

MATERIAL UNITY AND NATURAL ORGANISM IN LOCKE

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Abstract: This paper examines one of the central complaints regarding Locke's *Essay*, namely, its supposed incoherence. The question is whether Locke can successfully maintain a materialistic conception of matter, while advancing a theory of knowledge that will constrain the possibilities for a cognitive access to matter from the start. In approaching this question I concentrate on Locke's account of unity. While material unity can be described in relation to Locke's account of substance, real essence, and nominal essence, a separate discussion will be called for altogether in the case of organic unity. In closing, I turn to Kant as a model for locating Locke's purported incoherence, suggesting that his "skeptical idealism" yields the same epistemic advantages as those won by Kant's "empirical realism."

Locke's *Essay Concerning Human Understanding* was criticised from the start for having maintained a realist attitude toward matter even as it presented an epistemological framework suggesting idealism. In considering this charge I concentrate on Locke's account of individuation in terms of both material and organic unity, arguing for the following three conclusions. First, substance cannot serve as a potential basis for material unity because Locke redefines substance as a concept whose status is merely that of a logical requirement for experience. Second, Locke's appeal to real essence when accounting for material unity relies on the tenets of Corpuscular Science but this reliance threatens his account given the epistemic consequences of distinguishing between the primary and secondary qualities of matter. It is these consequences which drive Locke's turn to nominalism and thus ground the charge of incoherence in his account. Third, the work done by real and nominal essence when accounting for material unity cannot be simply transferred onto biological organisms when explaining organic unity. It is to this end that Locke adds a discussion of "Life" to the second edition of the *Essay*, a discussion demonstrating that Locke took the requirements for organic unity to outstrip the resources offered up by mechanical approaches to living things. In light of these three conclusions I suggest that we can best view Locke's purported incoherence within a Kantian framework, a framework within which Locke's so-called "skeptical idealism" takes on all the advantages of Kant's own "Copernican revolution" in philosophy.

I. Substance as a Metaphysical Basis for Material Unity

Metaphysical accounts of substance have been traditionally used to explain any number of philosophical problems, problems regarding the inherence of qualities, the possibil-

ity of predication, the making of individuals, the bundling of properties, the conceptual difference between wholes and aggregates and so on.¹ But not one of these explanations, according to Locke, could be meaningfully based on the extremely obscure ideas we have of substance. Without recourse to either physical access or metaphysical descriptions, however, a positive theory of substance becomes impossible and, as a result, Locke must develop a new account of both the origin of substance as an idea and its specific use within experience.

One of Locke's tasks in Book II is to show how it is possible for all our ideas to have come from either sense or reflection on sense. Since 'all our ideas' includes the idea of substance, Locke goes to some pains to convince his reader that here too we have an idea whose source comes originally from sense. Even if it is the case that we cannot otherwise conceive the uniform appearance of qualities than by assuming an underlying substance, Locke insists, this only makes a positive claim about the limits of our conception. The fact that we need to assume a *substratum*, a something which allows for the "sticking on" of qualities demonstrates, in other words, only a logical requirement and thus points to the specific use made of substance in experience; apart from such use the idea of substance is empty (2.23.4).² Substance, in the end, is simply a complex idea of relation and Locke's resistance to indexing substance to either a metaphysical description or a physical ontology is even more pronounced in his replies to Stillingfleet.

It is well known that Stillingfleet's charges against Locke turn on the claim that ideas of substance trace their genealogy back to sensation and reflection. Rejecting this as absurd, Stillingfleet insists that Locke admit that with substance we have a true "Consequence of Reason" and not merely a result of custom (Stillingfleet 1987: 12). Responding to the charge, Locke carefully rehearses the path our idea of substance must take from its first reception in sense, concluding that

the obscure, indistinct, vague Idea of *thing* or *something*, is all that is left to the positive Idea, which has the relation of a *Support* or *Substratum* to Modes or Accidents; and that general, indetermined idea of *something*, is, by the abstraction of the Mind, derived also from the simple Ideas of Sensation and Reflection: And thus the Mind, from the positive, simple Ideas got by Sensation or Reflection, comes to the general, relative Idea of *Substance*; which without these positive, simple Ideas, it would never have. (Locke 1963: 4.22)

By responding in this manner, Locke effectively restates the basic position of the *Essay* regarding both the status and nature of the idea of substance. In the letter exchange he emphasizes, however, that he is grounding "not the being but the *Idea of Substance*, on our accustoming ourselves to suppose some *Substratum*" and that, therefore, an inability on our part to form a direct idea of it in no way suggests its non-existence since "the *being* of things depending not on our *Ideas*, the *being of Substance* would not be at all shaken by my saying, We had but an obscure, imperfect *Idea* of it" (Locke 1963: 4.18). The epistemic caution is clear: ideas of substance are ultimately reports on the extent and limits of our knowledge and to draw further conclusions regarding either their existence or non-existence is to overstep precisely those bounds. The demand that we understand claims about substance to be fundamentally more descriptive of the mind's capacities than

of substance itself constitutes, therefore, Locke's negative description of substance even as it acknowledges that this in no way impinges on substance's material status.

This explains Locke's insistence that there is no difference between his position and Stillingfleet's when protesting the charge that he has somehow done away with substance:

Your lordship . . . concludes, That there is Substance, *because it is a repugnancy to our Conceptions of Things . . . that Modes or Accidents should subsist by themselves*; and I conclude that same thing, because we cannot conceive how sensible Qualities should subsist by themselves. . . . And therefore it seems to me, that I have laid down the same *Certainty* of the Being of substance, that your Lordship has done. (Locke 1963: 4.445–446)

Here the certainty remains the same in each position so far as each (even if Stillingfleet does not recognize this) represents a report on the mind's conceptual requirements; the real distinction between the two positions lies in the question of origin. What Stillingfleet calls an Idea of Reason is thought by Locke to be a result of the reflective workings of the mind—its capacity for discernment, comparison, compounding and abstraction—and because Locke rejects the possibility of innate ideas, he takes his account to be offering therefore “the very same grounds” by which we both discover and apply the relative idea of substance as those appealed to by Stillingfleet (Locke 1963: 4.445–446).³

Locke's position on substance emerges, therefore, out of an anti-metaphysical impulse toward a more meaningful account of its origin and use in experience. Without recourse to this standard means of explaining individuation, however, Locke will need to look for another set of solutions. As he develops his account in Book II, it emerges that the hypotheses endorsed by corpuscular science will be part of the solution.⁴

II. Real Essence as a Physical Basis for Material Unity

Locke's position on substance demonstrates that within its negative conception substance must be primarily understood as a logically necessary idea, a form of relation with respect to the properties of an individual. Against its metaphysical conception, therefore, the idea of substance emerges as a mental construction that is necessary both in terms of its logical role as the bearer of properties and its skeptical function as a limit term with respect to our claims. At the same time, Locke is committed to at least the possibility that the corpuscular hypothesis regarding matter is correct. This means that whereas the concept of substance can be appealed to in terms of its logical relation to properties, the real essence of a thing is said by Locke to bear an active causal relation its sensible appearances. According to the corpuscular hypothesis matter and all material objects are understood at the macroscopic level of appearances to be composed of and indeed causally determined by particles at the submicroscopic level. These particles constitute a thing's real essence and are themselves organized only according to their irreducible, primary qualities: their size, texture, motion, solidity, and shape. It is the causal power of the primary qualities, therefore, that makes real essence closer to certain aspects of the traditional appeals to substance than the negatively defined account now provided by Locke.

The sense of a blurred distinction between the respective tasks of substance and real essence makes it possible to confuse Locke's sense of the two concepts. Michael Ay-

ers describes the relationship in the following terms: “What underlies ‘the powers and qualities that are observable by us’ in anything is *a substance constituted* (or modified or determined) *in certain ways*. There are not two underlying levels, *first*, the real essence, *then*, beneath it, the substance” (Ayers 1977: 94). Substance, as Ayers rightly has it, does not identify a separate category of being.⁵ Edwin McCann develops this point so far as he understands Locke to draw a distinction between substances and real essences even as they appear to have the same function: “The claim is not that Locke identifies the concept or notion of substratum with the concept or notion of real essence but rather that he holds that these concepts pick out the same thing, so that the real essence of the thing is what “supports” the thing’s qualities” (McCann 2007: 185). McCann is right to insist on the difference in Locke’s usage for even granted a sort of functional identity, substance and real essence have different roles to play in Locke’s system. Substance represents a limit concept for Locke and its epistemic status as mere logical placeholder is in fact key to his critique of substance metaphysics. Real essence, by contrast, covers those features central to corpuscular science so far as it describes the material configuration of things according to their primary qualities.⁶ Our ideas of primary qualities resemble the real essence or material configuration of things since in this case we are following a “pattern” in the thing itself, and while these sensibly imperceptible particles remain inaccessible or submicroscopic they are only practically and not, as in the case of substance, impossible in principle to know.

If this clarifies the relationship between substance and real essence, it is still difficult to understand the connection between the observable properties of a thing and the real essence standing as their causal basis; indeed it is the impossibility of understanding this relationship that partly grounds Locke’s pessimism concerning scientific knowledge. For Locke there is an insuperable divide between the so-called secondary qualities of a thing and its primary or real configuration because sensible ideas cannot be said to resemble the material things they represent. In keeping with the causal role played by real essence, Locke maintains therefore that “if Sugar produce in us the *Ideas*, which we call Whiteness, and Sweetness, we are sure there is a power in Sugar to produce those *Ideas* in our Minds, or else they could not have been produced by it” (2.31.2) even though the ideas of whiteness and sweetness are taken to say nothing more about the object itself than that it is capable of being seen as white and tasted as sweet. To repeat Locke’s well-known comment on this,

What I have said concerning *Colours* and *Smells*, may be understood also of *Tastes* and *Sounds*, and other the like sensible *Qualities*; which, whatever reality we, by mistake, attribute to them, are in truth nothing in the Objects themselves, but Powers to produce various sensations in us, and *depend on those primary qualities*, viz., Bulk, Figure, Texture, and Motion of parts; as I have said. (2.8.14)

From whence I think it easie to draw this Observation, That the *Ideas of primary Qualities* of Bodies, are *Resemblances* of them, and their Patterns do really exist in the Bodies themselves; but the *Ideas, produced* in us by these *secondary Qualities*, have no resemblance of them at all. There is nothing like our *Ideas* existing in the Bodies themselves. (2.8.15)

This clarifies Locke's point regarding resemblance as it makes it clear that resemblance is not first a knowledge claim, it is not, in other words, a point being made about the ideas of primary qualities being "truer" than the ideas of secondary qualities. It is, rather, an existence claim and the proper emphasis on Locke's comment at 2.8.15 is on the fact that the "patterns" or archetypes for our ideas of matter "do really exist in the Bodies themselves." This means that when it comes to ideas of primary qualities we must take ourselves to be producing copies of things existing apart from us. Secondary qualities, by contrast, do not exist (except *in potentia* as powers of primary qualities) apart from their perception which is why the actual ideas of sense "have no resemblance of them at all" to the things themselves. Regarding ideas of sense then, it cannot be said that the object is discerned according to a set of necessary indicators since the object is not itself "brown," for example, but only "brown-able" and is indeed potentially describable according to a number of sensible predicates depending on a number of variables (2.31.13).⁷ Locke considers the epistemic status of our individual ideas of sensation to be nonetheless 'real, adequate, and true' (2.31.12; 2.32.14) as they do no more than passively report various powers in bodies to produce this or that sensation in us; but because there is neither "apparent Congruity" nor "conceivable Connexion" between sensible and real qualities, the epistemic status of our claims regarding bodies remains that of "belief" and the corpuscular description of the make-up and operations of the physical world an hypothesis (4.3.11).⁸

By defining real essence as "the being of anything whereby it is what it is" (3.3.15) Locke commits himself to the material configuration of a thing as at least part of the solution to the problem of individuation. That real essence cannot on its own explain material unity becomes clear, however, once Locke picks up a logical thread laid down via the account of secondary qualities; for the consequences of that discussion force him to consider the indelible role played by the mind as it mentally sorts through its sensible experience.

III. Nominal Essence as an Epistemic Basis for Material Unity

As the simple ideas of sense and reflection undergo their mental discernment they are arranged via comparison, compounding, naming, and ultimately abstraction (2.11.4–9). Of these, abstraction proves key to successful navigation through the world since the formation of abstract general terms allows for innumerable particulars to be sorted into kinds. Nature, for Locke, does not carve itself up into kinds; for that kind of sorting we can look only to our own talent for generating abstract ideas. Insisting that the abstract ideas constituting nominal essence are "the Inventions and Creatures of the Understanding," Locke emphasizes the genealogy of these ideas insofar as each complex idea begins as a collection of simple ideas, a fact ensuring a necessary arbitrariness when it comes to classification. "[E]ven in substances, where abstract *Ideas* seem to be taken from the Things themselves," we will not find that people consistently determine identical boundaries between species of things (3.3.14). Locke asks,

And what are the Essences of those Species, set out and marked by Names, but those abstract *Ideas* in the mind; which are, as it were, the bonds between particular Things that exist and the Names they are to be ranked under? And when general Names have any connexion with particular Beings, these abstract *Ideas* are the *Medium* that unites them: so that the Essences of Species, as distinguished and

denominated by us, neither are, nor can be anything but those precise abstract *Ideas* we have in our minds. And therefore the supposed real Essences of Substances, if different from our abstract *Ideas*, cannot be the Essences of the Species we rank Things into. (3.3.13)

Abstract ideas have a mediating function, they are “the bonds between particular Things that exist and the Names” we use to organize our experience of the world. But because “this sorting of things is the Workmanship of the Understanding” (3.3.12), it is open to the vagaries of judgement, it “*depends upon the various Care, Industry, or Fancy of him that makes it*” (3.6.29). Individuation thus emerges as dependent not only on human convention but to a degree on the individual judgements made by humans themselves. “Thus if the *Idea* of *Body* be bare Extension or Space,” according to one person, “then Solidity is not *essential* to *Body*: If others make the *Idea*, to which they give the name *Body*, to be Solidity and Extension, then Solidity is essential to *Body*. That therefore, and *that alone* is considered as *essential*, which makes a part of the complex *Idea* the name of a sort stands for.” Indeed, “to talk of specifick Differences in Nature, without reference to general *Ideas* and Names, is to talk unintelligibly” (3.6.5). Anticipating his reader, Locke immediately confesses “’Tis true, I have often mentioned a *real Essence*, distinct in Substances, from those abstract *Ideas* of them, which I call their *nominal Essence*” but rather than suggest, for example, that if real essence could be perfectly known then we could discover nature’s own divisions (and its consequential identity with our abstract ideas), Locke repeats his point about what it means to be a kind in the first place:

But [real] *Essence*, even in this sense, *relates to a Sort*, and supposes a *Species*: for being that real Constitution, on which the Properties depend, it necessarily supposes a sort of Things, Properties belonging only to *Species*, and not to Individuals” . . . for “there is no individual parcel of matter, to which any of these Qualities are so annexed, as to be *essential* to it, or inseparable from it. . . . Indeed, as to the *real Essences* of Substances, we only suppose their being, without precisely knowing what they are. (3.6.6)

It is the naming of things or rather the annexing of a name to a particular abstract idea that one has formed, therefore, that finally secures the account of identity. Matter undergoes a continuous series of physical changes and yet we are able to identify the individual “oak” as it grows from sapling to tree.⁹ Real essence is, in the end, unknowable but names function well in their capacity to usefully identify and sort substances in a manner that allows them to be both predictable and stable. “That our *ranking* and distinguishing natural *Substances into Species* consists in the *Nominal Essences* the Mind makes, and not in the real Essences to be found in the Things themselves” (3.6.11) is indeed perhaps the central claim of Book III. Of the numerous examples meant to support this claim, two attempts in particular signal the strength of the epistemic constraint at work in Locke’s account.

First, and in line with Locke’s skepticism, we are reminded that substances cannot be sorted according to their real essences because we do not know these; all sorting, therefore, says something more about our abstract ideas than it could ever say about the thing itself. This is why chemists, to use Locke’s first example, will frequently discover that identically named chemicals can in fact present different properties, an experience that would

be impossible if things were distinguished solely according to their real essences (3.6.8). Second, and in the wake of this skepticism, is Locke's defense of nominalism as the only plausible means for understanding individuation, even if this commits him to an ontological judgment regarding substances as things ultimately requiring a mental assignment of properties for their identity.¹⁰ Thus even though Locke takes it to be "probable that things agree one with another in their internal frame and Constitution" (3.6.36), probability is not knowledge and the logic driving Locke's argument shows that we understand this: substances should not be able to divide themselves up because sorting requires criteria and criteria can only be determined according to abstract ideas.

Locke considers the "wheels and springs" in both a clock and man to make the point. In contrast to "the gazing countryman," for example, the watchmaker has not only access to but comprehension of the inner workings of clocks and of the variety of ways these inner workings might be constructed. And yet, Locke asks, what could possibly be sufficient to make a new species among these many differences: "Are any, or all of these enough to make a specific difference to the Workman, that knows each of these, and several other different contrivances, in the internal constitution of *Watches*?" (3.6.39). Here the watchmaker represents a perfect knower, one whose access and comprehension of real essence is complete; what is clear, however, is that Locke does not believe the watchmaker to be any closer than the gazing countryman to recognizing an intrinsic set of divisions. "Just thus," Locke continues, "it is in natural things" for while we might not doubt that there is a physical difference in the "Wheels or Springs" between a rational and a non-rational person, these internal differences can only be counted as essential or not "by their agreement, or disagreement with the complex *Ideas* that the name *Man* stands for; For by that alone can it be determined whether one, or both, or neither of those be a Man, or no" (3.6.39).¹¹ Whether the real essence be perfectly known as in the watchmaker example, or be understood to differ between given substances as in the rational man example, this knowledge provides no guidance when it comes to sorting these individuals into clocks or men because the logic of sorting refers to ideas not things.

As the discussion develops in Book III we are led inevitably to the sense that individuation is a wholly mental affair, an affair set by the combination of abstract ideas and language. There is a deep epistemic constraint imposed by the combined force of (1) Locke's agnosticism with respect to substance beyond its role within experience as logical placeholder, (2) his skepticism regarding knowledge of real essences, and (3) his mentalism regarding the formation of ideas from sense impression to abstract idea—the so-called veil of perception at work in Locke's theory of representation. As a result, epistemic considerations must be understood to trump even the most cherished ontological beliefs.¹² We can express probabilities and opinions about the material world but there can never be the kind of certainty and coherence achieved as can be had in the case of mathematics or the human business of morality, religion, and politics; modes whose archetypes lie within the mind itself (4.1.1). The question of whether Locke attributes the same kind of processes to be at work in the determination of individual substances as he does in the classification of species, therefore, must be answered in the affirmative.

Between the impossibility of understanding matter's internal principles of unity (principles whose existence are at least probable) and the particular logic of sorting (a logic

referring to ideas over things), it is impossible to ignore the tension in Locke's account and indeed this constitutes a key to the charge of incoherence in Locke's account. Nominalism might well have emerged as a middle ground between the obscurities of medieval Aristotelianism and the, in some sense, equally speculative nature of the corpuscular hypothesis, but it is a ground whose epistemic consequences seem to inevitably yield a program of skeptical idealism. Once individuation becomes part of the workmanship of the understanding, one might conclude, it is irrelevant whether there might in fact be internal principles of material unity since these simply cannot be known apart from their mental construction.

That said, Locke hardly considered his position to be something that should ever put into question the material existence of substances. While abstract ideas might be entirely the 'workmanship of the understanding,' our sensible ideas of substances are not. It is precisely because the "patterns" of our ideas of substances lie outside us that we cannot achieve the level of certainty and coherence afforded either mathematics or ideas of morality, religion, and politics; all modes whose archetypes, by contrast, lie within the mind itself (4.1.1). And it is in this vein—that is, in the distinction between substances understood to be really existing outside of us and ideas that do not—that Locke sometimes even seems to take it as a matter of common sense for us to assume real differences in the "internal constitution" of things (e.g., 3.6.6, 3.6.9, 3.6.28). For Locke, the reality of individuals is simply both a given and distinct from arguments regarding the logic of sorting.¹³ As Locke wrote to William Molyneux,

In the objection you raise about species I fear you are fallen into the same difficulty I often found my self under when I was writing of that subject, where I was very apt to suppose distinct species I could talk of without names. For pray, Sir, consider what it is you mean when you say, that *we can no more doubt of a sparrow's being a bird, and an horse's being a beast, than we can of this colour being black, and t'other white*, etc. but this, that the combination of simple ideas which the word bird stands for, is to be found in that particular thing we call a sparrow. And therefore I hope I have no where said, *there is no such sort of creatures in nature as birds*; if I have, it is both contrary to truth and to my opinion. This I do say, that there are real constitutions in things from whence these simple ideas flow, which we observ'd combined in them. And this I farther say, that there are real distinctions and differences in those real constitutions one from another; whereby they are distinguished one from another, whether we think of them or name them or no. But that that whereby we distinguish and rank particular substances into sorts or genera and species, are not those real essences or internal constitutions, but such combinations of simple ideas as we observe in them.¹⁴

Locke's species nominalism does not entail a lack of commitment on his part to the real existence of individual substances, only to the sense that essential features could somehow be logically determined in the absence of criteria for sorting. The threat of incoherence thus rests precisely on how one weighs the epistemic force of the "criteria for sorting." As Lisa Downing nicely captures the problem, "Locke is a theorist of substance, essence, and quality. Yet his favorite conclusions are epistemically pessimistic, even skeptical," he

is, in the end, “torn between metaphysics and modesty, between dogmatism and skepticism” (Downing 2007: 352).¹⁵

IV. “Life” as an Unknowable Basis for Organic Unity

For the second edition of the *Essay* Locke included an account of “Life” to help make sense of the capacity of living organisms for continual self-individuation, a capacity apparently requiring something more than the combined efforts of real and nominal essence could provide.¹⁶ As Locke describes it, a living organism can be identified as an individual according to its ability to meet three essential criteria: within its kind it must be spatially discrete, it must be continuous across time and, most importantly, it must be capable of maintaining itself through its own activity. “[’T]is easy to discover,” Locke concludes, “what is so much enquired after, the *principium Individuationis*, and that ’tis plain is Existence itself, which determines a Being of any sort to a particular time and place incommunicable to two Beings of the same kind” (2.27.3). The oak tree, to use Locke’s example, is unique both in so far as its spatio-temporal location is concerned and in terms of its ability to maintain itself as a member of its kind; to transform matter in no way related to it—dirt, sunlight, rain—into the very matter that is it. In Locke’s words,

We must therefore consider wherein an oak differs from a mass of matter, and that seems to me to be in this; that the one is only the cohesion of particles of matter anyhow united, the other such a disposition of them as constitutes the parts of an oak; and such an organization of those parts, as is fit to receive, and distribute nourishment, so as to continue, and frame the wood, bark, and leaves, *etc.* of an oak, in which consists the vegetable life. (2.27.4)

Here Locke’s description fits with a corpuscular understanding of the material configuration helping to define the tree so far as the material process of growth and decay is part of its “real essence.” Thus stated, the account of life could be merely a mechanistic replacement of substantial form as the principle of organization.¹⁷ “It is true,” Michael Ayers argues, “that the boundary and unity supplied by a single mechanical life system, in which all the parts co-operate ‘to a certain end’ like the working parts of a watch, may be less absolute than the boundary and unity purportedly supplied by a specific form” but the main thing to see in all this is Locke’s commitment to a realist interpretation of “natural boundaries” when it comes to the self-maintenance of the organism (Ayers 1991: 223). On Ayers’s reading, therefore, the individuation of a living organism fundamentally depends upon its material unity—a physical and coherent boundary—and only in a supplementary sense on a principle of activity understood to be providing for the nature and causality of this real essence (Ayers 1991: 128). That this “principle of activity” is secondary, that indeed life must be construed as ultimately an “accident” of the organism’s material unity is necessary, according to Ayers, once we consider the nature of material unity itself.

Difficulty in understanding what Locke might mean by material unity in the case of biological life emerges, however, as soon as one attempts to distinguish between “particles of matter anyhow united” and accounts of living organisms like an oak tree. A mere mass of matter should lack any principle of organization, representing instead a mere aggregate whose atomic constitution would be incapable of yielding observable properties. But this,

of course, does not make sense since any given mass of matter will have properties defining its existence as a spatio-temporal thing whose physical boundaries help distinguish it from other things. A mass of matter might well be distinct from an oak tree so far as the tree is alive but it must also be distinct from a mere aggregate so far as the mass demonstrates its own material unity. The notion of material unity thus falls between mere aggregate and the active principle of organization at work in a living organism but Locke cannot explain the principles by which to understand real essence's achievement of this unity. Things are supposed to be different at the level of real essence so far as there is a difference in the texture, size, etc. of the primary qualities but a principle informing these differences once again cannot be provided. Nevertheless, Ayers insists, material unity must be primordial given the simple fact that bodies continue to exist as a unified mass even after their life is over.¹⁸ The question is whether, with Ayers, we have to see the principle of activity that is life as in fact an accident; as something contributing, though not essentially, to the mechanical practices of the organism's material unity.

Against Ayers's reading, Locke seems to have precisely understood that something more than the meager definition of life as "internal motion" was called for when considering the special case of living things. One finds, for example, the following passage directly on the heels of Locke's description of the Oak:

That being then one Plant, which has such an Organization of Parts in one coherent Body, partaking of one Common Life, it continues to be the same Plant, as long as it partakes of the same Life, though that Life be communicated to new Particles of Matter vitally united to the living Plant in a like continued Organisation, conformable to that sort of plants. For this Organisation being at any one instant in any one collection of *Matter*, is in that particular concrete distinguished from all others, and is that individual Life, which existing constantly from that moment both forwards and backwards in the same continuity of insensibly succeeding Parts united to the living Body of the Plant, it has that Identity, which makes the same Plant, and all the parts of it, parts of the same Plant, during all the time that they exist united in that continued Organisation, which is fit to convey that Common Life to all the Parts so united. (2.27.4)

Even without attributing something like the status of a teleological principle to Locke's notion of "Organisation," Ayers cannot be right in reading Locke's description in an exclusively mechanical vein. Life is distinctive for Locke: it is the "Organisation" within a "collection of matter," it exists as a constantly unifying force with the "insensibly succeeding Parts" (2.27.4). Life cannot be an accident of an organism's material unity because it is life which first makes possible not only the unity but the very material make-up of the organism itself. Accomplishing an essential transformation, life communicates identity "to new Particles of Matter vitally united to the living Plant in a like continued Organisation, conformable to that sort of plant" (2.27.4). It is true that the body maintains its material unity once the life of the organism is over but at that point it is subject to the same treatment as any substance: its internal principles are deemed opaque while its identity is clear, "That was an Oak."¹⁹

V. Framing Locke's "Skeptical Idealism"

As I move now to the end of this discussion I can briefly rehearse the following conclusions reached regarding Locke's account of material and organic unity. First, Locke's approach to substance is anti-metaphysical so far as he regards substance as only a logical requirement for experience. Second, having rejected traditional explanations of substance, Locke replaces substantial form as a means for understanding individuation with a new account of real essence. Locke's position on real essence appeals to corpuscular science but the combined force of Locke's skepticism regarding our capacity to know real essence and his account of the actual practice by which we form identities—the clustering of properties according to the complex ideas we form about things—emphasizes the merely hypothetical status of the corpuscular account at the same time that it opens him up to the charges of idealism and incoherence. Finally, the combined efforts of real and nominal essence to explain material unity cannot in turn be applied to the special case of organic unity, a fact demonstrated by the addition of sections detailing the role of "Life" in understanding the organism's capacity for self-individuation.

Now with respect to the charges of idealism and incoherence one can perhaps appreciate the response at this point from those who argue, for example, that "The metaphysical critics have misconstrued the nature of Locke's ideas, the epistemologists their function in sense perception and knowledge, according to his system" (Chappell 1994: 31). For Locke is not advocating nominalism simply as a solution to a set of epistemic concerns; Hume's problem of induction is not Locke's and Locke is content to appeal to God as needed in order to explain the general coherence and order of things (e.g., 4.4.3–4).²⁰ Locke is, however, interested in combating views that he takes to be not only improbable but extravagant given the limits of our knowledge, and it is within the confines of this particular agenda that we can best appreciate the nature of his position.

Kant, who *was* concerned to respond to Hume, advances a program that from this vantage point appears to be remarkably similar to that begun by Locke. For Kant starts with two basic facts: the material world exists and our access to it will always be mediated by the mental activity that is required to report on it; ideas about things, in other words, will always say more about our capacity to form ideas than about the things themselves. This does not amount to immaterialism, it simply entails a recognition that there are limits when it comes to those things we can know with certainty. Realism in Kant refers to the real as experienced and thus only so far as it is organized and comprehended by the mind, it is, to use Kant's term, an "empirical realism" that secures its certainty by appeal to the rules of mental construction even as it logically points past that work toward the sensible world. The positive comparison with Locke on this point is clear. Substances do not present their own form to a mind incapable of grasping the imperceptible corpuscles of real essence. It is, rather, the mind's own work to discern its sensible data—comparing, combining, abstracting—that yields the abstract ideas to which names are then given.²¹ What Locke recognizes, moreover, is that this process can be grasped, it has a logic that can be repeated, and it offers relative stability compared to matter's continual change and decay. If this amounts to a veil of perception then it is one that has indeed all the advantages of Kant's own system. This characterization allows Locke to reply to critics, like Reid, who saw only an incurable skepticism as the consequence of Locke's theory

of representation, for while it does not change the advantages had by skeptical idealism in Locke's account, Locke's is a skepticism that can in no way be considered pernicious given the epistemic advantages won by it.

Kant's response to the special problem posed by living things offers a second kind of template for thinking about Locke. Biological organisms, for Kant, force us to consider their organization outside of the boundaries set by mechanism, to consider them as in fact "both cause and effect" of themselves. This is not a causality we can understand but it is a conclusion to which the mind is ineluctably led as it witnesses the natural teleology at work in the life of the organism. Like Locke, Kant struggles within the constraints of his empirical realism to make sense of life, of the "purposiveness without purpose" that is neither explicable in terms of mechanical unity nor expressive of rational purpose.²² In the end, organic life can only be grasped on analogy with our own freedom, according to Kant, but this is a solution determined according to the demands of epistemic modesty: nature's special causality is an Idea whose use remains heuristic. It is unlikely that Locke would have welcomed Kant's discussion of natural purposes, for even the regulative use of teleological principles would have undoubtedly proved too much. Nonetheless, Kant's views on the organism are interesting precisely because he attempts a solution within a set of epistemic constraints deeply similar to those set by Locke. Each sought to make sense of something that within their respective programs could never be known.

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Notes

1. A thorough discussion of the many explanations understood to be provided by the concept of substance is in McCann 2001: 87–105. Some of these points are repeated in McCann 2007: 157–191.

2. As Edwin McCann describes it, Locke's is therefore a "no-theory" theory of substance and when rightly understood, therefore, it simply cannot provide anything like the explanatory power afforded it by the Scholastics (McCann 2001: 90). All citations from Locke's *Essay Concerning Human Understanding* will be in-text with book, chapter, and section indicated in that order by the use of Roman numerals separated by periods.

3. Edwin McCann draws similar conclusions in his reading of Locke's correspondence with Stillingfleet on this point (McCann 2001: 100; McCann 2007: 172).

4. While Locke takes the corpuscular hypothesis to represent what one commentator has termed "our natural physics" (Downing 2007) it remains a hypothesis: "how far so ever human industry may advance useful and *experimental* philosophy in *physical things*, *scientific* will still be out of our reach" (4.3.26). As Locke makes the point elsewhere, "Tho' the World be full of Systems of it [Natural Philosophy], yet I cannot say, I know any one which can be taught a young Man as a Science wherein he may be sure to find Truth and Certainty. . . . I think the systems of *Natural Philosophy* that have obtained in this Part of the World, are to be read more to know the *Hypotheses*, and to understand the Terms and Ways of the several Sects, than with Hopes to gain

thereby a comprehensive, scientific and satisfactory Knowledge of the Works of Nature” (Locke 1902: §193, 169).

5. Nicholas Jolley argues that there are in fact two distinct strata of ignorance at work here: substance is unknowable since we have only its nominal essence; real essence is unknowable since we can never understand the relationship between primary and secondary qualities (Jolley 1999: 69, 183).

6. Nicholas Jolley similarly understands substance and real essence to refer to two different philosophical problems, though he characterizes substance as answering the question “what makes a thing a thing as opposed to a property” in contrast to real essence as concerning the nature of scientific explanation viz., the causal relationship between a thing and its qualities (Jolley 1999: 73).

7. From this it is clear that Locke cannot be taken to hold something like a doctrine of double-affection according to which the perceiver is affected both by the imperceptible real essence of say, a piece of paper, and then somehow separately by the sensibly perceivable qualities of its whiteness and so on. There is just one material source of our sensations and to double that is to confuse an ontological question regarding material content with an epistemic one regarding the construction of form.

8. By contrast, real knowledge can be had when it comes to the connection of our ideas in mathematics, but only because the coherence of such ideas is guaranteed by the fact that in these cases the pattern or “archetype” is identical to the ideas themselves (2.31.14).

9. This differentiating between the real and nominal essences of substances leads Vere Chappell to claim a “doctrine of double existence” to be at work in Locke’s theory of identity (Chappell 1989: 75).

10. Lisa Downing makes the point as well, arguing that an “unsorted particular” could not count as a real essence for Locke “since no distinction between essential and accidental properties is possible without reference to a kind” (Downing 2007: 371).

11. William Uzgalis argues similarly when reading this passage (Uzgalis 1988: 336).

12. This is not to say that realism in this instance yields idealism but rather to emphasize the force had by both the limits and form of our knowledge claims. Parcels of matter are always taken by Locke to be the perfectly real basis of our simple ideas of sense and are indeed the material basis of all ideas.

13. Cf. “Though the Mind of Man, *in making its complex Ideas of Substances*, never puts any together that do not really, or are not supposed to co-exist; and so it truly borrows that Union from Nature: Yet *the number it combines, depends upon the various Care, Industry, or Fancy of him that makes it*” (3.6.29).

14. Locke to William Molyneux, January 20, 1693, in Locke 2002: 179.

15. See also Jolley 2006: 112, and McCann 1994: 78. Downing too suggests that ultimately this tension must be decided in favor of skepticism. See, by contrast, both Chappell and Woolhouse, each of whom takes this kind of epistemological concern to be based on a misunderstanding of Locke’s ultimate interests in the *Essay* (Chappell 1994: 31; Woolhouse 1994: 155).

16. My interest in this section is limited to simply identifying a difference between the discussions driving Locke’s effort to establish criteria for material unity and his appreciation for the independent capacity of living things for self-individuation or the creation and maintenance of organic unity. A separate treatment would be required to do full justice to Locke’s account of biological generation and the special taxonomical challenges facing any attempt to classify a group

dominated by relations of biological affinity versus *a priori* categories of genus and species. For a start on some of the literature relevant to this topic see, for example, Gough 1962–1967, Anstey and Harris 2006, Meynell 1997, Milton 2001, and Sloan 1972.

17. This seems even clearer when Locke takes up the case of animal life: “Something we have like this in Machines, and may serve to illustrate it. For Example, what is a Watch? ’Tis plain ’tis nothing but a fit Organisation, or Construction of Parts, to a certain end, which, when a sufficient force is added to it, it is capable to attain. If we would suppose this Machine one continued Body, all whose organized Parts were repair’d, increas’d or diminish’d, by a constant Addition or Separation of insensible Parts, with one Common Life, we should have something very much like the Body of an Animal, with this difference, That in an Animal the fitness of the Organisation, and the Motion wherein Life consists, begin together, the Motion coming from within; but in Machines the force, coming sensible from without, is often away, when the Organ is in order and well fitted to receive it” (2.27.5).

18. It is in this vein that Ayers argues that “An animal or plant is not unified or given physical definition by a mysterious, instantly active life-force. There is no such force as so *constitutes* the unity of the thing that, when the force is switched off, the unity instantly and necessarily evaporates. . . . Life is to that extent an ‘accident’ of a thing” (Ayers 1991: 224).

19. In 1693 Locke published an essay regarding “Some Thoughts Concerning Education.” In the essay Locke stresses the need for balance when it comes to educating the young: even if the virtues of corpuscular science outstrip those of the Peripatetics, there can be a danger in placing too much stress on materialism. The problem with materialism, as Locke describes it, is that it “leaves no room for the Admittance of Spirits, or the allowing any such things as *immaterial Beings in rerum natura*: when yet it is evident, that by mere Matter and Motion, none of the great Phænomena of Nature can be resolved” (Locke 1902: §192, 168). Reading this passage, John Rogers concludes that “Locke’s ontology, then, allowed room for spirits, and therefore appears to allow for the possibility of the spirits of the natural magicians” and he suggests, therefore, that “Locke’s rejection of the possibility of knowledge of the essences of substances—material or spiritual—did not commit him either to the rejection of an ontology which could include active spirits, or, on the other side, to one that excluded the possible truth of Epicurean Atomism” (Rogers 1998: 185–186). While Locke’s reservations regarding the mechanical explanations of gravity are well known, it seems possible at least to imagine a similar set of reservations at work when it comes to his account of organic life. On this see especially Locke’s remark to Stillingfleet (Locke 1963: 4.467–468).

20. This is in line with what Rogers describes as Locke’s “teleological framework,” i.e., the sense that we have been created with both a purpose and the requirements needed to fulfill it. It is within this framework, as Rogers puts it, that “Locke advances a conception of the scope and limits of human understanding which rejects the skeptical arguments of the Pyrrhonists about the existence of the external world. At the same time, however, he realizes that his own claim that we have knowledge only as far as we have ideas places large constraints on the power of the human mind to understand most of the natural world and much else besides” (Rogers 1998: 42).

21. This is not to suggest that nominalism yields what is sometimes described as “maker’s knowledge.” Maker’s knowledge is perfect knowledge because, among other things, there is no gap between idea and thing. This is only the case for Locke in the case of mathematics and ideas regarding human conventions (and could never be the case with our ideas of substances). For a helpful discussion comparing Locke and Kant in this connection see Cicovacki 1990. For a broader consideration of Kant’s compatibility with Locke see Wayne Waxman’s *Kant and the Empiricists* (Waxman 2005), Part One; and his essay “Kant’s Debt to the British Empiricists” (Waxman 2006).

22. For an organism to count as a natural purpose, according to Kant, it must be organized such that each and every part is connected in a fashion necessary for the proper functioning of the whole, where the idea of the whole both proceeds the parts and determines their relation. It must also be the case, however, that the organism be understood to be self-sustaining; that it serve as both cause and effect of itself in so far as “the parts of the thing combine into the unity of a whole because they are reciprocally cause and effect of their form” (5:373). Only if a product of nature can meet this second criterion, Kant tells us, will it be more than mere machine but indeed “both an *organized* and *self-organizing* being, which therefore can be called a natural purpose” (5:374). To use Kant’s example of a living organism, a tree can be said to function as both cause and effect of itself in three ways: first, as a species so far as it is capable of both the generation and preservation of its genetic line; second, as an individual since it is capable of taking matter that is foreign to it and processing it “until the matter has the quality peculiar to the species” (5:371), and third, the tree as organism is a systematic whole whose preservation and success requires the mutual interaction and dependence of all its working parts. Nature viewed as organism versus machine, however, “involves a causality which is such that we cannot connect it with the mere concept of a nature without regarding nature as acting from a purpose; and even then, though we can think this causality, we cannot grasp it” (5:371). In fact, “the organization of nature has nothing analogous to any causality known to us” so far as mechanism fails even to explain the organism’s formative force of propagation (5:374, 375). Citations from Kant’s *Critique of Judgment* indicated according to the pagination of *Kants Werke* (Berlin: Walter de Gruyter & Co, 1902–) with volume and page number indicated in that order by the use of Roman numerals separated by full colons; translation by Werner Pluhar (Kant 1987).

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