent by Penner, "Suárez (and Malebranche)."

claims, there is a necessary connection between all non-rational (e.g., merely bodily) causes and their effects.²³

C3P43 Suárez indicates that the ground of this necessity has to do with the cause's nature. In the next "assertion," he specifies what it is in the cause's nature that grounds its necessary connection to its effect:

C3P44 [T]he cause [must] have a full and sufficient power to act. This is evident *per se*, since an action must presuppose a sufficient power. And in order for a cause to act necessarily, it must be assumed to be unqualifiedly and absolutely capable [of acting]; but it cannot be absolutely capable [of acting] without sufficient power.²⁴

C3P45 Suárez's position seems to be the following: the necessity of the causal relation is due to causal powers that belong to the cause's nature or essence. What it is to be fire is (inter alia) to have a power to burn, and what it is to be the sun is (inter alia) to have a power to heat and a power to illuminate. Because essential properties are necessary, as discussed above, it is necessary that fire burns and the sun illuminates. Of course, the sun does not always illuminate (e.g., at night), nor does fire always burn (e.g., in the absence of oxygen, or some flammable material). Rather, it is necessary that the cause brings about its effect whenever the requisite conditions are in place.²⁵ Moreover, Suárez suggests

23 "[O]ne should assert that all causes that operate without the use of reason operate as such with the aforementioned necessity" (Suárez, *On Efficient Causality*, 280 (DM 19.1.12)). Suárez's view is that rational agents are not necessary, and hence, "free," in the sense defined above: it is not the case that they "operate necessarily once all the things they require for operating are present." For example, even when all the conditions required for me to raise my arm are present (e.g., I am not paralyzed or restrained), it is not necessary that I raise my arm; I can simply choose not to. For further discussion, see Sydney Penner, "Free and Rational: Suárez on the Will," *Archiv für Geschichte der Philosophie* 95, no. 1 (2013): 1–35. Malebranche, by contrast, makes no exception for rational causes in the NNC argument. Whether Malebranche can nonetheless preserve some sense in which rational causes are free (and hence morally responsible) is a contested question in the literature. For a recent discussion, see Julie Walsh, "Malebranche, Freedom, and the Divided Mind," in *The Battle of Gods and Giants Redux*, ed. Patricia Easton (Leiden: Brill, 2015), 194–216.

24 Suárez, *On Efficient Causality*, 271 (DM 19.1.2).

25 Or, as Suárez says in the passage quoted above, "once all the things they require for operating are present." Among the requisite conditions Suárez goes on to list are "a susceptible and sufficiently

that this is true for all of the entity's causal powers.²⁶ If this is right, then Suárez accepts necessary connections between cause and effect in the case of bodily causes, whose necessity, moreover, is grounded in the essences of the relata.

C3P46 Descartes is sometimes presented as another proponent of the view that bodies have causal powers. In his purely mechanistic framework, these are simply powers to move other bodies and to resist being moved by other bodies. Indeed, certain central passages in his writings invoke such powers explicitly. For example:

C3P47 [W]hen a moving body collides with another, if its power of continuing in a straight line is less than the resistance of the other body, it is deflected so that, while the quantity of motion is retained, the direction is altered; but if its power of continuing is greater than the resistance of the other body, it carries that body along with it, and loses a quantity of motion equal to that which it imparts to the other body. (*Principles* II.40; AT VIII A 65/CSM I 242)²⁷

C3P48 Moreover, scholars have claimed that in the same text, Descartes maintains that these powers hold by the body's nature or essence:

close" patient, a suitable medium, and the absence of an impediment or something resisting the causal action (see Suárez, *On Efficient Causality*, DM 19.2–3 for the full list).

26 "[S]ince the substantial form is the principal act of the suppositum and that which principally gives it *esse*, it must also be the principal principle or operation. For the operation follows upon the *esse*" (Suárez, *On Efficient Causality*, 52 (DM 18.2.3)). See also the discussion in Robert Pasnau, *Metaphysical Themes* 1274–1671 (Oxford: Oxford University Press, 2011), §24.3–4.

27 For additional passages, see Michael Della Rocca, "If a Body Meets a Body: Descartes on Body-Body Causation," in *New Essays on the Rationalists*, ed. Rocco Gennaro and Charles Huenemann (Oxford: Oxford University Press, 1999), 58ff. Some scholars argue that, appearance to the contrary notwithstanding, Descartes does not posit bodily causal powers, and indeed, that he is an occasionalist, just like Malebranche. For a now-classic statement of this position, see Daniel Garber, "How God Causes Motion: Descartes, Divine Sustenance, and Occasionalism," *Journal of Philosophy* 84 (1987): 567–580. For a helpful overview of the debate about the existence of causal powers in Descartes, see Helen Hattab, "Concurrence or Divergence? Reconciling Descartes's Physics with His Metaphysics," *Journal of the History of Philosophy* 45, no. 1 (2007): 49–78.

- C3P49** [W]e must be careful to note what it is that constitutes the power of any given body to act on, or resist the action of, another body. This power consists simply in the fact that everything tends, in so far as it is in itself [*quantum in se est*], to persist in the same state. (*Principles* II.43; AT VIII A 66/CSM I 243)
- C3P50** In 17th-century parlance, to say of something that it holds of an entity “in so far as it is in itself” (*quantum in se est*) is the same as saying that it holds in virtue of its nature or essence.²⁸ So Descartes’ claim is that bodies possess powers to move other bodies, and that these powers hold in virtue of their essences.
- C3P51** Returning now to Malebranche’s NNC argument, the discussion above suggests that Suárez and Descartes indeed accept premise 3—the claim that there is a necessary connection between cause and effect. Moreover, they accept it because they think that causal powers are essential, and since essential properties are necessary, it is necessary that a cause brings about a certain effect, when the requisite conditions are present. If so, then for both Suárez and Descartes, the necessity of causal relations is grounded in essences.²⁹ This corroborates our first thesis.
- C3P52** There is nonetheless an important disagreement between Suárez and Descartes, on the one hand, and Malebranche, on the other. Examining it will bring us to our second thesis, concerning a narrowing of the scope of essence in the period. Malebranche, unlike his predecessors, rejects the view that bodies and minds have causal powers—let alone powers that follow from their nature or essence. First, he argues, the

²⁸ See Della Rocca, “If a Body,” 66–67; and Tad Schmaltz, “From Causes to Laws,” in *The Oxford Handbook of Philosophy in Early Modern Europe*, ed. Desmond Clarke and Catherine Wilson (Oxford: Oxford University Press, 2011), 37.

²⁹ Moreover, this suggests that for both Suárez and Descartes, the necessity in question is metaphysical rather than nomological, because it is grounded in essential powers rather than laws of nature. For further discussion of the transition, over the course of the early modern period, from a view of causal relations as underwritten by powers to a view of them as underwritten by laws of nature, see Schmaltz, “From Causes to Laws.”

very notion of a causal power involves something divine. But of course, minds and bodies are not divine, and so it is incoherent to ascribe causal powers to them:

- C3P53** If we next consider attentively our idea of cause or of power to act, we cannot doubt that this idea represents something divine. . . . We therefore admit something divine in all the bodies around us when we posit forms, faculties, qualities, virtues, or real beings capable of producing certain effects through the force of their nature.³⁰
- C3P54** Second, focusing on bodies, Malebranche argues that it is incoherent to ascribe causal powers to them, because their essences are incompatible with such powers. Following Descartes, Malebranche takes the essence of bodies to consist in extension.³¹ But unlike Descartes, he argues that causal powers are not something that a merely extended entity can possess; to think otherwise is to assume “that bodies have certain entities distinct from matter [extension] in them.”³² Malebranche concludes that bodies are devoid of powers, or as Malebranche often says, are passive.³³
- C3P55** Combining the observation that Malebranche rejects created causal powers with the observation that Suárez and Descartes accept them, the following hypothesis suggests itself. Perhaps the NNC argument reveals both a common ground and a deep disagreement between Malebranche and his predecessors. The common ground concerns premise 3 and the link between necessity and essence underwriting it: perhaps Malebranche accepts premise 3 because he holds, like Suárez and Descartes, that whatever causal powers an entity has are essential

³⁰ Malebranche, *Search*, 446.

³¹ Malebranche, *Search*, 243ff.

³² Malebranche, *Search*, 446.

³³ See, e.g., Malebranche, *Search*, 66o. The reasoning extends to minds as well.

to it, and therefore necessary.³⁴ The disagreement, it was already noted, is that Suárez and Descartes think that bodies have causal powers, and Malebranche does not—hence the latter’s inclusion of premise 2 in the NNC argument, a premise which Suárez and Descartes would arguably reject.

C3P56 If this hypothesis is correct, it explains how Malebranche can mount an argument for a conclusion that neither Suárez nor Descartes would accept, employing a premise that they arguably would. It also helps begin to corroborate our second thesis: Malebranche takes the scope of essences to be narrower than either of these two predecessors did.

C3S4

4. LOCKE ON NECESSARY CONNECTIONS

C3P57

A rich and interesting discussion of necessity appears in the course of Locke’s analysis of knowledge in his *Essay concerning Human Understanding*, first published in 1690. Locke states that knowledge consists in the perception of “agreement or disagreement” among ideas. He identifies four ways in which ideas can agree or disagree, the third of which is the agreement of “co-existence, or necessary connection”³⁵:

C3P58

The third sort of agreement or disagreement to be found in our ideas . . . is [necessary] co-existence or non-co-existence in the same subject; Thus when we pronounce concerning gold, that it is fixed [i.e.,

³⁴ Alternatively, it might be that Malebranche accepts premise 3 because he is antecedently committed to occasionalism and to God being the only true cause in nature (a cause whose effects follow necessarily, because it is omnipotence; recall the discussion of premise 1 above). I do not have the space to argue against this alternative here, and for this reason, present the alternative discussed above as a mere hypothesis. Let me just note that if this is the case, then the NNC argument is a dialectical tool, employing premises that Malebranche thinks his opponents will accept for different reasons than his own.

³⁵ The other three are identity, relation, and real existence. For discussion of Locke’s account of knowledge, see Lex Newman, “Locke on Knowledge,” in *The Cambridge Companion to Locke’s “Essay concerning Human Understanding,”* ed. Lex Newman (Cambridge: Cambridge University Press, 2007), 313–351.

inflammable], our knowledge of this truth amounts to no more but this, that fixedness, or a power to remain in the fire unconsumed, is an idea that always accompanies and is joined with that particular sort of yellowness, weight, fusibility, malleableness, and solubility in *aqua regia*, which make our complex idea signified by the word gold.³⁶

C3P59 Locke is quick to clarify that when we perceive agreement (or disagreement) between ideas, what we know is not just that our ideas stand in a certain relation to each other. In many cases, we also know that there is an agreement (or disagreement) between the objects of these ideas.³⁷ Thus if we perceive that there is a necessary connection between the ideas of yellowness, weight, and other ideas that make up our idea of gold, on the one hand, and the idea of inflammability, on the other, we know that necessarily, whatever is gold—i.e., whatever is yellow, heavy, and so on—is inflammable.

C3P60 Locke takes much scientific inquiry to consist in investigations of necessary connections of this sort. Given his well-documented interest in the natural sciences, it is perhaps surprising to see that Locke is quite pessimistic about our ability to attain such knowledge:

C3P61 [I]n this our knowledge is very short, though in this consists the greatest and most material part of our knowledge concerning substances. The reason whereof is, that the simple ideas whereof our complex ideas of substances are made up are, for the most part, such as carry with them, in their own nature, no visible necessary

³⁶ John Locke, *An Essay concerning Human Understanding*, ed. P. H. Nidditch (Oxford: Clarendon Press, 1975), IV.i.6.

³⁷ This is the case when our knowledge is “real.” As Locke writes: “It is evident the mind knows not things immediately, but only by the intervention of the ideas it has of them. Our knowledge, therefore is real only so far as there is a conformity between our ideas and the reality of things” (Locke, *Essay*, IV.iv.2).

connexion or inconsistency with any other simple ideas, whose co-existence with them we would inform ourselves about.³⁸

C3P62 In the rest of this essay, I would like to advance two interpretive claims about Locke's position. First, the reason we are ignorant of necessary connections is that such connections are grounded in what Locke calls "real essences," of which we are also ignorant. If this is correct, then Locke's position further corroborates our first thesis. Second, and a bit more tentatively, I will suggest that the reason we are ignorant of real essences is that they do not exist—if real essences are supposed to be what sorts individuals into kinds. If this (admittedly controversial) interpretation is right, then Locke's position also corroborates our second thesis.

C3P63 Let us begin with the first interpretive claim. Locke famously distinguishes two types of essences in the *Essay*, one of which he calls "real":

C3P64 First, Essence may be taken for the very being of anything, whereby it is what it is. And thus the real internal, but generally (in substances) unknown constitution of things, whereon their discoverable qualities depend, may be called their essence.³⁹

C3P65 The second type, which Locke calls "nominal," are "those abstract complex ideas, to which we have annexed distinct general names."⁴⁰ To illustrate, the nominal essence of gold is our complex idea of gold—which, Locke says in the above-cited passage, is composed of the simple ideas of yellowness, weight, fusibility, malleableness, and solubility in *aqua regia*. Its real essence is the collection of mostly insensible

³⁸ Locke, *Essay*, IV.iii.10. For discussion of Locke's interest in scientific inquiry, see Peter Anstey, *John Locke on Natural Philosophy* (Oxford: Oxford University Press, 2011).

³⁹ Locke, *Essay*, III.iii.15.

⁴⁰ Locke, *Essay*, III.iii.17.

qualities of the parcel of matter classified by us as gold—qualities such as the shape, size, and texture of its underlying corpuscles—that gives rise to the sensible qualities, including yellowness, weight, fusibility, malleability, and solubility in *aqua regia*.⁴¹

C3P66

Going back to Locke's discussion of knowledge of necessary connections, notice that it is focused on connections between sensible qualities, e.g., between the yellowness and inflammability of gold. For Locke's position on knowledge is, once again, that knowledge consists in perceiving an agreement between ideas. And given Locke's empiricism, he is officially committed to the view that we can only have ideas of things outside our own minds to the extent they are presented to us through the senses.⁴²

C3P67

Putting this point together with the distinction between real and nominal essences, we can now see why our ignorance about necessary connections stems from ignorance about real essences. The real essence is what gives rise to an entity's sensible qualities; e.g., it is what makes gold yellow, heavy, fusible, malleable, and soluble in *aqua regia*. If there is a necessary connection among some of an entity's sensible qualities, it too will arise from the real essence; e.g., if inflammability is necessarily connected to gold's other sensible qualities, it will be because whatever makes gold inflammable is necessarily connected to what makes it yellow. Unfortunately, we do not know if this is the case, because we do not have epistemic access to the insensible qualities that make up the real essence. Locke makes this point clearly when he writes:

41 Here I have in mind what David Owen calls "the real essence of an unsorted particular." Locke sometimes also talks of what Owen calls "the real essence of a sorted particular." While the former is a set of insensible qualities that give rise to all the entities' sensible qualities, the latter is the subset of insensible qualities that give rise to the subset of its sensible qualities that are included in the nominal essence. See David Owen, "Locke on Real Essences," *History of Philosophy Quarterly* 8, no. 2 (April 1991): 107.

42 We can have ideas of our own minds via reflection, a kind of inner sense. See Locke's discussion of the origin of our ideas in *Essay* II.i.

- C3P68** The ideas that our complex ones of substances are made up of, and about which our knowledge concerning substances is most employed, are those of their secondary [i.e., sensible] qualities; which depending all (as has been shown) upon the primary qualities of their minute and insensible parts [i.e., upon their real essences] . . . it is impossible we should know which have a necessary union or inconsistency one with another.⁴³
- C3P69** In the case of gold, we do not know what insensible qualities give rise to its yellowness and inflammability. Accordingly, we do not know if they are necessarily connected.
- C3P70** What was just said supports our first thesis: Locke, like Descartes and Malebranche, takes essences to ground certain modal facts—in this case, the existence of necessary connections between certain qualities.⁴⁴ But it also lends support to our second thesis. For Locke's attitude toward the essence-modality link is different from Descartes' in at least one important respect: unlike Descartes, Locke thinks that we do not have epistemic access to the essences that ground these necessary connections; consequently, "it is impossible we should know" those connections.⁴⁵
- C3P71** Some scholars have argued that this is the extent of the change in Locke's attitude: Locke, like Descartes and Malebranche, believes that essences exist; but unlike them, he thinks that essences are unknowable to us.⁴⁶ I want to close our discussion by presenting an alternative interpretation of Locke's position, according to which essences, at least as they are traditionally understood, are not merely unknowable

⁴³ Locke, *Essay*, IV.iii.11.

⁴⁴ Hereafter, I will elide 'real' when speaking of Locke's real essences.

⁴⁵ It is quite clear that Descartes thinks that we have epistemic access to at least some essences. Indeed, some of the most important results of the *Meditations* are achieved by accessing essences of, e.g., mind, body, and God (see in particular the titles of the Second and Fifth Meditations).

⁴⁶ For a reading of this sort, see Anstey, "Locke," 186.

but *do not exist*.⁴⁷ If so, the change in attitudes toward essences from Descartes to Locke, via Malebranche, concerns not simply the scope but the very existence of essences.

C3P72 This “eliminativist” interpretation (as I will call it) begins with the observation that, following a traditional Aristotelian understanding of essence, Locke takes the essence of a thing to be commonly understood as what determines the *kind* of thing it is. Gold is one kind; human being and horse are two others. Essences comprise properties shared by all and only individuals of this kind. Locke sometimes uses the term ‘species’ in addition to ‘kind’:

C3P73 [T]hose who, using the word essence for they know not what, suppose a certain number of those essences, according to which all natural things are made, and wherein they do exactly every one of them partake, and so become of this or that species.⁴⁸

C3P74 Essence, so understood, plays two roles. First, it grounds all of an individual thing’s properties; it is that “whereon their discoverable qualities depend.” Second, essence determines the kind to which the individual belongs.

C3P75 According to the eliminativist interpretation, the problem, in Locke’s view, is that the two roles are in tension, and moreover that the first role seriously deflates the notion of essence. Regarding the tension, consider that if essence is to fulfill the second role, it must be *exclusive*, comprising only those properties that are, or give rise to, those properties by virtue of which the entity belongs to a certain kind. For example, the essence of a human being perhaps includes what makes her possess a particular bodily configuration (e.g., being two-legged).

47 This interpretation is drawn from the discussion in Pasnau, *Metaphysical Themes*, §27.7. Versions of it are also proposed in Owen, “Locke,” and in Pauline Phemister, “Real Essence in Particular,” *Locke Studies* 25 (1990): 27–55.

48 Locke, *Essay*, III.iii.17.

But it does not include what makes her possess a particular skin color. However, in order to fulfill the first role, essence must be *inclusive*, comprising *all* of those properties that are, or give rise to, an entity's sensible qualities—including skin color (to stick with the example just given).

C3P76 The tension is clear enough. What Locke emphasizes, however, is not this tension per se, but rather that the first role directly undermines the interest and import of essence. He writes:

C3P77 For I would ask anyone, what is sufficient to make an essential difference in nature, between any two particular beings, without any regard had to some abstract idea, which is looked upon as the essence and standard of a species? All such patterns and standards, being quite laid aside, particular beings, considered barely in themselves, will be found to have all their qualities equally essential, and everything, in each individual, will be essential to it, or, which is more true, nothing at all.⁴⁹

C3P78 We might summarize Locke's reasoning in this passage as follows. The essence of a given entity is radically individual. For example, it includes not only what makes a particular parcel of matter yellow, heavy, malleable, fusible, soluble in *aqua regia*, and inflammable, but also what makes it dull (or shiny), smooth (or coarse), reflective (or opaque), etc. Independently of some human-imposed sorting scheme, all of these properties of the entity are "equally essential" to it. But that is tantamount to saying that "nothing at all" is essential to it. It has no essence.

C3P79 On this interpretation, Locke believes that we do not have epistemic access to essences, and concomitantly, to modal facts that essences ground. But he goes further: he thinks that essences do not exist. And neither do the modal facts that essences supposedly ground. Applied

⁴⁹ Locke, *Essay*, III.vi.5; see also III.vi.4.

to the case of gold, we do not know whether, necessarily, gold is inflammable, not because we do not have access to the essence of gold. Rather, there is no such thing as the essence of gold, at least not independently of our own chosen sorting scheme. While it is perhaps necessary to a particular parcel of matter that it is both yellow and inflammable (say, the last guinea ever coined, or a ring on Locke's finger),⁵⁰ it is not its essence that makes it so.

C3P8o

If this is correct, then it supports the stronger reading of our second thesis. We find in Locke reluctance to admit that some properties or facts are necessary. But this is *not* due to a mere narrowing of the scope of essences—something we find in Malebranche, by comparison with the largesse of Suárez and Descartes. Rather, the reluctance to admit various modal facts is traceable to a more basic reluctance to admit that essences exist.⁵¹

⁵⁰ See Locke, *Essay* III.vi.21 and III.iii.18, respectively, for these ways in which Locke picks out a particular parcel of matter while avoiding sorting it as gold.

⁵¹ I have received helpful suggestions from James Messina, and from audience members at Simon Fraser University and at Johns Hopkins University. I am also grateful to John Bengson for his extensive input.