



# Locke's Composition Principle and the Argument for God's Immateriality

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RESEARCH



## ABSTRACT

Locke's argument for God's immateriality in *Essay IV x* is usually interpreted as involving a principle that in some way prohibits the causation of thought by matter. I reject these causal readings in favor of one that involves a principle which says a thinking being cannot be composed out of unthinking parts. This Composition Principle, as I call it, is crucial to understanding how Locke's theistic argument can succeed in the face of his skepticism about the substance of matter and the cause of thought, as well as his belief in the possibility of thinking matter. It also explains why Locke held the soul's immateriality to be highly probable.

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KEYWORDS:

Locke; Thinking Matter;  
Materialism; Soul; Composition

TO CITE THIS ARTICLE:

Hanck, T. 2022. Locke's Composition Principle and the Argument for God's Immateriality. *Journal of Modern Philosophy*, 4(1): 4, pp. 1–25. DOI: <https://doi.org/10.32881/jomp.165>

Locke believed that human reason could establish the existence of an eternal being: ‘There is no Truth more evident, than that *something* must be *from Eternity*’ (IV x 8, 622).<sup>1</sup> This eternal being is the ‘Source and Original’ not merely of the bare existence of all things but of their natures and powers too: ‘that what had its Being and Beginning from another, must also have all that which is in, and belongs to its Being from another too’ (IV x 4, 620). Further, we know through reflection our own existence as a thinking being (IV ix 3); and we can reason therefore that the power to think in us is derived from the eternal being. But does this mean that the eternal being is necessarily also cogitative? Locke answered yes: ‘For it is as impossible, that incogitative Matter should produce a cogitative Being, as that nothing, or the negation of all Being, should produce a positive Being or Matter’ (IV x 11, 625). This basic argument occurs multiple times in the chapter ‘*Of our Knowledge of the Existence of a GOD*’ (IV x, 619–30), the fullest version occurring in §10, appropriately titled ‘*Incogitative Being cannot produce a Cogitative*’ (623–24). However the argument works, on pain of inconsistency it cannot rely on the premise that matter cannot think, since earlier Locke denied ‘*Thinking*’ and ‘*Matter*’ to be contradictory ideas: ‘For I see no contradiction in it, that the first eternal thinking Being should, if he pleased, give to certain Systems of created senseless matter, put together as he thinks fit, some degrees of sense, perception, and thought’ (IV iii 6, 541).<sup>2</sup> As Leibniz framed Locke’s challenge: ‘those who believe that matter can have sense will not be inclined to accept that matter cannot possibly produce sense; at least, it will be hard to adduce a proof of this which does not also show that matter is entirely incapable of sense’ (NE IV x 6, 436). What Locke needs is a principle strong enough to establish that ‘matter cannot possibly produce sense’ but not so strong as to imply that matter cannot think. Furthermore, the principle cannot depend on experience for its justification because Locke considered his argument to be a demonstration ‘equal to mathematical Certainty’ (IV x 1, 619).<sup>3</sup>

It would seem easy enough to identify the self-evident principle in Locke’s proof by reconstructing it as a valid deductive argument. However, the text is vague and repetitious enough to support multiple interpretations. In this paper, I will examine five reconstructions of Locke’s argument recently discussed in the secondary literature. Each relies on a different principle. I argue that Locke cannot consistently use certain of these principles in his theistic argument given his other claims and commitments, and those he can consistently accept are too weak to rule out the possibility that incogitative matter is the eternal being. Nevertheless, I do not agree with Michael Ayers’s critical assessment that Locke’s proof is hopelessly ‘either invalid or circular’ (1991: 2:182).<sup>4</sup> Instead, I identify in Locke’s argument a tacit, anti-emergentist principle similar to one endorsed by Samuel Clarke (1731) and more recently Galen Strawson (2006). This principle secures Locke’s desired theological conclusion, is consistent with the thinking matter hypothesis (IV iii 6), and solves a handful of textual puzzles including why Locke found the soul’s immateriality to be highly

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1 Locke appears to conflate the claims that (i) there has always been *something* in existence and (ii) there has always been some *one* thing in existence (Bennett 2005: 163–64; Jolley 2015: 68). Locke only provides justification for (i) but proceeds as if he has justified (ii). This is problematic because (i) and (ii) are not logically equivalent; nor does (i) imply (ii). In Locke’s defense, Victor Nuovo argues that (ii) is actually a presupposition of the argument for the existence of the eternal mind, and this assumption is dialectically unproblematic because it is also a presupposition of ancient materialism, which is the ideological basis of the atheism Locke opposed (2010: 218). However, Marcy Lascano points out that even if Nuovo’s reading is adopted Locke’s proof of the existence of the Judeo-Christian God still contains several logical holes (2016: 472). These issues notwithstanding, Locke’s arguments against atheistic materialism and hylotheism are not weakened by his inability to prove the Judeo-Christian God from scratch. Following Nuovo, Locke’s theistic arguments in the *Essay* are best read as beginning from the assumption of an eternal thing or stuff and inquiring into the nature of that thing or stuff. It is from *this* starting point that Locke employs the Composition Principle to yield a valid and non-circular argument for the existence of an eternal and immaterial mind.

2 In 1697 Edward Stillingfleet publicly accused Locke of contradicting himself in precisely this way: ‘If *want of Perception* be in the very idea of Matter, how can Matter be made capable of Perceiving?’ (1987 letter 2, 77) For Locke’s reply, see *Works* 4, 469.

3 Demonstrations must be drawn from intuitively certain premises and involve only deductive inferences, each of which are themselves intuitively certain (IV ii 2–7).

4 Ayers’s critical verdict has nothing to do with the logical error discussed in note 1. Rather, it is a judgement about Locke’s argument concerning the nature of the eternal being as both cogitative and immaterial (assuming that one such eternal being exists).

probable (*Works* 4, 33). I call it the Composition Principle. It states that a composite being is the sum of its parts; and, for a certain class of determinable properties, those properties exist in the whole only because they exist in the parts that compose the whole. I will suggest that Locke considered thought to be such a property. Therefore, a thinking being must either be impartite or be made out of (at least some) thinking parts. It cannot be made entirely out of incogitative material parts any more than an 'extended Being' can be made entirely out of 'unextended Parts' (IV x 14, 626).

## 2. FIVE PRINCIPLES EXAMINED

The crux of Locke's theistic argument is the claim that incogitative eternal matter cannot be the source of the power to think we find within ourselves: 'It being as impossible, that Things wholly void of Knowledge, and operating blindly, and without any Perception, should produce a knowing Being, as it is impossible, that a Triangle should make itself three Angles bigger than two right ones' (IV x 5, 620). But what makes the former logically impossible? In this section, I consider five answers to this question and explain how they are problematic. Some readings are problematic because they conflict with what Locke argues elsewhere, while others fail to render a valid and non-circular reading of Locke's argument about the nature of the eternal being. I do not consider any of my arguments in this section to constitute decisive refutations of the readings considered since I don't assume Locke must be consistent or that he must have presented a valid and non-circular theistic argument. Rather, my goal is only to raise sufficient doubts so as to motivate an alternative reading according to which Locke *is* consistent, *does* offer a valid and noncircular argument for God's immateriality, and *can* defend his opinion that the soul's immateriality is highly probable. All things being equal, a reading of Locke's theistic chapter that checks all three boxes is preferable to one that does not.

### I. THE INCONCEIVABILITY PRINCIPLE

Many philosophers accept that conceivability implies possibility.<sup>5</sup> Locke too can be counted in this number since this inference lies at the root of his thinking matter hypothesis. (It is conceivable that God has given the power to think directly to a material substance since this thought involves no contradiction of ideas: 'I see no contradiction in it' [IV iii 6, 541]. Therefore, it is possible the soul is material [Jolley 2015: 71].) In the theistic argument, however, Locke appears to be employing the converse principle that inconceivability implies impossibility: 'If we suppose only Matter and Motion first, or eternal; *Thought* can never begin to be. For it is impossible to conceive that Matter either with or without Motion could have originally in and from itself Sense, Perception, and Knowledge' (IV x 10, 624). Furthermore, Locke says it is 'very obvious to Reason' that the eternal being 'must necessarily be a *cogitative* Being' precisely because it is 'impossible to conceive, that ever bare incogitative Matter should produce a thinking intelligent Being' (IV x 10, 623).

This is strong evidence that Locke is relying on a modal epistemic principle that moves from inconceivability to metaphysical impossibility. However, there is considerable evidence in Locke's other writings that he did not accept the Inconceivability Principle. For example, Locke defends his thinking matter hypothesis to Edward Stillingfleet by rejecting the inference from inconceivability to impossibility on the grounds that it promotes undue skepticism 'both in divinity as well as philosophy' (*Works* 4, 463). In the case of divinity, God's power is not limited to what we can conceive: "'tis an overvaluing our selves, to reduce all to the narrow measure of our Capacities; and to conclude, all things impossible to be done, whose manner of doing exceeds our Comprehension' (IV x 19, 630). In the case of philosophy, Locke rebukes those 'who take the measure and possibility of all Being, only from their narrow and gross Imaginations' (II xiii 24, 178). In light of such statements, it would be tempting to conclude that Locke was offering no sort of inconceivability

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<sup>5</sup> A classic statement of the conceivability principle is given by Hume: 'whatever we *conceive* is possible, at least in a metaphysical sense' (1978: 650). It is also the foundation of well-known arguments by Descartes, Kripke, and Chalmers. For critical discussion of the conceivability principle in these arguments, see Campbell, Copeland, and Deng (2017).

argument in the theistic chapter. But as Matthew Jordan argues, we would do well to distinguish between positive and negative inconceivability when evaluating Locke's claims:

A state of affairs is *positively* inconceivable (PI) when that state of affairs is incompatible with knowledge we have of necessary truths (e.g. the essential properties of geometric shapes). States of affairs which are PI can be known to be impossible. On the other hand, a state of affairs is *negatively* inconceivable (NI) when we lack a clear and distinct idea of how that state of affairs could come to be. Thus positive inconceivability stems from our knowledge, but negative inconceivability stems from our ignorance. If a state of affairs is NI, it may, for all we know, be possible. We certainly cannot know that it is impossible, and thus we must be agnostic about its modal status. (2008: sec. 3.3)

It is easy to determine the type of inconceivability Locke has in mind by focusing on the adverbs 'how' and 'that' (cf. Newman 2000: 311–12). For example, when Locke says it is inconceivable *how* matter might think, or *how* God created matter, he is drawing our attention to the fact that these things are negatively inconceivable. Thus, we must not infer their impossibility. However, when Locke says it is inconceivable '*that* ever bare incogitative Matter should produce a thinking intelligent Being' (IV x 10, 623 italics added) he means to say it is positively inconceivable, and therefore impossible. The production of thought or a thinking being from incogitative matter is inconceivable in this sense because it violates some knowable necessary truth (cf. Duncan 2021: 111). But what truth does it violate? The remaining four principles are possible answers to this question.

## II. THE LADDER PRINCIPLE

According to Stewart Duncan, 'The driving force of the argument of IV.x.10 is Locke's view that a being with less perfect features cannot cause more perfect features to exist in the world' (2021: 113). Call this the Ladder Principle. On the assumption that cognition is more perfect than motion or solidity, the Ladder Principle thus precludes the production of a thinking being by eternal, thoughtless matter. The necessity of the Ladder Principle then explains why it is impossible to conceive of the mindless production of material minds.<sup>6</sup> Duncan offers the following passage from Locke as evidence of this interpretation:

- [1] Since therefore whatsoever is the first eternal *Being* must necessarily be cogitative;
- [2] And whatsoever is first of all Things, must necessarily contain in it, and actually have, at least, all the Perfections that can ever after exist; nor can it ever give to another any perfection that it hath not, either actually in it self, or at least in a higher degree;
- [3] It necessarily follows, that the first eternal Being cannot be Matter. (IV x 10, 624, bracketed numbers added for reference)

The conjunctions 'since,' 'and,' and 'therefore' reveal that [1] and [2] jointly imply [3]. The significance of this argument, however, can only be fully appreciated when understood in relation to the preceding passage where Locke reasons:

- [4] 'If we suppose only [incogitative] Matter and Motion first, or eternal; *Thought* can never begin to be' (IV x 10, 624).
- [5] Therefore, thought and knowledge must be properties 'eternally inseparable from Matter and every Particle of it' (IV x 10, 624).
- [6] But if that were the case, eternal cogitative matter could never have produced 'that order, harmony, and beauty which is to be found in Nature' (IV x 10, 624).

The passage quoted above recaps these points: [1] corresponds to [5]; [2] explains [6]; and [3], the final rejection of matter as the eternal being, is the culmination of [4]–[6]. The reason [6] eternal cogitative matter could not have produced the perfections of order, harmony, and beauty found in nature is because [2] matter does not 'actually have' these perfections in itself. Duncan

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<sup>6</sup> Similar readings are given by Ayers (1981; 1991) and Bolton (2016).

reads the passage differently. He contends the causal principle in [2], which he interprets as the Ladder Principle, explains why [1] the eternal being is necessarily cogitative. But the opening word 'Since' indicates that [1] has already been established (on my reading) by [4]. This fact is obscured somewhat by changes Locke made to the section for the 1694 second edition of the *Essay* following a suggestion from his friend William Molyneux. In the original, [1] immediately followed [4]. But in the second edition, claims [5], [6], [2], and [3] were added as part of a new argument with [5] and [6] interposing [4] and [1]. Molyneux had warned Locke some unnamed readers of the *Essay* had taken him to have assumed the 'Absolute Impossibility' of thinking matter in the argument for God's immateriality, thus contradicting the earlier thinking matter hypothesis (*Corr.* 4, 600). The new argument was a direct and clever response to such a misreading. To leave no doubt in the mind of 'ordinary readers' (*Corr.* 4, 624), far from assuming matter *cannot* think Locke argues if matter is the eternal being it *must* think; but even then it cannot be the first cause of nature.

There are additional textual problems with taking [2] the causal principle mentioned in the passage above as referring to a ladder of perfections. In that sentence, Locke does not say the first cause cannot give to another a *greater* perfection than it has. Rather, he says the first cause cannot give to another *any* perfection that it does not have either 'actually in itself' or 'at least in a higher degree' (IV x 10, 624). This is most plausibly read as a reference to the Scholastic distinction between formal and eminent containment featured prominently by Descartes in his cosmological argument in the *Third Meditation* (Descartes CSM II, 28–32; Sinkler 1989). The middle part of the passage further supports this reading. Locke says the first cause must 'actually have, at least, all the Perfections that can ever after exist' (IV x 10, 624). On the ladder of perfections reading, this would imply that God actually has shape, solidity, and motion (assuming the first cause produced matter, which is Locke's view [IV x 18–19]). But in the very passage where the causal principle is presented Locke is arguing the eternal being cannot be made of matter. Locke's requirement that the first cause 'actually have' the perfections found in the effect is nothing other than the justification for the second half of the passage. If the first cause did not 'actually have' either formally or eminently the features found in the effect, it could not have given it to them, and so could not have produced them. This avoids the aforementioned problem since according to eminent containment God can be said to 'actually have' material properties (if these are considered to be perfections) without exemplifying them.

Furthermore, the existence of a ladder of perfections is not knowable through sensation or reflection. The superiority of mental properties over physical properties is not evident in experience. In fact, as Locke notes, experience suggests that both mental and physical properties cause one another, and this is equally inexplicable:

How any thought should produce a motion in Body is as remote from the nature of our *Ideas*, as how any Body should produce any Thought in the Mind. That it is so, if Experience did not convince us, the Consideration of the Things themselves would never be able, in the least, to discover to us. (IV iii 28, 559)

Nor can knowledge about a hierarchy of features be discovered in the ideas themselves since thinking and solidity are 'both but simple *Ideas*, independent one from another' and 'whenever we would proceed beyond these simple *Ideas*, we have from Sensation and Reflection, and dive farther into the Nature of Things, we fall presently into Darkness and Obscurity' (II xxiii 32, 314).<sup>7</sup>

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<sup>7</sup> In two passages Locke discusses a hierarchy of beings (III vi 11–12 and IV xvi 12), which Duncan argues depends in turn on a hierarchy of their perfections (2021: 114). God supposedly ranks higher than a rock because mental features outrank physical ones, not because God's knowledge and wisdom are maximal or perfect. But Locke's version of the Great Chain of Being (III vi 12) appears to be a ranking of entities based on activity (top) versus passivity (bottom) (cf. II xxiii 28), where reality is a measure of perfection, and perfection is a measure of activity. Consequently, spirits outrank bodies because they are more active, not because thought is more perfect than extension or solidity. Locke's claim about the distribution of active and passive powers among substances is (merely) consistent with empirical evidence, and so Locke cautiously states: 'it may be worth our consideration' (II xxi 2, 234). Later, Locke employs this hypothesis to speculate that 'created Spirits are not totally separate from Matter' (II xxiii 18, 312). It is clear however that Locke considered such claims to be 'conjecture' and not knowledge (II xxiii 18, 312). He therefore could not seriously intend his theistic proof, which he considered to rival 'mathematical Certainty' (IV x 1, 619), to depend upon them. The fact that Locke gives some credence to the idea of the Great Chain of Being is hardly significant since it was commonplace in Locke's milieu (Lovejoy 1936: chap. 6).

Martha Bolton critically notes that without the knowledge that thought is a perfection superior to the primary qualities of matter, Locke's causal principle (so understood) 'has no grip on the distribution of solidity, extension, and thought among substances' (2016: 346).<sup>8</sup> It is for this reason that Michael Ayers determines Locke's theistic argument, which he also interprets to depend on the Ladder Principle, to be 'either invalid or circular' (1991: 2:182). It is invalid if Locke offers no justification for the superiority of mental properties, and it is circular if he appeals to the intuition that such properties could only be produced in matter by a mind (Ayers 1981: 248–51). The Ladder Principle is of the kind that Locke needs in his theistic argument; but he cannot justify it, and there is scant textual evidence for attributing it to him.

### III. THE HOMOGENEITY PRINCIPLE

The Homogeneity Principle requires that causes resemble their effects. Thus, 'from motion all you get is motion, from figure only other figures' (Uzgalis 2018). According to William Uzgalis, 'Locke uses the Principle of Homogeneity in its strong dualist form to block the creation of a material God' (2018; see also Jacovides 2017: 115–16). Assuming thought is not identical to figures or motions, this principle rules out the production of thought from incogitative matter. Locke probably did make that assumption since his point of contention is 'Matter, *incogitative Matter* and Motion, whatever changes it might produce of Figure and Bulk, *could never produce Thought*' (IV x 10, 623). The possibility that thought is identical to motion is never considered (Rozemond and Yaffe 2004: 404–5).<sup>9</sup> In the passage just quoted, however, Locke implies that motion can cause changes in figure (not just changes in motion). Perhaps this is still consistent with the Homogeneity Principle since motion is the relocation of parts in space, and shape is the byproduct of the relative location of adjoining parts.

Nevertheless, Locke was not committed to the Homogeneity Principle for a reason mentioned in the previous section. He considered it to be a fact of experience that motions cause sensations (II viii 11) and in turn are caused by the mind's volition to move the body (II xxi 4). If Locke were committed to the Homogeneity Principle on *a priori* grounds, he should have denied the reality of the apparent causation between mind and body and embraced the doctrine of occasional causes. But, as summarized by Charlotte Johnston, Locke squarely opposed the occasionalism of Nicolas Malebranche and John Norris on the grounds 'there is no theory capable of explaining "the causes & manner of production" of ideas in the mind' (1958: 557; *Works* 10, 248). This rationale makes little sense if Locke accepted the Homogeneity Principle. For then he would have agreed with Berkeley, who reasoned in Part 1, §29 of his *Principles of Human Knowledge* that our sensory ideas *must* be caused by 'some *other Will or Spirit*' (1949 2:53).

Locke accepted something like the Homogeneity Principle as a condition of *intelligible* causality: 'That the size, figure, and motion of one Body should cause a change in the size, figure, and motion of another Body, is not beyond our Conception ... these, and the like, seem to have some *connexion* one with another' (IV iii 13, 545). But the same experience that reveals the existence of these intelligible connections also shows us the existence of unintelligible connections. And even in the cases that are intelligible, such as the transfer of motion between bodies through impulsion, Locke says we don't understand *how* the motion is communicated any more than we understand 'how our Minds move or stop our Bodies by Thought' (II xxiii 28, 311). The presumption of an *unknown*

<sup>8</sup> Bolton finds another argument in the text wherein Locke allegedly assumes eternal matter could only produce perception and thought if those attributes were essential to matter (2016: 345). But this gets things the wrong way around. What Locke says is that *because* eternal matter 'either with or without Motion' cannot have 'originally in and from itself Sense, Perception, and Knowledge,' *it follows* (under the supposition of eternal matter) that these must be properties 'eternally inseparable from Matter' (IV x 10, 624). In other words, if eternal matter cannot generate thinking from the depths of its mechanical nature, we must conclude that thinking exists in it as an inseparable property. Bolton's reconstruction takes for granted the truth of the antecedent, but this is exactly what the materialist disputes and what Locke must first establish. To do that, he requires some principle (like the Ladder Principle) to rule out the possibility that perception and thought might arise in eternal matter as an accident. To insist this is impossible because 'The attributes of the eternal being are essential to it' (2016: 345) is not valid because Locke grants motion to the supposition of eternal matter. With the addition of motion, eternal matter can change and so is capable of accidents. God may be incapable of change, but that is irrelevant as a premise in an argument for his existence.

<sup>9</sup> In Section 4.i, I explain why this is the case.

how is what qualifies Locke as a ‘skeptical realist’ about causality (cf. De Pierris 2006): we see the connection but do not understand why it is necessary.

#### IV. THE REAL ESSENCE PRINCIPLE

According to Lisa Downing, Locke endorsed the following metaphysical principle: ‘the qualities and behavior of a body follow from its real constitution (some particular configuration of its intrinsic and irreducible qualities), together with the real constitutions of other bodies and the spatial relations among bodies’ (2007: 368). Locke believed we know substances only by their appearances and observable interactions, so their ‘real’ essences remain ‘wholly unknown’ (III iii 15, 417). We can posit a theory about what the real essences of substances are like, and this can have some explanatory merit (the corpuscular hypothesis is one such example [IV iii 16]), but Locke was pessimistic about ever finding a theory that fully captures real essences for a variety of reasons (IV iii 23–26; IV vi 11). Downing contends that Locke’s theistic argument assumes the corpuscular theory of matter. Consequently, it relies on the Real Essence Principle to establish God’s intelligence and immateriality on the grounds that thoughts and perception do not ‘follow from’ a purely mechanical essence. Although mere matter cannot think, God is not powerless to change the essence of matter to accommodate a faculty for thinking via an act of superaddition (Downing 2007: 372). This enhancement does not destroy the essence of matter but only adds to it since ‘it leaves it an extended solid substance’ (*Works* 4, 461). Hence, Locke can consistently deny eternal mere-matter as the eternal being and say non-mere-matter might think (Downing 2007: 376–77).

However, Downing achieves this consistency by attenuating the scope of Locke’s conclusion. Locke does not prove that God is actually immaterial, only that God is not made of mere matter. As Downing admits, this ‘may not seem like much of an achievement’ since Locke himself recognized Newton to have shown that no matter in our universe is ‘mere matter’ since gravity is super-mechanical (2007: 377). Consequently, Locke would have realized that God, while provably not made of mere matter, could manifest a non-mechanical essence that supports both cognitive and corporeal attributes. However, the textual evidence is clear that Locke had no such thoughts: ‘what I have said about the supposition of a system of matter thinking ... there demonstrates that God is immaterial’ (*Works* 4, 33). Furthermore, Locke considered God’s immateriality to be one of his more important attributes since it is a necessary condition on his omnipresence, which is in turn a condition on his omnipotence and omniscience (*Corr.* 6, 789–91; Gorham 2020). In no uncertain terms Locke insists: ‘whoever wants to think rightly about God ought to remove all matter or corporeity from Him’ (*Corr.* 6, 365). It is not enough to conceive of God as the Cartesians did, only as a thinking being, since this invites hylotheism. It might be suggested that Locke accepted God’s absolute immateriality only on the basis of revelation, but Locke argues: ‘It is past all doubt, that every one that examines and reasons right, may come to a certainty, that God is perfectly immaterial’ (*Works* 4, 291). Locke evidently did not consider God’s immateriality to stand or fall with the corpuscular hypothesis, a theory he knew to be incomplete. Locke may have accepted the Real Essence Principle, but that alone is not enough to rule out incogitative matter as the eternal being.

#### V. THE CONTAINMENT PRINCIPLE

The Containment Principle states that ‘a cause must contain the powers had by its effect’ (Connolly 2019: 107). According to Patrick Connolly, Locke uses this principle to argue: ‘An entity must have the power of thought in order to create some other entity which also has the power of thought’ (2019: 108). Therefore, because eternal matter is incogitative, it cannot generate ‘a new thinking being’ (2019: 115). Connolly notes this is consistent with Locke agnostically holding that matter might constitutively produce thought by *being* a material system that thinks (2019: 115). So, although eternal matter left to itself would forever remain unthinking, the Containment Principle does not prevent God (or another thinking being) from generatively producing a thinking being from unthinking material parts, just as a cordwainer produces shoes from strips of leather. So understood, matter might be the material cause of thought, but it cannot be the efficient cause of the existence of a thinking being.

But if intelligently arranged particles can be a thinking being (just as strips of leather can be a shoe), it is an overstatement to say that such an arrangement could never be reached via an eternity of accidental motions. As Matthew Stuart argues,

If we are willing to grant any possible distribution of matter and motion, and if we impose no constraint on time, then any configuration that is possible for matter to be in is one that could, in principle, be arrived at without the guidance of an agent. To say otherwise is to draw a line that is utterly arbitrary. (2013: 268)

Connolly actually concedes this point and agrees that eternal matter might be able to produce *certain* thinking beings, but he insists they would be ‘very bad at thinking’ (2019: 127). For as Locke himself argues, ‘such a thinking Being will be no better nor wiser, than pure blind Matter; since to resolve all into the accidental unguided motions of blind Matter, or into Thought depending on unguided motions of blind Matter, is the same thing’ (IV x 17, 627). Human beings, on the other hand, ‘display highly complex and ordered patterns of thought’ (Connolly 2019: 129). Connolly takes this to mean that human minds cannot be material, unless God exists to provide the necessary ‘guidance’ to the particles in our brain that produce our thoughts (2019: 129). So if matter were the eternal being, it would have been impossible for human minds, such as they are, to have arisen.

Notice, however, that the Containment Principle has now dropped completely out of the argument. This is problematic insofar as Locke took himself to have established ‘*the necessary existence of an eternal Mind*’ (IV x 12, 625) prior to giving the argument about a thinking system of matter contained in IV x 17. Furthermore, the argument in IV x 10 that explains why the eternal being must be cogitative does not contain any reference to the impoverished cognition that would result in a cogitative being produced by incogitative matter. Instead, the argument is simply and bluntly that an incogitative being cannot produce a cogitative being (cf. section title, 623).<sup>10</sup> It is here (if anywhere) that the Containment Principle would have proper application; but, as Stuart notes, if it is allowed that particles of matter in motion might be a mind, it is ‘utterly arbitrary’ to insist that those particles could only have obtained their particular arrangement through intelligent design. However, to rule out the possibility that matter might constitutively produce thought (as atoms do a table) something akin to the Ladder or Homogeneity Principle is additionally required. Therefore, Connolly has not correctly identified the principle at work in the argument as Locke presented it. Either the Containment Principle is conjoined with another principle that rules out a mechanical basis for thought, or else the argument in IV x 10 relies on a different principle entirely. More positively, Connolly’s reading demonstrates that by drawing on considerations raised in IV x 17 Locke could have offered a different argument than the one he presented for the existence of an eternal mind in IV x 10. But, as I will argue in the next section, the later argument in §17 contains the very principle at work in the earlier §10 argument.

### 3. THE COMPOSITION PRINCIPLE

In his 1706–8 debate with Anthony Collins over, *inter alia*, thinking matter, Samuel Clarke defended a principle I will refer to as the Composition Principle:

every Power or Quality, that is or can be *inherent* in any System of Matter, is nothing else than the Sum or Aggregate of so many Powers or Qualities *of the same kind*, inherent in all its Parts. The *Magnitude* of any Body is nothing but the Sum of the Magnitudes of all its Parts. Its *Motion*, is nothing but the Sum of the Motions of all its Parts. And if *Cogitation* in like manner could possibly be a Quality really *inherent* in a System of Matter, it must likewise necessarily be the Sum and Result of the Cogitations of the several Parts: And so there would be as many distinct Consciousnesses, as there are

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<sup>10</sup> See also the prototype of this argument in IV x 5. The issue is not about *how much* the produced being would know or how ‘narrow’ its knowledge would be (cf. IV x 17; 627); rather, the point is that it couldn’t possess any knowledge at all (cf. Duncan 2021: 122).



Particles of Matter, of which the System consists; Which I suppose will be granted to be very absurd. (Clarke 1731: 92–93)<sup>11</sup>

Clarke then used this principle to establish that thought could never be inherent in system of matter whose parts are incogitative:

the Power of the Whole, being but the Sum or Mixture of the Powers of the Parts, cannot possibly be of a *different Kind* or Species from all the several Powers of the Parts, as *Thinking* is of necessity specifically different from all and every one of the Powers, known or unknown, of Particles which are confessed to be *void of Thought*. (Clarke 1731: 163)

The Composition Principle can also be seen at work in the recent argument against emergent experiential phenomena by Galen Strawson:

I have argued that there are limits on how different X and Y can be (can be intelligibly supposed to be) if it is true that Y emerges from X. You can get A from non-A for some substitutions for A but not all. The extended, I have proposed, can't emerge from the intrinsically wholly non-extended (except on pain of being a mere appearance and so not really real). The spatial can't emerge from the intrinsically wholly non-spatial (except on the same pain). The experiential can't emerge from the intrinsically wholly non-experiential, and it doesn't have the option of being a mere appearance. You can make chalk from cheese, or water from wine, because if you go down to the subatomic level they are both the same stuff, but you can't make experience from something wholly non-experiential. (2006: 29)

It may be thought strange that Clarke should employ the Composition Principle against Collins in defense of substance dualism and that Galen Strawson should use it to argue for a type of substance monism. However, this is easily explained. Both Clarke and Strawson agree that if a composite material being thinks, then thinking must belong as a power of at least some of its fundamental parts (the Composition Principle). Assuming that matter is homogeneous in nature, all particles of matter must think if any material being thinks. But Clarke, following the mechanical hypothesis, assumes that the individual particles of matter cannot think; whereas Strawson, following the assumption of 'real physicalism,' assumes that human beings are wholly material yet also have experiences. These differing initial assumptions allow Clarke and Strawson to use the Composition Principle to conflicting ends. As I will explain below, Locke resembles both Clarke and Strawson in his use of the principle. Similar to Clarke, Locke employs the Composition Principle to rule out the Epicurean theory that eternal unthinking atoms might be 'put together' (IV x 16, 627) in some fashion to comprise creatures with sense perception. Similar to Strawson, Locke further invokes the principle to explain why atheistic materialism entails the 'necessary connexion' of 'Matter and Thinking' (IV x 13, 625), such that if everything is made from the eternal substance of matter, every particle of matter—and all that exists—thinks.<sup>12</sup> In total, Locke tacitly appeals to the Composition Principle no less than six times in the span of eight sections (§§10–17).

Despite this, I do not claim that either Clarke or Strawson derived the Composition Principle from Locke or that Locke was the originator of it.<sup>13</sup> As I explain below, Locke would view the Composition Principle as a practically useless abstraction from concrete instances of demonstrative knowledge.

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<sup>11</sup> Here I follow Uzgalis (2009: 370) in referring to Clarke's principle as the 'composition principle.'

<sup>12</sup> In this way, Locke came very close to anticipating Strawson's notorious conclusion that physicalism entails panpsychism.

<sup>13</sup> Having said that, Locke's presence is palpable throughout the Clarke-Collins debate; he is explicitly mentioned some twenty times. Because of Locke's friendship with Collins, it is tempting to read him as simply representing Locke in the debate with Clarke. This temptation is further encouraged by Clarke's rhetorical strategy of citing passages from Locke that appear to conflict with Collins's line of argument. Nevertheless, this temptation must be avoided. Despite often agreeing with the conclusions defended by Collins relating to thinking matter and its implications, when it came to his own 'thinking matter hypothesis' in *Essay IV iii 6*, in opposition to Collins, Locke's sympathies lay not with materialism but with a voluntarist theology (Henry 1986: 365). In this way, Locke sides with Clarke and the Newtonians in opposing Collin's necessitarianism.

For example, if a mass of matter is extended, the particles that compose that mass are also extended. But this is not known to be true because the Composition Principle is known to be true; rather, its veracity is apprehended by the mind via its perception of the ‘agreement’ of the concrete ideas involved (i.e., matter, divisibility, extension, etc.). When I speak of Locke tacitly appealing to the Composition Principle in the theistic chapter, what I mean is that he engaged in a certain, intuitive pattern of reasoning about parts, wholes, and their properties formalized in the Composition Principle. Because Locke did not explicitly present the Composition Principle as such, and because he employed it a cosmological and theological context in which causal principles (rather than mereological) were commonplace, it is not entirely unsurprising that its role in Locke’s argument has gone undetected. In what follows, I show how the Composition Principle can be seen to be at work in several important passages from Locke’s theistic chapter. The extent to which this allows us to read Locke’s argument against atheistic materialism and hylotheism as unified, cogent, and in harmony with Locke’s other claims is my main argument for preferring this interpretive lens over those discussed in the previous section.

Before discussing the specific passages in which Locke evokes the Composition Principle, it will prove useful to make some orienting remarks about the argument in the chapter as a whole. IV x can be productively seen as a dialectical exchange between Locke and three materialist interlocutors. Locke’s first opponent in §§ 1–12 is a materialist atheist who believes that human beings were created by the random motions of unthinking, eternal matter.<sup>14</sup> His second opponent in §§ 12–17 is materialist theist who conceives of God as has having a body. Locke’s final opponent in §§ 18–19 is a dualist theist who believes in an immaterial God but insists on the idea of eternal matter because its creation is inconceivable. All of Locke’s three opponents are committed to what I shall call the Fundamental Materialist Assumption. It states that matter exists as a substance and is eternal since *ex nihilo nil fit*. One of Locke’s goals in IV x is to undermine confidence in this assumption. But even if the assumption is true, Locke argues that it does not warrant atheism or the belief in a corporeal God.

## I. ‘PUTTING TOGETHER ... PARTICLES OF MATTER’

Locke’s first opponent, a materialist atheist, accepts the conclusion of the cosmological argument about the necessary existence of an eternal being. But because of the Fundamental Materialist Assumption, the materialist identifies matter with that eternal being. In doing so, the materialist endorses a version of atheism and so denies the existence of a rational, eternal mind. A highly influential account of this view, ardently defended by the Epicureans, was recorded by Lucretius in *De rerum natura*. Locke owned three editions of this six-book poem, and in IV x 10 he seems to be directly responding to the account given therein (Nuovo 2010: 207–8). As explained by Lucretius, ‘The nature of the mind and spirit must / Of seeds extremely small be constituted’ (DRN iii. 228–29: 76). These ‘seeds,’ or ‘primal atoms of things’ (DRN i. 501: 17), are not homogeneous but contain ‘a kind of thin breath’ mixed with heat and carried by air (DRN iii. 230–34: 76). However, these three elements are insufficient ‘to make the motions that bring sense, / Still less the thoughts that come into our minds’ (DRN iii. 238–39: 76). Rather than discarding the atomistic theory of mind, Lucretius argues, ‘Therefore a fourth thing of some kind must be / Added, and this is wholly without name. / Nothing exists more easily moved than this, / Nor thinner nor made of elements more small / And smooth ...’ (DRN iii. 241–45: 76–77). This *dues ex machina* of a substance is the origin of ‘Sense-giving motions’ throughout the body: it generates the heat, which activates ‘the blind power of wind,’ which foment the air, which agitates the blood and so forth (DRN iii. 245–50: 77).

From Locke’s point of view, Lucretius’s appeal to a fourth atomic element is pointless since the size and shape of the particle is irrelevant to the issue of producing cognition. Despite what ‘we are apt to imagine,’ incogitative matter cannot actually be spiritualized (i.e., converted into a thinking being) through an ultra-fine division of some of its parts (IV x 10, 623). Division only affects the

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<sup>14</sup> I agree with Victor Nuovo that Locke’s argument in §10 is correctly interpreted as attack on the Epicurean cosmology and related theory of mind (2010: ch. 9).

shape, and whatever 'smooth' shape or propensity toward motion we imagine a small body might have, a big body can in principle have that shape and motion too. Consequently, even if atoms of this unnamed type exist, we can be certain 'They knock, impell, and resist one another, just as the greater do, and that is all they can do' (IV x 10, 624). Therefore, contrary to the wishful thinking of Lucretius, 'you may as rationally expect to produce Sense, Thought, and Knowledge, by putting together in a certain Figure and Motion, gross Particles of Matter, as by those that are the very minutest, that do any where exist' (IV x 10, 624).

According to Nuovo, because Locke held a supernatural version of the view himself he 'deliberately ignores the possibility that incogitative material atoms might combine in special configurations as to produce a thinking being' (2010: 221). But as Nuovo notes, this was precisely Lucretius's view (2010: fn. 42). Given Locke's theological aims, it is puzzling then why he should have opposed Epicurean cosmology only to 'deliberately' avoid a refutation of its most important claim. Without directly opposing the idea that sensing human beings and animals are made of senseless atoms, Locke cannot establish his desired conclusion about the necessary existence of an eternal mind. It seems to me that contrary to Nuovo's reading this is precisely the idea Locke is opposing in his 'you may as rationally expect' argument quoted above.

The mechanics of this argument are admittedly somewhat less apparent than its target, and various readings have been proffered. According to the Ladder Principle reading, atoms cannot produce thought because physical properties are too impotent to cause mental properties. The Homogeneity Principle reading states that atoms cannot produce thought because their properties are nothing like mental properties. The Real Essence Principle reading states that atoms cannot produce thought because Locke is assuming the essence of matter is purely mechanical and therefore unfit to support mental properties. The Containment Principle reading states that atoms cannot generatively produce a thinking being because they do not contain thought themselves. The issues already identified with these interpretations notwithstanding, these readings fail to address the feature of Locke's argument which involves 'putting together' (IV x 10, 624) material parts. It is here where I believe Locke is appealing to the Composition Principle. He is pointing out that it is simply impossible to produce a thinking being by 'putting together' incogitative atoms since if thought belongs as a property of the whole it must belong as a property to at least some of its parts. The only way eternal matter could produce a cogitative being through the arrangement of its parts is if those parts sensed and perceived. Understood in this way, Locke's argument cuts to the core of Lucretius's belief that sensing creatures such as human beings 'Consist of atoms that are devoid of feeling' (DRN ii. 866: 60). The Composition Principle thus supports Locke's central claim that the eternal being 'must necessarily be a *cogitative* Being' because it describes why the unthinking particles of eternal 'bare incogitative Matter' cannot be arranged so as to produce human or animal bodies with sense, perception, or knowledge (IV x 10, 623–24).

The presence of the Composition Principle in the preceding argument is made even more evident by the logic of Locke's subsequent claims. Because matter cannot be spiritualized through the division of its parts, and because it is impossible to construct a thinking being out of incogitative particles (the Composition Principle), if matter is the eternal being 'as is evident from hence, that then Sense, Perception, and Knowledge must be a property eternally inseparable from Matter and every Particle of it' (IV x 10, 624). If a composite material being is to think, its parts must also think, according to the Composition Principle. The Composition Principle does not itself imply that 'every Particle' of eternal matter must be thinking, only those that compose thinking beings. But if any parts of *eternal* matter are individually thinking (or moving), it must be because thought (or motion) is a property contained in the essence of matter. Otherwise matter would not be *naturally* homogeneous: 'Every particle of Matter, as Matter, is capable of all the same Figures and Motions of any other; and I challenge any one, in his Thoughts, to add any Thing else to one above another' (IV x 15, 626). The key phrase here is 'Matter, as Matter.' Every particle of matter has the same core properties in virtue of being matter. Locke is not denying that God can enrich 'certain Systems of created senseless matter, put together as he thinks fit' (IV iii 6, 541) with superadded qualities

such as thought. His point is rather that *eternal* matter would only have the properties natural to it since *ex hypothesi* there is no outside source to superadd them. So if matter is the eternal being, the property of thought must be contained in its essence *qua* matter.

## II. 'OF LIMITED FORCE, AND DISTINCT THOUGHTS'

If thought were a property of matter in general, every particle of eternal matter would think in some way. Locke is probably right that materialists would 'scarce' want to admit this since 'then there would be as many eternal thinking Beings, as there are Particles of Matter, and so an infinity of Gods' (IV x 14, 626). However, this is merely a dialectical point. To explain why it is problematic from a cosmological perspective, Locke again makes use of the Composition Principle. Since the power and the thought of the whole are the sum of the power and the thoughts of its parts (Composition Principle), and because matter has infinitely many parts, 'if Matter were the eternal first cogitative Being, there would not be one eternal infinite cogitative Being, but an infinite number of eternal finite cogitative Beings, independent one of another, of limited force, and distinct thoughts' (IV x 10, 624). As a result, eternal cogitative matter would necessarily be without the *unified* thought and *centralized* power required to 'produce that order, harmony, and beauty which is to be found in Nature' (IV x 10, 624). As suggested above in 2.ii, Locke justifies this argument that eternal cogitative matter could not have produced nature on the grounds that eternal matter does not 'actually have' the perfections found therein either 'actually in itself' or 'in a higher degree' (IV x 10, 624). These perfections are obviously not contained formally in the essence of eternal matter (no particles are themselves orderly, harmonious, or beautiful), and it would have the perfections of nature eminently only if it possessed a central intelligence capable of both designing the rich complexities of nature and then executing those plans through a singular will. For these reasons, and whether matter is cogitative or not, 'the first eternal Being cannot be Matter' (IV x 10, 624).

Locke's argument is that because matter is infinitely divisible, the immense—Locke says infinite—power and cognition that must belong to the eternal being as a whole would get distributed to each of the parts such that any one particle is not very powerful or smart. This severely limits what eternal matter could achieve by way of design. Locke provides no further argument for this claim, but it is intuitively plausible. A brilliant adult engineer can easily design a bridge all by herself, but no number of kindergarteners working together could ever achieve such a feat. It might be objected that, if given infinite time, the thoughts of the children might accidentally aggregate in such a way as to exactly mirror the thought pattern of the engineer.<sup>15</sup> Locke might respond by suggesting that the engineer's thought process cannot be broken down into distinct parts because a mind necessarily has a hierarchical structure and a unity. This is how Jean-Pierre Schachter understands Locke's argument (2008: 126). But according to Schachter, this is problematic for Locke because (on Schachter's reading) Locke elsewhere criticizes the 'Achilles' inference *from* the apparent unity of thought to the unity of an underlying substance in the form of an immaterial and simple soul.<sup>16</sup> Specifically, against Nicolas Malebranche Locke notes the multiplicity of perceptions occurring in the mind 'all at the same time' and questions why this unity of multiplicity does not imply that the mind is a divisible substance with 'distinct parts' (*Works* 9, 234–35). Critical of Thomas Burnet\* (or rather Richard Willis<sup>17</sup>), Locke also doubts that an immaterial substance explains 'one common Conscious Principle' any more than a material soul, which is to say it does

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<sup>15</sup> This objection was given to me by an anonymous reviewer at this journal.

<sup>16</sup> The 'Achilles' inference was so named by Kant, who famously rebuffed the rationalist argument concerning the nature of the soul (CPR A351).

<sup>17</sup> Although traditionally attributed to Thomas Burnet, the authorship of the *Remarks upon an Essay Concerning Humane Understanding* (1697–99) has recently been questioned. Based on currently available evidence, Richard Willis is the most likely author (Walmsley, Craig, and Burrows 2016). However, for sake of continuity with Schachter's chapter I will refer to the 'Remarker' as Burnet\*.

not explain it at all (1699: 17).<sup>18, 19</sup> Both points seem to undercut the argument being made in IV x 10 against eternal cogitative matter. For if even an immaterial mind must have ‘distinct parts’ (*Works* 9, 235) to account for its conflicting thoughts and perceptions, why is it problematic that the parts of eternal cogitative matter would have ‘distinct thoughts’ and limited power (IV x 10, 625)? And if an immaterial substance does not guarantee unity of consciousness (1699: 48), why should it be assumed that the parts of a material mind must be ‘independent of one another’ (IV x 10, 625)? Schachter leaves this puzzle unresolved: ‘As to why he [Locke] would have used the argument for God’s immateriality, but not for man’s, I cannot say’ (2008: 131).

Later, I will suggest that Locke did in fact apply the analogous reasoning to the human mind, and this is why Locke says the soul is very probably immaterial. The reason it does not prove the human soul to be immaterial, like it does the divine mind, is due to the Composition Principle and the fact that God might superadd a faculty for thinking to exactly one atom in the human body. This unlikely scenario has no parallel in the case of the divine mind, which if it is to be material must be composed out of essentially thinking atoms, that is, infinitely divisible cogitative material parts.

The final issue to resolve is the contradiction pointed out by Schachter concerning Locke’s apparent opposition to Achilles reasoning in general and the fact that he nevertheless employed some version of it in the case of the divine mind and, if I am correct, to the human mind as well. This appearance of contradiction is eliminated when Locke’s remarks about Malebranche and Burnet\* are read in proper context. In the passage about Malebranche where Schachter reads Locke as subverting the Achilles argument (*Works* 9, 234–45; 2008: 117), Locke is not disputing Malebranche’s view that the soul is immaterial. Rather, he is contesting Malebranche’s explanation of perception which involves a distinction between ideas that reside in the divine mind and sensations that are modifications of finite minds. In particular, Locke seeks to undermine Malebranche’s analysis of sensations as modifications of the soul. Locke objects to that view on the grounds that sometimes we perceive inconsistent properties simultaneously. For example, a pool of water might feel hot to one hand and cold to another (II viii 20). But if sensations were modifications of the soul, the substance of the soul would have to contain ‘distinct parts’ (*Works* 9, 235) since no subject can support ‘inconsistent and opposite’ modifications (*Works* 9, 234; cf. II viii 20). Hence, the soul cannot be simple, and so not immaterial, as Malebranche had maintained. Locke’s interest in making this observation is simply to expose this implication of Malebranche’s theory of perception. Locke would himself reject the claim that sensations are modifications of the soul (Allen 2010), and so his argument against Malebranche does not show what Schachter thinks it does. It does not threaten the Achilles inference, and it has no bearing on Locke’s argument in the theistic chapter.<sup>20</sup> Locke is not committed to the thesis that distinct thoughts imply distinct parts of the mind because he does not share Malebranche’s thesis that sensations are modifications of the soul.

Against Burnet\*, Locke is noting that unity of substance does not in fact imply unity of mind because immateriality (or un-solidity) does not even entail thought (1699: 48; see also *Works* 4, 464). Burnet\* supposes that materialism is false because, in his opinion, only immaterialism (concerning the soul’s nature) explains the unity of consciousness. Locke points out that thought is logically independent from both material (solid) and immaterial (unsolid) substance in the sense

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18 The marginal notes Locke made in his personal copy of *Remarks* have been digitized here <http://www.digitallockeproject.nl/cgi/t/text/text-idx?c=locke;rgn=div1;view=text;idno=DLP-AFE;node=AFE:1>.

19 Schachter thinks this argument doesn’t hurt Locke in the context of the divine mind because it presupposes the possibility of divine superaddition of thought to matter, but eternal unthinking matter cannot superadd thought to itself (2008: 127). On my reading, this is mistaken because Locke is explicitly considering a scenario where thought is a fundamental property of eternal matter. The point that unity of consciousness is not really explained by positing an immaterial substance still applies. Schachter further mentions that Locke lists our supposed inability to conceive of a concrete reality without extension on a list of reasons supporting the thinking matter hypothesis (IV iii 6). If it is problematic for an immaterial human soul to exist unextended, then it should also be a problem for the divine mind (2008: 128). In framing this ‘problem,’ Schachter overlooks the fact that Locke himself does not accept the argument he presents in IV iii 6 for merely dialectical reasons. Elsewhere, Locke voices skepticism about the thesis that existence requires extension (II xiii 24). He explains that unextended substance is merely negatively inconceivable. Hence, it is not valid grounds for inferring the mind’s extension.

20 Given this, I certainly do not think it warrants attributing to Locke a ‘reverse Achilles’ argument (Hill 2008).

that neither imply it. This argument is silent on the question of whether thought, in particular the unity of thought, implies simplicity of substance, that is, the Achilles inference. For Locke, although immaterial substance does not guarantee unity of consciousness, it is nevertheless compatible with it in a way that fundamentally thinking matter is not. For if every part of matter thinks (the supposition under discussion at the end of IV x 10), then every part of matter is a mind, and there will be as many minds as particles of matter (cf. IV x 14). Locke's embrace of the Achilles logic in this theistic context does not undermine his criticism of Burnet\* in the slightest. Immateriality doesn't explain unity of consciousness, and so immateriality of the human soul cannot be inferred from the data of unified consciousness since God might have superadded a faculty of thinking to a material substance. In admitting this, Schachter assumes Locke is blocking the Achilles inference (2008: 118); but that reading is not forced upon us. Instead, Locke can be taken as suggesting that God might superadd a faculty of thinking to a material substance in a way that is compatible with the Achilles inference from thought to simplicity of thinker—that is, by bestowing the power of thought to just one atom (i.e., an indivisible particle) of the body. The move from simplicity to immateriality is blocked in such a way as to expose the weakness in Burnet\*'s Cartesian assumption that immateriality is synonymous with mind. Locke's deliberate substitution of 'unsolid' for Burnet\*'s 'immaterial' in the marginal comment underscores this point (1699: 48). When read in proper context, Locke's criticisms of Malebranche and Burnet\* do not undercut his argument in IV x 10 that matter—even if its nature is essentially cogitative—cannot be the eternal mind. The materialist atheist, Locke's first opponent, has thus been defeated.

### III. 'AN EXTENDED BEING, OUT OF UNEXTENDED PARTS'

Locke's second opponent in the theistic chapter is a materialist theist—a hylotheist—who accepts that an eternal thinking being exists but nevertheless holds it to be a corporeal being. As Locke frames things, hylotheism is motivated by the following beliefs:

- (1) Matter exists as substance and is eternal since *ex nihilo nihil fit*.
- (2) God (an eternal thinking being) exists.
- (3) God is not identical to the totality of matter.

Notice that (1) is the Fundamental Materialist Assumption. Beliefs (2) and (3) are the conclusions from Locke's argument against the first opponent. Locke's new opponent can therefore be seen as an evolution of the materialist atheist. The materialist theist attempts to reconcile these beliefs by adding a fourth:

- (4) God is (or has) a body.

Locke will argue that God cannot be a material being (IV x 13–17), and the Composition Principle plays a significant role in his argument. Locke argues that unless those who support hylotheism allow

Matter as Matter, that is, every Particle of Matter to be as well cogitative, as extended, [which results in polytheism and panpsychism] they will have as hard a task to make out to their own Reasons, a cogitative Being out of incogitative Particles, as an extended Being, out of unextended Parts, if I may so speak. (IV x 14, 626)

Locke's claim is comparative. He does not actually say it is impossible to make a thinking being out of unthinking parts, but he implies it through analogy since it is clearly impossible to make an extended being out of unextended parts.<sup>21</sup> This is precisely the argumentative strategy used by Galen Strawson to motivate the impossibility of 'non-experiential-to-experiential emergence' (2006: 15–16), and it makes explicit use of the Composition Principle. A composite being cannot be

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<sup>21</sup> A concrete, spatio-temporal, extended being cannot be constructed from unextended mathematical points (Strawson 2006: 16).

cogitative or extended unless its parts are. If God is a material being, then either he is a thinking atom (cf. IV x 15) or he is made out of fundamentally thinking material parts (cf. IV x 16–17). As we have seen above, the latter implies polytheism and panpsychism which are absurd (especially to the sensibilities of ‘Men, devoted to Matter’ (IV x 13, 625)), and the former paradoxically confines God’s unbounded wisdom and power to ‘one small particle’ (IV x 15, 626). While the exact size of the atom might be open for debate, it would have to be finite since *ex hypothesi* other matter exists. Locke doesn’t spell out the problem with this in the *Essay* (he simply calls the idea irrational); but he explains in a letter to Philipp van Limborch, ‘if he [God] be shut out from any place he can neither operate there nor know what is doing there and soe is neither omnipotent nor omniscient’ (*Corr.* 6, 789). Consequently, God’s infinite perfections cannot be packed into a finite parcel of matter. And if God is not one thinking atom, composed of unthinking parts, or composed of thinking parts, it must be admitted that God has no body at all. Hence, God is immaterial.

#### IV. ‘HOWEVER PUT TOGETHER’

The final three passages where Locke implicitly invokes the Composition Principle concern his explicit refutation of the theory that God is ‘a composition of Particles of Matter, each whereof is incogitative’ (IV x 16, 627). Locke argues that if God were such a system of matter ‘duly put together,’ all of God’s ‘Wisdom and Knowledge’ could be attributed ‘only to the *juxta*-position of parts; than which, nothing can be more absurd’ (IV x 16, 627). Implicit in this argument is the Composition Principle. A composite material being such as God under this conception cannot possess properties like wisdom and knowledge if its parts don’t have properties of a similar kind: ‘For unthinking Particles of Matter, however put together, can have nothing thereby added to them, but a new relation of Position’ (IV x 16, 627). Once ‘put together’ they remain as incogitative as before. Therefore, it is impossible that God could have ‘thought and knowledge’ (IV x 16, 627) if he were made out of incogitative particles.

Recognizing the role played by the Composition Principle in this argument is not trivial, and unless it is recognized there is a risk of misunderstanding. For example, Stewart Duncan suggests ‘thoughts about degrees of perfection are again at work in the background here, supporting the impossibility claim’ that a new relation of position cannot give thought and knowledge to the particles (2021: 122). But as argued above, Locke has no way to justify the Ladder Principle, and the presumption that his theistic argument requires it leads to the judgement that it is invalid or circular (Ayers 1991: 2:182). Fortunately, there is no evidence ‘degrees of perfection’ were in the background of Locke’s thoughts when he wrote IV x 16. Instead, the passage is explicitly about composition and the properties of parts versus wholes. Detecting the topic of mereology but missing the Composition Principle, Patrick Connolly reads Locke as arguing ambiguously either that: (a) the juxtaposition of parts cannot give *thought and knowledge to the parts* of the system, but it can give *thought to the whole* system; or that (b) the juxtaposition of the parts cannot give *thought and knowledge to the whole* system, but it can give *thought to the system* (2019: 122–24). In offering this admittedly strained reading of the argument, Connolly is motivated not to attribute to Locke a dogmatic view that precludes the possibility of naturally albeit poorly thinking matter. However, as we have seen, the Composition Principle says nothing to rule out naturally cogitative matter, but it does place constraints on how it could happen. The Composition Principle is inconsistent with (b), and it is doubly inconsistent with (a). Hence, Locke was not as liberal minded about thinking matter as Connolly would have him, but he was more open-minded about the possibility of body-on-mind causation than Duncan suggests.

#### V. ‘NO PRIVILEGES ABOVE ONE ATOM’

Next, Locke argues that if the parts of God’s body are at rest, ‘it is but one lump, and so can have no privileges above one Atom’ (IV x 17, 627). Matthew Stuart interprets this as an argument involving the suppressed premise: ‘for any arrangement of parts that might be possessed by such a system, there could in principle be an atom with smaller parts arranged in the same way’ (2013: 259). This is a lot to assume. If Locke’s point were simply that a system at rest

could only think through the composition of its static parts, given the prior argument he need not have mentioned atoms at all. Stuart's reading further requires 'atom' to mean 'a continued body under one immutable Superficies' (II xxvii 3, 330), which is Locke's official definition in the chapter on identity. But in the theistic chapter, we find Locke equating an atom with 'one small particle' (IV x 15, 626). In light of this fact, it seems more likely that Locke's comparison to an atom was motivated by the Composition Principle. For the purposes of thinking, 'one lump' of particles at rest might as well be just one single particle (an atom) since the former could only think if the latter does. But individual particles of matter don't think because 'Matter as Matter' doesn't think (IV x 14, 626). Therefore, a system of matter at rest doesn't think because its parts don't think.

## VI. 'EACH OF THEM ... CANNOT REGULATE ITS OWN MOTION'

The only conceivable reason why a system of incogitative matter in motion might think is the motion of its parts. However, this too is ruled out by the Composition Principle; that is, unless the motions of the parts also give thought (or at least perceptivity) to them as parts. Besides, even if the motions of the unthinking parts did cause the whole system to experience thoughts, Locke argues that such thoughts would be necessarily epiphenomenal:

all the Thoughts there [in the whole] must be unavoidably accidental, and limited; since all the Particles that by Motion cause Thought, being each of them in it self without any Thought, cannot regulate its own Motions, much less be regulated by the Thought of the whole. ... since let this thinking System be all, or a part of the Matter in the Universe, it is impossible that any one Particle, should either know its own, or the motion of any other Particle, or the Whole know the motion of every Particular; and so regulate its own Thoughts or Motions, or indeed have any Thought resulting from such Motion. (IV x 17, 627–28)

Because the motions that cause its thoughts are unregulated, the system's thoughts are necessarily caused by 'unguided motions' (IV x 17, 627). And because those unguided motions are the cause of its thoughts, 'such a thinking Being will be no better nor wiser, than pure blind Matter' and 'all rational and wise thinking or acting will be quite taken away' (IV x 17, 627). Matthew Stuart questions why Locke bothers to mention that each particle cannot regulate its own motion when the relevant point is (in Stuart's opinion) only that the system as a whole cannot regulate its motions by its thoughts (2013: 261–62; see also Jolley 2015: 89). He concludes this is probably a 'rhetorical flourish' on Locke's part (2013: 262). I disagree: Locke again is using the Composition Principle to reason about parts and wholes. The motions of the whole system are not regulated unless the motions of its parts are regulated (the Composition Principle). Regulation requires thought and knowledge. The motions of each part could be regulated by: (i) the thought of the whole; (ii) the thought of another part; or (iii) its own thought. Each particle is individually without thought. So the only possible option is (i) the thought of the whole, but *that* thought is caused by the motions of all the parts, which are antecedent to it, and so cannot be affected/regulated by it. For the system to think freely and rationally, its thoughts must be caused by the motions of particles that are either (iii) self-regulated or (ii) regulated by one another. To do that, those parts would have to know (ii) the motions of other particles or (iii) their own motion (cf. Jonathan Bennett 2005: 172). And if this were the case, the thinking system would be composed out of knowing parts, which is consistent with the Composition Principle.

Locke has thus argued that God is not a body. The theist must now accept that the eternal mind is immaterial since he has run out of proposals for how God might be corporeal. God cannot be identical to cogitative matter (since divisible). God cannot be identical to a cogitative atom (since



finite). Nor can God be identical to a system of unthinking material parts whose thoughts are produced by a causally closed physical process (since deterministic).<sup>22</sup>

## VII. COMPILING THE TEXTUAL EVIDENCE

The six passages discussed above each involve application of the Composition Principle. It is the 'invisible' thread that holds Locke's theistic argument together. By recognizing the role played by the Composition Principle in these passages, many interpretive difficulties are resolved. To review:

First, Locke need not be read in IV x 10 as arguing dogmatically (and problematically for him) that material particles only act by impulse and therefore cannot be the efficient cause of thought (cf. Bennett 2005: 175–76; Jolley 2015: 92–93; Stuart 2013: 253): Agnostic about the cause of thought, Locke employs the Composition Principle to explain why a mind cannot be an aggregate of unthinking material parts.

Second, it is no longer 'not entirely clear' why Locke believed his second edition revisions to IV x 10 would ameliorate Molyneux's concern that he appeared to assume the impossibility of thinking matter in establishing the eternal mind (Duncan 2021: 109): Far from assuming the impossibility of thinking matter, Locke appeals to the Composition Principle to argue that even if eternal matter did fundamentally think it still could not be the first cause of nature.

Third, to explain why Locke believed God's wisdom and knowledge do not reduce to some juxtaposition of unthinking material parts, we need not attribute to him a controversial ladder theory of causality (Duncan 2021) or 'stretch the obvious sense of Locke's words' (Connolly 2019: 124): the Composition Principle suffices to explain why God could not possess any thoughts or knowledge if he were made out of incogitative particles.

Fourth, Locke's explanation of why God could not be a '*corporeal System*' (IV x 17, 627) whose thoughts depend on the motion of its parts need not presuppose a technical signification of 'atom' or involve a superfluous 'rhetorical flourish' (Stuart 2013: 259–62): Locke's argument involves straightforward application of the Composition Principle to reason about the properties of parts and wholes.

So not only does my reading permit a resolution to previously acknowledged textual difficulties, it does so via the singular interpretive hypothesis that Locke relied on the Composition Principle. This economy of explanation, coupled with the near explicit use of the principle in IV x 14, is strong evidence for concluding that Locke has relied on the Composition Principle in his theistic argument.

The fact that Locke never formally states the Composition Principle in general terms does not detract from this fact. For one, a version of that criticism applies equally to all other readings. The only principle Locke formulates in general terms in the theistic chapter is contained in the concluding sentence to IV x 10. But as I argue above, whatever that first-cause principle means it should not be taken as a commitment to a ladder theory of causality. It is most likely related to the Scholastic distinction between formal and eminent containment and the common 17th-century issue of how an immaterial God could have fashioned the material world without manifesting

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<sup>22</sup> Locke's third and final opponent in the chapter (§§18–19) is a dualist theist who accepts that God is immaterial but insists that matter is eternal also because the creation of matter is impossible. This theist has accepted Locke's argument against hylotheism. So he believes that

- (1) Matter exists as a substance and is eternal since *ex nihilo nihil fit*.
- (2) God (an eternal thinking being) exists.
- (3) God is not identical to the totality of matter.
- (4) God is immaterial.

Notice that (1) is again the Fundamental Materialist Assumption. Beliefs (2) and (3) are the conclusions from Locke's argument against the first opponent. Belief (4) is the conclusion drawn from Locke's argument against the second opponent. In this way, the third opponent can be seen as a continuation of the first and second. Confronted with these beliefs, the theist accepts substance dualism but is forced to the conclusion that

- (5) God is co-eternal with matter.

Locke opposes the belief in eternal matter because it denies God 'one and the first great piece of his Workmanship, the Creation' (IV x 18; 628). Locke's argument, while deserving of discussion, does not involve the Composition Principle and so falls outside of the scope of this paper. Suffice it to say that Locke finally aims to undermine confidence in (1) the Fundamental Materialist Assumption.

corporeal attributes. Locke utilizes this first-cause principle, not to explain why unthinking matter is not the eternal being, but to show why essentially thinking eternal matter would be powerless to organize itself into 'that order, harmony, and beauty which is to be found in Nature' (IV x 10, 624).

Furthermore, Locke would classify the Composition Principle as a 'maxim' or an obviously true general proposition. Contrary to Scholastic logic, Locke did not consider it terribly important to identify and articulate maxims since our knowledge of particular instances of them is usually prior to and always independent of them:

Many a one knows that *One* and *Two* are equal to *Three*, without having heard, or thought on that, or any other Axiom, by which it might be proved; and knows it as certainly, as any other Man knows, that the *Whole is equal to all its Parts*, or any other Maxim; and all from the same Reason of self-evidence; the Equality of those *Ideas*, being as visible and certain to him without that, or any other Axiom, as with it, it needing no proof to make it perceived. Nor after the Knowledge, *That the Whole is equal to all its parts*, does he know that *one and two are equal to three*, better, or more certainly than he did before. For if there be any odds in those *Ideas*, the *Whole and Parts* are more obscure, or at least more difficult to be settled in the Mind, than those of *One, Two*, and *Three*. (IV vii 10, 596–97)

Maxims are readily assented to; but since maxims involve general terms signifying 'vague *Ideas*' (IV vii 4, 593) we are never more certain of their truth than we are of particular instances of them. Like the maxim '*the Whole is equal to all its Parts*,' the Composition Principle is a maxim involving a relation: the kind of properties of the whole and the kind of properties of the parts. And it too cannot be more evident than any concrete examples. We should not be surprised, therefore, that Locke did not formally present the Composition Principle in generic form as Clarke did in his debate with Collins. We should instead expect that he offer instances of the principle and argue analogously from them to the case involving thought. Indeed, this is exactly what we find Locke did do in IV x 14: If it is plain to reason that an extended being cannot be made out of unextended parts, we should also find it evident that a thinking being cannot be made out of unthinking parts. The Composition Principle is simply a logical abstraction from these concrete cases Locke explicitly mentions.

## 4. JUSTIFICATION, SUPERADDITION, AND PROBABILITY

I have argued Locke's argument for God's immateriality involves the Composition Principle. Locke employs it on numerous occasions when reasoning about the properties of matter and its parts in the theistic chapter. In this penultimate section, I will explore what justification Locke may have provided for the Composition Principle, and I will consider its connection to the thinking matter hypothesis and to Locke's insistence that the soul is probably immaterial.

### I. JUSTIFICATION

Unless Locke can justify the Composition Principle, his argument for God's immateriality would appear to be no better off from a logical point of view than it is according to interpretations like the Ladder and Homogeneity Principle readings. But as I have argued, Locke did not suppose the Composition Principle justified the specific claims that an extended being cannot be made out of unextended parts or that a thinking being cannot be made out of unthinking parts. Rather, the truth of these statements is perceived by the mind via an introspection of the specific ideas contained therein. Knowledge of such truths consists in the mind's perception of the *disagreement* between property X inhering in the whole but not in the parts.<sup>23</sup> The perception of this disagreement is not immediate but mediated by a perception of *agreement* between the idea of property X and the idea of the logical type of properties Locke describes as 'primary, and original' (II xxi 73, 286). In

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<sup>23</sup> I have an anonymous reviewer to thank for encouraging me to be explicit about this point. This analysis is consistent with Locke's general theory of knowledge as '*the perception of the connexion and agreement, or disagreement and repugnancy of any of our Ideas*' (IV i 2, 525).

other words, we are capable of ‘demonstrative’ (rather than ‘intuitive’ cf. IV ii 1–7) knowledge that if properties like shape, motion, or thought exist in the whole, they cannot be absent from the whole’s parts. Likewise, and through the same process of mental scrutiny, we are capable of demonstrative knowledge that other properties such as color can exist in the whole and yet belong to none of the parts.<sup>24</sup> The existence of such ‘counter-examples’ to the Composition Principle are not problematic for Locke because he does not share the Scholastic view of logic according to which particular truths are justified by the truth of more general principles. Instead, each property must be evaluated on its own to determine whether or not it must exist in the parts if it is to exist in the whole.

Locke’s philosophy exhibits a rich but murky taxonomy of properties according to which a property is either a mode (e.g., pain and circle), a quality (e.g., cold and round), or a relation (e.g., colder and sibling), all of which presuppose the existence of substances or things (e.g., gold and horses).<sup>25</sup> With the exception of primary qualities, which are plainly said by Locke to really inhere in substances independently of human thought or perception (II viii 23), there is considerable disagreement about the ontology of secondary and tertiary qualities, simple and mixed modes, as well as relations. Anti-realist, conceptualist, reductionist, and realist readings of these properties have all been defended.<sup>26</sup> For the purposes of my argument, it is not necessary to resolve these fraught debates. It is enough to notice that composition is a fact of both physical substances and simple modes like number and duration: a gold ring is composed out of gold atoms, whereas one hour is composed out of sixty minutes. These are objects to which the Composition Principle can apply, but it only applies to the properties Locke identifies as ‘primary’ and ‘original.’ The full list includes extension, solidity, mobility (the passive power of being moved), perceptivity, motivity (the active power of moving), existence, duration, and number (II xxi 73).<sup>27</sup> These determinable properties are primitive in the sense that they don’t reduce to one another or to any other determinable ideas. In fact, Locke theorizes that all our other simple ideas ‘might be reduced to these very few primary, and original ones. ... For by these, I imagine, might be explained the nature of Colours, Sounds, Tastes, Smells, and all other *Ideas* we have’ (II xxi 73, 286–87).

For each of the primary properties, the Composition Principle has intuitive application. If these properties did not pertain in some degree to the parts, they would not pertain at all to the whole.<sup>28</sup> As Locke argues, it is equally hard to conceive of an extended being made out of unextended parts as it is to conceive of a cogitative being made out of incogitative parts (IV x 14). The reason why it is a ‘hard task’ (IV x 14, 626) is because it is impossible for us to conceive of these violations of the Composition Principle. To reintroduce Jordan’s terminology (2008), violations of the Composition Principle are positively inconceivable for properties of this logical class, whereas they might be

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<sup>24</sup> For example, a ring made of gold is yellow. The ring appears yellow in sunlight because of the surface properties of the ring and the light waves that reflect off it and enter the eye. Knowing this, I understand why metal shavings from the ring don’t appear yellow when viewed under a microscope (cf. II xxiii 11). Further, I conclude that the ring’s yellow color is merely a power it has to produce yellow experiences in perceivers and that it has this power because of other, more real qualities belonging both to it and to other substances (cf. II xxxi 6). Consequently, I am not at all puzzled by the fact that the ring is yellow, but its proper parts are not.

<sup>25</sup> Locke formally introduces the notion of a mode in II xiii 1. The meaning of mode in the tradition of Descartes, as well as Locke’s deviation from it (II xii 4), are explained by Hill 2004. Locke’s discussion of ‘mixed’ as opposed to ‘simple’ modes occurs in II xxii. Locke distinguishes qualities from simple ideas in II viii 8. Locke’s subsequent division of qualities as primary, secondary, and tertiary is explained in the remainder of that chapter. Relations are often discussed in tandem with modes, but they are the sole topic of chapters II xxv–xxviii, where cause and effect, identity and diversity, and morality are explained. As for substances, Locke identifies three sorts (God, finite intelligences, and bodies) and gives them ontological primacy (II xxvii 2), such that without substances there would be no modes or relations. For discussion, see Bolton (2007).

<sup>26</sup> For an overview of the interpretive possibilities, see Stuart (2013: ch. 1–3).

<sup>27</sup> This is Clarke’s view as well. The Composition Principle pertains only to ‘all real Qualities, which truly and properly *inhere* in the Subject to which they belong; such as are *Magnitude* and *Motion* in Matter’ (Clarke 1731: 93). This excludes tastes and colors, which are either identified as sensations or are reduced to the real, mechanical qualities in bodies that cause those sensations (1731: 94). Magnetism, electrical attraction, and gravity are just abstract names for various effects and should not be mistaken for real qualities inhering in matter (1731: 95).

<sup>28</sup> In his debate with Clarke, Collins offered as a counterexample the property roundness (Clarke 1731: 209). Collins astutely noted that a particle on the surface of a round mass cannot itself be round. But Clarke’s only point is that the particles of the round mass must have *some* shape since roundness is a determinate mode of the determinable property of extension that is possessed by each and every particle of matter.

merely negatively inconceivable for tertiary qualities such as gravity or magnetism. While at least it makes sense to ask if gravity reduces to mechanical causes, it makes as much sense to wonder whether thought reduces to motion as it does to wonder whether motion reduces to number.<sup>29</sup> From Locke's point of view, type identity theory and non-reductive materialism are equally confused theories of the mind because they both fail to recognize the logical status of the property of thought. Identity theory mistakenly identifies thought with another property of the same primary, logical type (e.g., motion), whereas non-reductive materialism mistakenly identifies thought as a property belonging to the logical class of emergent properties like color or magnetism—powers possessed by congeries of colorless and nonmagnetic particles.

What entitles Locke to group the property of thought/cognition in the same logical class as motion and number? It might be objected that Locke simply begs the question that thought is not an emergent property: we know that thought belongs to the same logical class as extension only if we know a thinking being cannot be made out of unthinking parts. In that case, Locke's argument for God's immateriality on my understanding of it would be circular; and, for that reason my reading would be no better off (in this respect) than interpretations which see Locke as committed to the Ladder Principle. Fortunately, I do not believe Locke's justification for classifying thought as a 'primary idea' necessarily depends on a valid application of the Composition Principle. Indeed, as I have suggested, it is roughly the reverse. It is only because the knower perceives the property in question to be certain logical type that a judgement can first be made about the truth of the proposition expressing an instance of the Composition Principle. The issue of a property belonging to a certain logical type is a matter of fact, not choice or convention. Locke's taxonomy of ideas is an attempt to lay bare a pre-existing logical structure imposed on us by the nature of the human mind.<sup>30</sup> Locke labels thought (the capacities of both perception and volition) a 'primary idea' because it is one. He consistently treats perception and volition as primary or real qualities of the substance that perceives and wills (II xxiii 16–18). Locke evokes the Composition Principle in the theistic chapter as a tool to help us detect this fact, not to establish it. Similar to the debate between Clarke and Collins, the debate between Locke and his atheist and hylotheist opponents is not about whether the Composition Principle is true or false. Rather, the substance of the debate concerns the property of thought and its logical type. Although, as Locke sees it, there isn't much room for debate. Once the prejudices of materialism are cast aside, even the staunchest of 'Men, devoted to Matter' (IV x 13, 625) should agree that thought, like extension, cannot belong to the whole if it is in none of the parts.<sup>31</sup>

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29 Something akin to this rationale can be seen in Descartes's criticism of Hobbes: 'And surely on his account, when he concludes that the mind is a motion he might just as well conclude that the earth is the sky, or anything else he likes' (CSM II, 126). For Descartes, as for Locke, the notion of thought is a 'primitive notion,' and it would amount to something like a category mistake to explain it in terms of another primitive notion (viz., extension) or subsidiary concept thereof (viz., motion) (CSMK III, 217–20). According to Descartes, this was Princess Elisabeth's problem. She was trying unsuccessfully to understand mind-body interaction (a mode of the primitive notion of mind-body union) through an understanding of force, namely impulse, which pertains only to the primitive notion of extension. For discussion, see Yandell (1997).

30 The type of logic I have in mind is the one described by Locke as '*the Doctrine of Signs*,' which concerns the nature and use of words and ideas (IV xxi 4, 720).

31 Strawson adopts the same strategy in "Realistic Monism" (2006). Strawson argues that while properties such as liquidity and even life reduce to other properties which are non-liquid and lifeless, experientiality does not reduce to the non-experiential—just as the spatial does not reduce to the non-spatial, or the abstract to the concrete. For this reason, the emergence of experience from non-experiential phenomena is not just negatively inconceivable; it is actually impossible (assuming emergence is not a miracle). Strawson further explains how the presumption that experientiality must somehow emerge from non-experiential phenomena is a consequence of two tenets of contemporary materialism: The belief that (1) physical stuff is fundamentally non-experiential, and the assumption that (2) experience is a real, physical phenomenon. One of the goals of Strawson's paper is to undermine (1) by arguing that we have no evidence for it and an abundance to the contrary (cf. Locke's II xxiii 15 and IV iii 6). In his own way, in the context of late-17th century cosmology and the revival of classical materialism, Locke too can be read as working to undermine the materialist assumption that reality is fundamentally incogitative. In the theistic chapter, Locke aims to secure the metaphysical priority of mind over matter. The first cause of ourselves and the material world we inhabit is not eternal matter but an immaterial mind. In IV x 18, Locke goes so far as to suggest with Newton that matter itself is not a true substance (only God is uncreated) but merely a region of pure space imbued with divine powers (2004: 28; see also Bennett and Remnant 1978 and Downing 2014). In this way, Locke subverts the materialist's explanation of properties. The characteristic material property of solidity is explained in terms of a divine mental act. Rather than mind emerging from thoughtless matter, thoughtless matter emerges from mind.

The Composition Principle is first of all consistent with God's superaddition of thought to matter. As we have seen, it does not imply that matter cannot think any more than it implies that wholes cannot be solid. But the Composition Principle does stipulate that a composite thinking thing must be made out of thinking parts or at least one indivisible thinking particle, and we cannot conceive this mereological relation 'to be possibly mutable, or to depend on any arbitrary Power, which of choice made it thus, or could make it otherwise' (IV iii 29, 559) since it is rooted in the ideas themselves. Locke's God can, via blunt fiat, make any particle of matter think, but even the 'Wise Architect' (IV iii 29, 560) cannot design a thinking thing out of wholly incogitative parts. Locke did not supply a theory about how God might have superadded thought to matter: 'The weakness of our apprehensions I grant in the case' (*Works* 4, 468). But as Matthew Stuart correctly notes, 'We can presume that he would reject any story that conflicted with his express claims' (2013: 273). The Composition Principle was one of Locke's 'express claims,' and it rules out stories of Lockean superaddition on both sides of the Voluntarism/Essentialism debate. The point of contention in this debate is whether superadded powers inhere in substances primarily due to God's volition or to the intrinsic features of those substances (Stuart 2013: 264–96). Cutting both ways, the Composition Principle rules out any account of superaddition that has wholes thinking without any of their parts thinking, regardless of whether those parts think from the top-down (Voluntarism) or from the bottom-up (Essentialism). At a general level, the Composition Principle is closely aligned with Essentialism in holding that whole substances are what they are because of the nature of their parts. But at the same time the Composition Principle is consistent with the nature of the parts depending wholly on God's arbitrary will. To take a Newtonian example, God might have given a region of absolute space the power of impenetrability by giving solidity to all the parts contained in that area. The Composition Principle is satisfied, and yet everything depends quite radically on divine volition.

Regardless of how God superadds thought to matter, the Composition Principle implies the existence of experiential physical simples—a view Galen Strawson calls 'micropsychism' (2006: 24). And at this level, the distinction between Voluntarism and Essentialism effectively evaporates. Each simple genuinely is 'experiential in its essential and fundamental nature' (2006: 24); but because that nature is *fundamental* this must be a brute fact (2006: 18). It is nearly a truism to say there is no explanation *for* the natures of things *in* the nature of those same things. In light of these reasons, the Composition Principle won't decide the debate between Voluntarist and Essentialist readings of Lockean superaddition.

### III. PROBABILITY

On the assumption that questioning Locke's sincerity is a 'sterile enterprise' (Jolley 2015: 98), Locke's repeated claim that the soul is very probably immaterial is deeply puzzling (II xxvii 25, 345; *Works* 4, 33). Locke's influential argument that the soul's nature is 'out of the reach of our Knowledge' (IV iii 6, 542) strongly suggests that we actually have no more reasons for supposing the soul is immaterial than we do for supposing it is material. Not finding a more plausible explanation, some have concluded that Locke was at the very least overstating his case, if not dissembling his own materialist sympathies, when insisting on the soul's probable immateriality.<sup>32</sup> But Locke's allegiance to the Composition Principle explains why he said the soul is most likely immaterial. For if the human soul were material, it would contain not just physical parts but mental parts as well since thought could not exist in the whole and in none of the parts.<sup>33</sup> And if Locke followed

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<sup>32</sup> See, for example, Dempsey (2017), Downing (2015), Hamou (2007), and Ayers (1991: vol. 2).

<sup>33</sup> As an anonymous reviewer observed, if a substance contains actual mental parts Locke may not even consider it *one* mind. For example, in IV x 15 Locke states that if all matter thinks, then there are an infinity of minds or 'Gods' (626). But the implication is also that none of the thoughts aggregate to form complex minds since presumably such compounded thoughts would lack the requisite *per se* unity of a mind (Schachter 2008: 129–31). Thus if a material thinker is to be a proper mind, it must not contain actual mental parts, and so it must not have a multiplicity of thinking, material parts. In other words, its thought must reside at a point in just one indivisible, physical part of its body.

Descartes in holding the human mind to be ‘utterly indivisible’ (CSM II, 59), this would constitute a strong argument against the soul’s materiality.

Locke was sympathetic to the Cartesian idea that the mind’s faculties of will and understanding are not ‘distinct Agents in us’ (II xxi 6, 237). But the most direct evidence for attributing the simplicity doctrine to Locke comes in the form of his argument against eternal cogitative matter. As explained above in 3.ii, Locke considered the unity of the eternal mind to be a prerequisite for its production of the order, harmony, and beauty found in nature (IV x 10; Schachter 2008). It is tempting to infer from this argument that finite minds also lack mental parts since they too are capable of producing a degree of order, harmony, and beauty in things. It is not unreasonable to think that Locke was indirectly referring to this point when he claimed—tantalizingly without further elaboration—that his discussion in the theistic chapter of ‘a system of matter thinking [IV x 16] ... will prove it in the highest degree probable, that the thinking thing in us is immaterial’ (*Works* 4, 33). Recall from 3.iv above, the argument in IV x 16 demonstrates that a composite material thinking being must be made out of (at least some) individually thinking material parts. But if unicity of mind is required for knowledge and wisdom, then no material thinker could possess these attributes; that is unless the power to think resided in a single indivisible particle of the body.<sup>34</sup> Given that human minds have these attributes, it is all but certain human minds are immaterial.

If this reading is correct, Locke must have believed it would be unlikely for God to have given the power to think to only one indivisible particle in the body. Evidence suggesting that Locke did in fact believe this can be found in what Nicholas Jolley has coined ‘The “Fit Disposition” Constraint’ on Lockean superaddition (2015: 75–80). When Locke writes about thinking matter in the *Essay*, he envisions God giving ‘a power to perceive and think’ to ‘some Systems of Matter fitly disposed’ (IV iii 6, 540). Locke’s phrasing suggests that if God has endowed any matter with powers of cognition, he has done so (in part) because that matter is suitably organized. As Victor Nuovo further explains the Fit Disposition Constraint:

the objects of divine superaddition have been fitly disposed, physically constituted to receive the power given to them. ... Superaddition, then, is the divine action of actualizing power in bodies whose physical constitution makes them fit to receive them. What the notion of superaddition makes clear is that these added powers are imposed from above, that they are real powers, and that they operate, as it were, from the top down, and yet are proper natural faculties of the particular substance that bears them (2010: 229).

Locke’s position seems to be that a certain physical structure is necessary for God’s act of superaddition. Presumably, the exact criteria of ‘fitness’ is inscrutable to the human mind; but, as I will explain, the very presumption of one supports the conclusion that God has probably not selected an indivisible particle to think and perceive. In his discussion of hylotheism, Locke rebuffed the suggestion that ‘*only one Atom*’ of eternal matter has the power to think. Part of his argument is that ‘Every particle of Matter, as Matter, is capable of all the same Figures and Motions of any other; and I challenge any one in his Thoughts, to add any Thing else to one above another’ (IV x 15, 626). Locke’s appeal to the apparent or supposed homogeneity of matter might be thought to carry less weight when it concerns the powers God can superadd to matter and its parts. Since it involves no contradiction of ideas to suppose that God has favored individual particles with cognitive abilities, we must—by Locke’s own standards—admit this is possible. Nevertheless, no individual particle of matter is conceivably more deserving of a faculty for thinking than any other since every atom ‘is capable of all the same Figures and Motions of any other’ (IV x 15, 626). By definition, an indivisible particle of Boylean matter cannot have a physical constitution. For it is only

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<sup>34</sup> Locke is willing to entertain the idea of a thinking atom in IV x 15. According to Hill (2005), Locke remained agnostic about the existence of indivisible or partless particles. It should be noted that this is consistent with my argument. So long as atoms are not known to not exist, it remains epistemically possible that God has superadded the power of thought to one such atom. Stuart (2013: 54–55) correctly notes that because Locke sometimes employed the term ‘atom’ in a different sense (cf. II xxvii 3), the existence of such ‘atoms’ is not precluded even if matter is infinitely divisible since ‘atoms’ may contain parts so long as those parts are rigid and inseparable. However, atoms in this sense are not relevant to the question of the soul’s nature since if God superadded thought to such an ‘atom’ with frozen parts, it would consequently have mental parts and so fail to be a unified mind.

in virtue of the arrangement of such atoms that a physical constitution can arise. Consequently, no indivisible particle of matter (if any such exist) would qualify as 'fitted disposed' for cognition, even if those precise standards remain unknown. Because it is not (presumably) beyond God's power to override the Fit Disposition Constraint, we do not have the full assurance of knowledge that human thought doesn't reside in some atom in the brain. However, assuming God is so constrained in his regular, non-miraculous conduct, we have every reason to believe the soul is probably immaterial.<sup>35</sup> Since if it were not, the mind would be composite in such a way that conflicts with its readily observable creative powers that presuppose mental unity.

This interpretive hypothesis about why Locke claimed the soul was probably immaterial is attractive for several reasons. For one, it allows us to take Locke at his word: Locke really did consider the soul's immateriality to be highly probable, and he really did think the rationale employed to prove God's immateriality supports this belief.<sup>36</sup> Second, in solving Schachter's puzzle about Locke's use of the Achilles argument in the theistic chapter (2008: 131) my reading explains why that rationale constitutes a proof of God's immateriality but merely a probabilistic argument in favor of the soul's immateriality. Third, the probabilistic argument about the soul's nature is supported by the Fit Disposition Constraint, which is a widely acknowledged feature of Locke's doctrine of superaddition.<sup>37</sup> No other interpretive hypothesis enjoys all of these attractions.

## 5. CONCLUSION

I have argued Locke's argument for God's immateriality makes use of the Composition Principle, which states that thought cannot inhere in the whole of a material substance yet exist in none of its parts. Reading the argument this way not only avoids the charge that it is either invalid or circular, but it also makes good sense of features of the text that scholars have found dogmatic or puzzling. Furthermore, Locke's appeal to the Composition Principle when reasoning about the property of thought is of a piece with Locke's doctrine of 'primary ideas.' Locke's justification of the principle required by this theistic argument is therefore anchored by what Locke argues elsewhere in the *Essay*, rather than at odds with it. Finally, recognizing the Composition Principle at work in the theistic chapter allows us to understand why Locke believed similar considerations incline towards the opinion that human consciousness 'is annexed to, and the Affection of one individual immaterial Substance' (II xxvii 25, 345). Any one of these reasons would be sufficient grounds to take seriously the suggestion that Locke appealed to the Composition Principle in his theistic proof. Taken jointly they constitute a formidable argument that Locke considered it demonstrably true that a thinking material being cannot be composed out of incogitative parts.

## COMPETING INTERESTS

The author has no competing interests to declare.

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<sup>35</sup> For more on the relationship between superaddition, miracles and the Fit Disposition Constraint, see Nuovo's discussion of Locke's 'Divine Physics' (2010: 226–30).

<sup>36</sup> Rickless insists that while Locke is sincere in his belief in the soul's materiality he is nevertheless mistaken, if not insincere, in his claim that the considerations raised in the theistic chapter establish the soul's probable immateriality (2020: 46).

<sup>37</sup> The same cannot be said of Michael Jacovides's reading, which appeals instead to a view Locke allegedly held about the complexities involved with rationally thinking matter and God's preference to avoid them (2018: 133). This view is critically questioned by Samuel Rickless, who suggests that such complexities, while inconceivable to human minds, are trivial relative to God's infinite power and knowledge and so do not constitute an argument Locke would have accepted in favor of the soul's immateriality (2020: 21).

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#### TO CITE THIS ARTICLE:

Hanck, T. 2022. Locke's Composition Principle and the Argument for God's Immateriality. *Journal of Modern Philosophy*, 4(1): 4, pp. 1–25. DOI: <https://doi.org/10.32881/jomp.165>

Submitted: 10 February 2021

Accepted: 18 August 2021

Published: 31 January 2022

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