

Locke on the *Propria* of Body

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Seth Pringle-Pattison (233n1) observed that Locke “teaches a twofold mystery—in the first place, of the essence (‘for the powers or qualities that are observable by us are not the real essence of that substance, but depend upon it or flow from it’), and in the second place, of the substance itself (*Besides*, a man has no idea of substance in general, nor knows what substance is in itself.’ Bk. II.31.13).” In this paper, I’ll explain the relation between the two mysteries.

Our Rosetta Stone is Locke’s argument that we understand body and spirit equally well since we are ignorant of their underlying substances but we “have distinct clear *Ideas* of two primary Qualities, or Properties” (2.23.30) of each. I’ll show that he is working with a restricted notion of primary quality in this passage, but one that demonstrably falls under the kind defined in his chapter on primary and secondary qualities. According to Locke, the fundamental primary qualities of bodies flow from corporeal substances and the determinations of these fundamental qualities constitute real essences.

Locke’s discussion can’t be understood without understanding the relevant scholastic background. In the first half of my paper, I’ll explain his argument as an idiosyncratic application of doctrines he learned and taught at Oxford. In the second half, I’ll use lessons from my interpretation of the argument to explain the relation that Locke believes obtains between a substance and its fundamental primary qualities, and then I’ll build upon that explanation to elucidate his general account (insofar as he has a general account) of the inherence of qualities in corporeal substances.

1 The Enumeration Argument

1.1 How Many Primary Ideas?

Hobbes argues in *Leviathan* that empiricism entails the inconceivability of immaterial objects,

because whatsoever (as I said before,) we conceive, has been perceived first by sense, either all at once, or by parts; a man can have no thought, representing any thing, but he must conceive it in some place; and indued with some determinate magnitude; and which may be divided into parts (Pt. 1, Ch. 3, p. 99).

He eventually concludes, “*Substance incoporeall* are words, which when they are joined together, destroy one another, as if a man should say, an *Incorporeall Body*” (Pt. 3, Ch. 34, p. 429). Attempting to refute Hobbesian materialism was a recurring theme in seventeenth-century English philosophy (Mintz, Chs. 4-5).

In the *Essay*'s chapter on our complex ideas of substance, Locke argues against “People, whose Thoughts are immersed in Matter, and have so subjected their Minds to their Senses, that they seldom reflect on any thing beyond them” (2.23.22). Hobbes, no doubt, is the farthest sunk of the submerged. Such people “are apt to say, they cannot comprehend a thinking thing, which, perhaps, is true: But,” Locke adds, “when they consider it well, they can no more comprehend an extended thing” (ibid.).

The arguments are anticipated in 2.23.5, but they run in earnest from §§15-32. In them, Locke tries to show that people do not have “any *more, or clearer, primary* Ideas *belonging to Body, than they have belonging to immaterial Spirit*” (2.23.16). The quoted passage anticipates arguments for two conclusions, one about the quantity of our primary ideas and the other about their clarity. For the most part, he worries about clarity. Engaging in natural

philosophy more directly than he normally does in the *Essay*, he argues that our idea of body entangles us with insoluble puzzles about the nature of cohesion, impulse, and divisibility.¹

Locke also argues that we don't have *more* 'primary ideas' of body than of spirit in §§16-21, and he repeats his argument in §30. According to him, our inquiries into body and spirit have bogged down at the same point. We have acquired clear ideas of two properties in each case and have not been able to figure out the substance that underlies any of these properties:

in short, *the Idea we have of Spirit, compared with the Idea we have of Body*, stands thus: The substance of Spirit is unknown to us; and so is the substance of Body, equally unknown to us: Two primary Qualities, or Properties of Body, *viz.* solid coherent parts, and impulse, we have distinct clear *Ideas* of: So likewise we know, and have distinct clear *Ideas* of two primary Qualities, or Properties of Spirit, *viz.* Thinking, and a power of Action (2.23.30).

These are not, of course, the only qualities that he attributes to bodies and spirits. Of corporeal qualities, he adds, "we have also the *Ideas* of several Qualities inherent in Bodies, and have the clear distinct *Ideas* of them: which Qualities, are but the modifications of the Extension of cohering solid Parts, and their motion."

So Locke is counting "primary Qualities, or Properties" of bodies, and he's counting those of spirits. He counts two of each, and, in light of the fact that we don't have clear ideas of either the substance of body or the substance of spirit, he concludes that our cognitive grasp of each is on a par. Let me call this 'the enumeration argument.'

The motivation behind Locke's procedure isn't self-evident. Here are three questions to ask about the argument. First, how is he counting properties? Second, why does he think that these remarks give us an appropriate measure of our grasp of body and spirit? Third, what does he think that we would know if the substance of either body or

¹ I have discussed most of these arguments in Jacovides 2003, 167-75.

spirit were known to us? I'll answer these questions in order. Then, in the second half of the paper, I'll describe the metaphysical picture that we are left with: a three-level hierarchy of substance, primary qualities, and derivative powers. Understanding the enumeration argument allows us to understand how Locke's treatment of substance hangs together with his treatments of real essence and secondary qualities.

1.2 Counting *Propria*

What are the properties of body and spirit? Does *self-identical* count? *Present near the surface of the Earth?* *Of great interest to Descartes?* Locke's lists of their properties are limited by two constraints. The first is that candidate properties are excluded for being derivative. He writes,

The primary Ideas we have peculiar to Body, as contradistinguished to Spirit, are the cohesion of solid, and consequently separable parts, and a power of communicating Motion by impulse. These, I think, are the original ideas proper and peculiar to Body: for figure is but the consequence of finite Extension (2.23.17).

Figure is excluded for not being 'original'. That is, it isn't foundational enough. Locke judges figure to be a consequence of extension of a body, which is, he tells us, "nothing but the cohesion of solid parts" (2.23.24). We might be mystified by this identification, but Locke distinguished extension strictly so-called, which only matter possesses, from 'expansion' which applies "to Space in general, with or without solid Matter possessing it" (2.13.26).

Locke's second constraint is that he only includes features that are "proper and peculiar" (2.23.17) to either spirit or body. That is, he only counts a feature as a property if it belongs to all and only the members of a class. After offering lists of proper and peculiar ideas of body and of spirit, Locke remarks, "The *Ideas* of Existence, Duration, and Mobility, are common to them both" (2.23.18). For those who doubt that mobility belongs to spirit,

Locke argues that “spirits are capable of motion” in the next three sections.² Those arguments that the mind moves aren’t irrelevant but interesting digressions from the main anti-Hobbesian argument of §§15-32. Instead, they are justifications for omitting mobility from his list of the properties of body. Locke is, it seems, working with a technical notion of property, according to which this justification makes sense.

Michael Ayers has emphasized how much we need to take into account the scholastic doctrine of the predicables in reading Locke, and in particular, how much we need to take into account the fact that in seventeenth-century philosophical English ‘property’ translates ‘*proprium*’ as used in scholastic textbooks, a characteristic feature of a kind that may be derived with necessity from its essence (1981, 226-31; 1991, 2.18-25). Let me go further down this path. For our purposes, Robert Sanderson makes for a good representative of scholasticism. Locke probably met Sanderson around 1660 (von Leyden, 34), he cites Sanderson as a member of ‘the tribe of logicians’ in the *Stillingfleet* correspondence (1823, 4.8), he directed a student to buy Sanderson’s logic (Kenney, 32), and, when Locke died, his library contained that book (Harrison and Laslett, 225).

Following Porphyry’s influential logic text (*Isagoge*, ¶156), Sanderson distinguishes four different senses of ‘*proprium*’:

Proprium is said in four senses. In the *first sense*, *proprium* is what belongs only to a kind, though not to all of its members: as, for example, *Practicing Medicine* belongs to man. In the *second sense*, *proprium* is what belongs to all of a kind, but not only to them, as *being Two-legged* belongs to man. And this (bad) sense is the most improper of all. In the *third sense*, *proprium* is what belongs to all of a kind & only to them, but not always: as *growing grey in old age* belongs to man. . . . In the fourth sense, (which alone constitutes the fourth

² The lines I quote are from the marginal summary.

predicable) proprium is what belongs to all the members of a kind, only to them, and always to them: as *the capacity to laugh* belongs to man.³

Locke usually uses the word ‘property’ in the second sense,⁴ notwithstanding Sanderson’s censure. Thus, for example, Locke calls ‘malleableness’ a property of gold because it depends on gold’s real constitution (3.9.17), and malleability is something that belongs to all gold, but not only to gold. When he excludes existence, duration, and mobility from his list of properties of body because spirits also exist, last, and move, Locke must be appealing to something like Sanderson’s fourth and strictest notion of a *proprium*, features that belong to everything of a kind, only to them, and always to each.

Locke’s classification of “Thinking” as one of the two properties or primary qualities of spirit in 2.23.30 seems imprecise to me, since he argues at length against Descartes’s doctrine that the mind always thinks (2.1.10-19). One possibility is that Locke is using Sanderson’s third notion of ‘property’. This seems doubtful, if only because the second of Locke’s “Properties of Spirit” in 2.23.30 is “a power of Action; *i.e.* a power of beginning, or stopping several Thoughts or Motions” and parallelism would demand that he give ‘action’ as an example and not the ‘power of action’, if he had the third definition of property in mind.

It’s more likely Locke was careless. At the end of his chapter *Of Power*, he appends a list of primary and original causes of ideas that roughly corresponds to the lists of *propria* in 2.23.30. In the first edition, “Thinking” is listed as a cause “which by reflection we receive from our Minds” (2.21.47 1st ed.). In the second edition, he replaces that word with

³ “Proprium dicitur quator modis. Proprium *primo modo* est quod convenit soli, non omni: ut homini *Mederi*. Proprium *secundo modo*, est quod convenit omni, non soli: ut Homini *Bipedem esse*. Et iste modus est omnium maxime improprius. Proprium *tertio modo* est, quod convenit omni, & soli, sed non semper: ut homini *canescere in senectute*. . . . Proprium *quarto modo* (quod solum constituit quartum prædicabile) est, quod *convenit omni, soli, & semper*: ut homini *Risibilitas*” (Bk. 1, Ch. 5, p. 17).

⁴ Setting aside, of course, all of Locke’s references to ‘property’ in the sense of possessions in the *Second Treatise of Government*.

'Perceptivity,' a word of his own invention, which he defines as "the Power of perception, or thinking" (2.21.73 2nd ed.). It seems to me that Locke's only reason for making the switch from 'thinking' to 'perceptivity' is to conform to the strictest notion of *proprium*. The capacity to perceive, unlike thinking, is always present to the mind. Thus we ought to treat perceptivity as his considered choice for his list of *propria* of spirit.

We might fuss with other items on the lists in 2.23.30. 'Impulse' is not a feature of bodies; plainly, Locke is using shorthand for what he earlier calls "the power of *communication of Motion by impulse*" (2.23.28). 'Solid coherent parts' doesn't seem to have the right verbal form to name a property, either. He means, I suppose, what he had earlier calls "the cohesion of solid, and consequently separable parts" (2.23.17).

Sanderson's four definitions of *proprium* don't suffice to explain Locke's reasons for excluding figure from his list of the relevant properties of body. The reason Locke offers, that "Figure is but the consequence of finite Extension," (2.23.17), seems somewhat mysterious on reflection. So long as figure otherwise meets the criteria for being a *proprium*, why should the presence of a discoverable, intelligible connection to another *proprium* disqualify it? Indeed, if our goal is to measure our relative cognitive grasps of body and spirit, shouldn't the presence of "necessary dependence, and visible connexion one with another" (4.3.14) between the cohesion of solid parts, extension, and figure count for more than whether scholastic definitions of 'property' are satisfied?

Locke is borrowing more from the scholastics here than terminology; he is borrowing an epistemic framework. In this framework, accumulated *propria* are clues to the nature that underlies and explains them. If one *proprium* flows from another, and the derivative *proprium* gives no new information about the underlying nature, then the derivative

feature may be omitted from an epistemic progress report. In the next section, I'll describe the relevant epistemic machinery and Locke's adaptations of it for his own purposes.

1.3 *Regressus*

According to Sanderson, in strictest usage, "A proprium flows from the essential principles of a species: *as, for example, the ability to laugh flows from rationality*. In this sense, a proprium is said to pertain to a thing's essence: not as a *constituent*, but as *consequence* of the essence."⁵

Locke very often uses the formula that properties flow from the real essence of a thing, e.g. at 2.31.6, 2.32.24, 3.3.18, and 3.6.19. When he uses this formula, he often has in mind the relation between the microphysical texture of a body and its derivative secondary and tertiary qualities, since he supposes that the real essences of bodies are their microphysical textures (2.31.6, 4.3.11). I'll call powers that flow from determinate primary qualities, 'surface *propria*.'

Locke's repeated talk of powers flowing from essences has an argumentative point. He wants to show that the true, real essences of bodies are neither species nor substantial forms, but microphysical textures. Such textures serve neither the taxonomic nor the modal functions of scholastic essences. According to Locke, we do not sort bodies by their real essences (3.6.26). Nor are "internal constitutions unchangeable . . . of any thing that exists, but of God alone; for they may be changed all as easily by that hand that made them, as the internal frame of a watch" (1823, 4.90-91, cf. 3.6.39). The only sense in which these microphysical textures are essences is that they fill the explanatory function of essences. It is from them that *propria* flow (cf. Pasnau, 64-65).

On Locke's view, essences explain the properties that flow from them, but the relation shouldn't be thought of as an efficient causal connection that stretches across

⁵ "Proprium fluit a principiis essentialibus speciei: *ut risibilitas à rationalitate*. Hinc proprium dicitur ad rei essentiam pertinere: non ut *constituent*, sed ut *consequens* essentiam"(ibid., p. 18).

substances. Rather, he has in mind the relation that obtains between the explanatory structure of a thing and that thing's active and passive powers: "it is the real Constitution of its insensible Parts, on which depend all those Properties of Colour, Weight, Fusibility, Fixedness, *etc.* which are found in it" (3.3.18). This dependence relation obtains between entities that are all found in the substance.

Locke doesn't believe that *having solid coherent parts* and *the capacity to transfer motion through impulse* flow from any particular texture. As I've shown elsewhere, he argues that these features underwrite corpuscularian explanations, but we cannot explain them in turn (Jacovides 2003, 167-69, 172-73). Even so, he calls them 'properties' in 2.23.30, and the reasons that he gives for excluding mobility, existence, and duration show that he must have a technical notion in mind. I'll call fundamental characteristics that belong to all bodies and only to bodies 'deep *propria*' and try to show that Locke believes that they flow from the substance and that we would understand how if we had a clear idea of the substance of body.

More background will help my case. Derived features are, on scholastic accounts, effects of the essence. A common thesis of scholastic epistemology is that we move from an obscure grasp of the effects to knowledge of the causes and back to a clear knowledge of the effects. Following tradition, Sanderson calls this method 'regressus'. He writes,

Regressus is a *going back and forth between cause and effect through demonstration*; by it, we reciprocally demonstrate an effect through a cause, through which the effect itself was earlier demonstrated. This capacity is called *regressus*, because from a kind of confused and experimental cognition of an effect, as something very close to sense, our intellect *will have moved* after that toward a similar, confused cognition of the cause; and then, through multifarious study and through comparing cause to effect, our intellect completely ripens this cognition so that something distinct is made from what was confused:

then from that distinct cognition of the cause the intellect *goes back* (regreditur) to a similar and distinct cognition of the effect.⁶

Through a combination of conjecture, intuition, and the proper use of the method of division, we move from derived features to a conception of the simple essence behind the sort. With that essence in hand, we may deduce effects from it. This returns us to where we started, but our cognition is now distinct rather than confused.

‘Regressus’ was a central procedure in sixteenth century scholastic epistemology (Randall, 42-65, Jardine, 686-93), and I think that it can be found in Aristotle as well (*Phys.* 1.1, *HA* 1.6, *PA* 1.5, *De An.* 1.1, cf. Lennox). There is, as James Lennox writes, “a pre-demonstrative yet theoretical scientific inquiry in [Aristotle’s] philosophy of science,” (40-41) a stage at which we have assembled attributes belonging to a kind but cannot give a definition of what that kind is. Given this method, it is possible to be stuck at a preliminary position: we have assembled what seem to us to be *propria* of a certain kind of thing, but we have not yet been able to determine the essence from which these *propria* may be deduced.

Because of this possibility of getting stuck on the way to a real definition, Christoph Scheibler, another scholastic whose work Locke assigned to his students (Kenney, 32),⁷ divides definitions between perfect and imperfect:

A perfect one explains a thing through its essential causes or the signs of those causes, that is, through its genus and its substantial differentia, for example, *man is rational animal*. An imperfect one is from an accumulation of

⁶ “Regressus est *Reciprocatio causae & effectus per Demonstrationem*: quâ effectum per causam, per quam ipse [sic] prius demonstrabatur, reciprocè demonstramus. Dicitur haec *Potentia Regressus*: quia intellectus noster postquam è confusa quadam & experimentalis cognitione effectus, tanquam sensui propinquioris, *progressus fuerit* ad similem & confuseam causae cognitionem; atque per multiplicem commentationem, & collationem causae ad effectum, maturaverit illam cognitionem usque adeò ut ex confusa fiat distincta: *regreditur* deinde à cognitione illâ causae distinctâ, & similem, & distinctam cognitionem effectus” (Bk. 3, Ch. 16, pp. 185-86).

⁷ Locke mocks Scheibler by name in *Some Thoughts Concerning Education* (157).

attributes or otherwise from non-essentials, for example, man *is animal capable of instruction, capable of laughter, and mortal*.⁸

The best account of essence is through genus and differentia. But sometimes, Scheibler implicitly concedes, we can't make the jump from accumulated attributes to a canonical definition of essence. Failing that, we have to settle for a listing of attributes, where these are either coextensive with the essence (as in the capacity to laugh) or are presumed to be entailed by the essence (as with mortality or the capacity for instruction).⁹ Such a list, Schiebler tells us, provides us with an imperfect definition.

Just as the real essences of bodies are unknown to us, and we have to settle for imperfect definitions composed of accumulated surface *propria*, the substance of body is also unknown to us, and we have to settle for an imperfect definition composed of two deep *propria*. As Ayers (1991, 2.34) observes, Locke treats the substance of a corporeal thing as equivalent to its matter in Draft B:

because we cannot apprehend how they should subsist alone or one in another we suppose they subsist & are united in some subject, which being as we suppose the support of those sensible qualitys we call substance or matter, though it be certeine we have noe other Idea of that matter or substan<c>e but what we have barely of those sensible qualitys supposed to inhære in it (Locke 1990, 1.130).

As Ayers also notes (1991, 2.35), later in the passage, Locke equates the substance that we posit to underlie the operations of the spirit with the essence of spirit: “by supposing a

⁸ “Perfecta est, quae explicat rem per causas essentielles, vel symbola earum, h. e. genus & differentiam Substantialem, ut *homo est animal rationale*. Imperfecta est quae sit ex coacervatione attributorum, vel alias, ex non essentialibus: ut *Homo est animal capax discipline, risibile, mortale*” (Bk. 1, Sec. 1, Ch. 13, p. 20).

⁹ Compare Sanderson, “the essential terms in fact are genus and difference, and secondarily also *proprium*, as it flows immediately from the essence. . . . One must look for the proximate genus (whether it is to be defined as substance or as accident) from the table of the appropriate category. The table of substance, indeed, will supply the differentia of substances. If names for these are lacking, as is often the case, *propria* should be supplied in their place, for example, A horse is a four-footed animal capable of whinnying. [“Termini verò essentielles, *Genus & Differentia*; secundariò etiam & *Proprium*, velut immediatè fluens ab essentià. . . Genus proximum (sive Substantia definienda sit, sive Accidens) ex Tabula proprii Praedicamenti petendum est. Substantiarum etiam Differentias tabula Substantiae Sufficiet; quibus si (ut plerumque sit) nomina desint, adhibenda sunt eorum loco Propria ut *Equus est Animal quadrupes binnibile*” (Bk. 1, Ch. 17, pp. 63-64).]

substance wherein thinkeing knowing doubting fearing & a power of moveing &c doe subsist, we have as cleare a notion of the essence of a spirit as any one hath of the essence of body” (Locke 1990, 1.130). He continues to link essence and substance in the first three editions of the *Essay*, writing that it “is as rational to affirm, there is no Body, because we cannot know its Essence, as ‘tis called, or have no *Idea* of the *Substance* of Matter; as it is to say, there is no Spirit, because we know not its Essence, or have no *Idea* of a Spiritual Substance” (2.23.5 1st–3rd eds.). Locke assimilates these notions, I suggest, because he is working within the epistemic framework of *regressus* and places the substance of matter in the role of the essence from which deep *propria* flow.

Though he treats the substance of body and the essence of body as equivalent in early editions of the *Essay*, he never identifies substance with essence *simpliciter*, and he objects to Stillingfleet’s identification of the concepts. In *A Discourse in Vindication of the Doctrine of the Trinity*, Stillingfleet rejects Locke’s analysis of substance as “the supposed but unknown support of those Qualities, we find existing” (*Essay*, 2.23.2). Locke had offered an etymological defense of this analysis. According to Stillingfleet, “very little weight is to be laid upon a bare *Grammatical Etymology*, when the word is used in another sense by the best Authors, such as *Cicero* and *Quintilian*, who take *Substance* for the same with *Essence* (1697, 237). Stillingfleet later appeals to Boyle’s authority to show that the words ‘nature’ and ‘essence’ have a “*great Affinity*” (1698, 103).

Locke doesn’t object to the affinity of ‘essence’ and ‘nature’ (1823, 4.364), but in his *First Reply*, he rejects the assimilation of ‘substance’ and ‘nature’ (1823, 4.159).¹⁰ In response to the bishop’s mounting citations of ancient texts, Locke writes,

¹⁰ To be exact, Locke approvingly reports that a friend rejects the assimilation.

Nor has an Englishman any more need to consult those Grecians in their use of the sound φύσις to know what nature signifies in English, than those Grecians had need to consult our writings, or bring instances of the use of the word nature in English authors, to justify their using of the term φύσις in any sense they had used it in Greek (1823, 4.363).

Aristotle's own doctrines about the relations between essence, nature, and substance are quite tricky, of course, and I don't know that he would distinguish between the flowing of *propria* from the essence of a natural being and the flowing of *propria* from a substance.

Locke's separation of his jargon from Aristotle's makes sense not just for clarity's sake, but also because it allows him to describe in somewhat traditional terminology two levels of *propria*: the ones that flow from substance and the ones that flow from real essence.

In the fourth edition, after this exchange, Locke alters 2.23.5. He deletes the equivalence between essence and substance for matter and spirit and changes another phrase, "*We have as clear a Notion of the Nature, or Substance of Spirit, as we have of Body,*" by deleting the words "*Nature, or*". Locke's earlier assimilations suggest that he was happy to apply Scheibler's notion of imperfect definition to body and spirit. His later deletions show that he distinguishes between the unknown real essence that underlies surface *propria* and the unknown substance that underlies deep *propria*.

To sum up, here are some of the virtues of interpreting 2.23.30 as lists of deep *propria* composing imperfect definitions of body and spirit. First, taking 'properties' in the technical sense allows us to understand why Locke thinks that his argument that the soul moves shows that mobility shouldn't count as a property of body. Second, seeing *propria* as evidence towards an unknown *explanans* lets us understand why he denies that the derivative property of figure adds anything to his list. Third, interpreting the lists as imperfect definitions gives us a pointed account of the form of the section. That is, it explains what would otherwise be inexplicable, Locke's reasons for writing that the substance of such and

such is unknown to us, but we know two of its properties. Fourth, this reading allows us to understand the development of his terminology. The earlier assimilation of substance and essence was suggested by his application of the notion of imperfect definition to body and spirit, and his later care in distinguishing terms arose from his wanting to distinguish between the unknown nature that underlies the surface *propria* and the unknown nature that underlies the deep *propria*.

As I've construed it, there are two aspects to Locke's enumeration argument: first that our grasp of mind and body are of the same kind, namely, imperfect definitions; and second, that the quantities of deep *propria* in these definitions are the same number, namely, two. I believe that the first aspect is crucial to understanding Locke's metaphysics. The second aspect, his enumerations of the *propria* of body and spirit, is somewhat arbitrary. I worry that *solid coherent parts* isn't a single, simple property. Elsewhere, e.g. 2.21.73 and 3.6.21, Locke offers *extension* and *solidity* as fundamental features of body and those seem to me to be at least as good candidates as the properties that he offers in the enumeration argument. It's hard to avoid the conclusion that he has his thumb on the scale, and that his argumentative goal of showing that our understanding of spirit is as good as our understanding of body affected his formulation of the lists in 2.23.30.

2 The Engineering of Inherence

2.1 Locke's Orthodoxy and His Unhappiness With It

Locke believes that we can tell from some of our ideas that the corresponding objects out in the world depend on something else: "the ideas of these qualities and actions, or powers, are perceived by the mind to be by themselves inconsistent with existence Hence the mind perceives their necessary connexion with inherence or being supported" (1823, 4.21). For

Locke, the definitive mark of substance is to support qualities without being supported by anything in turn: “*Ideas of Substances* are such combinations of simple *Ideas*, as are taken to represent distinct particular things subsisting by themselves” (2.12.6, cf. 2.23.6). He assumes that clear ideas of the substance of body and the substance of spirit would not raise the further question of what those substances depend upon. On this picture of substance, it can’t be turtles all the way down. Qualities, in contrast, “we imagine cannot subsist, *sine re substantive*, without something to support them” (2.23.2).

These are good Aristotelian theses (*Cat.* 2a11-12, 2b15-17), and Locke appeals to the authority of “Burgersdicius,¹¹ Sanderson, and the whole tribe of logicians” to back him up (1823, 4.8). Locke’s definition of substance

is the best I can hitherto find, either in my own thoughts, or in the books of logicians: for their account or idea of it is “Ens,” or “res per se subsistens et substans accidentibus;” which in effect is no more, but that substance is a being or thing; or, in short, something they know not what, or of which they have no clearer idea, than that it is something which supports accidents, or other simple ideas or modes, and is not supported itself as a mode or an accident (ibid., cf. 1823, 4.449-50, McCann, 96-97).

Notice that Locke isn’t comfortable saying that substances support only accidents but supplements the traditional doctrine with “other simple ideas or modes.” Indeed, outside of references to chance happenings, Locke hardly ever uses the word ‘accident,’ except in mentioning the traditional doctrine that accidents inhere in substances.¹² When he writes approvingly of the doctrine, as at the passage I just quoted and *Essay* 2.23.2 and 2.23.15, he paraphrases or supplements the word ‘accident’ with more Lockean terms, such as ‘mode,’

¹¹ Franco Burgersdijck was a Dutch scholastic whose metaphysics Locke assigned to a student (Kenney, 32).

¹² In a rare exception, he provides both an alternative and something like a definition of the term when he describes the idea of white as that “by which I know that that Quality or Accident (*i.e.* whose appearance before my Eyes, always causes that *Idea*) doth really exist, and hath a Being without me” (4.11.2).

‘quality,’ and ‘idea.’ I’ll explain why he prefers other words to ‘accident’ later in the paper. Setting that terminological discomfort aside, I take his avowals of orthodoxy seriously.

It seems to me that Lockean substances are ordinary objects that have the qualities that inhere in them. In defending himself against Stillingfleet’s charge that he had “almost discarded *Substance* out of the reasonable part of the World (Stillingfleet 1697, 234), Locke writes,

as long as there is any simple idea or sensible quality left, according to my way of arguing, substance cannot be discarded; because all simple ideas, all sensible qualities, carry with them a supposition of a substratum to exist in, and of a substance wherein they inhere: and of this that whole chapter is so full, that I challenge any one who reads it to think I have almost, or one jot discarded substance out of the reasonable part of the world. And of this, man, horse, sun, water, iron, diamond, &c. which I have mentioned of distinct sorts of substances, will be my witnesses as long as any such thing remains in being (1823, 4.7).

This defense only makes sense if he considers (ordinary) horses, water, and diamonds to be examples of substances.

Having noted this, an interpreter has to explain the source of Locke’s unhappiness with the orthodox position that he finds himself advocating along with Aristotle and his friends. Why does Locke assert that when we describe the “Supposition of he knows not what support of such Qualities, which are capable of producing simple *Ideas* in us . . . we talk like Children; who, being questioned, what such a thing is, which they know not, readily give this satisfactory answer, That it is something” (2.23.2)? How can his orthodox definition of substance be compatible with his argument that “Substance and Accidents [are] of little use in Philosophy”?¹³ What’s the point of the analogy between “a philosopher that says, that which supports accidents is something he knows not what; and a countryman that says, the

¹³ The quoted words are the marginal summary of 2.13.19-20.

foundation of the church at Harlem is supported by something he-knows-not-what” (1823, 4.10)?

With respect to his comparison of philosophers to children, let me note that Locke argues that we are like them in being ignorant, not in being mistaken (2.23.2; 1823, 4.10).

With respect to his argument that substance and accident are of little use in philosophy, let me note that the relevant kind of philosophy is natural philosophy—physics, in particular.

Locke is arguing against a certain Cartesian argument against the vacuum. With respect to analogy of the ignorant villager, consider the possibility of knowledge that Locke sketches immediately afterward:

if the countryman knows that the foundation of the church at Harlem is supported by rock, as the houses about Bristol are; or by gravel, as the houses about London are; or by wooden piles, as the houses in Amsterdam are; it is plain, that then, having a clear and distinct idea of the thing that supports the church, he does not talk of this matter as a child; nor will he of the support of accidents, when he has a clearer and more distinct idea of it, than that it is barely something (1823, 4.10, cf. 1823, 4.446).

The ignorant rustic is like the philosopher who knows that substances support accidents, without knowing any details. The knowledgeable rustic has a clear idea of what lies under the foundations of the houses and thus knows how the foundations are supported. The problem with philosophical orthodoxy about the nature of substance is not that it is in error, but rather that it doesn’t fill in the details. If we had clear ideas of substance, we would know not only that qualities inhere in substances, but also *how* they inhere in substances. This knowledge, Locke supposes, is like a piece of civil engineering.

Of course, Locke doesn’t say how substances support qualities. His main point is that we don’t know how that happens. As Edwin McCann (2001) has emphasized, Locke’s purpose in discussing our idea of substance is almost always epistemological and skeptical. From material that we’ve acquired in our interpretation of the enumeration argument,

however, we can reconstruct a schematic picture of how he thinks such an account would run. I'll begin with his suggestion of what it would take to know how deep *propria* inhere in bodies and work my way from there to his more general story.

2.2 What Knowledge of Substance Would Give Us

If I am right, Locke offers his lists of primary ideas in 2.23.17-18 and his lists of properties in 2.23.30 as imperfect definitions of body and spirit. It would follow that he believes that if we had clear ideas of these underlying substances, then we would be able to derive the deep *propria* on these lists. According to Locke, we are stuck near the beginning of the process of *regressus*. We know the inseparable features of bodies, but we can't get to the first principle that would allow us deductive knowledge of the source of those *propria*. In the place of an idea that would give us that sort of knowledge, all that we have is a dimly grasped relative idea of substance.

Here and elsewhere, I am following in Ayers's footsteps. This is worth doing, since his interpretation has not been universally understood in the literature, let alone universally adopted. Of Locke's doubt that corpuscularianism could answer every question about body, Ayers writes,

Such scepticism is supported at length in II.xxiii in the argument that our idea of spirit is as clear as our idea of body We have 'distinct clear ideas' of certain properties of each, but not of the substance or fundamental nature of either. In the case of body the postulated coherence of the particles remains unintelligible, which leaves their solidity and extension unexplained. That is why the question, 'what is it, that that Solidity and Extension inhere in?' remains to be answered. (1991, 2.37)

A clear and distinct idea of the substance of body would answer such questions.

How would such a deduction run? As I said, it's impossible to fill in the details. Still, since Locke describes difficulties in explaining the communication of motion, cohesion, and divisibility *ad infinitum* as evidence for the obscurity of our idea of body, we may infer that a

clear idea of the substance of body would resolve those difficulties. Nor would such a self-explanatory idea leave open new puzzles of dependence. It would tell us how bodies manage to exist without inhering in anything else. It's also a good bet that Locke assumes that any such knowledge would conform to his account of knowledge. Thus, it would consist in the direct or indirect perception of the agreement between some clear idea of the substance of body and the ideas of impulse or the idea of solid, coherent parts. This chain of ideas would explain to its perceiver how bodies cohere, communicate impulse, and are infinitely divisible.

A corresponding clear idea of the substance of spirit would tell us how spirits manage to exist without inhering in anything else and explain how volition and understanding work. Given the right idea of substance, we could solve the puzzles associated with the foundations of bodies or those associated with spirits. Lacking such ideas, we have to settle for the enumerations in 2.23.30.

There is, of course, a traditional reading according to which Locke believes in bare particulars. In discussing the doctrine, G. E. M. Anscombe writes,

One of the considerations brought forward in erecting this notion (for it is not a straw man, real humans *have* gone in for it) seems so idiotic as to be almost incredible, namely that the substance is the entity that has the properties, and so it itself has not properties (38).

Jonathan Bennett attributes this doctrine to Locke, and writes, "The fact is that the substratum idea does involve a trouble that could be put in terms of the upholder of properties not itself having properties; yet it is not idiotic" (2.110-11). I don't want to engage the philosophical dispute between Anscombe and Bennett about whether the notion of a thing without properties having properties is idiotic or merely false. I do want to engage in the exegetical dispute between Bennett and Ayers about whether Locke believed that the idea of substance represents bare particulars out in the world.

As I understand Locke, he supposes that the idea of substance-in-general is, in Ayers's phrase (1975, 4), "a sort of a dummy concept," something standing in for both the absent, determinate idea of the substance of body and the distinct, absent, determinate, idea of the substance of spirit (Ayers 1975, 14-15). If Locke did believe in bare particulars, our present idea of substance in general couldn't be improved upon. It would represent a funny kind of logical object that existed uniformly in both bodies and spirits.

Excellent evidence that Locke doesn't believe in the existence of general substances *in rerum natura* may be found in the Stillingfleet correspondence, where he chides Stillingfleet for referring to 'general substance' and writes, "I must take the liberty to deny there is any such thing in *rerum natura*, as a general substance that exists itself, or makes any thing" (1823, 4.27).¹⁴ More evidence that Locke believes in the heterogeneity of substance out in the world may be found in his consideration of the question of whether 'substance' is used in the same sense when applied to God, finite spirits, and body:

If so, whether it will not thence follow, That God, Spirits, and Body, agreeing in the same common nature of *Substance*, differ not any otherwise than in a bare different modification of that *Substance*; as a Tree and a Pebble, being in the same sense Body, and agreeing in the common nature of Body, differ only in a bare modification of that common matter; which will be a very harsh Doctrine (2.13.18).

As Ayers (1975, 14-15n32) observes, this means that Locke believes our idea of substance in general has to correspond to radically different kinds of substrata in God, finite spirits, and bodies. Otherwise, we would be stuck with the absurd consequence that they could be transformed into one another through the modification of modes.

Moreover, if by 'substance', Locke meant *bare particular* there wouldn't be any sense in pining for a clear idea of substance, as he does at 1.4.18, 2.31.13, and 4.3.23 where he

¹⁴ The texts that Peter Alexander quotes (210-211) to show that Locke believes in substance-in-general out in the world just show that he believes in the existence of substances.

implies that our a clear idea would be useful, make our complex ideas of substance more adequate, and take us part of the way towards natural science. Bennett (2.122-23) himself concedes that at 2.23.1, Locke writes, “we accustom our selves, to suppose some *Substratum*, wherein they [*scil.* recurring collections of ideas] do subsist, and from which they do result, which therefore we call *Substance*,” which suggests that the relation between substance and quality is explanatory, since the ideas are supposed to result from the substance.

2.3 The Varieties of Primary Quality

In 2.23.30 Locke calls the fundamental qualities that belong to all and only bodies “primary Qualities, or Properties of Body.” This is a more restrictive use of the term ‘primary quality’ than the one suggested by his definition at 2.8.9 as those that “are utterly inseparable from the Body, in what estate soever it be.” The definition in 2.8.9, in turn, seems more restrictive than his use of the term in the rest of Book 2, Chapter 8, where separable qualities of body such as those of particular shapes, sizes, and motions get counted as primary. Though Locke’s use of the term varies, we shouldn’t treat his expression as merely homonymous.

Locke uses different standards for what counts as a primary quality depending on his philosophical purpose at hand. If we examine the criteria he uses for determining primacy among qualities, we’ll get a good picture of how he thinks these qualities relate to substances.

Let me begin with the deep *propria* of corporeal substances, fundamental qualities that belong to all and only bodies. At 2.23.2, solidity and extension inhere immediately in something we know not what. “*The primary Ideas we have peculiar to Body*, as contradistinguished to Spirit” in 2.23.17 are “*the cohesion of solid*, and consequently separable *parts, and a power of communicating Motion by impulse*.” The “primary Qualities, or Properties of

Body” in 2.23.30 are “solid coherent parts, and impulse.” The “primary, and original” causes “which by our Senses we receive from Body” in 2.21.73 are “*Extension, Solidity, Mobility*, or the Power of being moved.” As we have seen, Locke believes these qualities flow from substances, and that if we had a clear idea of the substance of body, we could understand how this works.

Locke’s definition of primary qualities in 2.8.9 as inseparable qualities of bodies makes them the *propria* of body, where *proprium* is taken in something like Sanderson’s second sense: a property of A is a feature that all As have at all times. This criterion differs from the one that Locke uses at 2.23.30 for fixing the “primary Qualities, or Properties of Body” in two respects. First, the former definition doesn’t exclude qualities that are possessed by things other than bodies. *Mobility* and *Number* are listed as primary qualities in 2.8.9, even though he believes that spirits can move and that everything can be numbered. Second, the definition of primary qualities in 2.8.9 doesn’t exclude qualities that are derivative. As we’ve seen, in the chapter on our ideas of substance, he excludes *figure* from his list of primary qualities since it “is but the consequence of finite Extension” (2.23.17), but he is happy to list *figure* as a primary quality throughout his chapter on primary and secondary qualities.

Locke’s looser criteria for primary qualities in 2.8.9 generate longer lists than what he offers in 2.23.30. In 2.8.9, he offers two lists, the first containing four qualities (solidity, extension, figure, and mobility) and the second containing five (adding number and replacing mobility with the disjunctive determinable quality *motion or rest*).

So much for differences. As for similarities, I think that we can make good sense of the equivalence that Locke draws between the primary qualities of body and their properties in 2.23.30. In 2.8.9 as in 2.23.30, Locke treats primary qualities as *propria* of body. We may

infer that he believes primary qualities, under either definition, flow from substances, and, if we had a clear idea of the substance of body, we would see how. Perhaps the derivative primary qualities of 2.8.9 don't flow directly from the substance, but they flow invariably and inseparably.

In an erudite paper, Jonathan Walmsley discusses the ancestral passage of 2.23.30 in Draft B and comes up with an alternative reading of Locke's earlier expression "primary qualitys or propertys of body" (Locke 1990, 1.210). Acknowledging that Locke uses the word 'property' in its traditional sense, Walmsley takes the adjective 'primary' to modify both 'qualitys' and 'propertys' severally and suggests, "that the 'or' here was not meant to imply synonymy" (436). Instead, Walmsley supposes, it disjoins two exclusive possibilities.

According to him, Locke's point in using the disjunction is just that

we cannot say whether the extension of bodies and the cohesion of their parts are mere qualities of material substances *or* are properties of it. By using the phrasing 'qualitys or propertys' he may have been highlighting how little we know of the constitution of natural bodies and pointing to the difficulties he found in the idea we have of material substance (437).

Two additions in the published version of the *Essay* disambiguate Locke's expression and show, I think, that Walmsley's suggestion is mistaken. Locke did intend to equate the primary qualities of body with its *propria*.

First, Locke was unusually fussy about punctuation, a characteristic that led to battles with printers who were "unable to satisfy such meticulousness" (Laslett, 10). Since he wasn't bound by our own, less flexible rules of punctuation, he could use a comma to resolve the ambiguity between Walmsley's interpretation of his words and mine. He adds one to the published version of the *Essay*, so the final text reads "Two primary Qualities, or Properties of Body". Second, in 2.8.9, Locke defines primary qualities as inseparable features. This definition is akin to traditional definitions of *propria* and one which makes it reasonable to

suppose that he considered the expression ‘primary quality’ to be a synonym for ‘property’ in the context of 2.23.30.

The epistemic status of the inseparability thesis that Locke advances in 2.8.9 has been a matter of controversy in the secondary literature, as has been the question of whether he intends the thesis to be a trifling exposition of the abstract idea of body (cf. Jacovides forthcoming and the references there). According to me, Locke intends the thesis to be a substantive metaphysical claim about solid, extended substance, which is why he is so confident that the result of pounding a grain of wheat with a pestle will also have primary qualities. I say also that he defends his thesis with both *a posteriori* reasons (“Sense constantly finds in every particle of Matter” 2.8.9) and *a priori* ones (“the Mind finds inseparable from every particle of Matter, though less than to make it self singly be perceived by our senses” *ibid.*). These readings of 2.8.9 are, strictly speaking, independent of my thesis that Locke considers primary qualities to be *propria* flowing from substances. Even so, they all fit together nicely. *Propria* are, traditionally, discovered through a mix of experience and reason, and *regressus* is supposed to be an inquiry into the objective essences of things and not into the arrangements of our ideas.

Next, let’s examine the gap between *propria* of body and the determinate primary qualities that constitute the real essences of bodies. For most of Locke’s treatment of primary and secondary qualities in Book 2, Chapter 8, primary qualities are observer-independent, intrinsic qualities that explain the powers of a body. Qualities such as Locke’s examples of “Circle” and “Square” (2.8.18) don’t count as primary unless we assume that Locke tacitly intends to include determinate qualities falling under inseparable determinable qualities. *Extension, figure, and motion or rest* may be inseparable from a piece of wax, but *one inch in diameter, sphericity, and travelling a foot per second* are not. On Locke’s account, solidity and

mobility are both determinate and inseparable. (For the sake of parsimony of expression, I'll ignore this last fact in what follows.)

Beginning with Reginald Jackson (62-66), many commentators have noted the gap between Locke's definition of primary qualities as determinables in 2.8.9 and his practice in the rest of the chapter, where he counts determinations of those determinables as primary. I'm not aware that anyone has explained why Locke offered a peculiar definition that doesn't seem to fit his practice. Though nothing can make his definition of primary qualities as inseparable qualities apt, I think that we can now see what motivated it.

Locke has borrowed the method of *regressus* from his scholastic textbooks. Within his corpuscularian worldview, he thinks that we can make two applications of the method. In the first application, we look for "that real constitution of any Thing, which is the foundation of all those Properties, that are combined in, and are constantly found to co-exist with the *nominal essence*" (3.6.6). We surmise that surface *propria* "spring from" some determinate combination of "size, figure, and texture of parts" (4.3.11). In the second application, we consider the inseparable features of body and don't manage to come up with anything besides "an obscure and relative *Idea* of Substance in general" (2.23.3). Thus, the inseparable qualities of bodies are the deepest level Locke thinks we can reach in the application of *regressus* to bodies. They therefore make a good starting point for a discussion of how qualities of various sorts hang together.

Considered as determinable qualities, primary qualities are the *propria* that flow from the substance. Considered as determinate qualities in a particular body, they constitute its real essence, and secondary qualities flow from them.

Of course, many things that are true of determinable qualities will be true of the determinations of such qualities. The possession of many second-order qualities (qualities of

qualities) will be closed under determination in this sense: if a determinable quality Q is F, then so are the determinations of Q. For example, if a determinable quality is observer-independent, then so are the determinations of that quality. If a determinable quality is intelligible and explanatory, then so are the determinations of that quality. Unfortunately, inseparability is not closed under determination. Shape may be inseparable from bodies, but sphericity isn't. This is why Locke's definition of primary qualities in 2.8.9 doesn't quite work.

If A flows from B, then B should be sufficient for A. Determinable primary qualities may flow from a corporeal substance, but determinations of those primary qualities do not. Though all bodies are shaped, they aren't all cubes. Locke himself makes this point in rejecting something that Stillingfleet asserts. According to the bishop,

although we cannot comprehend the *internal Frame*, or *Constitution* of things, nor in what manner they do flow from the Substance; yet by them we certainly know that there are such *Essences*, and that they are distinguished from each other by their *Powers* and *Properties* (1697, 257).

In reply, Locke demurs:

I do not take [these essences] to flow from the substance in any created being, but to be in every thing that internal constitution, or frame, or modification of the substance, which God in his wisdom and good pleasure thinks fit to give every particular creature, when he gives a being (1823, 4.82, cf. Ayers 1981, 225-26n38).

Only deep *propria* flow from the substance. A clear idea of substance of body, for example, only would explain why bodies have extended solid parts and why they can communicate motion. It wouldn't explain the microphysical texture that any particular body has (Ayers 1975, 16). Locke attributes the particular real essences of creatures to God's will.

2.4 Substance and Surface *Propria*

The deep *propria* of body ought not be conflated with the surface *propria* of animals, vegetables, and minerals that Locke says flow from their internal constitutions. Rather, we may discern a hierarchy of *propria* here. As Ayers observes,

Locke makes use of the terminology of the doctrine of predicables at two levels: first in discussing the attributes of the fundamental general substances, matter and (if there is such a thing) immaterial substance; and secondly, in presenting his logic of the species or ‘particular sorts’ of substances. (1981, 227)

The inseparable features of body flow from a corporeal substance and constitute its determinable primary qualities. The most fundamental of these are its deep *propria*. Determinate microphysical primary qualities in turn make up the real essences from which the discoverable powers of bodies flow. These powers are the surface *propria* of bodies. Thus, the two kinds of ignorance that Pringle-Pattison rightly saw in Locke, ignorance of real essence and ignorance of substance, turn out to be stacked, one on top of the other.

Ayers criticizes Pringle-Pattison for a conjunction: that Locke taught a twofold mystery and that the unknown substance is, in some sense, naked (Ayers 1975, 2). The criticism has caused Ayers’s position to be widely misunderstood by suggesting that he rejects both conjuncts and thus that he denies that Locke distinguishes between ignorance of real essence and ignorance of substance. But Ayers, like Pringle-Pattison, attributes to Locke a belief in two levels of ignorance. After quoting from Locke, Ayers writes,

In this passage [*scil.* 2.31.13], the ‘twofold ignorance’ is described in a more logical order than in the other, an order which makes it clearer that the distinction between two levels of knowledge—first, of the underlying general substance or determinable nature and, secondly, of its modifications or determinations—implies no distinction between entities or *ontological* levels (1975, 17, cf. 1991, 2.42).

For my own part, I think that Locke does draw an ontological distinction between the underlying determinable substance and real essence. Substances are self-sufficient things

(“distinct particular things subsisting by themselves,” 2.12.6), and their real essences are explanatory structures inhering in them (“the real internal, but generally in Substances, unknown Constitutions of Things, whereon their discoverable Qualities depend,” 3.3.15).¹⁵ For present purposes, let me emphasize the point of agreement: ignorance of substance differs from ignorance of real essence.

Aristotle had thought that the sciences were hierarchically arranged (*Phys.* 185a1-3, *Post. An.* 78b35-79a16, cf. Barnes, 158-62), so that what obtains as a first principle in one science could be the application of a derived *proprium* in another. Locke’s hierarchy is different, though. It doesn’t depend on an ordering of sciences; rather, it’s a metaphysical framework that he uses to describe our ignorance.

The three levels I’ve described appear in a colloquy at 2.23.2. If someone inquires into the “*Notion of pure Substance in general*,” Locke writes, “he will find he has no other *Idea* of it at all, but only a Supposition of he knows not what support of such Qualities, which are capable of producing simple *Ideas* in us.” By way of explaining the relevant notion of support, Locke describes two attempts at *regressus* into the substance of a body:

If any one should be asked, what is the subject wherein Colour or Weight inheres, he would have nothing to say, but the solid extended parts: and if he were demanded, what is it, that the Solidity and Extension inhere in, he would not be in a much better case, than the *Indian* before mentioned . . .
(*ibid.*)

The exchange is elliptical, but it contains Locke’s metaphysics of body in a nutshell.

According to Locke, “Colour and Weight . . . if duly considered, are also nothing but different Powers” (2.23.10). Color, of course, is his paradigmatic example of a secondary

¹⁵ I suspect that Ayers wouldn’t disagree, and his point is that in addition to the substance and its real essence, Locke doesn’t believe in a third thing, an inner general substance.

quality. He must be thinking of weight as a tertiary quality (the “third sort” of quality in 2.8.24), something like the disposition to push down towards the earth.

Locke believes that most people suppose that a gold ring has “a real Essence, whereby it is *Gold*; and from whence those Qualities flow, which I find in it,” among which he includes “its peculiar Colour” and “Weight” (2.31.6). He continues with an attempt at *regressus*:

This Essence, from all these Properties flow, when I enquire into it, and search after it, I plainly perceive I cannot discover: the farthest I can go, is only to presume, that it being nothing but Body, its real Essence, or internal Constitution, on which these qualities depend, can be nothing but the Figure, Size, and Connexion of its solid Parts; of neither of which, I having any distinct perception at all, I can have no *Idea* of its Essence, which is the cause that it has that particular shining yellowness; a greater weight than any thing I know of the same bulk; and a fitness to have its Colour changed by a touch of Quicksilver (*ibid.*).

On his considered view, both color and weight depend not only on the intrinsic primary qualities of bodies, but also on “those invisible Fluids, they are encompassed with” (4.6.11). He predicts that if you “put a piece of *Gold* any where by it self, separate from the reach and influence of all other bodies, it will immediately lose all its Colour and Weight” (*ibid.*).

The interactions between ambient corpuscles and a body’s microphysical primary qualities explain why that body has a power to produce the idea of a color in the mind of an observer and explains why it has a tendency to push down towards the center of the earth. When Locke answers the question “what is the subject wherein Colour or Weight inheres” with “the solid extended parts” (2.23.2), he must believe that the explanatory relation between the microphysical texture of a body and its surface *propria* suffices for inherence. If he didn’t have that relation in mind, his reference to solidity and extension, two primary qualities, would be pointless.

It follows that Locke's next question, "what is it, that that Solidity and Extension inhere in," is also a question looking for an explanation. What explains the solidity and extension of bodies? The ultimate answer, for us, as for the Indian Cosmologist, is "something, he knew not what" (ibid., cf. Ayers 1975, 12-14; 1991, 2.37). Solidity and extension flow from the corporeal substance as color and weight flow from its microphysical texture.

2.5 Conditions for Inherence

Locke writes, "we take it for a sufficient Answer, and good Doctrine, from our *European* Philosophers, That *Substance* without knowing what it is, is that which supports *Accidents*. So that of *Substance*, we have no *Idea* of what it is, but only a confused obscure one of what it does" (2.13.19). The element of irony here is that Locke doesn't really think that this is a sufficient answer, and he would much prefer to have a clear idea of what substance is in itself. He does, I'm sure, believe that we have obscure idea of what it does, namely, support accidents. The relevant notion of support is that of inherence, but Locke believes that this is merely a fancy piece of terminology, and not a sign of illumination: "were the Latin words *Inherentia* and *Substantia*, put into the plain English ones that answer them, and were called *Sticking on*, and *Under-propping*, they would better discover the very great clearness there is in the Doctrine of *Substance and Accidents*" (2.13.20).

As I've argued, Locke believes that if we had a clear idea of the substance of body, we would be able to derive its deep *propria* of cohesion of solid parts and the capacity to transfer motion by impulse. If we had a clear idea of the substance of body, we would know how bodies exist without depending on anything else, and we would have mystery-free conceptions of how they are cohesive, infinitely divisible, and carriers of impulse. We would

also be able to derive the inseparable primary qualities that depend on those deep *propria*. Locke knows that these properties inhere in bodies. If he had a clear idea of the substance of body, he believes, he would know why and how those properties inhere in bodies. On his account, a property's flowing from the substance of a body suffices to make it inhere in the body.

Certainly, there is more to Locke's story of inherence than that. He supposes that all sensible qualities of ordinary objects inhere in a substance, not just their determinable primary qualities. He writes, "the sensible qualities of a cherry . . . cannot exist or subsist of themselves. Hence the mind perceives their necessary connexion with inherence or being supported" (1823, 4.21). In addition to our ideas of the deep *propria* of body, "We have also the *Ideas* of several Qualities inherent in Bodies, and have the clear distinct *Ideas* of them: which Qualities, are but the various modifications of the Extension of cohering solid Parts, and their motion" (2.23.30). So, on Locke's account, modifications of the deep *propria* of body also inhere in that body. After offering 'thinking' and the power to act as a deep *proprium* of spirit, he rounds off his description of our grasp of spirit by noting, "We have likewise the *Ideas* of the several modes of Thinking, *viz.* Believing, Doubting, Intending, Fearing, Hoping; all which, are but the several modes of Thinking. We have also the *Ideas* of Willing, and Moving the Body consequent to it" (*ibid.*). So, the instantiations of a capacity also inhere in substances, if the capacity does.

We may divide the modifications and modes that Locke lists into three categories: first, determinations of determinables, second, powers that flow from real essences, and third, instantiations of potentialities. Given the inherence of the deep *propria* of a substance along with some obvious assumption, the inherence of these other qualities quickly follows.

If we had an account of how determinable primary qualities such as shape flowed from the substance, an account of how the corresponding determinate qualities inhere would come in train. It would be absurd to think that *shape* might inhere in a body while the particular determination of that shape did not. Inherence is closed under determination. Likewise, if a secondary or tertiary quality flowed from the determinate, inhering texture of a body, then those derivative powers would also inhere in the body. Finally, if we had an account of how the powers of thinking and acting inhered in a spirit, then it would be easy to see how the instantiations of those powers would also inhere in spirits.

Locke does not, I believe, want to “limit the omnipotency of God” (1823, 4.464) with respect to inherence. So, for example, he allows “that GOD can, if he pleases, superadd to Matter a Faculty of Thinking” (4.3.6). According to Locke, such superaddition can only be precluded if “it can be proved to be a contradiction, that God should give to some parts of matter qualities and perfections, which matter in general has not”; this is true even “though we cannot conceive how matter is invested with them, or how it operates by virtue of those new endowments” (1823 4.462-63). The subject is controversial,¹⁶ but I think that, so long as it doesn’t entail a contradiction, Locke believes that God can make qualities inhere in substances by *fiat*.

We have connected all the dots, and we may reconstruct necessary and sufficient conditions for Lockean inherence. According to Locke, a quality inheres in a substance if and only if:

- 1) it flows from that substance
- 2) it is the determination of a determinable quality that inheres in the substance
- 3) it flows from qualities that inhere in that substance
- 4) it is the actualization of a power that inheres in the substance or
- 5) God has superadded that quality to the substance

¹⁶ Here I am *not* following in Ayers’s footsteps (1981; 1991, 2.43-44, 179-82).

The result is a tidy piece of metaphysics.

On Locke's account, inherence is a substantive relation. If we knew much more, it would be understood with explanatory relations between substance, real essence, and derivative powers.

Let me return to his uneasiness with the term 'accident.' Sanderson's third definition of '*Accidens*' runs: "that which is neither genus, nor species, nor differentia, nor proprium, and always inheres in some subject, so that *the being of an accident is being in.*"¹⁷ Locke is happy to say that qualities inhere in substances and that for these qualities, to be is to inhere. He is not comfortable with Sanderson's contrast between 'accident' (the fifth predicable) and 'proprium' (the fourth). On Locke's account, qualities naturally inhere by being *propria* or by being determinations or actualizations of *propria*.

Someone might complain that the resulting account is too robust and that a complete account of inherence ought not depend on physical considerations of cohesion and impulse, mathematical considerations of division, or psychological considerations of the sources of the capacities to think and act. Some might prefer that *inherence* be counted as an unanalyzable and primitive relation that obtains between unsaturated qualities and free-standing substances--a logical and metaphysical relation, unstained by physical or psychological considerations.

In my opinion, there's no reason to posit a sharp line between metaphysics and the sciences. Nor is there any reason to deny that qualities can inhere in different ways. Locke's

¹⁷ "Accidens est, quod nec est genus, nec species, nec differentia, nec proprium, semperque in re aliqua subjecta inhæret, unde illud, *Accidentis esse est inesse*" (Bk. 1, Ch. 5, p. 19).

treatment of the relations between substance, deep *propria*, and derivative powers is a *worldly* account of inherence, but it's none the worse for that.¹⁸

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