Conceptualism and Objectivity in Locke's Account of Natural Kinds

CONCEPTUALISM AND OBJECTIVITY IN LOCKE'S ACCOUNT OF NATURAL KINDS

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ABSTRACT

Locke's *Essay Concerning Human Understanding* is considered by many to be the *locus classicus* of a number of influential arguments for conventionalism, according to which there are no objective, privileged ways of classifying things in the natural world. In the dissertation I argue that Locke never meant to reject natural kinds. Still, the challenge is to explain how, within a metaphysics that explicitly denies mind-independent essences, we can make sense of a privileged, objective sorting of substances. I argue that we do so by looking to Locke's conception of God as divine architect of created substances.

The account I provide is in keeping with Locke's conceptualism, the view that universals or general natures that correspond to genus and species are to be understood, not as metaphysical constituents in numerically many particulars, but rather only as concepts in the mind. On the reading I defend, objective kinds, on Locke's view, are grounded in *divine* ideas, ideas in accordance with which God designs natural things.

My account also explains why Locke did not embrace what many consider to be one of the consequences of corpuscularian mechanism, a view about the nature of material bodies to which Locke subscribes. Objective kinds, many argue, have no foothold in a corpuscularian world. On Locke's account, however, God makes material bodies by organizing their matter such that, I argue, they have the properties

characteristic of a kind. God's creative acts thus explain how there can be objective distinctions *in kind* between corpuscularian bodies.

We do not have access to God's ideas of kinds, nor to the hidden real essences of substances that answer to those ideas. In that case, do the objective kinds play any role in how *we* classify things? I argue that God places *observable* marks of distinction in things that reveal how we are to classify them. In addition, God makes *us* such that we are able to track objective kinds sufficiently well to promote our own interests and survival. I argue that this story is of a piece with Locke's conception of God as the benevolent creator of man.

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Chapter I

An Introduction to the Debate

§1.1 Anti-Realism and Locke's account of Kinds and Classification

At the heart of a widely accepted reading of Locke's metaphysics is the claim that we cannot be mistaken in regard to classifying things in the natural world because there *are* no kinds, on Locke's view, apart from those reflected in our activity of grouping things together. Locke, the story goes, is an antirealist, and so thinks that there are no independent standards to which we can appeal in evaluating the accuracy of a classificatory scheme. That is not to say that Locke doesn't tout the value, even the necessity, of the enterprise of classification. Locke would be the first to acknowledge that it promotes our understanding of the natural world. Nor is it lost on him that classification is necessary to the improvement of knowledge, for otherwise we would never proceed beyond claims about the particular things that come under our observation.[1] Nevertheless, how we group things together into kinds is something to be determined on pragmatic grounds. When we have reason, then, to prefer one scheme of classification over another, it is only because it better serves *our* particular aims and interests, given the kinds of creatures we are.

In the dissertation I challenge this widely accepted reading, henceforth the "Standard Reading". Although Locke is indeed an anti-realist of a certain stripe, he was nevertheless committed to the existence of objective kinds, i.e., kinds apart from those

[1] One might object that if one is an anti-realist about kinds, classification could not serve to advance any *knowledge* claims, for there is no subject matter *to* know. The anti-realist might reply that classification does advance knowledge insofar as it can be used to codify observed regularities in nature. In that case, the enterprise of classification enables us to make reasonably certain predictions about the behavior of particulars.

reflected in our own classificatory activity. Further, these objective kinds serve as the standard in terms of which the adequacy of our classificatory scheme is to be measured.

Locke saw his account of language and classification as of a piece with the *Essay's*[2] broader project of doing away with the jargon of the schoolmen – unintelligible terms, or terms that have no cognitive significance – and scholasticism's attendant metaphysics of Aristotelian substantial forms. The new science of corpuscularian mechanism saw the overthrow of Aristotelian hylomorphism, according to which individual substances – particular samples of gold and silver, particular trees, horses, and human beings – are the combination of matter and form, the matter of a thing its particularizing feature, or that whereby it is a *particular* thing, while the form of a thing "enforms" its matter and constitutes its essence and so makes it the *kind* of thing that it is. According to Aristotelian realism, there are a limited number of such essences or forms, and every existing substance necessarily has one of them.[3] These essences or forms determine a thing's character or nature. Thus insofar as I have the form of humanity, I am a rational animal. My form determines my nature – I am a living, perceiving thing that has the capacity for rational thought – and my form thus grounds the distinction between what is essential to me and what is accidental to me. Insofar as I have the form human being, I am necessarily a rational animal. My form does not, however, determine my hair color. Though I am brunette, I could have been blonde and still remain a human being.

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[2] John Locke, *An Essay Concerning Human Understanding*, ed. Peter H. Nidditch (Oxford: Clarendon Press, 1975). All references to Locke's *Essay* are given as *E*, followed by book, chapter, and section, followed by pagination, e.g., *E* I.i.1: 43.

[3] Walter Ott, *Locke's Philosophy of Language* (New York: Cambridge University Press, 2004). Walter Ott refers to Aristotelianism as "the Aristotelian family of views," in order to indicate that, while there are differences in detail between proponents of the view, in broad strokes this family of views shares some basic commitments.

On the Aristotelian view, my essence or form not only determines my nature, or what is essential to me qua human being, but how I must be *classified*. These essences are thus "specific essences" in the sense that they are essences that determine the *species* and *genus* to which a thing belongs.[4] What distinguishes me from other things is my humanity, and what determines the fact that I ought to be grouped together with other human beings is our shared essence. While any scheme of classification might be proposed, a classification according to which human beings, whales and three-toed sloths all belong to the same *lowest* species would, according to the Aristotelian, fail to distinguish particulars that, while all *mammals*, in fact belong to distinct lowest species in virtue of their respective forms.

According to the Standard Reading, Locke's ontology departs from the Aristotelian ontology in sufficiently radical ways as to rule out the possibility of objective essences, and with that the possibility of objective kinds. The Aristotelian embraces an ontology of *universal natures* – substantial forms – that particular, existing things have, and are thus that whereby a particular thing belongs to a kind. Locke, on the other hand, embraced an ontology wholly exhausted by *particulars* such that the "general natures" in accordance with which it is commonly thought we classify particulars into kinds are not real existing entities out in the world, but are rather located in the minds of language users in the form of abstract, or general ideas.

In the following sections we see that Locke's rejection of the Aristotelian view, sometimes referred to as "moderate realism", might reasonably be thought to signal a

[4] Thus Michael Ayers writes "Locke took the dual function of the Aristotelian specific essence to be, first, that of determining the boundary of the species by being present in, and only in, its members; and second, that of explaining or giving rise to the 'properties' of the species." Michael Ayers, *Locke: Epistemology and Ontology* (New York: Routledge, 1991), 2:67.

further commitment on his part, namely, a commitment to a form of conventionalism about natural kinds, which are kinds that correspond to the classification of so-called natural substances according to genus and species concepts.[5] According to conventionalism about natural kinds, which of our abstract general concepts are to count as the genera and species in accordance with which we classify things in the natural world is a matter of our free choice, and thus a subjective and arbitrary matter.[6] And while it may well be argued that conceptualism does not entail conventionalism about natural kinds, there are two, further Lockean commitments – Locke's new theory of ideas and his embrace of the corpuscularian mechanical philosophy – that proponents of the Standard Reading argue *do* decisively entail conventionalism. The argument of this dissertation is that in spite of Locke's rejection of moderate realism, in spite of his new theory of ideas, and in spite of his endorsement of corpuscularian mechanism, Locke did not embrace conventionalism about natural kinds.

§1.2 Realism, Moderate Realism, and Conceptualism

Locke rejects what are often referred to in the literature as moderate realist, or Aristotelian accounts of genus and species. In deference to Aristotle's critique of Platonic realism (realism), according to which forms exist in a non-sensible realm altogether distinct from sensible particulars, many scholastics embraced moderate realism,

[5] Note Jan-Erik Jones' observation that "when Locke thinks of a *species* or *genus*, he is not thinking of these terms as applying exclusively in the biological realm, but rather as applying generally to any possible classification scheme we create when we organize our world through naming. So, for example, *gold* is as much a species of the genus *metal* as *human* is a species of the genus *animal*". Jan-Erik Jones, "Locke on Real Essence", *The Stanford Encyclopedia of Philosophy* (Spring 2013 Edition), Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/spr2013/entries/real-essence/>

[6] I owe this way of expressing the thesis of conventionalism to Marilyn McCord Adams, *William Ockham* (Notre Dame, Indiana: University of Notre Dame Press, 1987), 1:109-110.

according to which forms are actual, metaphysical constituents of sensible particulars.[7] The moderate realist, *viz.*, the Aristotelian, holds that genera and species exist not only *as* universals in thought but *as* numerically many in particulars that are co-specific or co-generic – that is, genus and species exist *in* particulars as metaphysical constituents of those particulars, and thus as the entities in respect of which those particulars really are co-specific or co-generic. As we will see below, this is because the Aristotelian insists that the similarity in virtue of which particulars are co-generic or co-specific is to be analyzed in terms of *identity*. Of course, this means that the moderate realist must say that genus and species cannot be the *only* metaphysical constituent of particulars that are co-generic or co-specific. In addition, each particular must have some constituent that individuates it as distinct from other particulars with which it is co-specific or co-generic, and this was sometimes thought to be the matter of the particular.[8]

The conceptualist, however, denies that the similarity in virtue of which particulars are co-generic or co-specific is to be analyzed in terms of identity, and thus rejects the moderate realist's claim that genus and species are real, metaphysical constituents of things. Genus and species are nothing over and above ideas or concepts in the mind. As Gyula Klima explains the difference between moderate realism and conceptualism, moderate realists "assert the existence of real universals *in*…particular things," while conceptualists "allow universals only, or primarily, as concepts of the mind."[9]

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[7] Adams, 1:13-15; Gyula Klima, "The Medieval Problem of Universals," *The Stanford Encyclopedia of Philosophy* (Winter 2008 Edition), Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/win2008/entries/universals-medieval/>.

[8] Adams, 1:13-15.

[9] Klima, Winter 2008, §1.

Locke clearly sides with the conceptualist and against the moderate realist when he writes:

> *General* and *Universal*, belong not to the real existence of Things; but *are the Inventions and Creatures of the Understanding*, made by it for its own use, *and concern only Signs*, whether Words, or *Ideas*.[10]

Regarding the question of what extra-mental things correspond to our genus and species concepts, Locke can thus be seen to side with the conceptualist, who denies that genus and species are real constituents numerically multiplied in particulars that are co-specific or co-generic.[11]

What that real constituent was thought to be according to the moderate realist was a substantial form. Particulars are analyzed as *composites* of form and matter. Like many who embraced corpuscularian mechanism, however, Locke eschewed the scholastic's substantial forms. Bodies, according to early moderns like Boyle and Locke, are not composites of form and matter, but are rather composed exclusively of matter consisting of insensible corpuscles characterized in terms of a sparse number of properties – extension, solidity, and being at rest or in motion – where all remaining properties of bodies are reducible to modifications of these fundamental properties.[12]

Although it is true that many early moderns who embraced the mechanical philosophy also embraced some form of nominalism or conceptualism, it is not obvious that in dispensing with substantial forms one *thereby* rejects some version of the moderate realist position about genus and species. For bodies understood in

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[10] *E* III.iii.11: 414.

[11] Adams, 1:12.

[12] Peter Anstey, "Essences and Kinds," in *Philosophy in Early Modern Europe*, eds. Desmond Clark and Catherine Wilson (New York: Oxford University Press, 2011), 11-31.

corpuscularian terms exhibit *properties*, and genus and species are still a matter of predicating properties of bodies.[13] It seems, then, that we can understand Locke's conceptualism as logically independent of his commitment to the corpuscularian philosophy. And while it is certainly true that once the mechanical philosophy rejects substantial forms, the view appears to entail the rejection of the entity that makes the Aristotelian position regarding genus and species a realist one, I'm going to suggest that Locke's conceptualism has less to do with his rejection of substantial forms than with what we would imagine his response would be regarding the question of whether we need to analyze the relation of similarity that holds between co-generic or co-specific particulars in terms of *identity*, as the moderate realist does, or rather only as a primitive, as the conceptualist does.

As a conceptualist, Locke rejects the realist's position that particulars that are co-generic or co-specific resemble one another by virtue of some real metaphysical constituent that is numerically multiplied in these extra-mental particulars.[14] Rather, Locke appears to embrace the conceptualist position, characterized by the view that "similarity is a primitive, two term relation that is not to be further analysed in terms of identity[.]"[15] In summary, on the conceptualist's view, particulars that satisfy or agree with a particular species or genus concept are co-specific or co-generic only by virtue of *resembling* one another, where that latter relation is not to be further analyzed in terms of

[13] By 'property' here I mean our ordinary or commonsense notion of a trait or quality, although, as we will see, what in Locke's parlance captures that ordinary commonsense notion is the term 'quality', for Locke himself reserves the term 'property' for what the scholastic tradition termed a 'proprium' or a feature that flows from the (real) essence of a thing.

[14] Adams, 1:12.

[15] Ibid.

a real constituent that is numerically multiplied in those particulars. Thus when Locke writes that "the great Business of *Genera* and *Species*, and their *Essences*, amounts to no more"[16] than abstract ideas in the minds of men, Locke is, I'm suggesting, signaling his commitment to conceptualism for roughly the reasons just outlined.[17]

§1.3 From Conceptualism to Conventionalism

It is often held that it is but a short path to conventionalism once the conceptualist position is advanced.[18] Conventionalism with respect to a certain domain is the view that the phenomenon in question is due to human convention, "perhaps despite appearances to

[16] *E* III.iii.20: 420.

[17] It is worth noting that Locke's rejection of universals in the *Essay* is only explicit with respect to *kinds*, while the debate over universals has historically embraced not just kinds, but properties, actions, and relations. Thus Michael Loux observes that "[d]ifferent objects, realists have claimed, can *possess* one and the same property; different persons can *perform* one and the same action; different things can *belong to* one and the same kind; and different n-tuples (i.e., pairs, triples, etc.) of objects can *enter into* one and the same relation. According to the realist, their jointly possessing, performing, belonging to, and entering into are all cases of multiple exemplification; and what they jointly possess, perform, belong to, or enter into is a *universal*." Michael Loux, "The Existence of Universals," in *Universals and Particulars: Readings in Ontology*, ed. Michael Loux (Notre Dame: University of Notre Dame Press, 1976), 3. Given Locke's rejection of real "general natures" in the world, one would expect that his anti-realism would embrace not just natural kinds, but properties and relations as well. However, as Ott observes, Locke's own commitments make it difficult to discern his stance with respect to properties: "Although it is usual to subsume the question of natural kinds under that of properties or universals, Locke's novel move is to give a quite different treatment of each. Since his main purpose is to attack the Aristotelians, he spends most of his time arguing against realism about natural kinds" (Ott, 71-77). Thus while Locke certainly embraced property *talk*, many of his commitments, as we will see, and as Ott rightly observes, appear to entail some form of realism about properties. Ott writes, "We can distinguish the restricted nominalist, who imposes extra-linguistic or extra-mental limits on the nature and number of kinds we construct, from what we might pejoratively call the rabid nominalist, who accepts no such constraints. […] Locke is [in this sense] a restricted nominalist with respect to natural kinds, but a realist with regard to properties construed as foundations of objective resemblances at the corpuscular level" (Ott, 72). I note Ott's observation regarding the "novelty" of Locke's approach to universals only to set aside the question of whether Locke was a nominalist or an antirealist with respect to properties. For nothing about the Standard Reading, nor my argument against it here dissertation, turns on its answer.

[18] Adams, 1:109.

the contrary."[19] The hallmark of conventionalism – what distinguishes it from other views according to which some phenomenon is theorized to be "due to us"[20] – is the fact that, with respect to the domain in question, there are *other* possible or already existing conventions that are thought to be "equally good".[21] In that case, *which* of the possible alternative conventions ought to be adopted with respect to the domain in question is not determined by how things are but is rather a matter of our free choice.[22]

Conceptualism is thought to lead to conventionalism because it dispenses with the metaphysical entities in virtue of which things *really are* co-specific or co-generic. Marilyn McCord Adams captures this line of thought when she writes that "if there are no universal things corresponding to general terms, then which concepts count as genus- and species-concepts, and which particulars count as co-generic and co-specific will be arbitrary and subjective."[23] Adams outlines the argument as follows. On a realist view like that of the Platonist or Aristotelian, it is the nature of real, existing forms that determines our species and genus concepts. Once such entities are rejected, however, it appears that it is to some degree a matter of convention which of our general concepts are

[19] Michael Rescorla, "Convention," *The Stanford Encyclopedia of Philosophy* (Spring 2011 Edition), Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/spr2011/entries/convention/>. Spring 2011, §1.2.

[20] Ibid.

[21] Ibid.

[22] "[A] distinctive thesis shared by most conventionalist theories is that there exist *alternative* conventions that are in some sense equally good. Our choice of a convention from among alternatives is undetermined by the nature of things, by general rational considerations, or by universal features of human physiology, perception, or cognition. This element of free choice distinguishes conventionalism from doctrines such as projectivism, transcendental idealism, and constructivism about mathematics, all of which hold that, in one way or another, certain phenomena are "due to us"" (Rescorla, Spring 2011, §1.2).

[23] Adams, 1:109.

to count as genus and species concepts.[24] And here the observation that something is a matter of convention when it is a matter of free choice proves decisive. For, as Adams notes, "what depends on contingent human free choices is arbitrary and subjective." In that case which particulars are co-specific or co-generic is itself an arbitrary or subjective matter because which abstract general concepts *count* as generic and specific is a matter of our free choice.[25]

However, Adams *also* notes that a conceptualist need not embrace this line of thought. For instance – and for reasons that are beyond the scope of the dissertation – William Ockham, a leading proponent of conceptualism in the scholastic period, did not, Adams argues, hold that conceptualism entails conventionalism.[26] As we will see in the next section, Locke scholars, however, are in virtually unanimous agreement that Locke embraced not only conceptualism, but conventionalism as well, although there is disagreement regarding precisely why.

§1.4 Locke's Route to Conventionalism, Two Readings

Locke begins his account of general terms by noting that all things that exist are particular. Given that the signification of words is supposed to be conformable to *things*, Locke notes that we would expect that words would be particular in their signification. Locke notes, however, that the "far *greatest part of Words*, that make all Languages, *are general Terms*."[27] This raises the question of what "those general Natures [general terms]

[24] Adams, 1:109-110. Note that I follow Adam's language quite closely here.

[25] Ibid.

[26] Adams, passim.

[27] *E* III.iii.1: 409.

are supposed to stand for."[28] General natures are not real, existing things, in which case they are not something to be *apprehended*, as the Aristotelian would propose, by way of intelligible species arrived at by abstracting the *forms* of particular things.[29] That story is one that Locke outright rejects. Locke argues, rather, that the general natures that words are the signs of just are *abstract* or *general ideas* in the mind, their generality consisting in their capacity to pick out a number of particulars that "agree" with their content.

Locke then considers what it is that general terms signify, arguing "they do not signify a plurality; for Man and Men would then signify the same," in which case "the distinction of numbers" "would be superfluous and useless."[30] General words signify not a plurality of things, but rather *sorts*:

> That then which general Words signify, is a sort of Things; and each of them does that, by being a sign of an abstract *Idea* in the mind, to which *Idea*, as Things existing are found to agree, so they come to be ranked under that name; or, which is all one, be of that sort.[31]

The apparent consequences of Locke's account are striking. The *essences* of genus and species, Locke argues, are abstract ideas, and membership in these species is *solely* a matter of having a right to a general term or the "name" of a species:

> [T]he *Essences of* the *sorts*, *or Species* of Things, are nothing else but these abstract *Ideas*. For the having the Essence of any Species, being that which makes any thing to be of that Species, and the conformity to the *Idea*, to which the name is annexed, being that which gives a right to that name, the having the Essence, and the having that conformity, must needs to be the same thing: Since to be of any Species, and to have a right to the name of that Species, is all one.[32]

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[28] *E* III.iii.6: 410.

[29] Ott, 79.

[30] *E* III.iii.12: 414.

[31] Ibid.

[32] *E* III.iii.12: 414-15.

Locke concludes that "the great Business of *Genera* and *Species*, and their *Essences*," which "the Learning and Disputes of the Schools" have been so preoccupied with, really amounts to no more than this:

> That Men, making abstract *Ideas*…with Names annexed to them…enable themselves to consider Things, and discourse of them, as it were in bundles for the easier and readier improvement, and communication of Knowledge, which would advance but slowly, were their Words and Thoughts confined only to Particulars.[33]

From the standpoint of the Standard Reading, the significance of Locke's departure from an Aristotelian metaphysics of universal natures or substantial forms is best appreciated at this juncture. For, as we saw, conventionalism about *natural kinds* is the view that, consistent with certain constraints to be articulated by the view in question, there is some degree of latitude regarding how we may classify or group things together in the natural world since which general concepts or abstract ideas are to count as the genera and species in terms of which classification proceeds is a matter of our free choice. Thus once *general natures* are, on Locke's view, analyzed in terms of the capacity of general ideas to embrace a number of particulars, what determines which of our general ideas are to count as genus and species concepts becomes a pressing question. Locke argues that general ideas – in which we find the essences of genus and species – are "the Workmanship of the Understanding," "since it is the Understanding that abstracts and makes those general *Ideas*."[34] It is precisely this claim that motivates the Standard Reading's contention that there is wide latitude regarding how we classify

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[33] *E* III.iii.20: 420.

[34] *E* III.iii.12: 415.

things in nature *because*, so the story goes, there is some degree of freedom or latitude with respect to how we may make our general ideas, and thus what concepts are to count as genus and species is an arbitrary and subjective matter.

Regarding the question of precisely why there is latitude with respect to how we form our general ideas, the Standard Reading divides into two camps.[35] The first, propounded by Paul Guyer and Martha Bolton,[36] restricts itself to Locke's "new theory of ideas,"[37] and is what Bolton refers to as the Idea-Theoretic Account. The other, more traditional view, articulated by Ayers (among others), attributes that latitude to Locke's commitment to corpuscularian mechanism.[38] I take up the Idea-Theoretic account first.

As Margaret Atherton notes, the Idea-Theoretic approach appeals to "Locke's seminal claim that ideas are the immediate objects of thought."[39] In that case, words stand for things only by the mediation of our ideas, and what we cognize of the world is wholly

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[35] Margaret Atherton, "Locke on Essences and Classification," in *The Cambridge Companion to Locke's 'Essay Concerning Human Understanding'*, ed. Lex Newman (New York: Cambridge University Press, 2007), 258-285.

[36]Paul Guyer, "Locke's Philosophy of Language," in *The Cambridge Companion to Locke*, edited by Vere Chappell (1994; repr., Cambridge University Press, 1999), 115-145. Atherton notes that Martha Bolton is also a proponent of this approach in her paper "The Idea-Theoretic Basis of Locke's Anti-Essentialist Doctrine of Nominal Essences," in *Minds, Ideas, and Objects: Essays on the Theory of Representation in Modern Philosophy*, ed. Phillip D. Cummins and Guenter Zoller (Atascadero, CA: Ridgeview).

[37] Atherton, 267.

[38] Atherton notes that Woolhouse, Alexander, Ayers, and Jolley are all proponents of the corpuscularian approach. See Roger Woolhouse, *Locke's Philosophy of Science and Knowledge* (Oxford: Basil Blackwell, 1971); Michael Ayers, "Locke Versus Aristotle on Natural Kinds," *The Journal of Philosophy* 78, no. 5 (May 1981): 247-272; Peter Alexander, *Ideas, Qualities and Corpuscles: Locke and Boyle and the External World* (Cambridge: Cambridge University Press, 1985); Nicholas Jolley, *Leibniz and Locke* (Oxford: Clarendon Press, 1984); Nicholas Jolley, *Locke: His Philosophical Thought* (New York: Oxford University Press, 1999).

[39] Atherton, 268.

determined by the nature of our ideas and how we arrive at them.[40] The factors at play in the formation of our ideas will thus play a significant role in underwriting conclusions about the status of *genus* and *species*, whose essences just are general ideas. On Paul Guyer's articulation of the Idea-Theoretic Account, it is a built-in feature of Locke's story of how we form general ideas that there is wide latitude in respect of *which* general ideas we may form, in which case it follows, Guyer argues, that there is wide latitude with respect to how we may classify things.

We make ideas general by making our complex ideas of particular things capable of representing more than one particular. Our complex ideas of particular things consist in the combination of many *simple* ideas of their primary qualities – e.g., the shape and size of a thing – secondary qualities – e.g., a thing's color, taste, or odor – and tertiary qualities,[41] or a thing's powers or dispositions – e.g., solubility in *aqua regia*. An idea of a particular is made capable of representing many particulars just insofar as it represents the respects in which things resemble one another. The first step, then, is to separate "circumstances of Time, and Place" and "any other *Ideas*, that may determine [an idea] to this or that particular Existence."[42] We are left with a number of simple ideas of qualities that do not determine the idea to a particular thing, but rather capture the respects in which it may resemble other things.

While these resemblances are objective in the sense that they are a matter of how things are with particulars, it must be noted that there are "indefinitely" many ways in

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[40] Atherton, 268.

[41] This is not Locke's term; Locke refers to powers and dispositions as "secondary qualities, mediately perceiveable" in order to indicate that our ideas of these powers "terminate" in ideas of secondary qualities (*E* II.viii.24-26: 141-143).

[42] *E* III.iii.6: 411.

which particulars resemble one another.[43] And that means, Guyer argues, that there are innumerably many ways of marking off the resemblances between things in a general idea, the only real limitation being that our general idea must capture at least one respect of resemblance and so must include at least one simple idea of a quality. From there, however, we may mark off as many or as few similarities between things as we find in the world, in which case there are innumerably many general ideas we might make. Finally, given that classification proceeds according to our general ideas, it follows that there are innumerably many ways in which we might classify things in the natural world. That we recognize only *some* of the possible ways of grouping things together according to their similarities (and differences) is, Guyer argues, a matter of our own "intellectual choices" with respect to which similarities are important for the purposes of classification.[44]

According to the second, more traditional reading, it is Locke's commitment to corpuscularian mechanism that explains why there is wide latitude with regard to what general ideas we may make, and thus wide latitude with respect to how we may group things together for the purposes of classification. The thought is that if the world itself is to determine just *one* way of grouping things together, it must be the case that there are clear, easily discernable qualitative gaps between things such that it is obvious where to draw boundaries between kinds. It must also be the case that particulars adhere to these boundaries with relative stability, that it is readily discernable when a particular ceases to be a member of a kind when it undergoes alteration, and that there are limits on the kind of alterations a thing can undergo.

[43] Guyer, 129.

[44] Ibid.

The commitments of corpuscularian mechanism, according to many proponents of the Standard Reading, defy the conditions just articulated. Corpuscularian mechanism conceives of the nature of material bodies as mere masses of matter consisting of the aggregation of insensible corpuscles whose qualities are exhausted by their solidity, shape, size, and motion. The nature of matter as such varies only in these respects, while the differences between *particular* bodies is a matter of the primary qualities of their corpuscles, how many are united in them, and how they are arranged – what Locke refers to as "texture". While such differences are indeed grounds for drawing distinctions between things, such differences, so the argument goes, are not differences *in kind*, but differences in *degree*. In addition, whatever might be said about a particular body at a moment, its micro-constitution is in a state of constant flux and may conceivably mutate in any number of ways, thus undermining the stability requisite to the existence of fixed kinds. Jan-Erik Jones captures the seeming naturalness of the move from corpuscularianism to conventionalism below:

> [S]ince according to mechanism everything is indefinitely mutable, all changes are essentially mere alterations of the particular order, motion, and structure of minute particles. These insensibly small corpuscular structures can be re-arranged in such a way that what was lead one day could be gold the next. Thus it would seem that the denial of substantial forms, along with the infinite mutability of objects which differ only in minor structural differences of their minute particles, might lead mechanists…to conclude that natural classes are not provided by nature but are something we create.[45]

Thus, as Atherton observes, while we might think that we apprehend clear differences in kind between things at the level of their observable qualities, when we descend to their microstructures it becomes more difficult to justify such assertions:

[45] Jan-Erik Jones, "Boyle, Classification and the Workmanship of the Understanding Thesis," *Journal of the History of Philosophy* 43 no. 2 (April 2005): 173.

> While it is true that it may seem crystal clear to me that my mother cannot possibly be a fish, this intuition cannot be based on a grasp of the inner constitutions of mothers and fish. This is because the observable qualities of a woman like my mother depend upon an ever-shifting structure of corpuscles that could perfectly conceivably alter into that structure of corpuscles on which the observable qualities of a mackerel or a walleye depend. If, therefore, I find there to be something wrong with the claim that my mother is a fish, this has to do with the ideas that I attach to the words 'mother' and 'fish', which are indeed strongly antithetical, and not with the inner constitution of my mother or a walleye.[46]

If there were kinds that exist apart from our ideas of them, these kinds must be marked off by clear boundaries to which particular bodies stably conform. The commitments of corpuscularian mechanism would appear to defeat those assumptions.

In support of their own reading, proponents of the Idea-Theoretic account will cite what they take to be a weakness of the argument from corpuscularian mechanism, namely, that Locke's account of classification is contingent on its truth. If it turns out that there really are stable, fixed boundaries to be discerned at the level of micro-structure, the only real interest of Locke's anti-realist theory of classification will be its status as an artifact of an outdated world view. And as Atherton among others argue – although it is a controversial claim – the progress of science *has* arguably revealed that there are sufficiently clear qualitative gaps to be discerned at the level of micro-structure as to ground a privileged way of classifying things, where the classification we find in chemical theory's periodic table can be cited as the most convincing piece of evidence for that claim. On the Idea-Theoretic approach, however, Locke's theory of classification is, so its proponents argue, rendered invulnerable to objections from the progress of

[46] Atherton, 267.

science.[47] The thought is that new discoveries do not change the fact that kinds are still a matter of the nature of *our ideas* and how we arrive at them.

Ayers, however, dismisses the Idea-Theoretic Account as one that does not pay sufficient attention to the pivotal role that corpuscularian mechanism plays in Locke's thought, and in his arguments, particularly those that, by Ayers' lights, make direct appeal to the fact that we can discern no qualitative gaps between the internal constitutions of things:

> Guyer's attempt to extract…an argument based *purely* on a theory of meaning and totally independent of Locke's world-view (and with a conclusion smacking fashionably of ontological relativism, to boot) gets no support here.[48]

Atherton helpfully steps in, noting that "nothing can be gained by accusing proponents of either view of historiagraphical failings."[49] Both approaches, she observes, capture "the uniqueness of one of Locke's two novel entities." The Idea-theoretic account rightly notes that the nature of our general ideas and how we arrive at them has consequences for Locke's theory of classification, while the argument from corpuscularian mechanism shows Locke to be "working out the implications of identifying [essences] with quasi-mechanical structures thrown up out of ever-changing arrays of corpuscles."[50]

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[47] Atherton, 268.

[48] In particular, Ayers challenges Guyer's reading of a passage at *E* III.vi.39 in which Ayers takes Locke to be arguing that a watchmaker could not discern clear gaps between the internal constitutions of various watches, in which case there is a great deal of latitude with respect to how we sort things on the basis of their internal constitutions. Ayers thinks that the passage invokes a clear parallel between the inner mechanical constitutions of watches and the internal constitutions of corpuscularian bodies. Michael Ayers, "The Cambridge Companion to Locke (Edited by Vere C. Chappell): A Review," *Locke Newsletter* 28 (1997): 175-176. Guyer, on the other hand, reads Locke as arguing in the passage that even acquaintance with the micro-constitutions of things would not militate which similarities and differences we are to recognize in our general ideas (Guyer, 136-38).

[49] Atherton, 269.

[50] Ibid.

It is worth noting, however, that only the argument from corpuscularian mechanism would appear to secure the *metaphysical* conclusion that there are no objective kinds. While the Idea-Theoretic Account (if true) certainly draws attention to the arbitrariness that infects the method by which we arrive at general ideas, which in turn says something about the status of kinds as set out by these ideas, the rejoinder that it renders Locke immune to objections from the progress of science falls short of demonstrating Guyer's claim that there are no natural kinds.[51] At most the Idea-Theoretic Account can conclude that however much we know about the observable properties of things, or their microstructures, Locke's story regarding *how* we arrive at our general ideas, and thus their status, remains the same.

In any case, Atherton's observations of the virtues of each approach would appear to provide an air-tight case for a conventionalist account of kinds in Locke. The evidence marshaled by both positions compounds on the side of thinking that there is wide latitude regarding how we make our general ideas, and so wide latitude in how we may classify things in the natural world.

§1.5 Reconsidering the Arguments for Conventionalism

I argue in the following chapters that Locke in fact believed that there are objective kinds in nature and that these kinds are sufficiently apparent to us that we roughly approximate their boundaries in general ideas we make. The challenges such a reading faces are, however, numerous, chief of which is accounting for *what* in Locke's

[51] Guyer, 130.

metaphysics grounds the reality of the objective kinds if not Aristotelian universal natures. Thus it is a sometimes tacit sometimes explicit premise of the Standard Reading that if Aristotelian general natures do not ground the objectivity of kinds, nothing does. For, as we have already seen, it appears that the natural world, understood according to the commitments of corpuscularian mechanism, fails to supply clear boundaries requisite for objective kinds. Thus Ayers remarks:

> Locke really believed that nothing on earth could possibly perform the function that the Aristotelians ascribe to their specific essences or forms.[52]

Ayers's point is that once we eliminate Aristotelian specific essences or forms, nothing else could supply objective boundaries requisite for objective or natural kinds. I will argue that there are grounds for challenging that premise.

Locke did hold that there are objective kinds, and the essences of objective kinds, I argue, are to be understood as *corpuscularian structures* characteristic of bodies of a certain kind. That corpuscularian bodies have stable structures characteristic of the kind to which they objectively belong is, I argue, a matter of God's workmanship when he creates natural substances and gives them an essence, understood as a corpuscularian structure. That there are genuine distinctions in kind between corpuscularian bodies thus has to do with the fact that God makes things in the natural world such that they have certain corpuscularian structures that are their essences. Thus bodies that are *objectively* co-specific and co-generic are co-specific and co-generic in virtue of resembling one another in a certain respect, namely, in respect of a hidden, inner structure, what Locke refers to as a disposition of parts, or a "texture". In one crucial respect, then, Locke is in *agreement* with the Aristotelian, namely, that there are objective kinds.

[52] Ayers, *Locke: Epistemology and Ontology*, 2:68.

Yet Locke's gloss on the essences of material bodies as corpuscularian structures is still a significant departure from the Aristotelian understanding of the essences of material bodies. Locke's account is in line with a metaphysics that eschews universals understood as real metaphysical constituents *in* things. As corpuscularian structures, the essences of bodies are not to be understood as anything over and above matter disposed or arranged in a certain, characteristic way, and the similarity between bodies in respect of such structures is not to be further analyzed in terms of identity; that is, a body's essence, understood as a corpuscularian structure, is not to be understood as a *universal* that is both numerically many *in* particulars and universal in thought, as Aristotelian substantial forms are understood. What I am suggesting, then, is that Locke's term 'real essence' is a name for that respect of resemblance between particulars that is relevant to their classification according to genus and species, where in the case of bodies or substances that respect of resemblance is to be understood in terms of corpuscularian structure, and is ultimately individuated in terms of *God*'s ideas.

I argue in Chapter II, however, that Locke's most vociferous objection to the Aristotelian concerns not how we are to understand, metaphysically speaking, the status of the essences of material bodies, but concerns rather the status of the genus and species concepts in accordance with which *we* classify particular bodies. The essences of material things are, on all sides, thought to be unknown. I argue that Locke nevertheless attributes to the Aristotelian a tacit commitment not only to the claim that a sorting of bodies in accordance with our own genus and species concepts is a sorting of them according to their essences, but that our genus and species concepts in fact *represent* these essences. Such commitments are, on Locke's view, disastrous in that they stand as an obstacle to

the improvement of our knowledge and classification of material bodies. For according to the Aristotelian, we find a near complete inventory of the real kinds that exist by looking to our own species concepts, near complete because there may be real kinds for which we do not yet have general ideas. In that case, our work in classification is done – we already have the right species concepts since, *ex hypothesi*, these concepts accurately pick out the essences of the real kinds.

In addition, Chapter II sees the removal of one lynchpin of the Standard Reading; namely, its assumption that Locke's arguments against the Aristotelian single out not only the moderate realist view, but *any* view according to which there are objective kinds. Locke's frequent references to anomalous or defective instances of kinds, while posed as a challenge to the Aristotelian, further show, according to the Standard Reading, that nature is far too chaotic to support not just Aristotelian realism, but any view according to which there are objective kinds, since their existence seems to presuppose that there are stable and well-defined boundaries. However, the reading I offer in Chapter II shows Locke to be mounting a different criticism of the Aristotelian when he raises these examples.

As proponents of the Standard Reading would be forced to admit, the Aristotelian will in fact agree that the existence of defective instances in nature is compatible with the view that there are natural kinds, and even compatible with the view that the essences of material bodies are to be understood as substantial forms.[53] I argue that what Locke finds troubling is not the apparent deviancy of the examples, but rather the verdicts speakers in

[53] Jolley writes that "it is a familiar fact of everyday life that two things which are produced from the same mould [form] may turn out very differently; one cake or jelly may have a perfect shape, another may be such a poor approximation of the first that it will be discarded" (Jolley, *Locke: His Philosophical Thought*, 145-47).

the grip of the Aristotelian view are inclined to issue in the face of such cases. Thus regarding the two examples of apparent deviancy that receive the most discussion, Locke argues for an *adjustment* in our initial verdict about whether the thing in fact belongs to the species in question, and sometimes he argues for this adjustment by arguing for a revision to how we define that species. That such cases call for an adjustment in how we in fact classify particulars is, I argue, intended as a challenge to the entrenchment of our current classificatory scheme, which entrenchment results from the Aristotelian's claim that we *already* sort things according to their essences, and that our genus and species concepts represent, and thus are fully adequate to those essences.

The account I provide in Chapter II also provides an explanation of Locke's motivations for sharply distinguishing two kinds of essences in his philosophy. As we have seen, there are the essences of bodies, what Locke understands as their hidden, corpuscularian structures. Locke argues that the essences of bodies are unknown. Still, we do sort bodies into genera and species and we do so in accordance with abstract or general ideas we make. Locke argues that the abstract ideas of genera and species we make are themselves *essences* – they are the essences of kinds in accordance with which we classify particular bodies in lieu of not knowing *their* (bodies') essences. Locke denominates the essences *of bodies* 'real essences', and he denominates the essences *we make* 'nominal essences'.

By arguing that we *make* the kinds that are reflected in our genus and species concepts, and by arguing that the essences of these kinds are distinct from the real essences of bodies, Locke is attempting to correct a common although tempting mistake. For if we conceive of our genus and species concepts as anything less than full-blown

kinds with essences *in their own right*, we are liable, Locke thinks, to conceive of our genus and species concepts as placeholders for unknown real essences. When we do so, Locke argues, we tacitly make something *unknown* the criterion for membership in a kind. In that case, we are never in a position to know whether any given particular is a member of a kind since the real essence thought to be the criterion for membership in the kind, not to mention the real essence of any given body, cannot be known. What Locke seems to be arguing is that we cannot have it both ways. Either we classify according to criteria set out in our genus and species concepts, or we go by the unknown real essence. If the latter, we get nowhere. Thus if classification is to proceed, we must defer fully to *our* genus and species concepts *as* kinds with essences in their own right.

The essence of kinds as set out in our genus and species concepts and real essences are thus to be kept distinct. I refer to kinds set out in our genus and species concepts as *parochial kinds* – my term, not Locke's – in order to capture and emphasize the fact that these kinds and their essences are kinds that we literally bring into existence when we make abstract ideas. In that case, however, one might argue that the objective kinds and their unknown real essences are for the most part *idle* on Locke's view. In later chapters of the dissertation, I argue, however, that though we cannot conceive of our genus and species concepts as placeholders for unknown real essences, we can nevertheless conceive of the parochial kinds set out in these concepts as the upshot of our ability to track at the level of the observable qualities of bodies distinctions between bodies that are relevant to their classification. On Locke's view, I argue, God places observable marks of distinction in bodies that are unique to the kinds to which they belong and are thus markers in accordance with which we are to classify them. Thus

while we don't know the real essences of bodies, we can, on the basis of their observable qualities, roughly approximate, by way of parochial kinds we make in deference to such marks of distinction, a classification of bodies that *would have* resulted had we known their hidden real essences and classified them accordingly.

In Chapter III, I step back from the first-order metaphysical debate regarding Locke's stance with respect to objective kinds and turn to questions of method in Locke's *Essay*. For things turn murky when we consider its methodological aims and the modesty with which Locke is often thought to approach metaphysical questions in that work. On the one hand, the *Essay* is often seen as issuing a largely pessimistic verdict with respect to what metaphysical questions we may justifiably pursue given the limits of human knowledge. On the other hand, the methodological aims of the *Essay* would appear to debar Locke from pursuing in earnest those metaphysical questions regarding which he thinks we *can* make progress. For this would be to jumble together two distinct theoretical aims Locke has reasons to keep separate. Thus while Locke's position with respect to some metaphysical topics – the materialist theory of mind, for instance – is in no need of clarification (he is agnostic), others, for instance the status of the distinction between primary and secondary qualities, are the subject of controversy in the secondary literature.

I argue that Locke's treatment of morality in the *Essay* provides an example of Locke's willingness to signal metaphysical commitments for which he is unable to provide much further argument due to the methodological constraints of that work. Thus while Locke makes clear his belief in a divinely decreed moral law, in response to correspondents who pressed him for further details, Locke wrote that the *Essay* was no

place to "run out into a discourse of the divine law."[54] I go on to argue that the moral case provides the model for how we ought to understand Locke's treatment of natural kinds. While it might be thought that Locke's modest approach to metaphysics debars any conclusions, positive or negative, with respect to that question, I argue that, here, too, Locke makes clear his belief in kinds apart from those we find in general ideas we make. However, for reasons I go on to articulate, Locke was in no position to run into such a discourse in the *Essay*.

In Chapter IV, I return to first-order metaphysical questions, and take up Guyer's claim that Locke's Idea-Theoretic account of general ideas entails conventionalism about natural kinds. As we saw in section 1.4, Guyer argues that there is wide latitude regarding how we may classify things in the natural world, a claim that follows from how we form general ideas. I argue that this approach glosses over much of the detail of Locke's account. What we aim to capture in our general ideas, Locke argues, are just those qualities of things that regularly co-occur together in particular substances, which regular co-occurrence merits the inference that those and only those qualities flow from a common cause. This common cause is to be identified with a modification or aspect of the hidden, internal constitutions of particulars in which we find those regularly co-occurring observable qualities. I go on to argue that the adequacy of our ideas of kinds formed on this basis is measured in terms of how accurately, and how exhaustively, we collect such regularly co-occurring qualities into an idea.

Two features of this account immediately stand out. First, it assumes that the regular co-occurrence of certain observable qualities is a criterion that clearly demarcates

[54] Locke to Tyrrell, August 4, 1690.

which of substances' observable qualities are candidates for inclusion in a general idea. However, one might plausibly object that regular co-occurrence is itself a criterion that depends on our estimation of what *counts* as an instance of a regularity or its violation, in which case the criterion cannot escape a certain degree of arbitrariness. For instance, if it turned out that all samples of gold were observed to be ring-shaped, this would, according to the criterion, be grounds for including *shape* in our general idea of gold.[55] If the example generalizes – and it would be difficult to argue that it doesn't – there appears to be little hope that the criterion is any less arbitrary than the criterion of resemblance.

This leads to the second feature of the account. The account assumes that that modification or aspect of the microstructure of a thing that explains the regular co-occurrence of certain qualities is *the* modification or aspect that is objectively relevant to a thing's classification. But there are many possible ways of isolating aspects or modifications in a thing's internal constitution. We can isolate structure at varying degrees of resolution depending on how fine- or course-grained we want to be. I can discern the structure in a house at the level of its posts and beams, but I can also discern structure in the smoothness of the sheet rock in its walls, or in the nap of its curtains. The first observation doesn't help matters, either. At first it seemed as though the modification or aspect of a thing's microstructure is fixed prior to our coming on the scene to classify it, which in turn fixes which qualities will regularly co-occur in it and other bodies that share that modification or aspect. But given that co-occurrence now appears to be a moving target, with less objective purport than first assumed, what modification or aspect in a thing counts as a common cause relevant to its classification is itself a matter of what in our estimation counts as an instance or violation of a regular co-

[55] I thank Alison Simmons and Jeffrey McDonough for drawing my attention to this objection.

occurrence.

These objections can be understood as a matter of drawing out the implications of corpuscularian mechanism. In Chapter V, I argue that, in spite of his guarded endorsement of the view, Locke did not take its anti-realist consequences to bear on his theory of kinds and classification in the way that commentators have suggested. First, I argue that a passage commonly thought to signal Locke's appreciation and endorsement of mechanism's anti-realist implications – what I refer to as the Watch Passage – in fact addresses an altogether different topic. Once again, Locke shows himself to be preoccupied not with a question about the possibility of objective kinds, but rather with the Aristotelian's (and the vulgar's) mistake of taking the essences of our parochial kinds for real essences; thus the passage highlights one of the interesting ways in which that mistake gets expressed in our judgments about what makes it the case that something is a member of a parochial kind, that is, a member of a kind set out in one of our general ideas.

I go on to argue that a passage that immediately follows the Watch Passage shows that, at least in the case of *artifacts*, Locke did not think that classification is arbitrary. Locke argues that what fixes which features are relevant to an artifact's classification is the designer's or artificer's idea. A designer imposes structure on matter such that it has certain characteristic features and functions. The observable features of an artifact relevant to its classification are individuated in terms of the artificer's intentions, and that inner aspect or modification on which such observable features depend are themselves a function of how an artificer modifies its constituent matter into an organization of parts. It is thus the artificer's idea that provides an independent standard in light of which we

determine not only the resolution at which we isolate the internal aspect or modification that is relevant to an artifact's classification, but that aspect or modification in turn determines which of its observable features are likewise relevant to its being the kind of artifact it is.

The essences of artifacts are fixed by an independent standard, one that, Locke argues, is easily known. Further, Locke suggests that this fact explains why there is a degree of inter-subjective agreement regarding the definitions of the species of artifacts that we do not find in the case of so-called natural substances, substances like gold and water. I argue that, on Locke's view, what distinguishes artifacts from natural substances on this count is the fact that the essences of natural substances – their real essences – are unknown, while the essences of artifacts are, Locke argues, easily known. Even so, as I argue in the following chapter, there is a clear parallel between artifacts and natural substances in that the essences of the latter are likewise fixed by an independent standard, namely, the ideas in accordance with which God creates natural substances and their real essences. But those ideas, and the internal constitutions or real essences that answer to those ideas, because they are unknown, do not fix *our ideas* of species. Rather, we must resort to "collecting" piecemeal the qualities of substances we have grounds for thinking flow from their unknown essences, i.e., their propria. Individual speakers will collect different such candidate qualities in their abstract ideas because these qualities are "differently discovered" by different speakers, and no speaker can collect all of them, in which case the essences we find in our parochial species of natural substances differ across speakers. And this is precisely where the disanalogy between artifacts and natural substances shows up.

There are, then, clear parallels between Locke's account of artifacts and his account of the natural world as a product of God's creative acts. Like a watchmaker, God imposes a structure on the matter of particular things such that they have the features characteristic of a kind. It is thus God's ideas that determine the "resolution" at which a natural substance's real essence, or internal structure, is individuated, while that aspect or modification in turn determines which of its observable features (its regularly co-occuring qualities) are likewise relevant to its kind. And while we do not have access to God's ideas, nor do we have ideas of the internal modifications or aspects of the inner constitutions of things, God places marks of distinction in things such that we can discern the boundaries between kinds sufficiently well to promote our survival.

Chapter II

Real Essences and Two Forms of Realism about Kinds

§2.1 Introduction

Locke famously rejects an Aristotelian conception of kinds and classification in Book III of the *Essay*. The dispute in large part concerns how we ought to understand the real essences of corporeal substances. On a neutral description, real essences are the hidden, and therefore unknown, inner constitutions of substances responsible for (at least some of) their observable qualities. So understood, Locke's disagreement with the Aristotelian over real essences might be articulated by way of a few choice points.

First, we can ask whether real essences are the essences of objective kinds. The realist believes that they are. However, the realist faces an additional, epistemological question. If real essences are indeed the essences of objective kinds, what is the relationship between a sorting of particulars according to real essences and a sorting of particulars according to *our* species concepts? On Locke's view, the Aristotelian believes that a sorting of particulars according to our species concepts just is a sorting according to real essences, in which case a sorting of particulars according to our species concepts is a sorting according to the objective kinds to which they belong. For the Aristotelian realist, then, we find a near complete inventory of the real kinds by looking to our own species concepts, near complete because there may be species as set out by real essences for which we do not have concepts – for example, undiscovered species of bacteria in the deepest reaches of the ocean.

A more cautious realist might counter, however, that the Aristotelian subscribes to a false view of the adequacy of our species concepts to mind-independent reality. In fact,

the Aristotelian position could even be said to stand as an *obstacle* to the advancement of our knowledge of substances and their correct classification. For by virtue of her metaphysical commitments, the Aristotelian thinks our work in classification is *done*. We already have the right concepts, since *ex hypothesi* these concepts pick out real essences.[56] And although there may be undiscovered kinds, we can rest assured that the concepts we do employ both track and are fully adequate to real kinds in the world.

The cautious realist may thus reject Aristotelian realism. In this chapter I argue that Locke was just such a cautious realist. Rather than *opposing* realism, Locke in his criticism of the Aristotelian instead advances a form of realism more modest in its epistemology. What Locke finds objectionable is not the Aristotelian's commitment to natural kinds as set out by real essences, but rather the Aristotelian's claim that *our* species concepts reflect species as set out by real essences. The Aristotelian thus confers a *metaphysical* status on the species reflected in our current classificatory scheme, which status stands as an obstacle to the improvement of our knowledge and classification of substances. Locke's arguments against the Aristotelian are thus intended to make us better at classifying things, and that is no strike against realism.

Returning to the choice points described above, it is worth locating the moment at which Locke in fact parts ways with the Aristotelian. According to the Standard Reading, Locke rejects the Aristotelian's claim that real essences are the essences of objective kinds. Against the Standard Reading, I argue that the real disagreement concerns the Aristotelian's response to the second choice point. Locke's several criticisms of the Aristotelian picture of kinds and classification are directed not at the thesis that there are

[56] Ott observes that there is "a core thesis on which both the seventeenth century Aristotelians and orthodox Aristotelians agree: words in definitions signify real essences that exist in physical objects" (Ott, 82).

natural kinds as set out by real essences, but at the thesis that we have located those kinds in our own species concepts. On my interpretation, Locke's critique of the Aristotelian is altogether compatible with an understanding of real essences as the essences of objective kinds.

I argue for this claim by taking up what Locke refers to as "Two Opinions" about how to understand the real essences of corporeal substances, the first of which is the Aristotelian opinion, the second, Locke's own opinion. According to the Standard Reading's gloss of the Two Opinions, Locke's own preferred concept of real essence is to be understood as the unknown, microstructure of an unsorted particular causally responsible for all of its observable qualities. On such an understanding, a real essence, as a merely *causal-explanatory* essence, does not itself determine the boundary of a kind. The Aristotelian, on the other hand, understands real essences to be the essences of objective kinds, in which case real essences *do* determine the boundaries of kinds. According to the Standard Reading, Locke's disagreement with the Aristotelian is a disagreement over whether real essences determine the boundaries of objective kinds.

Against the Standard Reading, I argue that Locke was not concerned with the Aristotelian's conception of real essences as essences that determine the boundaries of objective kinds but rather with her conception of real essences as the essences of the kinds in terms of which *we* sort and distinguish substances. On Locke's view, the essences of the kinds in terms of which we sort and distinguish substances are individuated solely in terms of speakers' abstract or general ideas. In fact, Locke argues that these essences *just are* abstract ideas. Again, I refer to kinds whose essences just are our abstract ideas as "parochial kinds" in order to capture and emphasize their special

status: these kinds are literally brought into existence by way of our own activity of forming abstract ideas. Such kinds are the workmanship of the understanding. In that case, unknown real essences cannot be the essences of our parochial kinds, since their essences are abstract ideas.

The Aristotelian, Locke argues, conceives of the essences of parochial kinds to be real essences. Locke reserves the term "specifick real essence" for real essences conceived as the essences of our parochial kinds. Locke argues that the notion of a specifick real essence finds its origin in our attempt to secure common significations for our species names. Speakers suppose a real essence common to particulars we group together under the same species concept. We thus take our species names to pick out unknown real essences, which real essences are also supposed to fix the meaning of our species names. This is because speakers take the species names themselves – the very words – to have *natural* significations that uniquely and accurately describe the specifick real essences posited by the view. It is no wonder, then, that Locke ascribes to the Aristotelian an unearned confidence in the adequacy of our species concepts to mind-independent reality.

Finally, I argue that, on Locke's view, the Aristotelian conception of a specifick real essence is not only an obstacle to the improvement of our knowledge and classification of substances, it is deeply incoherent precisely *because* it conceives of real essences as the essences of our parochial kinds. I argue that this strengthens the case for thinking that, on Locke's view, the Aristotelian's error lies not in the thought that there are objective kinds as set out by real essences, but rather in the thought that our parochial kinds are objective kinds as set out by real essences. This, in turn, means that Locke did

not intend his critique of Aristotelian realism to foreclose on the possibility of objective kinds as set out by real essences (although such kinds would be distinct from our parochial kinds). In that case, it is no longer obvious that Locke could not have been the kind of cautious realist described above, as the Standard Reading claims.

§2.2 Two Opinions about Real Essences

The Aristotelian view is expressed in the first of two "opinions" about the real essences of corporeal substances. The First Opinion belongs to those who

> using the Word *Essence*, for they know not what, suppose a certain number of those Essences, according to which, all natural things are made, and wherein they do exactly every one of them partake, and so become of this or that *Species*.[57]

Situating the passage in terms of the choice points mentioned above, the First Opinion holds that particulars come in types or kinds as set out by real essences, a proposal that appears to offer a plausible rendering of what it would take for there to exist natural kinds.

Locke then contrasts the First Opinion with his own "more rational opinion":

> The other, and more rational Opinion, is of those, who look on natural Things to have a real, but unknown Constitution of their insensible Parts, from which flow those sensible Qualities, which serve us to distinguish them one from another, according as we have Occasion to rank them into sorts, under common Denominations.[58]

According to the Second, or more "rational" Opinion, real essences are the unknown constitutions of the insensible parts of corporeal substances. These essences are the causal source of the qualities in terms of which we distinguish substances into kinds, but

[57] *E* III.iii.17: 418; Locke continues "[This opinion]…supposes **these Essences**, as a certain number of Forms or Molds, where in all natural Things, that exist, are cast, and do equally partake[.]"

[58] *E* III.iii.17: 418.

they are not conceived as that in terms of which substances "become of this or that *Species*".

It seems natural to assume, then, that Locke's opposition to the First Opinion is opposition to the thesis that particulars naturally belong to kinds *as set out by* their real essences. In that case, it would appear that by real essence, Locke does not understand an essence in the traditional sense of the word; that is, as having to do with kinds or sorts. Rather, the concept of a real essence seems to be captured by an exhaustive description of a thing's microstructure, which microstructure is causally responsible for its observable qualities, some of which qualities we freely choose to be the basis for distinguishing substances into kinds. On such an understanding, the real essence of a thing is "the totality of features of its insensible particles that explains the totality of its sensible qualities."[59] In that case, it appears as though the role that a real essence plays on Locke's view is not, as the Aristotelian conceives it to be, a *classificatory* one, but is rather only an *explanatory* one: a real essence is the causal source of all of a thing's qualities, and so the causal source of the qualities we freely choose to be the basis for classifying it. But a real essence, so understood, cannot, of itself, independently of our classificatory activity, be an essence of a *kind*. Indeed, it seems reasonable to assume that a real essence, so

[59] See Guyer, 133. Admittedly Guyer reserves this description for Locke's use of the term 'real constitution' while arguing that the term 'real essence' is restricted to pick out those insensible qualities that explain just those observable qualities in terms of which a speaker freely distinguishes that substance into a sort. As I argue elsewhere, however, Locke uses the terms 'real essence' and 'real constitution' interchangeably, and so does not distinguish them in the way that Guyer (and others) have suggested. In fact, and as we will see, Locke's claim that by 'real essence' is meant the essence of particular things without giving them any *name* suggests that real essences are logically *prior* to nominal essences and so not individuated relative to nominal essences and the species names to which they are annexed. In any case, the Standard Reading's basic contention is that the unknown inner corpuscularian constitutions of substances do not, *of themselves*, supply boundaries for kind membership and so cannot be the essences of objective kinds.

understood, is what in part distinguishes *particular* substances one from another, in which case they could not even be candidates for the essences of *kinds*.

This understanding would seem to accord with Locke's description of the "proper original signification" of the word "essence", a signification he assigns to the concept of *real* essence:

> *Essence* may be taken for the very being of any thing, whereby it is, what it is. And thus the real internal, but generally in Substances, unknown Constitution of Things, whereon their discoverable Qualities depend, may be called their *Essence*. This is the proper original signification of the Word, as is evident from the formation of it; *Essentia*, in its primary notation signifying properly *Being*. And in this sense it is still used, when we speak of the *Essence* of particular things, without giving them any Name.[60]

Locke writes that by this sense of essence is meant the "*Essence* of particular things, without giving them any Name," implying that when we abstract from the names or general terms by which we sort substances into kinds, we abstract from *any* kind to which they might belong. We're left with the thought, not of things qua members of a kind, but of things qua "unsorted" particulars.[61]

This way of understanding the passage is in line with the Standard Reading, according to which Locke rejects the Aristotelian's claim that real essences are not merely explanatory essences but are the essences of objective *kinds*. Returning to the first choice point of the previous section, it looks as though, on Locke's understanding, real essences are *not* the essences of objective kinds, since real essences play only an explanatory role as the explanatory essences of unsorted particulars. But the Standard Reading neglects an alternative way of understanding what it means to speak of the

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[60] *E* III.iii.15: 417.

[61] David Owen, "Locke on Real Essence," *History of Philosophy Quarterly* 8 (1991): 105-118.

essence of particular things without giving them any name. Indeed, by considering things without giving them any name we consider them apart from kinds or species to which they belong, but – and this is the crucial point – we consider them apart from *species for which we have names*, i.e., apart from our *parochial* species.

§2.3 The Two Opinions Reconsidered

According to the Standard Reading, the Two Opinions about the real essences of corporeal substances differ over whether real essences are the essences of kinds. Locke, on this reading, believes that real essences are the explanatory ground of the qualities of unsorted particulars. The Aristotelian, on this reading, believes that real essences are the essences of objectively individuated kinds. The Standard Reading appears to find support in Locke's description of a real essence as "the essence of particular things without giving them any Name", suggesting that by real essence he means merely what in an unsorted particular plays the role of causing and therefore explaining its observable qualities, some of which qualities are those in terms of which we go on to sort that thing.

Against the Standard Reading, I argue that the two opinions rather have to do with whether real essences are the essences of "species as distinguished and denominated by us,"[62] that is, whether real essences are the essences of species reflected in *our* activity of ranking things under names. When Locke argues, then, that by real essence is meant the essence of particular things without giving them any name, he means that we abstract away from the names of our parochial species, in which case we abstract away from a sorting of particulars in terms of *our* species concepts. Nowhere does Locke argue that

[62] *E* III.iii.13: 415.

species as distinguished and denominated by us are the *only* kinds there are, although he certainly thinks that they are the only kinds we know.

It is worth taking a second look at the first, Aristotelian opinion about how the notion of real essence ought to be understood. Locke writes that the first opinion supposes "a certain number of those Essences, according to which all things are made, wherein they do exactly every one of them partake[.]" While this sounds like an articulation of the thesis that there are natural kinds and that real essences are the essences of those kinds, it is worth noting that Locke then goes on to explain that, according to the Aristotelian opinion, it is by virtue of exactly partaking in real essences that natural things become "of this or that *Species*":

> [The First, Aristotelian Opinion supposes] a certain number of those Essences, according to which, all natural things are made, and wherein they do exactly every one of them partake, **and so become of this or that *Species***.[63]

By "*Species*" Locke means species as distinguished and *denominated* by us, that is, species reflected in our activity of ranking things under names or general terms, or parochial species. For the majority of speakers, these species are "thought to be made by Nature".[64] More precisely,

> It is usual for Men to make the Names of Substances, stand for Things, as supposed to have certain real Essences, **whereby they are of this or that Species**[.][65]

Here Locke is explaining that real essences are typically thought to be the essences of species, since possession of a real essence is taken to be that whereby a thing is of this or

[63] *E* III.iii.17: 418; bold emphasis mine.

[64] *E* III.vi.43: 465-66.

[65] *E* II.xxxi.6: 378; bold emphasis mine.

that species. The view expressed in this passage is virtually identical to that expressed in the First Opinion, which supposes a certain number of real essences "wherein [things] do exactly every one of them partake, and so become of this or that Species."[66] The only difference is that in the latter passage, Locke makes it explicit that the species in question are those reflected in the activity of ranking substances under *names*. Men take the names of substances to stand for things whose real essences are conceived to be that whereby they belong to this or that species for which we have names.

§2.4 Real Essences and the Essences of Species

On the view I am defending, the Two Opinions about the real essences of corporeal substances differ not over whether real essences are the essences of objective kinds, but over whether real essences are the essences of our parochial species. According to the Aristotelian, the essences of parochial species are real essences, and so parochial species are thought to be species made by nature. Their essences are real essences. According to Locke, parochial species are "the workmanship of the understanding", and their essences are abstract ideas in the mind. Support for this reading can be found by looking to the project of Book III of the *Essay*. There Locke shines a light on the confusions that surround the use of general terms and the species they signify. The primary confusion concerns the essences of the species signified by our general terms, i.e., our parochial kinds.

We can start with the names of these species, or general terms. On Locke's view everything that exists is particular. A general term picks out a class of particulars, but not

[66] *E* III.iii.17: 418.

by picking out a universal or general nature common to those particulars. This raises a puzzle. Words, Locke says, "ought to be conformed to Things". And one would expect that by conforming to particulars, all words would be particular in their signification. But the "far *greatest part of* Words, that make all Languages, *are general Terms*."[67] In virtue of what, then, do these words "conform" to many particulars if not by conforming to a general nature they each possess?

On Locke's view, the conformity between a general term and the particulars it picks out is mediated by the conformity between those particulars and a general *idea*, which the name signifies. Each particular is picked out by the name by virtue of its "agreement" with the general idea annexed to the name. Locke concludes that the essences of species we pick out with names are not general natures or universals in things but general (abstract) ideas in the mind: "the abstract *Idea*, for which the [species] name stands, and the Essence of the Species, is one and the same."[68] Locke writes:

> [I]t being evident, that **Things are ranked under Names** into sorts or *Species*, **only as they agree to certain abstract *Ideas***, to which we have annexed those Names, the *Essence* of each *Genus*, or Sort, comes to be nothing but the abstract *Idea*, which the General, or *Sortal*…Name stands for.[69]

The *species* we care about, the species that are the subject of Locke's exposition and analysis, are the species reflected in our activity of ranking things under names. These species are analyzed in terms of a three-place relation between a name, an abstract idea, and a particular that agrees with that idea, which relation falls entirely under the province of the understanding:

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[67] *E* III.iii.1: 409.

[68] *E* III.iii.12: 415.

[69] *E* III.iii.15: 417; bold emphasis mine.

> When we therefore quit Particulars, the Generals that rest, are only Creatures of our own making, their general Nature being nothing but the Capacity they are put into by the Understanding, of signifying or representing many particulars. For the signification they have, is nothing but a relation, that by the mind of Man is added to them.[70]

Names thus play a constitutive role in Locke's analysis of species, and this is nowhere more evident than in his observation that membership in a species is a matter of "having a right to a name," which in turn is a matter of a thing's agreeing with the abstract idea to which the name is annexed:

> [T]he *Essences of* the…*Species* of Things, are nothing else but these abstract ideas. For the having the Essence of any Species, being that which makes any thing to be of that Species, and the conformity to the *Idea*, to which the name is annexed, being that which gives a right to that name, the having the Essence, and the having that Conformity, must needs be the same thing: **Since to be of any Species, and to have a right to the name of that Species, is all one**.[71]

Striking a deflationary tone, Locke concludes that "this whole *mystery* of *Genera* and *Species*, which make such a noise in the Schools, and are, with Justice, so little regarded out of them, is nothing but abstract *Ideas*, more or less comprehensive, with names annexed to them."[72]

It is important to note what follows from these claims; namely, that the essences of species, what Locke refers to as the "artificial Constitution of *Genus* and *Species*," are *distinct* from "the real Constitution [essence] of things."[73] Locke writes that we do not sort or name substances according to their real essences, "nor indeed *can we* rank, and *sort Things*, and consequently (which is the end of sorting) denominate them *by their real*

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[70] *E* III.iii.11: 414.

[71] Ibid.

[72] *E* III.iii.9: 412.

[73] *E* III.iii.15: 417.

Essences, because we know them not."[74] Even more to the point, real essences are distinct from "the species we rank things into" because, as Locke writes, "two Species may be one, as rationally, as two different Essences be the Essence of one Species."[75] Taking real essences for the essences of species as distinguished and denominated by us thus amounts to a logical mistake.

The majority of speakers, however, including the Aristotelian, do not distinguish the real constitution of things (real essences) from the artificial constitution of genus and species. Most speakers consider the essences of genus and species to be essences "made by nature" i.e., real essences. Locke refers to real essences *so conceived* as "specifick real essences," i.e., real essences conceived as the essences of species. As we will see, there is a fundamental difference in how real essences are conceived when they are conceived as the essences of genus and species. One of the primary differences is that specifick real essences, so conceived, *are* tied to our species names, which is in obvious conflict with Locke's own preferred description of real essence as the essence of things without giving them any name.

§2.5 Specifick Real Essences

Speakers in the grip of the First (Aristotelian) Opinion use the names of substances with a certain thought in mind. They suppose that these names pick out a real essence *whereby* a substance belongs to the species named. On Locke's view, this is a mistake. That whereby a substance belongs to a species named is its agreement with a general idea or "nominal essence". In the passage below, Locke refers to real essences

[74] *E* III.vi.9: 444.

[75] *E* III.iii.13: 415-16.

conceived as the essences of species as distinguished and denominated by us as "specifick real essences":

> That men (especially such as have been bred up in the Learning taught in this part of the World) do suppose certain **specifick Essences of Substances,** which each Individual in its several kind is made conformable to, and partakes of, is so far from needing proof, that it will be thought strange, if any one should do otherwise. **And thus they ordinarily apply the specifick Names**, **they rank particular Substances under, to Things, as distinguished by such Specifick real Essences**. Who is there almost, who would not take it amiss, if it should be doubted, whether he **call'd himself Man**, with any other meaning, than as having the real Essence of a Man?[76]

According to widespread practice, real essences are invoked as the essences of species we pick out with our "specifick Names". For instance, it is common to use the specifick name "Man" to pick out substances with the thought that they possess a real essence *whereby* they are men.

By Locke's lights, this is a mistake, and his observation that the essences of species as distinguished and denominated by us are logically distinct from real essences shows why. What makes it the case that a substance is a member of a species as distinguished and denominated by us – say the species we denominate "man" – is its agreement with the abstract idea annexed to that name. As Locke argues, this is both a necessary and sufficient condition for membership in the species. In that case, substances distinguished and denominated *men* are so distinguished and denominated if and only if they agree with the abstract idea annexed to the name "man".

In order to clarify things, let us assume, against the Standard Reading, that real essences are the essences of objective kinds. Since the essences of species as distinguished and denominated by us are distinct from real essences, conditions on *membership* in species as distinguished and denominated by us are distinct from

[76] *E* II.xxxi.6: 378-79; bold emphasis mine.

conditions on membership in kinds as set out by real essences. If you understand real essences as the essences of kinds, given that real essences are *in any case* distinct from the essences of species as distinguished and denominated by us, membership in species as distinguished and denominated by us is logically distinct from membership in kinds as set out by real essences. It follows that there is no real essence possession of which is that whereby a thing is a man. And this goes for *any* species as *denominated* by us.

In fact, passages in which Locke appears to identify and attack an understanding of real essences as the essences of objective kinds on close inspection reveal a different lesson: real essences are not the essences of species as distinguished and denominated by us. Consider the following passage, where Locke makes an observation regarding how real essences show up in our reasoning about kind membership. He is clear that the reasoning he targets is reasoning that invokes real essences as that whereby a thing belongs to a species as distinguished and denominated by us:

> [W]hen Men apply to this particular parcel of Matter on my Finger, a general Name already in use, and denominate it *Gold*, Do they not ordinarily, or are they not understood to give it that Name as belonging to a particular Species of Bodies, having a real internal Essence; by having of which Essence, this particular Substance comes to be of that Species, and to be called by that Name?[77]

It is worth comparing the sense of real essence that has emerged – the notion of a 'specifick real essence' embraced by the First Opinion – with Locke's own more rational opinion. Specifick real essences are conceived as the essences of species as distinguished and denominated by us, as that whereby a thing belongs to one of those species. According to Locke's own more rational opinion, while real essences are the causal origin of the qualities in terms of which we rank substances under names, they are not the

[77] *E* II.xxxi.7: 380.

essences of the species that correspond to those names, and they play no role in *membership* in the species that correspond to those names. The two opinions thus posit very different entities corresponding to the concept of a real essence. As will become clear in a later section, Locke thinks that there is a built-in incoherence in the very notion of a specifick real essence.

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Let me state precisely what is at stake in Locke's articulation of the Two Opinions. According to the Standard Reading, a disagreement over how to understand the real essences of corporeal substances stands proxy for a debate over realism about kinds. As I have argued, however, what Locke sees in his Aristotelian opponent is rather a competing account of the metaphysical basis for membership in species as distinguished and denominated by us. Once his argument against the Aristotelian comes into focus, Locke's opposition to the Aristotelian position no longer looks like opposition to the thesis that there are natural kinds (as set out by real essences), but rather opposition to a certain explanation of what makes it the case that things belong to species as distinguished and denominated by us. In short, the two opinions Locke articulates are two opinions about the metaphysical basis for membership in our parochial kinds.

According to Locke, the First Opinion is held not just by Aristotelians – those "who have been bred up in the Learning taught in this part of the World" – but by most speakers. Thanks to scholastic metaphysics, the specific real essence becomes the metaphysically dubious substantial form.[78] But as much as Locke routinely vilifies the

[78] Locke writes "Those therefore who have been taught, that the several Species of Substances, had their distinct internal substantial Forms; and that it was those Forms, which made the distinction of Substances into their true Species and Genera, **were led yet farther out of the way**, by having their Minds set upon fruitless Enquiries after substantial Forms, wholly unintelligible, and whereof we have scarce so

substantial form, the notion of a specifick real essence has more innocent beginnings. Part of Locke's project is to give a naturalistic account of how speakers first arrive at something roughly like the view articulated in the First Opinion, in which we find the notion of a specifick real essence. The view is borne out of an attempt to secure common significations for our kind terms.

§2.6 Specifick Real Essence: The Origin of the Concept

In Locke's memorable words, species as distinguished and denominated by us are "the Workmanship of the Understanding," by which he means that speakers make the abstract ideas or nominal essences that constitute the essences of parochial species.

We make these abstract ideas by attending to candidate observable qualities of particular substances – their real essences are perfectly unknown. We collect some of these candidate qualities into a general idea. Which such qualities speakers include in their abstract ideas depends on how much investigation they do.[79]

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much as any obscure, or confused Conception in general" (*E* III.vi.10: 445; bold emphasis mine); c.f. *E* II.xxxi.6: 379-380; *E* III.vi.24: 452.

[79] In order to explain precisely how we make our abstract ideas, Locke imagines how Adam arrives at his nominal essence of gold: "One of *Adam's* Children, roving in the Mountains, lights on a glittering Substance, which pleases his Eye; Home he carries it to *Adam*, who, upon consideration of it, finds it to be hard, to have a bright yellow Colour, and an exceeding great Weight. These, perhaps at first, are all the Qualities, he takes notice of in it, and abstracting this complex *Idea*, consisting of a Substance having that peculiar bright Yellowness, and a Weight very great in proportion to its Bulk, he gives it the Name *Zahab*, to denominate and mark all Substances, that have these sensible Qualities in them (III.vi.46: 468). But these are not the only qualities Adam includes in his nominal essence, for Locke continues "[T]he inquisitive Mind of Man, not content with the Knowledge of these, as I may say, superficial Qualities, puts *Adam* upon farther Examination of this Matter. He therefore knocks, and beats it with Flints, to see what was discoverable in the inside: He finds it yield to Blows, but not easily separate into pieces: he finds it will bend without breaking. Is not now Ductility to be added to his former *Idea*, and made a part of the Essence of the Species, that Name *Zahab* stands for? Farther trials discover Fusibility and Fixedness. Are not they also, **by the same Reason**, that any of the others were, to be put into the complex *Idea*, signified by the Name *Zahab* stands for, and so be the Essence of the Species, marked by that Name. Which Properties, because they are endless, it is plain that the *Idea* made after this fashion by this *Archetype*, will be always inadequate" (*E* III.vi.47: 468-69; bold emphasis mine).

Locke writes that ideas "made after this fashion" are inadequate. Candidate qualities are "endless", and no speaker can include all of them.[80] What's more, speakers differ in *which* candidate qualities they happen to include in their abstract idea. Locke concludes that "the *Names of Substances* would not only have, (as in truth they have) but would also be supposed to *have different Significations*, *as used by different Men*". This, Locke observes "would very much cumber the use of Language":

> For if every distinct Quality, that were discovered in any Matter by any one, were supposed to make a necessary part of the complex *Idea*, signified by the common Name given it, it must follow, that Men must suppose the same Word to signify different Things in different Men: since they cannot doubt, but different Men may have discovered several Qualities in Substances of the same Denomination, which others know nothing of.[81]

(It's worth noting that different men attach different significations to the same general term even when men "propose to themselves the very same Subject to consider".[82])

Speakers thus face a massive coordination problem. To Locke's mind, this is the moment we go astray. In an attempt to secure common significations for the names of substances, speakers have illicitly "*supposed* a *real Essence belonging to every Species*". In addition – and this is important – speakers make the species name *stand* for these supposed real essences.[83] Speakers "put the name or sound, in the place and stead of the

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[80] *E* III.vi.47: 469.

[81] Ibid.

[82] "Because these simple *Ideas* [qualities] that co-exist, and are united in the same subject, being very numerous, and **having all an equal right** to go into the complex specifick *Idea*, which the specifick Name is to stand for, Men, **though they propose to themselves the very same Subject to consider**, yet frame very different *Ideas* about it; and so the Name they use for it, unavoidably comes to have, in several Men, very different significations" (III.ix.13: 482; bold emphasis mine).

[83] *E* III.vi.49: 469-70.

thing" that we suppose has that real essence "without knowing what that real Essence is[.]"[84]

And here is the crucial point in Locke's story. Locke writes, "this is that which Men do, when they speak of Species of Things, as supposing them made by Nature, and distinguished by real Essences."[85] We take the things we pick out with our species names to possess a common real essence *whereby* they belong to the species, when in fact membership in the kind is a matter only of their agreement with the abstract idea annexed to the species name, which idea expresses the essence of that species. In effect, we regard species that are in fact the workmanship of the understanding to be species "made by nature".

Notice the resulting transformation in our understanding of both real essences and species as distinguished and denominated by us once we suppose a real essence belonging to every species in terms of which we distinguish and denominate things. On the one hand, we now regard the essences of parochial species not as the upshot of our own workmanship, but as made by nature. Take, also, real essences. Locke writes that by real essence is properly meant "the *Essence* of particular things without giving them any Name". Now, however, real essences are conceived as the essences of things *just insofar* as we give them species names, that is, real essences are conceived to be *specifick* real essences, or the essences of species as distinguished and denominated by us.

[84] *E* III.vi.49: 470.

[85] Ibid.

§2.7 Taking Stock and Looking Ahead

Thus far my aim has been to show that the First Opinion conceives of real essences not as the essences of kinds *per se*, but as the essences of species *as* distinguished and denominated by us. Just after articulating the First Opinion, Locke writes that it "has, I imagine, very much perplexed the Knowledge of natural Things."[86] Looking ahead, I argue that one of Locke's primary objections to the First Opinion concerns the resulting metaphysical status conferred on these parochial species, which status Locke argues is an obstacle to the improvement of our knowledge and classification of substances.

I start with Locke's observation that those who hold the First Opinion believe (falsely) that a species name – the written inscription or its vocalization – "stands for" the specifick real essence posited by the view.[87] Further, the word itself is thought to have a natural signification that "agrees to" that specifick real essence. Given the imputed relation between a specifick real essence and a species name, and given that the species name is thought to have a natural signification that agrees to the specifick real essence, the criteria expressed in a definition are thereby conceived to be certain or infallible indication of the presence of a specifick real essence. In fact, speakers take the species name itself to stand proxy for a specifick real essence, as if the word could stand in the stead of the supposed specifick real essence.[88]

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[86] *E* III.iii.17: 418.

[87] "It is usual for Men to make the Names of Substances, stand for Things, as supposed to have certain real Essences, whereby they are of this or that Species" (*E* II.xxxi.6: 378).

[88] *E* III.vi.49; c.f. *E* IV.iv.12.

One of Locke's many complaints against the view is that our species names, "being referred to standards that cannot be known," "their significations can never be adjusted and established by those standards."[89] But this is lost on the Aristotelian, for whom there is no reason to adjust meanings thought to already agree to specifick real essences. By Locke's lights, the Aristotelian thus invests an unearned confidence in the adequacy of our definitions to mind-independent reality. More to the point, she overlooks the *actual* insight we stand to gain by the more prosaic strategy of carefully distinguishing things by their sensible qualities, the only strategy that is in fact available to us, given that what in fact plays the role of a real essence is unknown:

> [T]hose…who pretend not any insight into the real Essences, nor trouble themselves about substantial Forms, but are content with knowing Things one from another, by their sensible Qualities, are often better acquainted with their Differences; can more nicely distinguish them from their uses; and better know what they may expect from each, than those quick-sighted Men, who look so deep into them, and talk so confidently of something hidden and essential.[90]

Those not in the grip the First Opinion – those who "pretend not any insight into the real Essences, nor trouble themselves about substantial Forms" – have a distinct advantage with respect to *knowledge*, not to mention the practical benefits that accrue to having such knowledge.

In the following sections we see that speakers take species names to stand for supposed specifick real essences and take those species names to have natural meanings that accurately describe those specifick real essences. Locke argues that this use of our species names is 'jargon'. On the basis of these conclusions, I argue that insuperable difficulties face the Standard Reading's suggestion that by "the essence of particular

[89] *E* III.ix.12: 482.

[90] *E* III.vi.24: 452.

things without giving them any name," Locke means an explanatory essence of an unsorted particular. The primary significance of these findings, however, lies in the light they shed on Locke's claim that the First Opinion stands as an obstacle to the improvement of our knowledge and classification of substances.

§2.8 Species Names taken for the "Representatives" of Specifick Real Essences

In making their own abstract ideas, speakers arrive at different significations of the same kind term. In an effort to correct for this, they suppose a specifick real essence common to all members of the kind, which fixes the signification of the name. By Locke's lights, this is no solution to one of the inevitable, that is, natural, "Imperfections of Words."[91] It engenders error upon error, not the least of which is an "abuse" of words.

To start, we run afoul of the fact that names can signify only our complex ideas:

> *This supposition,* however, *that the same precise internal Constitution goes always with the same specifick name, makes Men forward to* ***take*** **those** ***names for the Representatives of those*** **real** ***Essences***, though indeed they signify nothing but the complex *Ideas* they have in their Minds when they use them.[92]

As Locke hints here, and explains in detail elsewhere, we take the names of substances – the very *names* and *sounds*[93] – to stand for real essences, to be their "representatives". In fact, it is thought that the *natural meaning* of the *word* itself is such as to uniquely describe a specifick real essence. To show this, Locke invokes a debate about how the word "man," or the greek word "*ἄνθρωπος*", should be defined:

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[91] *E* III.ix.1: 476.

[92] *E* III.x.20: 502; bold emphasis mine.

[93] *E* III.xi.20: 519.

> Thus when we say, that *Animale rationale* is, and *Animale implume bipes latis unguibus*, is not a good definition of a Man; 'tis plain, we suppose **the name *Man*** in this case to **stand for** the real Essence of a Species, and would signifie, that a *rational Animal* **better described that real Essence** than *a two-leg'd Animal with broad Nails*, *and without Feathers*.[94]

Aristotle's definition of the word is typically favored over Plato's. But this dispute over definitions presupposes, Locke argues, that the *word* "man" or "*ἄνθρωπος*" (i) stands for or is the representative of a specifick real essence, and (ii) that the word has a *natural meaning* that uniquely and accurately "describes" that specifick real essence. Each party to the dispute thus take itself to have a better grip on the natural meaning of the word "man," which natural meaning is thought to better describe the supposed specifick real essence of man. Locke continues:

> For else, why might not *Plato* as properly make the **Word** *ἄνθρωπος* or *Man* stand for his complex *Idea*, made up of the *Ideas* of a Body, distinguished from others by a certain shape and other outward appearances, as *Aristotle*, make the complex *Idea*, to which he gave the Name *ἄνθρωπος or Man*, of Body, and the Faculty of reasoning join'd together; unless **the Name** *ἄνθρωπος or Man*, were supposed to stand for something else, than what it signifies; and to be put in the place of some other thing, than the *Idea* a Man professes he would express by it?"[95]

It's important to recognize that Locke is not arguing that the two definitions are equally adequate to mind independent reality – Locke will offer criticisms of both. Rather, Locke is arguing that the disagreement over the definition of the *word* "man" is predicated on the assumption that the written word or its vocalization "stands for the real Essence of a Species," and that the word "man" has a natural signification such that Aristotle's definition best describes that specifick real essence.

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[94] *E* III.x.17: 500; bold emphasis mine.

[95] Ibid.

Thus when Locke says that, on the contrary, Plato can "as properly" make the word stand for the definition "*a two-leg'd Animal with broad Nails*, *and without Feathers*" he is rather echoing a point he makes elsewhere, namely, that "words have no natural meanings":[96]

> [T]he **sound** *Man*, in its own Nature, [is] as apt to signifie a complex *Idea* made up of Animality and Rationality, united in the same Subject, as to signify any other combination[.][97]

However, Locke's analysis of this practice gives rise to an interpretive difficulty. For even Locke claims that, according to one, traditional way of understanding the real essences of things, real essences are *unknown*.[98] Why, then, does he attribute to most speakers the assumption that our words can be the representatives of unknown real essences, and that the definitions we annex to these words uniquely describe those real essences?

Locke writes that there are two "false suppositions" that correspond to the use of species names to pick out specifick real essences, the first of which Locke describes here:

> *First*, That there are **certain precise Essences**, according to which Nature makes all particular Things, **and by which they are distinguished into *Species***. That every Thing has a real Constitution, whereby it is what it is, and on which its sensible Qualities depend, is past doubt: But I think it has been proved, that this makes not the distinction of *Species*, **as we rank them; nor the boundaries of their names.**[99]

This should all ring familiar. However, when it comes to the second "false supposition," Locke writes that we tacitly suppose that we have *ideas* of these specifick real essences:

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[96] Guyer, 119.

[97] *E* III.xi.20: 519; bold emphasis mine.

[98] Locke writes that "[T]he Essences of Things are Thought, by some, (and not without reason,) to be wholly unknown" (*E* III.iii.15: 417).

[99] *E* III.x.21: 502; bold emphasis mine.

> *Secondly*, This tacitly also insinuates, as if we had *Ideas* of these proposed Essences. For to what purpose else is it, to enquire whether this or that thing have the real Essence of the Species *Man*, if we did not suppose that there were such a specifick Essence known?[100]

Those who engage in the practice of taking species names to pick out supposed specifick real essences would not, on reflection, avow that they have ideas of those real essences. But, Locke suggests, the logic of the practice suggests that speakers tacitly suppose that they do. How do we otherwise make sense of an argument that one definition better *describes* a specifick real essence? In the next section I argue that, on Locke's view, the use of species names to pick out specifick real essences amounts to 'jargon'.

§2.9 Names, Specifick Real Essences, and Jargon

The First Opinion is implicated in the practice of taking a species name to stand for a supposed specifick real essence, a practice originally intended as a means to secure common significations for our kind terms.

That practice creates confusion and uncertainty in our discourse with one another. Locke writes, "any Sound that is put to stand for [a specifick real essence], must be very uncertain in its application."[101] The word *in fact* signifies an abstract idea, but it is made to stand for, or "put in the place of," a real essence:

> So that, if I may so say, signifying one thing [an abstract idea], and being supposed for, or put in the place of another [a supposed specifick real essence],

[100] *E* III.x.21: 502; bold emphasis mine.

[101] *E* III.ix.12: 482.

> [our species names] cannot but, in such a kind of use, cause a great deal of Uncertainty in Men's Discourses.[102]

We cannot override the *actual* signification of a species name, even when we intend to make the word stand for a supposed specifick real essence.

I will argue that this observation helps to clarify Locke's reasons for describing a real essence as the "essence of particular things without giving them any name".[103] The description is itself polemical, for the First Opinion could not countenance an understanding of real essences as the essences of things without giving them any name. And yet, because of that very fact, the notion of a specifick real essence is, I will argue, incoherent, or 'jargon'.

We have seen one reason why Locke would describe real essences as the essence of particular things without giving them any name. The names of substances, if they signify anything, signify the abstract idea to which the name is annexed. That would suggest that we could not use parochial names to pick out real essences because they signify abstract ideas. In fact, Locke will tell us that he himself must remain alert to this fact when articulating the Aristotelian position and arguments against it.

For instance, after concluding that "*the supposed real Essences of Things, stand not in stead for the distinguishing Substances into Species,*" Locke considers a possible rebuttal from the Aristotelian. A real essence is, by all accounts, the source of a unique set of properties. If we had a grip on that unique set of properties, so the rebuttal goes, we

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[102] Locke adds, "especially in those, who have thoroughly imbibed the Doctrine of substantial Forms, whereby they firmly imagine the several Species of Things to be determined and distinguished" (*E* III.x.20: 502).

[103] According to the Standard Reading of this description, real essences are the causal-explanatory essences of unsorted particulars. I have argued that Locke rather intends that description to distinguish real essences from the essences of our parochial kinds. Locke writes, "I have often mentioned a real Essence, distinct in Substances, from those abstract Ideas of them" (III.vi.6: 442).

would be in a position to know when two things have the same real essence, even if we do not know the real essence itself. In that case, we could be said to sort things by their real essences.

But the suggestion is hopeless. As Locke explains, we are not in a position to know *that* we have a complete accounting of every property that flows from an unknown real essence, in which case we are not in a position to be certain that the real essence in question is in fact present in a given particular:[104]

> We can never know what are the precise number of Properties depending on the real Essence of *Gold*, any one of which failing, the real Essence of Gold, and consequently Gold, would not be there, unless we knew the real Essence of Gold it self, and by that determined that *Species*.[105]

The real interest of this passage for us, however, lies in the caveat that immediately follows:

> By the Word *Gold* here, I must be understood to design **a particular piece of Matter**; *v.g.* the last Guinea that was coin'd. For if it should stand here in its ordinary Signification for that complex *Idea*, which I, or any one else calls Gold; *i.e.* **for the nominal Essence of Gold**, **it would be *Jargon***: so hard is it, to shew the various meaning and imperfection of Words, when we have nothing else but Words to do it by.[106]

Here is an instance in which Locke intends to pick out a real essence *with a species name*, but then asserts that he is not using the name with its ordinary signification in mind, i.e., the nominal essence or abstract idea to which the name is annexed. He rather "designs" to pick out the real essence of an unnamed, arbitrary particular we would ordinarily classify as gold, e.g., the last guinea coined. Recall that by real essence Locke means the essence

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[104] "But neither can this be done: for being ignorant of the real Essence it self, it is impossible to know all those Properties, that flow from it, and are so annexed to it, that any one of them being away, we may certainly conclude, that that Essence is not there, and so the Thing is not of that *Species*" (III.vi.19: 449); see also Locke, *Works,* 4:49.

[105] *E* III.vi.19: 449.

[106] Ibid.

of particular things without giving them any name. It is precisely *that* concept of real essence that is in force in the passage. This is clear from how Locke communicates his intent to make use of the word 'gold' to stand for a particular he isolates with a definite description, namely, "the last Guinea that was coin'd," i.e., without giving it any *species* name.

Notice, also, the implication that there is a sense of real essence that *would be* in force had Locke not stipulated the sense in which he intends the word 'gold' to be understood in the passage. Locke claims that *that* use of the term 'gold' would be jargon. And it is jargon, I will argue, because it makes use of the concept of real essence as articulated in the First Opinion. It makes use of the concept of a specifick real essence, i.e., a real essence that *is* "supposed" to be picked out by the species name 'gold'.

Locke argues that there is an insuperable difficulty that faces the attempt at leading the mind to the thought of a specifick real essence with a species name. Given that the supposed specifick real essence is thought to be an essence of a species as distinguished and denominated by us, in order to direct his reader's mind to a given specifick real essence, Locke *must* make use of that species name. At the same time, however, this use of the term must be a use that, in effect, sets aside the ordinary signification of the species name, that is, the abstract idea or nominal essence, for the use of the term is supposed to suggest to the mind, not the abstract idea, but the specifick real essence *itself*. Locke hints at the difficulty below:

> I desire, it may be considered, how *difficult* it is, *to lead another by Words into the Thoughts of Things, stripp'd of those specifical differences* we give them: Which things, if I name not, I say nothing; and if I do name them, I thereby rank them into some sort, or other, and suggest to the Mind the usual abstract *Idea* of that *Species*; and so cross my purpose.

In order to suggest to the mind things *as distinguished by* the supposed specifick real essence *itself*, Locke must make use of the species name: "which things, if I name not, I say nothing." However, if he *does* name them, he suggests "to the Mind the usual abstract *Idea* of that *Species*," and this undermines his purpose. The point is made explicit when Locke takes up an example of this attempt in the case of *Man*:

> For to talk of a *Man*, and to lay by, at the same time, the ordinary signification of the Name Man, which is our complex *Idea*, usually annexed to it; and bid the Reader consider *Man*, as he is in himself, and as he is really distinguished from others, in his internal Constitution, or real Essence, that is something, he knows not what, **looks like trifling**: and yet thus one must do, who would speak of the supposed real Essences and *Species* of Things, as thought to be made by Nature, if it be but only to make it understood, that **there is no such thing signified by the general Names, which Substances are called by**.[107]

Locke writes that what he is attempting to undertake is to lead his reader to consider a substance we rank under the name 'man' insofar as that substance is distinguished *as a man*, but so distinguished, not by virtue of its agreement with an abstract idea, but by virtue of a *supposed specifick real essence*. That attempt "looks like trifling," i.e., it is "jargon". But this is the hurdle the Aristotelian must clear when speaking of the "supposed real essences of the *Species* of Things, as thought to be made by Nature." Locke concludes that there are no such things signified by our species names.

§2.10 Conclusion

According to the Standard Reading, Locke, the anti-realist, squares off against the Aristotelian realist. The Aristotelian view, as articulated in the First Opinion, supposes real essences to be the essences of objective kinds. Locke's opposition to the First Opinion, and his own preferred description of real essence as the essence of particular

[107] *E* III.vi.43: 465-66; bold emphasis mine.

things without giving them any name, go far in suggesting that real essences are not the essences of objective kinds, but are rather to be understood as the totality of the microstructural features of an unsorted particular that explains the totality of its sensible qualities. Locke, the anti-realist, does not countenance kinds apart from those that are the workmanship of the understanding.

In this chapter I have argued that Locke is more convincingly read as opposing the thesis that the essences of our parochial kinds are real essences. At the same time, Locke's description of real essence as the essence of particular things without giving them any name is intended to distinguish his own preferred understanding of real essence from the notion of a specifick real essence, a notion that *is* constitutively tied to species names, and incoherent as a result.

In addition, my reading provides an explanation for why the Aristotelian (and vulgar) conception of real essence has "very much perplexed the Knowledge of natural things." Speakers, in order to secure inter-subjective agreement about the significations of general terms, have supposed a real essence common to particulars they classify according to names and the species concepts (general ideas) to which they are annexed. Such supposed real essences are then mistakenly presumed to be that "whereby" things belong to the kinds set out in those general ideas, and are thus conceived to be "specifick real essences". Further, speakers take species names to stand for these supposed specifick real essences, and these words are taken to have natural significations that accurately describe those real essences. In that case, the Aristotelian believes that a sorting of particulars according to our species concepts just is a sorting according to real essences. Our work in classification is in large part finished on such a conception.

While the alternative reading I have proposed removes some familiar obstacles to a realist reading of Locke – where such a reading countenances real essences as the essences of objective kinds – it may appear that it does not remove all of them. Against the First (Aristotelian) Opinion, Locke cites cases of monsters, changelings and other strange issues of humane birth, not to mention bizarre cases of interspecies breeding, as "not possible to consist with this *Hypothesis*".[108] These cases appear to suggest that nature is far too unruly to support the thesis that there are natural kinds.

Locke, however, cautions his reader more than once against such a reading:

> I would not here be thought to forget, much less to deny, that Nature in the Production of Things, makes several of them alike: there is nothing more obvious, especially in the Races of Animals, and all Things propagated by Seed.[109]

And in the passage below Locke goes so far as to suggest that it is probable that nature makes many particular things that *agree with one another in their real essences*:

> *Nature makes many particular Things, which do agree* one with another, in many sensible Qualities, and probably too, in their internal frame and Constitution: **but 'tis not this real Essence** that distinguishes them into *Species*[.][110]

This raises an interpretive question over how we ought to read the significance of Locke's examples of monsters, changelings, and hybrid species. On the Standard Reading, these examples reveal that deviant cases are sufficient in Locke's mind to defeat realism about kinds.

The interpretation I offer here suggests that these examples reveal a different lesson. At issue for Locke is not the apparent *deviancy* of the examples, but rather the

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[108] *E* III.iii.17: 418.

[109] *E* III.iii.13: 415.

[110] *E* III.vi.36: 462; bold emphasis mine.

verdicts speakers in the grip of the First Opinion are inclined to issue in the face of such examples. It is notable that with regard to the two examples of deviant cases that receive the most discussion, Locke argues for an *adjustment* in our initial verdict about whether the thing in fact belongs to the parochial species in question, and sometimes he argues for this adjustment by arguing for an adjustment in how we *define* that parochial species.

In the first case, Locke considers the Abbot Malotru, whose disfigurement at birth was so dramatic that it was doubted whether he was human.[111] Locke argues that if possession of the faculty of reason had been weighted properly in deliberations about whether the infant was really human, the question would have been postponed as one that could be answered only once the infant reached the age of reason, at which point, as we now know, there would have been no doubt as to the Abbot's humanity. In the second case, Locke argues that Changelings – creatures that do not possess reason, but have our outward appearance and so are deemed to be human – should not in fact be classified as human (because they have no reason) but rather belong to a species "between man and beast".[112]

The point of these examples is not to draw attention to their deviancy as a refutation of the objectivity of kinds. Rather Locke's point is that speakers are mistaken in their initial verdicts about the thing's membership, or non-membership, in a kind, as the case may be. And to Locke's mind, these errors, and how they are to be corrected, would *otherwise* be apparent to us were we not in the grip of the First Opinion, according to which we *already have* the right species concepts since, *ex hypothesi*, our species

[111] *E* III.vi.26: 453-454.

[112] *E* IV.iv.13: 569.

names stand for specifick real essences and our definitions accurately describe them. I close with Locke's remarks cautioning against such an assumption:

> I think we cannot be too cautious, that *Words* and *Species*, in the ordinary Notions which we have been used to of them, impose not on us. For I am apt to think, therein lies one great obstacle to our clear and distinct Knowledge, especially in reference to Substances[.][113]

[113] *E* IV.iv.17: 573.

Chapter III

Method and Metaphysics in Locke's Essay

§3.1 Introduction

In the previous chapter, I argued that species as distinguished and denominated by us are not, on Locke's view, kinds made by nature. I also argued that such a denial falls short of a denial that there are objective kinds *apart* from those picked out by our parochial kind terms. My reading thus departs significantly from the Standard Reading, according to which there are no natural kinds.

One of the Standard Reading's mistakes is that it does not take sufficient care in identifying the significance of Locke's argument against the Aristotelian. The Aristotelian conflates kinds made by us with kinds made by nature. The Standard Reading mistakes Locke's argument against that conflation for an argument against the very possibility of natural kinds. And the confusion arises, I argue, because the Standard Reading neglects Locke's very particular use of the term "species" to pick out parochial kinds.

There are, however, other powerful considerations in favor of the Standard Reading. In chapters to come, I refute the two remaining primary reasons why the Standard Reading has enjoyed such broad appeal. These reasons have to do with Locke's account of how our kind terms acquire a general signification as well as his guarded commitment to corpuscularian mechanism as a theory of the nature of material substances. In this chapter, however, I take a step back from what might be called a first-order metaphysical question about the existence of objective kinds and survey Locke's *method* in the *Essay*. My aim in doing so is to sketch and defend a broader picture of

Locke's overall stance towards metaphysics in that work and thereby gain some clarity on Locke's position on natural kinds.

Another reason for turning to questions of method in the *Essay* concerns the status of the Standard Reading itself. For there is a tension between the Standard Reading and one of the leading, influential accounts of Locke's methodological aims in the *Essay*, an account that receives clear support in the texts. According to the latter, Locke's project in the *Essay* was not primarily a metaphysical one but rather that of providing an account of what ideas we have, how we acquire them from sensation and reflection, and what knowledge claims we may justifiably assert on their basis. As a result of these methodological constraints, Locke not only charts the reach of "humane understanding" within fairly narrow limits, Locke abstains from making metaphysical pronouncements beyond those limits. On this story, Locke is held to champion a *modest* or abstemious approach to metaphysical inquiry.

One can see right away that such an account does not sit well with the Standard Reading, for the latter attributes a robust metaphysical position to Locke, one that denies the existence and possibility of natural kinds. According to the Standard Reading, Locke holds that all that exists are particulars, these particulars more or less objectively resemble one another, but the sorting of them into kinds is determined solely by criteria freely chosen by individual speakers. On this story, things have no essential natures *per se*, a property is essential to a thing only on some description of it, and classification is subject only to pragmatic constraints. In short, Locke takes an anti-essentialist, conceptualist approach to natural kinds – one that, incidentally, enjoys broad appeal to this day.

Table-thumping Metaphysician or Modest Under-Labourer to the Sciences? In this chapter I argue that Locke has more subtle positions that do not fall neatly under these common portrayals. In some instances Locke dismisses a metaphysical view for its sheer unintelligibility, i.e., as an "abuse of words" (incidentally, the *chief* ground on which Locke rejects the Aristotelian account of kinds and classification), in others he recommends agnosticism, and in others yet he endorses a position as our best going *hypothesis*.

The best model for understanding Locke's approach to natural kinds, I argue, is to be found in his treatment of morality. Though Locke indeed *assumed* the existence of a divinely decreed and therefore *objective* moral law, Locke's own stated task in the *Essay* was not to *argue* for its truth nor demonstrate its consequences, but rather to give an account of how *we* form our ideas of ethical kinds whether or not we do so by correctly apprehending the moral law. Thus in Locke's scathing reply to James Tyrrell, who gently chided Locke for inviting confusion about his stance on divine law in the *Essay*, Locke writes that it was "besides my purpose and against all rules of method" to "run out into a discourse of the divine law" and "shew how and when it was promulgated to mankinde" and to "demonstrate its inforcement by rewards and punishments in another life" in "a place where I had nothing to do with all this[.]"[114]

In similar fashion, I argue, Locke aimed to provide an account of how we *in fact* form our ideas of substantial kinds in light of our ignorance of the real essences of material bodies. Nevertheless, like the moral case, there are good reasons for thinking that Locke himself believed in God-given objective kinds grounded in unknown real essences apart from kinds embodied in *our ideas* of parochial kinds, which ideas receive

[114] Locke to Tyrrell, August 4, 1690.

the lion's share of Locke's attention in the *Essay*. What my account shows, however, is that certain constraints – among them methodological – preclude Locke from explicitly arguing in favor of that commitment, not the least of which is that it would have been beside his purpose and against all rules of method to do so in the *Essay*.

§3.2 Origins of Locke's *Essay* and "The Historical Plain Method"

As Locke reports in his *Epistle* to readers of the *Essay*, the origins of that work grew out of a discussion among friends on a topic that had nothing to do with the *Essay'*s declared topic, namely, the determination of the nature, scope and limits of human understanding. The discussion led to their agreement that such a project was a necessary first step towards gaining clarity on their original question:

> *Were it fit to trouble thee with the History of this Essay, I should tell thee that five or six Friends meeting at my Chamber, and discoursing on a subject very remote from this, found themselves quickly at a stand, by the Difficulties that rose on every side. After we had a while puzzled our selves, without coming any nearer a Resolution of those Doubts which perplexed us, it came into my Thoughts, that we took a wrong course; and that, before we set our selves upon Enquiries of that Nature, it was necessary to examine our own Abilities, and see, what Objects our Understandings were, or were not fitted to deal with. This I proposed to the Company, who all readily assented; and thereupon it was agreed, that this should be our First Enquiry.*[115]

James Tyrrell was among that group of friends, and, according to a marginal note made in his copy of the *Essay,* their discussion on that occasion "began about the principles of morality and reveal'd religion."[116] Von Leyden ventures that "the discussion among Locke's friends was at first about the law of nature as the basis of morality and its

[115] 'Epistle to the Reader', *E*, 7.

[116] Wolfgang Von Leyden, *John Locke, Essays on the Law of Nature* (Oxford: Oxford University Press, 1954), 60.

relation to natural and revealed religion."[117] However, there could be no satisfactory progress on that topic, the group decided, until it was determined what "Objects our Understandings were, or were not fitted to deal with."

This is the earliest announcement of what is sometimes easy to lose sight of as we progress deeper into the *Essay*, namely, that Locke's primary, and, as some convincingly argue, *sole* objective in that work was to provide what Ed McCann describes as "a natural history of the human understanding"[118] by way of, in Locke's own words, the "Historical, plain Method". Locke describes that method as in the first instance an enquiry into "the *Original* of those *Ideas*…which a Man observes, and is conscious to himself he has in his Mind" and "the ways whereby the Understanding comes to be furnished with them."[119] Once a full accounting of our ideas and their sources in sensation and reflection is made, Locke goes on to assess what we can be said to know with certainty on their basis, and, finally, the grounds of faith and opinion.

Of interest is the fact that *Locke* is bound by the project's normative implications in which he sees the project's primary value:

> If by this Enquiry into the Nature of the Understanding, I can discover the Powers thereof; *how far* they reach; to what things they are in any Degree proportionate; and where they fail us, I suppose it may be of use, to prevail with the busy Mind of Man, to be more cautious in meddling with things exceeding its Comprehension; to stop, when it is at the utmost Extent of its Tether; and to sit down in a quiet Ignorance of those Things, which, upon Examination, are to be found beyond the reach of our Capacities.[120]

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[117] Von Leyden, 60.

[118] Ed McCann, "Locke's Distinction between Primary Primary Qualities and Secondary Primary Qualities," in *Primary and Secondary Qualities*, *The Historical and Ongoing Debate*, ed. Lawrence Nolan (New York: Oxford University Press, 2011), 188.

[119] *E* I.i.3: 44-43.

[120] Ibid.

Some take away lessons, as Locke suggests, are that we should not "perplex our selves and others with Disputes about Things, to which our Understandings are not suited," nor "concern ourselves with things" of which we do not have "clear or distinct Perceptions," or, worse yet, things "whereof we have not any Notions at all."[121]

We can get a better grip on the vision of Locke's project by identifying the sorts of enquiries and speculations he thinks will be disbarred, and here it is worth noting Locke's charmingly modest description of the value of the project of the *Essay*. After mentioning such towering giants in the sciences as Boyle, Sydenham, and "the incomparable Mr. Newton," Locke confides that it is "ambition enough" to be "employed as an Under-Labourer in clearing the Ground a little" and "removing some of the Rubbish that lies in the way to Knowledge."[122] But what, exactly, does the ground clearing amount to? To put it crudely, what counts as rubbish, and on what basis is it to be pushed aside?

It might come as some surprise that by Locke's own account the main obstacle to advances in knowledge is the introduction of *unintelligible terms*. Immediately after his famous under-labourer remarks, Locke writes that knowledge would

> certainly had been very much more advanced in the world, if the endeavours of ingenious and industrious men had not been much cumbered with the learned but frivolous use of uncouth, affected, or unintelligible terms, introduced into the sciences[.][123]

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[121] *E* I.i.3: 44-43.

[122] 'Epistle to the Reader', *E,* 9-10.

[123] Ibid. Locke goes on to write that "Vague and insignificant Forms of Speech, and Abuse of Language, have so long passed for Mysteries of Science; And hard and misapplied Words, with little or no meaning, have, by Prescription, such a Right to be mistaken for deep Learning, and height of Speculation, that it will not be easy to persuade, either those who speak, or those who hear them, that they are but the Covers of Ignorance, and hindrance of true Knowledge" ('Epistle to the Reader', *E,* 10).

Locke concludes that despite the modesty of his project, it is "some service to human understanding" "[t]o break in upon the sanctuary of vanity and ignorance," which shrouds itself in affected and unintelligible forms of speech.

To see how such a project might achieve the modest results Locke envisions we need look no farther than his critique of the Aristotelian account of species. By way of an account of what we can possibly mean by our kind terms – ideas in the mind acquired from sensation – Locke is in a position to show not only that we cannot mean real essences, but that such a use of general terms is jargon (as we saw in Chapter II). *Thereby* a certain metaphysical picture of real essence is disqualified. But note that the metaphysical implications do not extend beyond the reach of what can be said about *our ideas*. For the question Locke asks is: which kinds do *our kind terms*, and the *ideas* to which they are annexed, put us in touch with? Certainly not kinds as set out by real essences, or kinds made by nature, for *our* ideas of kinds, and thus their essences, are the workmanship of the understanding. It is thus no accident that Locke concludes the paragraph in which we find his Under-Labourer remarks with a sheepish admission of Book III's comparatively lengthy discussion of various abuses of *words*, one important entry on which is the view of species and real essence held by the Aristotelian and the vulgar.[124]

While Locke is thus in a position to engage in metaphysical disputes, any negative assessments are sheerly diagnostic in nature: Given the ideas we *do* have, what sorts of

[124] "I hope I shall be pardoned, if I have in the third book dwelt long on this subject, and endeavoured to make it so plain, that neither the inveterateness of the mischief, nor the prevalency of the fashion, shall be any excuse for those, who will not take care about the meaning of their own words, and will not suffer the significancy of their expressions to be enquired into" ('Epistle to the Reader', *E,* 9-10).

metaphysical confusions do we go in for with respect to *those ideas*? Of course, these confusions are ultimately confusions about *the world* and not our ideas. But the reasons Locke marshals against them advert not to claims about what the world must in fact be like but to what can justifiably be asserted on the basis of ideas we can be said to have, and, by extension, what limited claims we might legitimately make about the world on the basis of that stock of ideas.

Returning to the case of real essences, this means that while we are in a position to assert a conclusion about what real essences are *not* like – they are not the essences of parochial kinds, and they are not substantial forms[125] – it is still the case that such an assessment is made from a standpoint circumscribed by *our* stock of ideas. The implication is that if Locke *were*, at heart, an anti-realist, then at least within the confines of the *Essay*, he would not be in much of a position to confront a realist who is in *agreement* with his critique of the Aristotelian.[126] By the same token, however, Locke would be in no position to vigorously defend realism. As to whether these methodological constraints promise disappointingly modest results, Locke writes:

> [T]he taking away false Foundations, is not to the prejudice, but advantage of Truth; which is never injur'd or endanger'd so much, as when mixed with, or built on, Falshood.[127]

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[125] "If any one will say, that the real Essence, and internal Constitution, on which these Properties depend, is not the Figure, Size, and Arrangement or Connexion of its solid Parts, but something else, call'd its particular *form*; I am farther from having any *Idea* of its real Essence, than I was before […] [W]hen I am told, that something besides Figure, Size, and Posture of the solid Parts of that Body, is its Essence, something called *substantial form*, of that, I confess, I have no *Idea* at all, but only of the sound *Form*; which is far enough from an *Idea* of its real Essence, or Constitution" (*E* II.xxxi.6: 380).

[126] Of course, my claim assumes that Locke's frequent appeal to monsters, changelings and inter-species breeding is not itself a threat to natural kinds, a claim for which I argued in the previous chapter.

[127] 'Epistle to the Reader', *E*, 10.

It is also noteworthy that Locke sets aside whole lines of enquiry by appeal to the methodological constraints that are announced in the first pages of the *Essay*.[128] In a passage that seems aimed at Cartesians and Hobbesians alike, Locke warns his reader that

> I shall not at present meddle with the Physical Consideration of the Mind; or trouble my self to examine, wherein its Essence consists, or by what Motions of our Spirits, or Alterations of our Bodies, we come to have any Sensation by our Organs, or any *Ideas* in our Understandings; and whether those *Ideas* do in their Formation, any, or all of them, depend on Matter, or no. These are Speculations, which, however curious and entertaining, I shall decline, as lying out of my Way, in the Design I am now upon.[129]

The bright line hinted at in the passage, and to which Locke returns frequently, is that between ideas as they are "in the understanding" and "things existing without us".[130] This shows up in Locke's account of ideas from privative causes as well as in his explanations as to why the names of simple ideas are not definable.[131]

What starts to emerge is the classic picture of Locke as modest in his metaphysics by reason of the methodological vision set out in the *Epistle*. In the next section I turn to consider Locke's treatment of the primary-secondary quality distinction. According to Ed McCann's recent reading, and contrary to how Locke's discussion of that distinction is

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[128] Although as we will see in the case of primary and secondary qualities, Locke does not always remain within the boundaries of those constraints.

[129] *E* I.i.2: 43-44.

[130] Sometimes with infelicitous results, as we will see in Locke's discussion of the primary-secondary quality distinction.

[131] "[T]he *Idea* of Heat and Cold, Light and Darkness, White and Black, Motion and Rest, are equally clear and *positive Ideas* in the Mind; though, perhaps, some of *the causes* which produce them, are barely *privations* in those Subjects, from whence our Senses derive those *Ideas*. These the Understanding, in its view of them, considers all as distinct positive *Ideas*, without taking notice of the Causes that produce them: which is an enquiry not belonging to the *Ideas*, as it is in the Understanding; but to the nature of the things existing without us. **These are two very different things, and carefully to be distinguished; it being one thing to perceive, and know the *Idea* of White or Black, and quite another to examine what kind of particles they must be, and how ranged in the Superficies, to make any Object appear White or Black**" (*E* II.viii.2: 132); bold emphasis mine. For Locke's discussion of the indefinability of simple ideas, see *E* III.iv.7-11.

ordinarily read, Locke does not attempt to promulgate a metaphysical or ontological thesis about the *true* nature of body, while the account as a whole packs less of a justificatory punch for the superiority of mechanism over the rival Aristotelian account than commentators have ordinarily assumed. McCann's reading provides a case study of the modesty with which Locke approaches metaphysics, while raising some questions pertinent to the reading I defend here.

§3.3 Case Study: Primary and Secondary Qualities

While Locke is certainly not the only philosopher to take up primary and secondary qualities, his account is one of the more famous entries in the history of philosophical discussion of that distinction. Until recently, it has been a cornerstone of Locke interpretation that the corpuscularian hypothesis – what is sometimes referred to as "mechanism" – plays a critical role in Locke's account, its truth either a *conclusion* of Locke's arguments for the distinction or their *presupposition*.

What has puzzled recent commentators like Lisa Downing and Ed McCann, however, is that such a reading does not sit well with the modesty with which Locke characterizes the project of the *Essay*.[132] For mechanism is itself a *metaphysical* position regarding the nature of bodies or material substances, one self-consciously promulgated by its adherents as a challenge to the intelligibility of scholastic, Aristotelian hylomorphism and its attendant real qualities. In this section I canvass McCann's

[132] Lisa Downing, "The Status of Mechanism in Locke's Essay," *The Philosophical Review* 107, no. 3 (July 1998): 381-414; Downing, "Locke's Ontology," in *The Cambridge Companion to Locke's 'Essay Concerning Human Understanding'*, edited by Lex Newman (New York: Cambridge University Press, 2007) 352-380; Ed McCann, "How Locke didn't argue for the primary/secondary quality distinction," Locke Workshop, University of Saint Andrews, June 29th, 2012.

argument that we should dramatically dial back on prior assessments of the *metaphysical* significance of Locke's account of the distinction between primary and secondary qualities.

One of McCann's objectives is to show that Locke's account is not so much an *argument* for the distinction between primary and secondary qualities[133] as a leveraging of our commonsense notion of body against a widespread prejudice about bodies and their qualities, a prejudice that *also* has its origin in common sense; namely, the prejudice that our ideas of colors, tastes, odors, sounds and tactile sensations *resemble* their causes in bodies. According to the prejudice, our sensations of secondary qualities represent those qualities as they are in bodies veridically.[134] Locke argues that since we are in no position to *compare* our ideas of colors, tastes, and odors with their causes in bodies, it is natural for us to make the error.[135] And as McCann points out, the fact that the error has its origin in common sense enshrines the Aristotelian account of real qualities – according to which our ideas of secondary qualities literally resemble those qualities as they are in bodies – with a natural plausibility.

McCann argues that the *way* that Locke arrives at the rival account, according to which the nature of body is exhausted by what are referred to as primary qualities – shape, size, motion and solidity – is not by appeal to the truth or superior intelligibility of

[133] McCann, "Locke's Distinction," 169.

[134] Locke argues that all our simple ideas are real, adequate and true. This is because the criterion for their truth is that they are signs of powers in bodies to produce such ideas in us, even if some of our simple ideas – our ideas of secondary and tertiary qualities – do not *resemble* their causes.

[135] *E* II.viii.24-25, pp. 141-142.

the corpuscularian hypothesis as ordinarily thought,[136] but by a like appeal to our commonsense notion of body, which in turn informs our commonsense notion of how bodies operate to cause sensations in us.[137] The thought is that when we deploy our commonsense notion of how bodies are capable of impinging on us and thus produce sensations of *primary* qualities in us – which qualities form part of our starting commonsense conception of body – we recognize that such an account must hold *equally* of the causal origin of our sensations of so-called *secondary* qualities, in which case these sensations cannot be said to veridically represent their causes in bodies.[138]

One might think that on such a reading there is at best a stalemate between the Lockean and Aristotelian accounts, grounded as both are in our commonsense notion of body.[139] McCann shows why Locke's account nevertheless has the upper hand:

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[136] [T]he corpusucularian hypothesis…is not presupposed as an argumentative premise for drawing the primary-secondary quality distinction. More exactly, Locke's argument for the distinction does not assume or rest on a claim that corpuscularian mechanism is the true natural philosophy (as opposed to its Aristotelian, Spagyritic, or Cartesian competitors), or that it is the one best explanation of the nature and operation of bodies, and particularly of their qualities and powers, or any other variant of the claim that corpuscularianism is on scientific grounds superior to any alternative hypothesis" (McCann "Locke's Distinction," 179).

[137] McCann writes "[Locke] finds that [the Scholastic doctrine of real qualities] originates in the commonsense prejudice that the ideas of sensible qualities are, all of them, resemblances of something really existing in the object itself, the technical Scholastic theory of perception being a sort of metaphysical overlay on this commonsense attitude. This is one of the main motivations for drawing the primary-secondary quality distinction, namely, to undermine, or at least challenge, the commonsense view that the ideas of sensible qualities are, in general, resemblances of qualities actually in the object, and thus undermine the Scholastic theory built out of this prejudice. **The key point to keep in mind is that it is commonsense that provides the tools for undoing the prejudice, namely the commonsense understanding of the notion of body and the causality of body. Hence one piece of common sense has to give way to another**" (McCann, "Locke's Distinction," 177; bold emphasis mine).

[138] Locke describes *all* of our simple ideas as 'real', 'adequate' and 'true'; while not all of our simple ideas *resemble* their causes in bodies, they are nonetheless signs of the presence of their causes in bodies.

[139] "[T]he sole basis for drawing the primary-secondary quality distinction is the commonsense idea of what body is, together with the commonsense view about the causality of bodies, with nothing concerning the alleged truth or scientific superiority of corpuscularianism entering into the argument" (McCann "Locke's Distinction," 179).

> [Locke's] basic claim that we cannot make sense of the causal story [the Aristotelian theory of real qualities] has to tell, on which bodies act not by impulse or contact action but in entirely nonmechanical ways, and the claim that we can, at least in broad terms, understand the causality of bodies mechanistically, does succeed in casting a good bit of doubt on the Scholastic theory.[140]

On the other hand, as McCann explains, despite the superiority of the Lockean account with respect to *commonsense*, its metaphysical implications are nevertheless weak.[141] McCann writes:

> [Locke's account] does not amount to a decisive refutation of the [Aristotelian] theory [of real qualities]. Even though we can't make sense of it, Locke hasn't established that it, or something like it, couldn't be the truth of the matter, that is, that something functionally similar to species could be transmitted to our senses via some non-mechanical causal mechanism and be the cause of sensation.[142]

As a *metaphysics* of body, we can be as confident in the truth of Locke's account of the primary-secondary distinction as we are in the truth of the *commonsense* notion of body by which we arrive at that distinction. McCann's point, however, is that Locke's account of the distinction was never really intended as such, that is, as the true metaphysics of body. McCann observes that while the corpuscularian hypothesis "hits off common sense very well,"

> This doesn't carry much, if any, justificatory force in favor of corpuscularianism and/or against Aristotelianism, but that's not important in the context of the

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[140] McCann, "Locke's Distinction," 187.

[141] In part this is because corpuscularian mechanism, as Locke himself takes pains to point out, is itself plagued with conceptual difficulties, e.g., its inability to account for cohesion and the transmission of motion.

[142] McCann continues, "Even though, as I think Locke has established, the corpuscularian theory, with its distinction between primary and secondary qualities, fits better with our pre-theoretic conception of body and its ways of causing things to happen, and even if, as he's also established, it provides a generally intelligible account of sense perception, there remain all the deep obscurities and conceptual puzzles at the heart of mechanism. So while this edge that the corpusucularian theory has over the Scholastic theory may give us some reason to prefer the former over the latter, we have not been given reason to decisively reject the latter, nor any very strong justification for accepting the former" (McCann, "Locke's Distinction," 187).

> project of giving a natural history of the human understanding, which is, after all, what Locke is mainly about.[143]

For all its apparent *metaphysical* significance, when we situate Locke's primary-secondary quality distinction within the aims of the larger project of the *Essay* we find that it was likely never intended to have that significance.

One of the interesting yet counterintuitive features of McCann's account is that it would have Locke admit that even if commonsense favors his own account, something like the Aristotelian account of real qualities *could be* correct. Can something similar be said of the rival Aristotelian account of species and real essences? It is interesting to note that Locke does admit the *possibility* of the truth of the Aristotelian account of species. In the passage below, Locke explains why it seems so implausible to think that the *boundaries* we find in our abstract ideas – boundaries that often differ person to person – cannot possibly be boundaries made by nature, *if*, Locke then observes, there *are* any "such prefixed Bounds":

> [T]hough the nominal Essences of Substances, are all supposed to be copied from Nature; yet they are all, or most of them, very imperfect. Since the Composition of those complex *Ideas*, are, in several Men, very different: and therefore, that these Boundaries of *Species*, are as Men, and not as Nature makes them, **if at least there are in Nature any such prefixed Bounds**.[144]

One might read Locke to be entertaining the bare possibility of *any* prefixed bounds in nature – certainly no admission of the truth of the Aristotelian view. However, in remarks that follow, Locke clearly entertains the possibility that the Aristotelian thesis is true, that "Nature sets the Boundaries of the *Species* of Things," although with one qualification,

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[143] McCann, "Locke's Distinction," 188. Thus McCann writes "Locke can't claim to have justified any weighty ontological assertions about qualities, and…he can't claim to have definitely refuted the rival Aristotelian theory of real qualities" (187).

[144] *E* III.vi.30: 457-58; bold emphasis mine.

namely, that the boundaries we find in our abstract ideas do not "exactly" conform to those real species, i.e., species made by nature. Locke writes,

> 'Tis true, that many particular Substances are so made by Nature, that they have an agreement or likeness one with another, and so afford a Foundation of being ranked into sorts. But the sorting of Things by us, or the making of determinate *Species*, being in order to naming and comprehending under general terms, **I cannot see how it can be properly said, that Nature sets the Boundaries of the *Species* of Things: Or if it be so, our Boundaries of *Species*, are not exactly conformable to those in Nature**.[145]

What is striking about Locke's admission is the fact that it shows Locke's skepticism to be directed not at the bare thesis of prefixed boundaries in nature, but rather at the thesis that the boundaries of prefixed kinds correspond to the boundaries we find in our abstract ideas. However, it is still possible that the boundaries we find in our abstract ideas correspond to fixed species in nature, there just couldn't be an exact correspondence between them. Of course, this is no declaration on Locke's part that there *are* prefixed boundaries in nature. On the other hand, it does *not* show that Locke was skeptical that there are prefixed boundaries in nature. Nor do these passages show that Locke was agnostic on that question.

There seems to be some evidence, then, that my reading of Locke on kinds and classification finds support in McCann's gloss on Locke's treatment of the primary-secondary quality distinction, according to which Locke provides no decisive rival to the Aristotelian account of real qualities, nor was Locke's account intended to provide the *true* metaphysics of body. However, I argue in the next section that the best model for understanding Locke's attitude towards kinds and classification is to be found in Locke's responses to critics of his treatment of morality in the *Essay*.

[145] *E* III.vi.30: 457-58; bold emphasis mine.

§3.4 Divine Law and the Objectivity of Morality

In his *Epistle,* Locke explains that the *Essay* was prompted by a discussion of a topic 'very remote' from an exploration of the limits of human understanding. As Von Leyden documents, however, many parts of Locke's early, unpublished *Essays on the Law of Nature* show up in the first two drafts of the *Essay* and are preserved in the fourth edition, which forms the basis of the text most commonly read now.[146] Von Leyden goes so far as to suggest that "we are justified in regarding the [*Essays on the Law of Nature*] as being in some sense the earlier draft of the *Essay*."[147]

It is worth noting how Locke opens the first of the *Essays on the Law of Nature*. Reasoning that "there is nothing so unstable, so uncertain in the this whole constitution of things as not to admit of valid and fixed laws of operation appropriate to its nature," Locke suggests that it is reasonable to ask "whether man alone has come into the world altogether exempt from any law applicable to himself, without a plan, rule, or any pattern of his life."[148] That is, it seems reasonable to suppose that we are morally bound by a divinely decreed moral law.

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[146] Von Leyden, passim.

[147] Von Leyden, 62.

[148] "[It being granted that] some divine being presides over the world…He who has set bounds even to the wild sea and prescribed to every kind of plants the manner and periods of germination and growth; it is in obedience to His will that all living beings have their own laws of birth and life; and there is nothing so unstable, so uncertain in this whole constitution of things as not to admit of valid and fixed laws of operation appropriate to its nature – it seems just therefore to inquire whether man alone has come into the world altogether exempt from any law applicable to himself, without a plan, rule, or any pattern of his life. No one will easily believe this, who has reflected upon Almighty God, or the unvarying consensus of the whole of mankind at every time and in every place, or even upon himself or his conscience" (*Essays on the Law of Nature*; *Essay* 1:109).

Incidentally, the passage is one amongst many in the *Essays on the Law of Nature* that suggest a theological basis for something like prefixed or objective kinds – Locke argues that there is nothing in the world that does not admit of fixed laws of operation appropriate to its *nature*. There are faint resemblances between these passages and passages in the *Essay*.[149] On the whole, however, the *Essays on the Law of Nature* afford a much more secure foundation for a theological account of natural, or objective kinds.

The same can be said of Locke's account of the law of nature itself, or the divinely decreed moral law. Von Leyden notes that "much of the epistemological theory" of the *Essays on the Law of Nature* gets reproduced in the first two drafts of the *Essay*, "which in turn contain their germ of his final doctrine concerning human understanding." However, "[a]s to Locke's early doctrine of natural law," "most of its metaphysical and theological aspects are lost sight of by him during the year 1671."[150] This omission was grounds for some insistent pestering from Locke's friend James Tyrrell after the *Essay*'s publication. Familiar with the fact that Locke was hanging on to the unpublished *Essays on the Law of Nature,* Tyrrell writes in a letter dated 27 July 1690:

> I could wish you would publish your owne thoughts upon this excellent; and material subject; since I know you have made long since a Treatise or Lectures upon the Law of nature which I could wish you would revise, and make publick, since I know none more able, then your self to doe it: and I have heard you say more then once that you intended it[.][151]

Tyrrell urges Locke to revise and publish his early *Essays on the Law of Nature* in part to settle some questions he was fielding from friends who had read the recently published

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[149] As I will argue in Chapters VI, VII, and VIII.

[150] Von Leyden, 65.

[151] James Tyrrell to Locke, 27 July 1690.

Essay. One source of confusion was what Locke meant by the phrase "divine law" in certain passages of the *Essay*.[152] Tyrrell's friends objected that Locke could only mean *revealed* law, that is, the Mosaical, or Evangelical law, otherwise, Tyrrell reports, Locke would be vulnerable to certain objections. For instance, how do we come to *know* this law if not by way of Scripture? If not by Scripture, Tyrrell notes, "it is likewise much doubted by some whether the Rewards and punishments you mention can be demonstrated as established by your divine Law, which I am satisfyed is the same with that which others call the Law of nature."

Locke's reply is dated 4 August 1690. The first thing to bear in mind is Locke's statement that he *does* affirm a divinely decreed law of nature *apart* from revealed law in the *Essay*:

> [I]t is as plain as any thing can well be – L.1. c 3. §13, where it was proper from me to speake my opinion of the Law of nature, I affirme in as direct words as can ordinarily be made use of to Expresse ones thoughts that there is a Law of Nature Knowable by the light of nature[.][153]

The passage in the *Essay* to which Locke refers above occurs in the chapter in which Locke denies that there are innate practical principles. Locke writes:

> I would not be here mistaken, as if, because I deny an innate Law, I thought there were none but positive Laws. There is a great deal of difference between an innate Law, and a Law of Nature; between something imprinted on our Minds in their very original, and something that we being ignorant of may attain to the knowledge of, by the use and due application of our natural Faculties. And I think they equally forsake the Truth, who running into contrary exstreams, either affirm an innate Law, or deny that there is a Law, knowable by the light of Nature; *i.e.* without the help of positive Revelation.[154]

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[152] James Tyrrell to Locke, 27 July 1690.

[153] Locke to Tyrrell 4 August 1690.

[154] *E* I.iii.13: 75.

Locke describes the occasion of this passage as a moment when it was proper for him to speak his opinion about the law of nature. He did not want readers to take his denial of innate practical principles for a denial that there is an objective, moral law.

In reply to the other charge relayed by Tyrrell, namely, that you, Locke, do not "expressly tell us, where to find, this Law, unlesse in the SS [Scriptures]", Locke replies, "cannot I tell you in matter of fact that some men many men [*sic*] do compare their actions to a divine law and thereby forme the Ideas of their Moral rectitude or pravity without telling where that law is to be found?" This hints at the intent behind Locke's most forceful reply to Tyrrell, one that appeals to Locke's intended *method* in the *Essay*. Locke writes,

> But I know not how you would still have me **besides my purpose and against all rules of method** run out into a discourse of the divine law shew how and when it was promulgated to mankinde demonstrate its inforcement by rewards and punishments in another life in a place where I had nothing to do with all this and in a case where some mens bare supposition of such a law whether true or false servd my turne. 'Twas my businesse there to shew how men came by moral Ideas or Notions and that I thought they did by comparing their actions to a rule.[155]

Locke then explains that in his chapter on moral relations in Book II, he discussed three rules or standards in relation to which men "compare their actions to frame moral Ideas". These rules are "divine law,[156] the Municipal law and the law of reputation or fashon". Locke notes that while it is possible that he could be in error about the rules in accordance with which men *in fact* judge the moral pravity of their actions, nevertheless

> [I] cannot be accused for not haveing treated more amply of those rules in that place or enterd into a just disquisition of their nature force or obligation when if

[155] Locke to James Tyrrell, 4 August 1690.

[156] As Locke explains elsewhere in the letter to Tyrrell, by 'divine law' in *this* instance of the occurrence of that term, Locke only means to speak "indefinitely" of that law; when speaking indefinitely of that law, Locke means *both* the divine law conceived as the law of nature and divine law conceived as revealed law.

> you will looke into the end of that chapter you will finde 'tis not of concernment to my purpose in that chapter whether they be as much as true or noe but only that they be considerd in the mindes of men as rules to which they compare their actions and judg of their morality.[157]

As if that were not sufficient to convince Tyrrell of his misguided requests for a fuller discussion of the law of nature in the *Essay*, Locke explains that "the grounds of true morality" was not his intended topic in the *Essay*:

> I did not designe here to treat of the grounds of true morality which is necessary to true and perfect happinesse and 'thad been impertinent if I had so designed: my businesse was only to shew whence men had moral Ideas and what they were and that I suppose is sufficiently don in that chapter.[158]

Locke's remarks accord nicely with McCann's observation that the wider project of the *Essay* was to provide a natural history of human understanding. In the moral case, this amounts to showing "whence men had moral Ideas and what they were," while at the same time Locke's objectives in the *Essay* would have made it "impertinent" to aim at treating the *true* grounds of morality. However, what should not be lost in Locke's reply is his own *professed* belief that there *is* a true ground of morality, namely, a divinely decreed moral law.

Locke's reply to Tyrrell also casts a different light on theses in the *Essay* that are often, but mistakenly, taken to demonstrate the *relativity* of morality, a charge Locke circumvents in a lengthy footnote in the chapter on moral relations. There Locke replies to a critic,[159] who, Locke reports, writes "as if…I went about to make *Vertue Vice* and

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[157] Locke to James Tyrrell, 4 August 1690.

[158] Ibid.

[159] As Von Leyden notes, the critic in question, James Lowde, raised the objection in his *Discourse Concerning the Nature of Man* (1694) (Von Leyden, 77).

Vice Vertue." Locke denies arguing any such thing. Regarding the text that provides the occasion for that charge, Locke explains

> I was there, not laying down moral Rules, but shewing the original and nature of moral *Ideas*, and enumerating the Rules Men make use of in moral Relations, whether those Rules were true or false: and pursuant thereunto I tell, what has everywhere that denomination, which in the language of that place answers to *Vertue* and *Vice* in ours, which *alters not the nature of things,* though Men generally do judge of, and denominate their actions according to the esteem and fashion of the place or Sect they are of.[160]

Locke goes on to make it quite clear that he is no moral relativist, noting that had the author in question read a number of specified passages in the *Essay*, "he would have known, what I think of the eternal and unalterable nature of right and wrong[.]"[161] More to the point, in that very section Locke explains that "though, perhaps by the different Temper, Education, Fashion, Maxims, or Interest of different sorts of Men" "*Vertues* and *Vices* were changed," he immediately downplays this relativity, writing:

> Yet, as to the Main, they for the most part kept the same every where. For since nothing can be more natural, than to encourage with Esteem and Reputation that, wherein every one finds his Advantage; and to blame and discountenance the contrary: 'tis no Wonder, that Esteem and Discredit, Vertue and Vice, should in a great measure every-where correspond with the unchangeable Rule of Right and Wrong, which the Law of God hath established; there being nothing, that so directly, and visibly secures, and advances the general Good of Mankind in this World, as Obedience to the Laws, he has set them, and nothing that breeds such Mischiefs and Confusion, as to the neglect of them.[162]

That Locke ultimately downplays the differences in appraisals of right and wrong, and of virtue and vice across societies suggests that the occasions on which he *does* emphasize variant ideas of morality are in part rhetorical measures intended to sway his

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[160] *E* II.xxviii.11: 354, n.

[161] Ibid.

[162] *E* II.xxviii.11: 356.

readers against the view that our ideas of virtue and vice are *innate*. For if these ideas *were* innate, there would be widespread inter-subjective agreement amongst our ideas of morality.[163]

There is a notable parallel between Locke's line of reasoning here – that our ideas of morality cannot be innate because there is variability in these ideas – and Locke's reasoning that the species in terms of which we distinguish and denominate things cannot be made by nature because there is variability across speakers' abstract ideas. Locke is quite explicit about the connection:

> [Our nominal *Essences*] *are made by the Mind*, and not by Nature: For were they Nature's Workmanship, they could not be so various and different in several Men, as experience tells us they are.[164]

And in this case, too, Locke cautions a similar rush to judgment about the *ultimate* truth of the matter:

> I do not deny, but Nature, in the constant production of particular Beings, makes them not always new and various, but very much alike and of kin one to another: But I think it is nevertheless true, that *the boundaries of the Species*, *whereby Men sort them, are made by Men*; since the Essences of the *Species*, distinguished by different Names, are, as has been proved, of Men's making, and seldom adequate to the internal Nature of the Things they are taken from.[165]

Here Locke is contrasting a claim about things in the world – nature makes them very much alike and "of kin" one to another – with a claim about the *variable* and *inadequate* nature of *our general ideas* of beings that are made alike and so of kin one to another. Of course, these observations alone do not decisively show that Locke believed in natural kinds. And while they do pose a notable similarity between Locke's reasoning about the

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[163] *E* I.iii.10: 72.

[164] *E* III.vi.26: 453.

[165] *E* III.vi.37: 462.

moral case and the case of kinds and classification, as striking as the parallels so far noted are, to really make the case it seems we would need something like a statement of Locke's own opinion on the matter, namely, a statement that he believes that there are natural kinds, along with something like the explanation that it was not part of his project of the *Essay* to defend realism about kinds understood to be distinct from *our ideas* of parochial kinds.

Although nothing *exactly* of this sort turns up in the *Essay* or elsewhere, there are notable moments in Locke's exchange with Stillingfleet that hint at the view that real essences are types and therefore *essences* in the proper sense of the word, essences moreover, fixed by God, which latter claim we find below:

> [I take real essences] 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 to every particular creature, when he gives a being.[166]

A couple of pages later, Locke explains to Stillingfleet that we do not classify the sun in terms of its real essence, but rather by our nominal essence and this explains why we do not denominate some of the fixed stars as "suns". What is important for our purposes is the fact that Locke goes on to explain that if we *did* classify the sun by its real essence, it is possible that we would find that its real essence is the *same* with the real essence of one of the fixed stars, thus suggesting that by real essence Locke means something that two particulars may *share*:

> [A]nd thus our sun is denominated and distinguished from a fixed star; not by a real essence that we know (for if we did, it is possible we should find the real essence of constitution of one of the fixed stars to be the same with that of our sun). [167]

[166] Locke, *Works*, 4:82.

[167] Ibid.

As suggestive as these remarks are, they are for reasons I am about to canvass all we can hope for from Locke; a reader hopeful for some decisive passage that would demonstrate Locke's commitment to natural kinds will by the very nature of the case come up empty handed. In what follows I explain why.

In December of 1692, two years after the *Essay* was published, Locke's friend Molyneux writes to praise Locke's account of genera and species, but also to express a misgiving:

> What you say concerning genera and species is unquestionably true; and yet it seems hard to assert, that there is no such sort of creatures in nature as birds: for though we may be ignorant of the particular essence that makes a bird to be a bird, or that determines and distinguishes a bird from a beast; or the just limits and boundaries between each; yet we can no more doubt of a sparrow's being a bird, and a horse's being a beast, than we can of this colour being black, and the other white[.][168]

Like many of Locke's readers, Molyneux takes Locke's account of species and genera to show not only that they are the workmanship of the understanding, but that *apart* from *our* general ideas of species and genera, *there are no* real or objective sorts; and that latter claim "seems hard to assert". Unfortunately, Molyneux makes the fatal mistake of using *names* or *general terms* for species, i.e., 'bird', 'horse', 'sparrow' – terms for parochial species – to express his objection. Sure enough, Locke pounces on the error, although with a sympathy suggestive of difficulties Locke himself encountered when articulating his views on species and real essences in the *Essay*:

> In the objection you raise about species, I fear you are fallen into the same difficulty I often found myself under, when I was writing on 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 a horse's being a beast, than we can of this colour

[168] Molyneux to Locke, December 22, 1692.

> being black, and the other white," &c. 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.[169]

As Locke's ensuing remarks show, his position on genus and species just summarized above do not amount to the view that there "there is no such sort of creatures in nature as birds" for that "is both contrary to truth and to my opinion."

It is the remarks that follow that promise to shed light on Locke's views on the reality of kinds apart from what he refers to as species and genera:

> This I do say, that there are real constitutions in things, from whence these simple ideas flow, which we observe 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 whereby we distinguish and rank particular substances into sorts, or genera and species, is not those real essences, or internal constitutions, but such combinations of simple ideas as we observe in them.[170]

If this is indeed an admission of the reality of objective distinctions between the real constitutions of things, distinctions that *would* ground their correct classification were we acquainted with those real constitutions, it is the closest thing to an admission of the existence of objective kinds that we can hope to get from Locke. For as Molyneux inadvertently shows, there is a difficulty that attends the very *expressibility* of the thesis, a difficulty Locke himself appears to acknowledge in the final remarks of the passage:

> This I designed to show, in lib. iii. c. 6. […] Some parts of that third book, concerning words, though the thoughts were easy and clear enough, yet cost me more pains to express than all the rest of my Essay.[171]

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[169] Locke to Molyneux, January 20th 1692-3.

[170] Ibid.

[171] Locke continues, "And therefore I shall not much wonder if there be in some places of it obscurity and doubtfulness. It would be a great kindness from my readers to oblige me, as you have done, by telling me any thing they find amiss; for the printed book being more for others' use than my own, it is fit I should accommodate it to that, as much as I can; which truly is my intention." (Locke to Molyneux,

Stepping back for a moment, note that Locke *is* in a position to express his commitment to the moral law with words. But what words could Locke use to express his commitment to kinds apart from those picked out by our parochial kind terms? *Any* general term, not to mention the terms 'species' and 'genera' themselves, are by virtue of Locke's commitments not suitable for the purposes of expressing that commitment. Were one a realist about kinds, one would have to resort to just the forms of expression Locke makes use of in his reply to Molyneux.

§3.5 Concluding Remarks

I have argued that there are two, primary reasons why Locke never comes right out and states his commitment to the reality of objective kinds apart from species and genera (what I have referred to elsewhere as parochial kinds). The first is local to the *Essay*. As we saw in the moral case, by virtue of the *Essay*'s methodological constraints Locke restricts himself to providing an account of the ideas we in fact have, how we acquire those ideas, and, in the case of our general ideas of kinds, what sorts of confusions we go in for with respect to those ideas. As we saw in the previous chapter, our confusions with respect to kinds are explained by reference to our attempt to secure inter-subjective agreement about the significations of our kind terms, and this kind of explanation is in keeping with Locke's "natural history" of species and genera, which are ultimately ideas in the mind.

January 20th 1992-3). Lionel Shapiro recognizes and emphasizes similar limits on the expressibility of the thesis that there are natural kinds in "Toward 'Perfect Collections of Properties': Locke on the Constitution of Substantial Sorts," *Canadian Journal of Philosophy* 29, no. 4 (1999): 551-592.

The second reason, I argue, has to do with limits on realism's very expressibility within the confines of Locke's account. General terms already in use pick out abstract ideas. Even were we to coin a general term with the intention of picking out one of the real kinds, since the real kinds are unknown, we would end up saying nothing at all. Finally, any use of the terms 'species' and 'genus' to pick out the real kinds, whatever they are, would be deviant, not to mention the fact that their real signification would override the signification we intend. Apart from 'real Essence' and its synonym 'real Constitution', there seem to be no words for expressing the thesis.

This raises a question about the concept of real essence itself. Why does Locke countenance it at all given that the items out in the world that satisfy the concept are not available to sense experience? Lisa Downing takes up a similar question with regard to Locke's "view that all of a thing's qualities follow from its…real constitution." Downing notes that this "seems the most controversial aspect of Locke's ontology, and it may well sound like the sort of metaphysical commitment that a proponent of epistemic modesty ought to eschew[.]"[172]

Downing observes that there are in fact two questions in the vicinity, the first being "how do we come up with such a view?" and the second "why should we take it to be true?" With respect to the first question, Downing argues that the view is a "refinement" on a more fundamental distinction between appearance and reality, itself arrived at by "reflection on sensory experience".

The answer to the second question, Downing suggests, has to do with how such a commitment makes the world intelligible to us:

[172] I have for the purposes of brevity simplified things here, but with no cost to the point I wish to make, nor to Downing's own point; see Downing, "Locke's Ontology," 379.

> this is what it would be for the world to be intelligible in principle. Locke has already given up on the world's being fully intelligible *to us*, as we are presently constituted, with the faculties that we have […] That the world is *in principle* intelligible, intelligible to other spirits and perhaps to us, given other ideas, is a view that Locke shows no signs of abandoning. He ought to regard it as a defeasible assumption – his epistemic modesty demands this much – but he does not regard it as defeated.[173]

Although Downing does not cite them as instances of how the concept of real essence plays a role in making the world intelligible to us, the following passages nonetheless appear to be fitting examples of her point. Locke writes that:

> The Mind being … furnished with a great number of the simple *Ideas*, conveyed by the *Senses*, as they are found in exterior things…takes notice also, that a certain number of these simple *Ideas* go constantly together[.][174]

As Locke explains below, this observation licenses the inference that qualities that go constantly together flow from a thing's real essence:

> Combinations of simple *Ideas*, as are by Experience and Observation of Men's Senses taken notice of to exist together…are therefore supposed to flow from the particular internal Constitution, or unknown Essence of that Substance.[175]

The legitimacy of the concept of real essence lies, as Downing suggests, in the intelligibility it lends to certain observed phenomena in the world.[176]

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[173] Downing, "Locke's Ontology," 379-80.

[174] *E* II.xxiii.1: 295.

[175] *E* II.xxiii.3: 296; n.b. note Locke's use of "particular" here, c.f., *E* II.xxxi.6: 380

[176] As we will see in Chapter IV, Downing's remarks might suggest that we understand real essences – understood as a common cause explanation of qualities that regularly co-occur – in terms of the functional role they play in explaining a certain observable phenomenon.

Chapter IV

Conventionalism and the Idea-Theoretic Account

§4.1 Introduction

No scientist would investigate the properties common to items in my junk drawer. But water – the substance common to oceans, rivers, lakes and streams – and mercury – the substance common to, say, amalgam fillings and glass thermometers – both count as instances of kinds recognized in the taxonomical divisions we find in the sciences, and so are proper objects of study. That is, kinds of this sort are either the starting points of further inquiry or the result of such inquiry. This raises the following question: of all the logically possible ways of grouping things together, what makes certain of them count as kinds such that they figure in the right way in scientific inquiry? According to conventionalism, grouping things in accordance with what we ordinarily think of as natural kinds – e.g., *water* and *mercury* – is, from the perspective of what *the world* is like, really no different from a classification according to which, say, items in my junk drawer form a kind. Certainly there are good reasons to exclude a classification that recognizes the latter, and thus there are reasons to favor one scheme of classification over another, but these reasons can reflect only the particular human interests at stake when *we* seek to organize our knowledge of the natural world.

Locke's *Essay* is considered by many to be the source of one novel and influential argument for conventionalism, what is referred to as the Idea-Theoretic Account of kinds and classification. Classification, on Locke's view, proceeds according to general ideas. The mark of a general idea is that it represents not some particular thing – in the way that my idea of the particular oak tree in my back yard represents and so picks out just *that*

particular – but rather *many* particulars. General ideas represent many particulars by representing some feature or features that many particulars have in common. In experience, however, we are confronted with only *particulars*, which means that the ideas we start out with are ideas of particulars, e.g., my idea of the particular oak tree in my back yard.

That we confront only particulars in experience, then, fails to explain why we have general ideas at all. Locke argues that we must *make* our general ideas. Starting with our ideas of particular things, we abstract just those qualities in respect of which a number of objects resemble one another. In this way we arrive at general ideas. However, *which* of objects' innumerably many respects of resemblance we do recognize in forming our general ideas is, according to the Idea-Theoretic Account, a matter of convention, in which case which of many possible *general ideas* are to count as our genus and species concepts is also a matter of convention, and so an arbitrary and subjective matter.

The Idea-Theoretic Account runs into difficulties, however, when we turn to passages in which Locke articulates robust constraints on classification best understood within an *Aristotelian* framework of real essences and the unique sets of properties that flow from them. Indeed, I argue that implicit within those constraints is what I will call the *Discovery Model*. According to that model, the unknown real essences of so-called natural substances are individuated prior to our coming on the scene to classify them, the observable properties that flow from these unknown real essences are a matter of discovery, and these facts not only constrain how we form our general ideas, they are the independent standard against which their adequacy is measured.

Still, against the *Discovery Model*, one might argue that a conventionalist gloss can be given to Locke's claims that the qualities proper to a kind are a matter of discovery and so constrain how we form our general ideas. I articulate the most plausible rendering of conventionalism consistent with those claims. According to what I call the *Voluntarist Model,* while it is true that *after* a conventionally defined boundary is introduced, the properties that belong to particulars that fall within that boundary are indeed a matter of discovery, this is a concession the conventionalist can happily make. In reply to this proposal, I argue that close attention to Locke's story of how Adam forms his concept of a sort he christens *Zahab* raises difficulties that *Voluntarism* cannot meet.

§4.2 The Idea-Theoretic Account

Locke's ontology is an ontology of particular substances, for example, samples of water and gold, and individuals like the oak in my back yard, Audrey Hepburn's cat in *Breakfast at Tiffany's*, and my little sister. Their qualities include features like shape and size, as well as dispositional properties such as solubility, the power to produce color sensations in certain perceivers, and the capacity for rational thought.[177] The question that animates Book III of the *Essay* is how we classify particular substances into kinds.

As we saw in Chapter I, Locke rejects moderate realism, according to which membership in a genus or species is a matter of a particular's instantiating a universal, or having a substantial form. According to conceptualism, a particular is a member of a genus or species solely by virtue of falling under a genus or species concept the mind

[177] In addition, Locke recognizes relations and modes, the latter a kind of catch-all category that includes not only geometrical figures like a triangle but complex moral properties like justice and murder, to mention but a few.

itself has made. This is the sense in which Locke is a *conceptualist*. Still, the question under consideration is whether Locke *also* embraced conventionalism. Is there, on Locke's view, any fact of the matter about which *concepts* or general ideas are to count as the genus and species concepts in accordance with which we are to classify particulars? According to the Idea-Theoretic Account, the answer is no; Locke embraced not only conceptualism, but conventionalism as well.

The Idea-Theoretic Account begins with Locke's claim that everything that exists is particular. Thus we apprehend in sensation only ideas of particular substances and their many qualities. Yet the hallmark of a general idea is its capacity to represent not just one particular, but many particulars. We thus need an account of how we come to have general ideas *at all*. Locke's account is the familiar one of abstraction. We make our ideas of particulars general by selectively attending to the qualities of things, and, noting which are respects in which particulars resemble one another, allow the remaining qualities to drop out of the idea. The resulting idea comprehends all those particulars that resemble one another with respect to the qualities represented therein.

The line of thought just sketched would seem to tell us only how we come to form general ideas without yet deciding the question of whether or not there is an objective, or privileged sorting of particulars.[178] Paul Guyer argues, however, that conventionalism is secured by reflection on the procedure we follow when we make our general ideas.[179] Conventionalism, Guyer suggests, follows from two tenets of Locke's view. First, Locke's particularism – "the premise that only particulars exist in nature" – is, Guyer

[178] I owe this way of putting the point to Jeff McDonough.

[179] Guyer passim.

argues, "the basis of all of Locke's ensuing argument."[180] Guyer then turns to the task we face when making a general idea. We must select for respects in which particular substances resemble one another, but we find that there are indefinitely many similarities between particulars, and therefore indefinitely many possible general ideas we might make. Guyer observes that "there seems to be nothing to stop us in the proliferation of abstract ideas capturing particular resemblances among individuals."[181] Meanwhile, nature offers up "only many particulars resembling each other in many ways," and so nothing to which we might appeal in determining *which* of indefinitely many possible general ideas to privilege in a classificatory scheme.[182] In the face of a proliferation of general ideas, Guyer insists, "we must decide where to stop, and which species to recognize in our system of classification."[183] Thus "while there are natural similarities among particulars," there are "no natural kinds."[184]

We must, Guyer concludes, bring to bear considerations informed by our own aims and interests in deciding which respects of resemblance to recognize in a classificatory scheme. Even assuming our current scientific knowledge, on the basis of which, say, gold is defined in terms of atomic number, Locke's thesis would *still* hold, Guyer argues, since nothing in the phenomena forces us to recognize the ways in which particular samples of gold resemble one another in terms of their number of protons (that

[180] Guyer, 126.

[181] Guyer, 130.

[182] Guyer, 145, n. 4.

[183] Guyer, 130.

[184] "It is we who must decided, for instance, to ignore all the differences of size, shape, color, texture and so on among adult men and women and boys and girls in defining the species of human beings, and instead choose as our criterion for membership in a single species something like the potential for fertile mating" (Guyer, 130).

is, in terms of their atomic number).[185] Classification is and can only be a product of our intellectual choices.

As Guyer and many of Locke's readers understand Book III of the *Essay*, classification requires a necessary and ineliminable element of choice. However, Guyer takes care to emphasize the considerations that, in his view, actually inform that conclusion. Given Locke's occasional references to a Great Chain of Being and his guarded endorsement of corpuscularian mechanism, one might think that the necessity of choice arises because there are no qualitative "gaps" in nature in respect of which gaps clear and obvious boundaries between species can be drawn. For example, as white shades into black, at what point along the continuum do we distinguish black from grey, or grey from white?[186] The thought is that with respect to that question, at least, we are not really committed to there being a fact of the matter, and only pragmatic reasons could inform a decision as to precisely where to demarcate, say, true black from grey. Likewise, if there are no "chasms" or gaps between particulars ranged along a continuum, it seems fair to conclude that nature offers up no natural or objective ways of demarcating species. (Descending to the microscopic level doesn't help: again, we find only differences of degree.) Nor are we really committed to there being a fact of the matter about whether, say, we ought to segregate or rather group together individuals in proximity to one another on the continuum.

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[185] Guyer, 134.

[186] This is a reference to an analogy Molyneux conveys to Locke in correspondence, although Molyneux does not think that the sorites considerations he adduces refute the thesis that there are objective facts of the matter regarding species membership, although as we saw in Chapter III, Molyneux falls into the trap of articulating that thought in terms of the names of parochial species. Molyneux writes: "yet we can no more doubt of a sparrow's being a bird, and a horse's being a beast, than we can of this colour being black, and the other white: though, by shades, they may be made so gradually to vanish into each other, that we cannot tell where either determines" (Molyneux to Locke, December 22, 1692).

While Guyer admits that Locke's "position may have been motivated by the corpuscularian hypothesis or the idea of the great chain of being or both," Guyer argues that "it is not logically dependent on either of them.[187] Whether particulars ranged along a continuum present us with clear qualitative gaps, or rather no gaps, in *either* case we have to make our general ideas, which in turn is a matter of representing respects in which particulars resemble one another. The very task of making a general idea requires that we attend to resemblances between things, *and so* the very task of making a general idea requires that we arrive at some decision about which of innumerably many respects of resemblance between particulars we are to recognize in those ideas.[188] Thus on Guyer's reading, apart from their innumerably many respects of resemblance, no appeal to what particulars are like, and no appeal to our ignorance of their inner corpuscularian natures is necessary for Locke's conventionalism:

> Locke's conclusion that species are the workmanship of the understanding is derived solely from the logic of his analysis of the force of general terms, and has nothing to do with substantive claims about the kinds of similarities that actually obtain among individuals in nature or with the specific limits in our scientific knowledge of natural objects.[189]

Guyer thus wishes to distinguish the Idea-Theoretic Account, appealing as it does only to "the logic of general ideas,"[190] from readings that appeal to Locke's metaphysical

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[187] Guyer, 145, n. 4.

[188] "Many writers have suggested that Locke's theory of classification follows from his assumption of a great chain of being at the level of phenomenal properties, or even more directly from his acceptance as part of the corpuscularian hypothesis of the idea that there is an infinite gradation of differences among objects at the microscopic level[.] But Locke's thesis is not that we must draw arbitrary lines between species because they naturally form a continuum; his position is rather that just because nature contains only many particulars resembling each other in many ways we must decide which differences between individual objects, whether grossly salient or barely noticeable, to include in our abstract ideas of them and thus in our definitions of general terms" (Guyer, 145, n. 4).

[189] Guyer, 130.

[190] Guyer, 137.

commitments – to a great chain of being, or to corpusuclarianism. This is because it has been argued that the progress of science *has* revealed natural or objective boundaries at the level of the real constitutions of things. If that claim has any plausibility, Locke's account is under threat. On the Idea-Theoretic approach, however, Locke's theory of classification is, so its proponents argue, rendered invulnerable to objections from the progress of science.[191] The thought is that new discoveries do not change the fact that kinds are still a matter of the nature of our *ideas* and how we arrive at them. As an example, Margaret Atherton cites our ideas of gold and water. Our ideas of these kinds started with the observable qualities of the substances we classify together as gold or water. And while we may as we discover more about the micro-constitutions of these substances "add new features, such as atomic number and molecular structure, to our idea of gold or water," nevertheless "we do not in any serious way change the kind of idea we are producing."[192] This line of thought is most explicit in Guyer's observation that even a classification according to atomic number is not one that nature imposes on us *because* our knowledge of atomic number does not change *how* we arrive at our general ideas:

> Contrary to Locke's expectations, we have now learned a great deal about the real constitution of many kinds of matter, and among their "insensible particles" we can now distinguish, among others, neutrons and protons. But what forces us to classify two lumps in the real constitutions of which there are the same numbers of protons but different numbers of neutrons as two different isotopes of the same substance rather than two different substances? Nothing but our own decision to use the number of protons rather than neutrons as the basis of our system of classification of the kinds of matter – a choice for which we (or Medeleyev) have had very good reason, but which nonetheless remains a product of our own

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[191] Atherton, 268.

[192] Atherton, 269.

> intellectual activity and is simply not forced upon us by the objective similarities in nature.[193]

Guyer concludes that "even when we know real constitutions" it is still the case that "the boundaries of species" are "the workmanship of the understanding".[194]

In the next sections I argue that there is far more to Locke's account of classification than what we find in Guyer's Idea-Theoretic account. On my reading, we make our abstract ideas of substances by inquiring after the qualities of substances that can be conjectured to flow from their unknown real essences, qualities that thus merit the status of being a *property* or "proprium" in the Aristotelian sense. In the next section I show that Locke's notions of a real essence and the properties or propria that depend upon a real essence find their home, perhaps surprisingly, in Aristotelian metaphysics.

§4.3 Aristotelian Real Essences and Properties

According to the Aristotelian framework, there are three sorts of qualities: (i) qualities that belong to an essence proper – what Locke refers to as a *real* essence; (ii) qualities that flow from that real essence – what are referred to as *propria* or properties; and (iii) accidents, that is, qualities that are neither part of the essence of a thing, nor flow from that essence. An accident is "what can belong or not belong to the same thing."[195]

A paradigmatic Aristotelian example can help illustrate these concepts. The essence of *man* is captured by the description "rational animal". A property that is said to

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[193] Guyer, 134.

[194] Ibid.

[195] Porphyry, *Isagoge*, trans. with introduction and notes by Edward W. Warren (Toronto: The Pontifical Institute of Medieval Studies, 1975), 49.

flow from that essence is risibility, the capacity for laughter. An example of an accident is being freckled.

Locke rejected at least some of the metaphysical commitments that attend the Aristotelian framework, for instance the notion of a substantial form, which is what, according to the Aristotelian, plays the role of a real essence in her metaphysics. Locke thought that *something* plays the role of an Aristotelian real essence, that is, something counts as a real essence of a thing that grounds the propria that belong to it. On Locke's view, our best guess as to what, metaphysically speaking, grounds the propria of substances and so merits the status of being a real essence is some *aspect* of a particular's corpuscularian micro-structure. Locke writes:

> This Essence, from which 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[.][196]

The Aristotelian notions of a real essence and the prorpria or properties that flow from a real essence play a role, I argue, in Locke's account of how we make our general ideas of substantial kinds. According to Locke, we aim to include all and only the propria that flow from the unknown real essences of substances. However, this is a task that is not easy to meet and impossible to carry out completely. Locke writes that it should not be thought strange that "I count the Properties [propria] of any sort of Bodies not easy to be collected, and completely known by the ways of enquiry, which our Faculties are capable of." This is because the properties of the sorts of things "being…at least so many,

[196] *E* II.xxxi.6: 379.

that no Man can know the precise and definite number, they are differently discovered by different Men, according to their various skill, attention, and ways of handling[.][197]

However, the task of classification and that of improving our knowledge of the propria that belong to the sorts of substances would be considerably easier were we to *know* the real essences from which their propria flow and on the basis of that knowledge form our ideas of sorts. In order to see this, consider the case of geometrical figures like triangles and ellipses. Locke argues that we *do* know their real essences – our definitions of geometrical kinds capture their real essences. However, Locke asks us to imagine what would be true were forming a general idea of an ellipsis not a matter of knowing its real essence, but rather involved something like the endeavor we in fact undertake when we make our ideas of substantial sorts. What, Locke asks, would be the case "if we were to have our complex *Ideas* of [mathematical Figures]", only by collecting their Properties, in reference to other Figures"? That is, what would be the case were we consigned to collect only the properties of mathematical figures were we ignorant of their real essences? Locke answers:

> How uncertain, and imperfect, would our *Ideas* be of an *Ellipsis*, if we had no other *Idea* of it, but some few of its Properties?[198]

Of course, we are not in that predicament. And this, Locke explains, makes all the difference in the world when it comes to what we can know on the basis of our ideas when they are ideas of real essences:

> Whereas having in our plain *Idea*, the whole Essence of [an Ellipsis], we from thence discover those Properties, and demonstrably see how they flow, and are inseparable from it.[199]

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[197] *E* III.ix.482-483.

[198] *E* II.xxxi.11: 382.

In the case of substances, however, we cannot on the basis of ideas we form by collecting their propria *alone* discover *further* propria "and demonstrably see how they flow, and are inseparable from" real essences. Rather, we must continue to collect propria but by painstaking observation and experiment.

In the following three sections, I show that Locke articulates three constraints on classification that are to be understood in terms of real essences and the propria that flow from them. In short, Locke argues that in making our general ideas we aim to include all and only propria that flow from the unknown real essences of substances. I then go on to articulate a version of conventionalism that plausibly makes sense of these commitment and argue that it is refuted by Locke's story of how Adam makes his general idea of a sort not previously recognized by his linguistic community.

§4.4 Constantly Co-existing Qualities and the Inference to a Real Essence

According to the Idea-Theoretic account, we make our general ideas by attending to the respects in which particulars resemble one another, and, further, we are at liberty to choose which respects of resemblance to recognize in our general ideas. Locke certainly argues that it is our ability to note and mark off respects of resemblance between things that explains how we come to have general ideas.[200] However, few conclusions can be drawn from these observations for they at most provide an explanation for certain phenomena, namely, that we have general ideas at all and what it is about our general

[199] *E* II.xxxi.11: 382.

[200] *E* III.iii.7: 411.

ideas that make such them capable of representing many particulars. Once that account is in place, the story regarding how we form our general ideas shows us to be attending to something more than the respects in which particular things resemble one another. Or so I will argue in this section.

Locke writes that our abstract ideas of substances are "taken from Combinations of simple *Ideas* [qualities] existing together constantly in things, of which Patterns, [our abstract ideas] are the supposed Copies."[201] What we notice as we make our way through the world, and what we go on to attend to when we make our abstract ideas, is the fact that "a certain number" of substances' qualities "go constantly together":

> The Mind being … furnished with a great number of the simple *Ideas* [of qualities], conveyed by the *Senses*, as they are found in exterior things…takes notice also, that a certain number of these simple *Ideas* [of qualities] go constantly together[.][202]

But what does Locke mean by "constant coexistence," what he elsewhere refers to as necessary connection?[203] By observation, trial, and experiment we can identify qualities that tend to clump together. Suppose we find that all bodies that have qualities *q*, *r*, *s*, also have quality *t*. Upon finding or supposing qualities *q*, *r*, *s* together, we have good reason to think we will also find quality *t* in that body.

Note that Locke's reasoning is not unlike the Aristotelian account of how, by induction, we closely approximate the kinds that exist by identifying their properties. As Michael Ayers explains,

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[201] *E* II.xxxii.18: 391.

[202] *E* II.xxiii.1: 295. At *E* II.xxxi.6, p. 379, Locke writes, "[t]he complex *Ideas* we have of Substances, are…certain Collections of simple *Ideas* [of qualities], that have been observed or supposed constantly to exist together."

[203] At *E* IV.i.3: 525 Locke writes that one of the four "sorts" of agreement between ideas that ground knowledge claims is "*Co-existence*, or *necessary connexion*."

> [The Aristotelian] thought that we could identify the 'properties' of the species by induction from individuals and then, by philosophical reflection, pick out the peculiar 'difference'. The purpose of identifying the real essence…was explanation, not classification: it was simply and not unreasonably presupposed that we can identify members of the same species at least fairly well on the basis of more or less obvious points of resemblance recurring in our experience.[204]

Like the Aristotelian, Locke also posits real essences that play an explanatory role; real essences are that from which all of a substance's properties can be derived, at least in principle. However, what fulfills the role of a real essence is, as we saw, different. Real essences are, on Locke's view, the *hidden* micro-structural features of bodies that are the causal and explanatory ground of qualities that repeatedly or constantly clump together:

> [W]e come to have the *Ideas of particular sorts of Substances*, by collecting such Combinations of simple *Ideas*, as are by Experience and Observation of Men's Senses taken notice of to exist together, and **are therefore** supposed to flow from the particular internal Constitution, or unknown Essence of that Substance.[205]

Note that a real essence grounds not only those constantly coexisting qualities we include in our abstract idea but any *further* qualities that are found or can be supposed to constantly coexist with them.[206]

Qualities that clump together merit the inference to an unknown real essence as their foundation and cause. Note that the mere co-instantiation of qualities in particular substances does not itself merit the inference to a real essence as their cause. While Locke certainly believes that we find a causal explanation for *any* of a particular's observable qualities by reference to its constituent corpuscles and their qualities, not all of a thing's qualities can be explained in terms of a *real essence*. As a particular kind of

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[204] Ayers, *Locke: Epistemology and Ontology*, 2:71-72.

[205] *E* II.xxiii.3: 296; bold emphasis mine.

[206] Locke writes, "By this *real Essence*, I mean 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* [abstract idea]" (*E* III.vi.6: 442).

explanatory cause, a real essence is explanatorily and causally related to only some of the qualities we find in particulars, those we find that clump together in a number of particulars. Such qualities thus merit the Aristotelian designation of being *properties* or propria.[207]

What elicits our inference to a real essence as a common cause is likewise that in reference to which we make our abstract or general ideas. We collect into our abstract ideas all and only those qualities that, on the basis of experience, or by conjecture, can be said to go constantly together:

> The complex *Ideas* we have of Substances, are…certain Collections of simple *Ideas*, that have been **observed** or **supposed** constantly to exist together.[208]

What Locke's remarks suggest is that it is not respects of resemblance that we attend to in making our ideas of substantial kinds, but rather qualities we have reason to believe flow from substances' unknown real essences. It seems, then, that we have located in Locke's view an *independent* criterion in light of which only some of substances' qualities merit inclusion in an abstract idea, and that would seem to be at odds with the conventionalist reading.

In the next section, I argue that Locke's claim that the properties or propria that belong to sorts are a matter of *discovery* also speaks against the conventionalist reading.

[207] It seems obvious that this should be a *defeasible* criterion – we might be wrong that some quality really is a proprium – although I know of no place where Locke says that it is a defeasible criterion.

[208] *E* II.xxxi.6: 379.

§4.5 Properties are Differently Discovered by Different Speakers

As we saw in Chapter II, one feature of natural language that preoccupies Locke is the fact that speakers attach different significations to one and the same kind term. These differences in signification, Locke writes, gives rise to confusion and uncertainty in our discourses about natural substances. For instance, I use the term 'gold' to pick out one definition, while my chemistry professor's use of that term picks out a different definition. Differences in how we define sorts can lead to disputes between speakers over which features in fact belong to the kind.

According to Locke, the explanation for the variability in how we define substantial sorts lies in the fact that different speakers are in different epistemic positions with respect to the properties that belong to sorts. What, say, the expert knows about the properties common to gold or elm trees is indeed different from what the layperson knows, and this results in each having different ideas of these kinds. In fact, Locke argues that so many properties belong to sorts that we can expect that their properties are and will be differently discovered by different speakers, in which case it is inevitable that we each define our idea of a sort differently:

> *Men are far enough from having agreed on the precise number of simple* Ideas*,* or Qualities, *belonging to any sort of Things, signified by its name.* Nor is it any wonder, since it requires much time, pains, and skill, strict enquiry, and long examination, to find out what, and how many those simple *Ideas* are, which are constantly and inseparably united in Nature, and are always to be found together in the same Subject.[209]

[209] *E* III.vi.30: 457.

In light of similar considerations, Locke elsewhere writes: "who therefore cannot chuse but have different *Ideas* of the same Substance, and therefore make the signification of its common Name very various and uncertain."[210]

Differences in the signification of our kind terms are thus the upshot not of choice, but of differences in the properties speakers *discover*. For instance, a child faced with a sample of gold knows only its shining yellow color. Another *investigates* further and discovers that it is malleable, while yet another will discover that it is soluble in *aqua regia*, all of which features Locke counts as *properties* that belong to the sort.

Two features of Locke's account now appear in tension with the conventionalist reading. First, it looks as though qualities we find to constantly coexist in certain substances provide an independent standard to which we defer in making our abstract ideas; second, such qualities are a matter of discovery. In the next section, I show that Locke thinks that we may not *exclude* any such qualities from an abstract idea, which *prima facie* suggests a further way in which the conventionalist reading can be challenged.[211]

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[210] *E* III.ix.13: 483.

[211] I should note that Locke's account already appears to suggest that there are natural joints in nature that we are in a position to *track* on the basis of the observable qualities of things. As I noted in Chapter II, Locke is happy to admit that nature doesn't make all things new and variable; there are resemblances between things that afford the ranking of them into sorts: "I do not deny, but Nature, in the constant production of particular Beings, makes them not always new and various, but very much alike and of one to another" (*E* III.vi.37: 462). Elsewhere Locke writes, "many particular Substances are so made by Nature, that they have agreement and likeness one with another, and so afford a Foundation of being ranked into sorts" (*E* III.vi.30: 457-58). I thus interpret Locke as making a much stronger claim here than Guyer would allow. On Guyer's view, Locke is to be read as saying only that there are resemblances between things, and these resemblances make the very enterprise of making *general ideas* possible, but *which* resemblances are important for the purposes of *classification* is up to us. Against this reading, I interpret Locke as saying that the resemblances between substances determine how we are to *sort* them. On Guyer's reading, the resemblances between things results in a proliferation of many possible general ideas, and so many possible ways of sorting substances into kinds. On my reading, resemblance in fact *narrows* considerably the field of possible ways of classifying substances into kinds. I provide a more extensive argument for this claim in Chapter VII.

§4.6 Properties Cannot be Excluded from the Idea of a Sort

In addition, Locke argues that no speaker is at liberty to *exclude* from her abstract idea any of the known properties that belong to a sort. Here, Locke's argument is directed at the Aristotelian assumption that we can identify which of a thing's qualities belong to its essence proper – its real essence – and which are but properties that flow from that essence.

In the example that Locke gives, Locke notes that the "common idea" of iron is of a substance "of a certain Colour, Weight, and Hardness." Locke observes that we mistakenly take this to be a description of the *real essence* of iron. Further, we take malleability to be a proprium that flows from the real essence of iron. However, our common idea of iron cannot be an idea of its real essence because we cannot derive on the basis of *that idea* iron's malleability, which we consider to be a property that flows from that real essence. But because we consider malleability to be a proprium, while we consider the color and weight and hardness of iron as qualities belonging to its real essence, we *exclude* malleability from our idea as "but a property" of iron, i.e., as not belonging to its real essence. But, Locke points out, the qualities we collect into our idea are *all* "but" propria of the substance, in which case we cannot include only some of them in our general idea to the exclusion of others, as we do in the case of our idea of iron.

This argument is directed at the Aristotelian, who takes our ideas of substantial kinds to be ideas of real essences. The upshot of that argument, however, has consequences for how we are to understand Locke's own views on how we are to *form* our ideas of substantial kinds. We cannot exclude from our idea any propria we have

reason to think flow from the real essence of a thing. And that further tells against the conventionalist reading, for the implication is that we are not at liberty to exclude certain qualities of things from our ideas of genus and species.

Our aim in making abstract ideas is to capture the regular co-occurrence of certain qualities, those that merit the inference of flowing from an unknown real essence, and so merit the designation of being *properties* or *propria*. Elsewhere Locke argues that properties are *inseparable* from one another. We can make sense of this claim by attributing to Locke the view that they flow from a *common cause*, in which case, where we find some of these qualities together in a particular, we may justifiably posit the others. Though the inseparability of properties, or propria, from one another is not an inseparability that we apprehend by *deriving* them from their common cause – a real essence – Locke nonetheless thinks that we that we may track *the fact* that they are inseparable from one another *in certain bodies*, namely, those in which they constantly co-occur.[212]

As Locke explains below, we may not, on pain of error, expressly exclude from our abstract idea any of the inseparable qualities that belong to a sort. Locke writes:

> [N]o one can shew a Reason why some of the inseparable Qualities, that are always united in nature, should be put into the [abstract idea of *Gold*], and others left out: Or why the Word *Gold*, signifying that sort of Body the Ring on his Finger is made of, should determine that sort, rather by its Colour, Weight, and Fusibility; than by its Colour, Weight, and Solubility in *Aqua Regia*: Since the dissolving it by that Liquor, is as inseparable from it, as the Fusion by Fire[.][213]

[212] "As to *Co-existence,* or such a necessary connexion between two *Ideas*, that **in the Subject** where one of them is supposed, there the other must necessarily be also: Of such agreement, or disagreement as this, the Mind has an **immediate** perception but in very few of them" (*E* IV.vii.5: 594; bold emphasis mine). I take Locke to be arguing here that we cannot a priori know which qualities are going to be inseparably united in nature because we do not have ideas of the real essences from which they flow as their common causes.

[213] *E* III.ix.17: 485-486; bold emphasis mine.

Locke goes on to press the point, and his use of the term *property* drives the argument home. Locke asks:

> For by what right is it, that Fusibility comes to be a part of the Essence, signified by the word *Gold*, and Solubility but a property of it? Or why is its Colour part of the Essence, and its Malleableness but a property? That which I mean, is this, That all these being all but Properties, depending on its real Constitution…no one has Authority to determine the signification of the Word *Gold*…more to one Collection of *Ideas* [of properties] to be found in that Body, than another[.][214]

Qualities like solubility in aqua regia, fusibility, and malleability are all properties of gold because they are features that depend on a real essence. Again, Locke's use of the term 'property' is consonant with the traditional, Aristotelian conception of *propria*, or features that flow from the essence of a sort and are therefore inseparable from it.

Nevertheless, Locke is attacking the Aristotelian assumption that we can *identify* which observable features belong to the *essence* of a sort, and which belong to the sort as "but properties" that flow from that essence. The thought that attends the practice of taking what are in fact properties to be "a part of the Essence," while excluding others as "but properties," thus rests on a mistake about the *status* of the features we include in our abstract ideas. As Locke clearly states, all *candidate* qualities for inclusion in our abstract ideas are *but properties*. Locke writes:

> [It is a mistake] *when I judge, that this complex* Idea, *contains in it the real Essence of any Body existing*; when at least it contains but some few of those Properties, which flow from its real Essence and Constitution.[215]

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[214] Locke concludes that "Whereby the signification of that name must unavoidably be very uncertain. Since, as has been said, several People observe several Properties in the same Substance; and, I think, I may say no body all. And therefore we have but very imperfect descriptions of Things, and Words have very uncertain Significations" (*E* III.ix.17: 485-86).

[215] As Locke explains, we know only some few of the Properties that flow from the real essence because "those Properties consisting mostly in the active and passive Powers, it has in reference to other Things, all that are vulgarly known of any one Body, and of which the complex *Idea* of that kind of Things is usually made, are but a very few, in comparison of what a Man, that has several ways tried and examined

On what basis does Locke maintain, against the Aristotelian, that we do not have insight into the essences of substantial sorts, but only into the properties that flow from their essences? Locke proposes a test for whether any idea of a substantial sort can be said to capture the essence – what he refers to below as the "real essence" – from which the properties of that sort flow:

> The complex *Ideas* we have of Substances are, as it has been shewn, certain Collections of simple *Ideas*, that have been observed or supposed constantly to exist together. But such a complex *Idea* cannot be the real Essence of any Substance; for then the Properties we discover in that Body, would depend on that complex *Idea*, and be deducible from it, and their necessary connexion with it be known; as all Properties of a Triangle depend on, and as far as they are discoverable, are deducible from the complex *Idea* of three Lines, including a Space.[216]

When our idea captures the real essence of a thing, we may deduce its properties on the basis of our idea. Recall Locke's example of the ellipsis. On the basis of our idea of it, which is an idea of its real essence, we can "from thence discover those Properties, and demonstrably see how they flow, and are inseparable from it." That is the test by which we may determine whether we have captured in our idea a real essence.

But in the case of substances, we can *never* capture the real essence, for the various properties that we discover to co-occur are *not* deducible from our abstract ideas, in which case, Locke claims, our complex idea of a substantial sort "cannot be the real Essence" of that sort. A moment's reflection on the example of iron shows why:

> The common *Idea* Men have of *Iron*, is a Body of a certain Colour, Weight, and Hardness; and a Property that they look on as belonging to it, is malleableness. But yet this Property has no necessary connexion with that complex *Idea*, or any

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it, knows of that one sort of Things; and all that the most expert Man knows, are but few, in comparison of what are really in that Body, and depend on its internal or essential Constitution" (*E* II.xxxii.24: 392-93).

[216] *E* II.xxxi.6: 379.

> part of it: And there is no more reason to think, that malleableness depends on that Colour, or that Weight depends on its malleableness.[217]

The common idea of iron is restricted to a certain color, weight and hardness. Malleability, on the other hand, is deemed to be a *property* of that sort. Were the common idea of iron an idea of its real essence, we would expect – according to Locke's test – that we could *derive* malleability on the basis of that idea. However, malleability "has no necessary connexion with that complex *Idea*, or any part of it."[218]

Note that even were we to give up the thought that our definitions reflect real essences, it is still, by Locke's lights, a mistake to judge that we have captured the *complete* collection of properties that belong to a sort when we exclude some of its properties. Here, Locke is not targeting the Aristotelian, yet his critique turns on the claim that a determinate number of properties belong to a sort, *and* their status *as such* is not a matter of a speaker's choices. Locke writes that it is a mistake

> When in its complex *Idea*, [the Mind] has united a certain number of simple *Ideas*, that do really exist together in some sorts of Creatures, but has also left out others, as much inseparable, *it judges this to be a perfect complete* Idea*, of a sort of things which really it is not*; *v.g.* having joined the *Ideas* of substance, yellow, malleable, most heavy, and fusible, [the Mind] takes that complex *Idea* to be the complete *Idea* of Gold, when yet its peculiar fixedness and solubility in *Aqua Regia* are as inseparable from those other *Ideas*, or Qualities of that Body, as they are one from another.[219]

No speaker may limit her definition of a sort to only some of its known properties according to the thought that they are a part of the real essence. Even when a speaker

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[217] *E* II.xxxi.6: 379.

[218] Thus we cannot from our idea of a body of a certain color, weight, and hardness derive the fact that such a body must *also* be malleable in the way that we can from our idea of a triangle derive that such a figure must also have internal angles that sum to 180 degrees.

[219] *E* II.xxxii.23: 392.

gives up that thought, she makes a mistake when she limits her definition to only some of a sort's known properties and judges her idea to be a perfect, complete idea.[220]

To summarize the territory covered thus far, Locke claims that (i) speakers form their abstract ideas of sorts by *deference* to qualities that constantly coexist with one another and so merit the inference of flowing from an unknown real essence, in which case such qualities are *properties*; (ii) the properties that belong to sorts are differently discovered by different speakers; and (iii) no individual speaker may expressly exclude any known properties from her abstract ideas. Stepping back for a moment, it is not immediately obvious how these commitments are to be made sense of on the standard view articulated by Guyer, according to which classification is a matter of arbitrarily choosing from amongst the innumerably many respects of resemblance between things. On behalf of that reading, I sketch a version of conventionalism that meets these constraints in the next section.

§4.7 Voluntarism

On Locke's view, the real essences of natural substances are not Aristotelian substantial forms, but aspects of their hidden micro-constitutions that give rise to a determinate set of constantly coexisting qualities. There is, however, an interpretive question over what *makes it the case* that some aspect of a substance's microstructure is its real essence. The conventionalist argues that the status of being a real essence and the status of being a property are designations we impose on reality. Real essences and the

[220] That Locke thinks that this is a distinct kind of error from that of the Aristotelian is evident in Locke's observation that "The Mistake is yet greater, *when I judge, that this complex* Idea*, contains in it the real Essence of any Body existing*; when at least it contains but some few of those Properties, which flow from its real Essence and Constitution" (*E* II.xxxii.24: 392).

properties that depend on them are not determined in advance of our classificatory activity, but rather *by* our classificatory activity. The Conventionalist thus argues for what I will call the Voluntarist Model, henceforth *Voluntarism*.

First, the conventionalist will point out that all of a substance's discoverable qualities are causally related to, and thus flow from, some aspect of a particular's micro-structural constitution. In this respect, the discoverable qualities of particulars are on all fours. However, once a speaker makes a choice to include some of a substance's observable qualities in her abstract idea, in so doing she picks out some aspect of a particular's microstructure as the causal source of just *those* observable qualities, and *thereby* do facts about real essences come into being. Hence *Voluntarism*. The *properties* that belong to a sort, then, are just those features a speaker includes in her abstract idea. If investigation reveals that particulars that agree with that abstract idea are discovered to have further observable qualities in common, these are also properties, since they, too, will be causally related to micro-structural features common to those particulars.

With respect to the three commitments articulated above, the conventionalist will argue that we can make sense of standards that exert normative force over how speakers define sorts without conceding that those standards are objective. What gives rise to the appearance of an objective standard is the fact that no *particular* speaker's decisions determine which qualities count as properties of a sort, in which case no particular speaker's decisions determine which micro-structural aspects of particulars count as a real essence. The conventionalist argues, however, that we can admit that such facts are indeed determined independently of particular speakers' choices without thereby giving up conventionalism. There is a common standard, but the common standard is

individuated by the common meaning of a kind term *already in use* within a linguistic community.

Once the use of a kind term takes hold within a given linguistic community, every speaker, so the thinking goes, becomes disposed to pick out more or less the same set of particulars. Consider Locke's example of gold. What Locke himself is presupposing in his use of that example is a common, *conventionally* arrived at set of criteria that govern what speakers are disposed to recognize as belonging to the extension of that term. It is with respect to *these* particulars and *their* shared, constantly coexisting qualities – which include qualities like malleability, fusibility, and solubility in *aqua regia* – that we make sense of Locke's normative claims regarding which qualities speakers ought to include in their abstract ideas of gold.

The key thought is that the criteria in accordance with which speakers are disposed to recognize more or less the same particulars as members of a kind are to be explained by appeal to *Voluntarism*. The view thus recognizes two moments in the life of a natural kind term: (i) a conventional introduction into a community, (ii) and a nonconventional investigation of the implications of that introduction. The first stage captures the moment at which speakers find it serves their purposes to distinguish particulars according to criteria of their choosing. At that point, none of the normative constraints Locke discusses are in effect. However, once a community of speakers adopts the practice of distinguishing things according to such criteria, and once speakers become disposed to recognize more or less the same particulars as belonging to the sort, certain normative constraints kick in.

It is at *this* point in the story, says the conventionalist, that we are to make sense of Locke's claims that (i) speakers form their abstract ideas of sorts by deference to observations about qualities that constantly coexist with one another and therefore merit the inference of flowing from an unknown real essence; (ii) properties of a sort are differently discovered by different speakers; and (iii) no speaker may expressly exclude any of the known properties that belong to a sort. Thus while it's true that no particular speaker is responsible for individuating the properties that belong to sorts, and so no particular speaker is responsible for individuating the real essences of sorts, it does not follow that Locke rejected conventionalism. In the history of a sort's coming to be, choices were made regarding which qualities of particulars were relevant to their membership in that sort.

A real essence, on this story, is made up of micro-structural features common to those particulars every speaker is disposed to recognize as belonging to the extension of a commonly recognized kind. Properties, on this reading, are those qualities that depend on micro-structural features common to all particulars in that extension. Real essences and the properties that depend on them – *and* the features that satisfy these concepts in any given case – are designations we impose on reality.

§4.8 Adam and Zahab: An Origin Story

In evaluating the plausibility of this reading, the first thing to note is that it flies in the face of Locke's repeated claims that speakers make their abstract ideas by deference to collections of qualities observed or supposed – that is, conjectured – to constantly coexist and therefore *merit* the inference to an unknown real essence as their common

cause. Locke's claim is both factive *and* normative. It is a description of how speakers do and ought to make their abstract ideas. More importantly, it is a description of what in the first instance *prompts* speakers to make their abstract ideas. Some observations and conjectures about the qualities exhibited by substances elicit the thought that we are confronted with facts relevant to the *kinds* to which they belong. And the thought *that* we are confronted with a kind is, on Locke's description of things, prior to or at least contemporaneous with our going on to investigate which of a substance's qualities are relevant to its membership in that kind.

In fact, that Voluntarism faces the difficulty just articulated is confirmed in a story Locke tells about Adam. One of Adam's children brings home a glittering substance whose novel qualities prompt him to make an abstract idea on its basis. Certain features of the story are immediately worth highlighting.

In telling the story, Locke's intention is to account for how a speaker forms an abstract idea of a substantial sort *before* that sort is recognized by his linguistic community, and thus before there are facts about what are ordinarily recognized as criteria for membership in the kind. In the story, Locke claims that Adam's procedure for making his abstract idea is from the outset a matter of deference to what investigation of an exemplar of the sort reveals. Further, Locke claims that all of the *properties* Adam discovers in the exemplar make *necessary* ingredients in his abstract idea. But here the conventionalist cannot appeal to the common meaning of the term as what initially fixes the extension of the kind. In this case, there is no prior, conventionally determined extension whose members' shared qualities *fix* a real essence and the properties that flow from it.

Turning to Locke's story, one of Adam's children brings home "a glittering Substance, which pleases his Eye". Locke writes that "This piece of Matter…being quite different from any he had seen before, no Body…will deny to be a distinct Species, and to have its peculiar Essence[.]"[221]Adam, finding the glittering substance to be of a bright yellow color and very heavy, goes on to make an abstract idea consisting of these qualities.[222] Adam names the substance *Zahab*, which "is the mark of the Species, and a Name belonging to all Things partaking in that Essence."

Adam continues his investigation into its properties and discovers that it is fusible and fixed. Locke reasons, "Are not they also, by the same Reason, that any of the others were, to be put into [Adam's] complex *Idea*, signified by the Name *Zahab*?" Reasons that necessitate inclusion of the most immediately observable properties equally embrace what "farther trials" discover in that body. Locke's conclusion is damning for the conventionalist reading:

> If [Fusibility and Fixedness] must, then all the other Properties, which any farther Trials shall discover in this Matter, ought by the same Reason to make a part of the Ingredients of the complex *Idea*, which the Name *Zahab* stands for, and so be the Essence of the Species, marked by that Name.[223]

All *properties* – that is, all features that can be conjectured to flow from a real essence – should, Locke argues, be included in Adam's abstract idea.

It should be emphasized that at no point in the story does Adam make a *choice* as to which qualities are to be the defining features of the sort. Indeed, according to Locke's argument, Adam can find no reason to exclude any properties he discovers in the

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[221] *E* III.vi.47: 468-69.

[222] *E* III.vi.46: 469.

[223] Ibid.

exemplar. It is thus difficult to see how Adam can be said to individuate the extension of the term, whose members' shared qualities in turn fix that micro-structural aspect on which those qualities supervene. Locke's normative constraints are in play, in accounting for which the conventionalist cannot appeal to a conventionally established boundary.

In fact, Locke's account of how a speaker forms her abstract idea of a sort *before* that sort is recognized by her linguistic community is confirmed elsewhere in the *Essay*. In a revealing example that has obvious parallels with the Adam story, Locke imagines the *first* encounter with a substance we would now denominate gold. That speaker is prompted to make an abstract idea, and he rightly excludes the shape and size of the particular body he encounters since these cannot be conjectured to "depend on its real Essence, or internal Constitution":

> Whosoever first light on a parcel of that sort of Substance, we denote by the word *Gold*, could not rationally take the Bulk and Figure he observed in that lump, to depend on its real Essence, or internal Constitution. Therefore those never went into his *Idea* of that Species of Body; but its peculiar Colour, perhaps, and Weight, were the first he abstracted from it, to make the complex *Idea* of that Species. [224]

Note that the speaker Locke has in mind is "whosoever *first* lights" on an instance of a sort we *now* classify as gold. This speaker is not faced with a particular that *already* falls within a conventionally imposed boundary, and yet Locke argues that he properly *excludes* from his abstract idea qualities he has reason to believe *do not* depend on a real essence and thus do not merit the designation of being a property, or a proprium.[225]

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[224] *E* II.xxxi.9: 381.

[225] This highlights a point that is not always made explicit in Locke's account of the fact that we collect *all* qualities we have reason to believe are propria in a general idea: we collect all *and only* qualities we have reason to believe are propria. Locke seems to be suggesting that, with respect to some qualities, we are able to draw such distinctions in advance of observation and experiment. We can make sense of this by noting that we can draw upon prior experience and engage in analogical reasoning. For instance, we find in similar cases that shape and size do not constantly coexist with qualities we do find to clump together.

The preponderance of textual evidence thus weighs against *Voluntarism* and favors rather the *Discovery Model*, according to which real essences and the properties that depend on them are individuated *prior* to our coming on the scene to classify natural substances. The properties that flow from the unknown real essences of substances are a matter of discovery, and these facts *constrain* how we classify natural substances in a robust way.

§4.9 Deep Resemblance

Still, it is worth saying a bit more regarding why the conventionalist reading elicits broad agreement amongst Locke scholars. While qualities do tend to clump together, which is in turn grounds for inferring the regular instantiation of some micro-structural aspect as their common cause, nothing about the world, so proponents of the reading will argue, forces us to recognize *this* respect in which particulars resemble one another as opposed to some other respect, as what determines how we are to classify things. It is helpful to note Michael Ayers' observation that "to talk of *relevant resemblance*" leaves "unexplained what principle of relevance to species-membership there is other than arbitrary definition."[226] In that case, we may ask why similarity in terms of substances' constantly coexisting qualities is that respect of resemblance relevant to their classification.

An answer that Ayers suggests but goes on to reject is that we thereby track in our ideas of kinds not only *superficial* resemblance but what Ayers calls "deep

[226] Ayers, *Locke: Epistemology and Ontology*, 2:81.

resemblance".[227] To see this, note that according to Locke's account of real essence, real essences are *common cause* explanations; real essences are what in particulars explains why certain observable qualities regularly co-occur in certain particulars, where such regular co-occurrence is attributed to all such qualities flowing from the *same* aspect of a thing's internal constitution. However, suppose that we set aside the criterion of co-occurrence and go by observable, or "superficial" resemblance alone. I make an idea that picks out particulars we would in fact distinguish as belonging to distinct kinds: diamonds and rhinestones (amongst, possibly, other things). Those aspects of the internal constitutions of diamonds and rhinestones that explain their shared superficial properties are, we know, not the same; according to Locke's way of thinking, this would eventually be revealed by observation and experiment. Thus while my idea picks out a respect in which some particulars superficially resemble one another, I have not thereby picked out a respect in which they *deeply* resemble one another. However, a classification that attempts to track real essences understood as common causes will (defeasibly) track deep resemblance. But why, Ayers asks, should we think that deep resemblance can draw boundaries between kinds any more than superficial resemblance can? According to Ayers, "what superficial resemblance cannot do, deep resemblance cannot do either."[228]

In later chapters I argue that we *can* locate a reason why deep resemblance – resemblance in terms of a shared common cause explanation – is indeed that respect of resemblance that is relevant to the classification of substances. I argue that we find a clue to Locke's thinking on the matter in his treatment of artifacts. The qualities relevant to an artifact's classification are determined by reference to the artificer's idea – the idea in

[227] Ayers, *Locke: Epistemology and Ontology*, 2:81.

[228] Ibid.

accordance with which she makes that artifact. The artificer's idea fixes the *essence* of an artifact, and so fixes how it is to be classified; or, at least, the artificer's idea is that to which speakers defer when they make their own abstract ideas of the artifactual kind. Locke's claims are revealing, I argue, because natural substances are, on Locke's view, the product of *God's* workmanship. God's ideas, I suggest, play a role similar to that played by an artificer's idea: God's ideas fix the essences of natural substances. Further, these essences are fixed at the level of a substance's internal structure, which God imparts to natural substances when he makes them, and this explains why Locke thinks that what Ayers calls deep resemblance is, as I have argued in this chapter, indeed relevant to the classification of natural substances. It is notable that Ayers himself admits that deep resemblance is something that Locke thinks we should attempt to track in classification, although Ayers thinks that this betrays an *inconsistency* in Locke's account:

> There is in fact a certain tension or inconsistency in Locke's account. Although he is unyielding in his belief that the presumption of an unknown structure can have no semantic relevance once the sortal term has been introduced and defined, he nevertheless allowed the rationality of such a presumption to play a role at an earlier stage, guiding us in the *formation* of substance-ideas. In general there is an implicit suggestion that repeated observation of coexisting qualities and powers is requisite to justify the presumption of a recurrent underlying cause of their union, and so to justify the formation of a complex idea.[229]

Ayers seems to be suggesting that there is a tension in Locke's account because he allows deep resemblance to play a role at one stage in the life of a kind term – that of determining how we define a term when we introduce it – but not in our verdicts regarding whether anything *satisfies* the genus or species concept to which we annex that kind term. But why, Ayers seems to be suggesting, can't we *continue* to defer to deep

[229] Ayers, *Locke: Epistemology and Ontology*, 2:79.

resemblance as what plays a semantic role *after* we have introduced and defined it? That is, why don't we defer to deep resemblance as what in fact determines whether a particular satisfies our genus and species concepts? Or rather, why should deep resemblance play a role at that first stage at all?

It plays that role at the first stage, I'm arguing, because Locke really thought there are objective kinds in the world. But we don't know their essences. And while we defer to hypotheses regarding which particulars *deeply* resemble one another in forming our ideas of substantial kinds, we cannot defer to a shared common cause, or real essence, in verdicts regarding *membership* in a kind for the simple reason that we would then never be in a position to know whether something *in fact* belongs to the kind. But Locke thinks that we can and certainly should *revise* and update our genus and species concepts to reflect further discoveries and new hypotheses regarding which particulars deeply resemble one another. But Locke's point is that such revisions must result in now *different* parochial species, because such revisions result in different abstract ideas or nominal essences, and so result in different conditions on membership in a kind. Contrary to Ayers, then, it is not clear that the particular role deep resemblance plays in Locke's account isn't in fact a *feature* as opposed to a source of tension within it.

In the next chapter, I turn to consider a rival to the Idea-Theoretic Account, namely, the view that it is not Locke's theory of ideas that leads Locke to conventionalism, but rather his commitment to corpuscularian mechanism.

Chapter V

Strings, Physies, and Hog's Bristles: Does Corpuscularianism Entail Conventionalism?

§5.1 Introduction

Locke argues that the "species" in terms of which we classify things – the species we pick out with our general terms – are the "workmanship of the understanding". What he means is that we classify particulars according to criteria we alone determine. These species are thus parochial in that they embody criteria that can be traced to our own activity. That activity consists in abstracting features from our ideas of particular substances. On Locke's view, the resulting abstract ideas, or "nominal essences", constitute the *only* criteria for membership in our parochial kinds. To say, then, that the species in terms of which we classify things are parochial is to both capture and emphasize the fact that we are solely responsible for individuating criteria for membership in these kinds.

A natural question is whether Locke thinks there are objective kinds *apart* from our parochial kinds. In order to answer that question, the following conditional is often tacitly assumed on Locke's behalf: if there are objective kinds in nature, it must be possible to arrive at a non-arbitrary sorting of things. It is often argued that nothing about the *sensible* properties of substances determines which of them ought to be criteria for sorting them, in which case sorting substances on the basis of their sensible properties must be arbitrary. However, as many have pointed out, acquaintance with the "internal" or *hidden* properties of substances might yet reveal objective criteria for sorting them.

Citing what I refer to as the Watch passage [henceforth *Watches*], many of Locke's commentators claim to find evidence that there is no non-arbitrary sorting of

substances even supposing acquaintance with their hidden, internal properties. Some, like Michael Ayers, have suggested that Locke's commitment to corpuscularianism motivates the view. I argue that these commentators, Ayers included, are mistaken in their reading of the passage.

In *Watches*, Locke invokes several properties of the internal constitutions of "silent" and "striking" watches: some "are made with four Wheels, others with five" some "have Strings and Physies, and others none; some have the Balance loose, and others regulated by a spiral Spring, and others by Hogs Bristles". Locke indeed goes on to pose the question: "Are any, or all of these enough to make [a difference in species]?" However, commentators have missed the fact that Locke poses that question to an interlocutor who insists that the wholly parochial distinction *in kind* between striking and silent watches holds independently of a speaker's regarding them *as* belonging to distinct kinds. And, the interlocutor insists, that distinction in kind holds independently of a speaker's so distinguishing them *because* striking and silent watches differ in their internal constitutions. Locke retorts: *which* hidden property *makes for* the "specifick difference" – the difference in kind – between silent and striking watches? None do, and that is because those hidden properties never constituted criteria for membership in these respective parochial kinds. The passage is thus silent regarding whether Locke thinks we can arrive at a non-arbitrary sorting of substances on the basis of their hidden, internal properties.

The question still remains: Does Locke think that there is a non-arbitrary sorting of substances on the basis of their hidden properties? I argue that what, for Locke, fixes which of an artifact's features are relevant to its classification is the idea in accordance

with which a designer realizes that artifact in matter. I go on to suggest that what, for Locke, grounds an objective sorting of *natural* substances are divine ideas in terms of which God, the "all-wise Architect", designs and creates natural substances.

§5.2 The Watch Passage and the 'No Objective Kinds' Reading

Locke imagines a Watchmaker acquainted with the hidden mechanical differences between the internal constitutions of watches. As several commentators read the passage, the watchmaker's acquaintance with these differences, far from putting him in a position to recognize "objective" distinctions between kinds of watch, rather presents him with such an array of internal mechanical properties that any choice regarding how to sort watches on their basis must be wholly arbitrary. The following excerpt of the passage is typically cited:

> There are some *Watches*, that are made with four Wheels, others with five: Is this a specifick difference to the Workman? Some have Strings and Physies, and others none; some have the Balance loose, and others regulated by a spiral Spring, and others by Hogs Bristles: Are any, or all of these enough to make a specifick difference to the Workman, that knows each of these, and several other contrivances, in the internal Constitutions of *Watches*?[230]

Locke thus appears to be arguing that, when it comes to artifacts, sorting is a hopelessly arbitrary affair, even down to the hidden, micro-constitutions of things.

More importantly, Locke appears to argue that the lesson of the Watchmaker, who is acquainted with the internal constitutions of watches and yet unable to locate what is sufficient to make for a "distinction of species," is one that carries over to the case of natural substances. Locke writes:

[230] *E* III.vi.39: 463.

> Just thus, I think, it is in natural Things. No body will doubt, that the Wheels, or Springs (If I may so say) within, are different in a *rational Man*, and a *Changeling*, no more than that there is a difference in the frame between a *Drill* and a *Changeling*.[231]

In a line of reasoning that should ring familiar, Guyer takes the significance of the passage to be that knowledge of the internal constitutions of things will not lift the burden of choice when it comes to sorting:

> Locke's argument…implies that no matter how much objective similarity there is between natural entities and how much we know about them, we must still choose which similarities to make the basis of our system of classification. This holds even if we can recognize the microscopic constitutions of things[.][232]

I will not consider Guyer's reading any further, although the argument I provide in this chapter shows it to be mistaken. I turn instead to a reading that appeals not to Locke's theory of meaning, but rather to his commitment to corpuscularian mechanism. This requires that we step back from the Watch passage for a moment and canvass some more general considerations regarding the significance of mechanism with respect to the possibility of objective kinds.

§5.3 Corpuscularian Mechanism and Objective Kinds

Michael Ayers cites two ways in which a mechanist ontology[233] might inform one's theory of classification. The first draws on mechanism's comparison to an Aristotelian ontology of "irreducible universals".[234] Consider first the main tenets of corpuscularian mechanism, which find a useful summary in Locke's *Elements of Natural*

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[231] *E* III.vi.39: 463-64.

[232] Guyer, 136-137.

[233] Ayers, *Locke: Epistemology and Ontology*, 2:67.

[234] Ibid.

Philosophy:

> [I]t may be now fit to consider what sensible bodies are made of, and that is of unconceivably small bodies or atoms, out of whose various combinations bigger moleculæ are made: and so, by a greater and greater composition, bigger bodies; and out of these the whole material world is constituted. By the figure, bulk, texture, and motion, of these small and insensible corpuscles, all the phenomena of bodies may be explained.[235]

All of the "phenomena" of sensible bodies, for instance their shapes and sizes, and all of their active and passive powers, are to be explained just in terms of the intrinsic features of matter. In that case, all of the phenomena of bodies are *reducible* to the figure, bulk, texture, and motion, of small and insensible corpuscles.

Locke thus provides a reductive account of the phenomena of bodies, and this provides a clue to understanding how a commitment to mechanism might entail a certain form of anti-realism about kinds. As Ayers explains, what distinguishes the mechanist ontology from the Aristotelian world-view is the latter's commitment to understanding natures such as humanity, animality, or, say, 'dogginess', as metaphysical items that are irreducibly universal. Ayers writes that

> whereas on the Aristotelian story the nature that two human beings or two pieces of gold have in common is irreducibly universal, for the mechanist, on the other hand, what makes two spheres or two cubes of matter behave in similar ways is not a common universal nature but a perspicuous resemblance. There is nothing in each case but extended substance within geometrically similar boundaries.[236]

Ayers concludes that "corpuscularian mechanism provided a framework within which it might seem that universals could be reduced to resemblances."

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[235] Locke, "The Elements of Natural Philosophy", *Works*, 3:330.

[236] Ayers, *Locke: Epistemology and Ontology*, 2:67.

It should be pointed out that corpuscularian mechanism does not obviously dispense with universals *altogether*, as Ayers will concede.[237] Ayers's point rather seems to be that, on the Aristotelian view, we find a proliferation of irreducibly universal natures – humanity, dogginess – that, on the mechanist view, are in fact reducible to *something else*, namely, modifications of extended substance characterized now by a *sparse* number of fundamental properties (which, depending on one's view, might themselves to be understood as universals).[238] Mechanism thus promises to dispense with *many* of the universals posited by the Aristotelian view by providing an account whereby such natures find their explanation by reference to the fact that they are entailed by a description of what a body possessing such a 'nature' is like in terms of its constituent corpuscles and their properties and relations.

One implication of such a view is that the distinctions between things that, on the Aristotelian ontology, are grounded in universals – humanity, dogginess – no longer appear to be distinctions *in kind* but rather reveal only differences in the various ways in which matter is modified, differences which, so the thinking goes, are now to be understood as differences *in degree*. The Aristotelian recognizes many different natures metaphysically distinct from one another. Mechanism reveals that such apparent differences in kind are really just differences in how matter, understood in terms of a sparse number of properties, is modified. In that case, you might think that a classification that distinguishes human beings from dogs tracks nothing more than differences in how matter happens to be arranged or disposed in the two cases. The

[237] Ayers, *Locke: Epistemology and Ontology*, 2:66.

[238] I thank Alison Simmons, Jeffrey McDonough, and Bernhard Nickel for pressing me to clarify whether mechanism in fact entails a rejection of universals; it need not.

thought that there are distinctions to be drawn *over and above* how matter is arranged loses its foothold. What the Aristotelian conceives of as a nature – humanity or dogginess – now does not seem to reveal any facts about how things are to be classified. Even so, it might be objected, there *are* real distinctions to be found between lumps of matter we classify as human beings and lumps of matter we classify as dogs. But the mechanist picture seems to imply that, were we to group together, say, dogs, daffodils, and chocolate milkshakes as belonging to the same *lowest* species, we would not violate any *metaphysical* facts. Indeed, all the things just described have a common nature, namely, they are material things.

This observation – that all material things have a *common* nature – might be helpful for understanding the second feature of mechanism that, on Ayers' reading, informs Locke's theory of classification. Mechanism would seem to fail to ground what appears to be a necessary condition for the existence of natural kinds, namely, that there be very clear, salient and stable differences between things. If there are natural kinds, there must be "joints" in nature, which in turn ground a carving of nature at those joints. Though the metaphor is too vague to sustain any detailed theorizing, it does provide an intuitive gloss as to why a mechanistic picture of bodies fails to offer up any joints. Once we descend to the corpuscularian level, we find that the building blocks of things are absolutely uniform in character – imagine legos arranged in various ways.[239] And there is an intuitive line of thought according to which all we find at the corpuscularian level are the various ways in which corpuscles (think *legos*) of various shapes and sizes are arranged, as Ayers explains below:

[239] I owe this metaphor to Alison Simmons.

> The mechanist's world is one in which all differences are differences of degree, and everything, unless an atom, is in principle mutable. For all differences and changes are ultimately just differences and changes in the spatial quantity and ordering and motion of the parts of things. Crudely, the particular complex perceptible things in existence, particular men, horses, oak trees, quantities of gold etc., constitute a vast plurality of machines among which there may be natural structural resemblances, but no two of which, for all we know, are precisely alike. How we should rank them on the basis of our observational knowledge is a matter to be more or less pragmatically determined.[240]

Again, whatever the differences between sensible bodies, then, they are not differences in kind but rather differences in degree.

Whatever merits of this line of thought – and one might have reason to think that it can be resisted – it is, in any case, one that many commentators attribute to *Locke*. In fact, Ayers's argument appears to be an instance of just the sort of appeal Locke makes in the Watch passage, and it is a line of reasoning that William Uzgalis, responding to the same passage, echoes. As Uzgalis reads him, Locke is saying that, while many might think that acquaintance with the internal constitutions of watches would enable the watchmaker to apprehend clear differences between *species*, in fact he would be at a loss as to which features "make for" a "specifick difference," or a difference in species. Uzgalis writes,

> [I]f the Watch-maker has a clear idea of these different mechanisms, surely he could classify them on this basis. Locke thinks that this will not be the case. He asks: 'For what is sufficient *in the inward Contrivance*, *to make a new Species?'*.[241]

According to Uzgalis, Locke's reference to all of the minute differences between particular watches suggests that watches lie along a *continuum* by virtue of their

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[240] Ayers, *Locke: Epistemology and Ontology*, 2:67.

[241] William Uzgalis, "The Anti-Essentialist Locke and Natural Kinds," *The Philosophical Quarterly* 38 (1988): 336.

mechanical differences. We are thus unable to find the "gaps" that would ground a natural sorting of watches into kinds:

> Locke is suggesting that a continuous distribution of different properties among the internal mechanisms of watches prevents the watch-maker from finding gaps or clear differences between groups, which would mark the boundaries between species in a non-arbitrary way. The watch-maker is the analogue of God and the analogical implication is that continuity of the distribution of properties on the real essence level makes it impossible to find non-arbitrary boundaries of species on the real essence level just as it does on the phenomenal level.[242]

Ayers finds the lesson of the passage to be much the same as Uzgalis, though he places a different emphasis on the role that corpuscularianism plays in the argument. According to Ayers, Locke is arguing that there is no natural or non-arbitrary point at which to *stop* drawing distinctions between bodies at the corpuscularian level, in which case there are no naturally lowest species:

> Locke is here arguing that there are no naturally last species because there is no end to the structural differences between members of any species we like to name, differences any one of which might just as well be made the basis for a finer division between species. He is indeed saying that knowledge of the real constitutions would leave us with the need for choice, but the argument is palpably and crucially appealing to a mechanistic model, and to the thought that structural or mechanical differences will always exist between complex individuals however fine our divisions, and cannot be regarded as essential or accidental independently of our divisions. For one mechanical difference is as good a ground for distinction as another—there is no principled difference between them.[243]

Ayers and Uzgalis then seize upon the analogy Locke draws between the internal constitutions of watches and the "Wheels" and "Springs" of natural substances – e.g., between men, changelings (the mentally incompetent), and drills (baboons) – as evidence that their classification, too, is a hopelessly arbitrary affair. The underlying thought

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[242] Uzgalis, 336.

[243] Ayers, "The Cambridge Companion to Locke", 175-76.

articulated by both Ayers and Uzgalis is that, while all will agree that classification, on Locke's view, is arbitrary at the level of *observable* qualities (a mistaken view, as I argued in the previous chapter), perhaps classification *isn't* arbitrary at the level of *microstructure*. As Ayers and Uzgalis read it, the Watch Passage blocks the possibility of such a reading: classification is arbitrary at *any* level of description.

In summary, as commentators like Ayers and Uzgalis read *Watches*, there are at the level of the real constitutions of things no clear or obvious gaps between individuals that would ground a non-arbitrary sorting of them. In addition, Ayers argues that there is an indefinite variety of differences between the internal constitutions of things such that we could always draw finer distinctions between them, and so there is no non-arbitrary point at which we should stop. These claims appear to be articulated in the Watch passage, and also appear to be entailed by Locke's commitment to corpuscularianism. It seems there are decisive reasons for thinking that Locke denies the possibility of an objective sorting of substances. I will refer to this as the *No Objective Kinds* reading, henceforth *NOK*.

In what follows I argue that *Watches* is silent as to whether there are objective kinds in nature. That is, I argue that whether a sorting of things on the basis of their internal constitutions is arbitrary is not Locke's intended topic in the watch passage. What, then, of Locke's commitment to corpuscularian mechanism, which, for reasons articulated by Ayers, appears to entail conventionalism? As we have seen, one premise of the argument from mechanism is that all mechanical similarities and differences are, from the perspective of classification, on a par with one another, in which case there are no objective facts about which mechanical similarities and differences are relevant to a

thing's classification. In the next sections, I argue that, contrary to Ayers's and Uzgalis's readings of the Watch passage, Locke does not embrace this purported consequence of corpuscularian mechanism.

§5.4 The necessity of general names in 'completing a Species'

I will argue that Locke makes two claims in *Watches*, both of which are orthogonal to whether there is an objective sorting of substances on the basis of their internal constitutions. According to my reading, Locke is first claiming that whether a speaker regards some qualitative difference between things *as* a difference in kind depends on which general terms are a part of her vocabulary. And which general terms are part of a speaker's vocabulary depends in turn on conventions established by her linguistic community, conventions about which qualitative differences between things are to be regarded as making for a difference in kind.

Second, Locke is challenging a pervasive tendency of ours to assume that the parochial species we make – the species we pick out with our general terms – are not in fact the product of our own workmanship, but are rather "made by nature". Part and parcel of this tendency is our commitment to the claim that the unknown constitutions or real essences of things are what in fact make it the case that something belongs to one of our parochial kinds. Locke will remind us, however, that *we* individuate our parochial kinds in terms of *known* qualities. The hidden and thus unknown real essences or real constitutions of things do not constitute the basis upon which our parochial kinds are individuated.

Rather than ruling out the possibility of a nonarbitrary sorting of artifacts and natural substances, Locke's aim in *Watches* is thus (i) to demonstrate the role general terms play in grounding facts about the taxonomical distinctions a language user is disposed to make, a role he describes as "completing a species"; and (ii) to show that nothing apart from criteria that constitute our parochial kinds determines membership in these kinds.

Let's consider (i). A speaker's vocabulary of general terms, Locke argues, plays a necessary role in explaining the taxonomical distinctions a speaker is disposed to make. Locke describes that role as "completing" a species, which brings to mind his Workmanship metaphor. Our work in *making* a parochial kind is not "complete" unless we annex a unique general term to an abstract idea or nominal essence. Note how Locke opens *Watches*:

> How much *the making of* Species *and* Genera *is in order to general names,* and how much general Names are necessary, if not to the Being, yet at least to the completing of a *Species*, and making it pass for such, will appear, besides what has been said above concerning Ice and Water, in a very familiar Example. A silent and a striking *Watch*, are but one *Species*, to those who have but one name for them: but he that has the name *Watch* for one, and *Clock* for the other, and distinct complex *Ideas*, to which those names belong, to him they are different *Species*.[244]

If a speaker uses the name "watch" to pick out both silent and striking watches, then for that speaker, silent and striking watches belong to the same species. But if a different speaker uses the term "watch" to pick out silent watches, and uses the term "clock" to pick out striking watches, then for her, silent and striking watches belong to distinct species.

[244] *E* III.vi.39: 463.

Locke notes that he has already illustrated just this point—why names are necessary for completing a species—with another example that occurs earlier in Book III, an example involving the case of Ice and Water. Locke imagines an Englishman bred in Jamaica who visits England in winter and encounters frozen water for the first time:

> If I should ask any one, whether *Ice* or *Water* were two distinct *Species* of Things, I doubt not but I should be answered in the affirmative: And it cannot be denied, but that he that says they are two distinct *Species*, is in the right. But if an *English-man*, bred in *Jamaica*, who, perhaps, had never seen nor heard of *Ice*, coming into *England* in the Winter, find, the Water he put in the Bason at night, in a great part frozen in the morning; and not knowing any peculiar name it had, should call it harden'd Water; I ask, Whether this would be a new *Species* to him, different from Water? And, I think, it would be answered here, It would not to him be a new *Species*, no more than congealed Gelly, when it is cold, is a distinct *Species*, from the same Gelly fluid and warm; or that liquid Gold, in the Fornace, is a distinct *Species* from hard Gold in the hands of a Workman. And if this be so, 'tis plain, that our *distinct Species*, *are nothing but distinct complex* Ideas*, with distinct Names annexed to them*.[245]

Though *we*, Locke's readers, distinguish liquid from frozen water as distinct species,[246] Locke argues that "hardened water" is not a *new* "species" of substance to the Traveler because he does not have a distinct *general name* for it.

In both the Ice/Water passage and the Watch passage Locke is arguing that a speaker's regarding two qualitatively different things as belonging to distinct kinds depends on her using distinct general terms for each. Thus, while *x* and *y* might differ qualitatively – where *x* and *y* might be ice and water, or silent and striking watches – and though a speaker's recognition of that fact may be cashed out in terms of a speaker's having an idea of *x* which is distinct from her idea of *y*, her having ideas that reflect that qualitative difference between *x* and *y* are not yet sufficient for her to distinguish *x* and *y*

[245] *E* III.vi.13: 447-48.

[246] For the purposes of my argument it won't matter if we agree with Locke that we in fact do distinguish water and ice as distinct "species". After all, part of Locke's aim in the *Essay* is to give a deflationary account of the status of our parochial kinds.

as belonging to distinct species. In order for her to regard them as belonging to distinct species she must assign distinct general terms to each idea. If she does not assign distinct general terms to each idea, she is likely to mark the difference between *x* and *y* with some description that deploys the same general term, for instance, what we find in the descriptions "water" and "harden'd water" or "congealed Gelly" and "Gelly fluid and Warm". But when she does the latter – that is, when she uses distinct descriptions using the same general term – she does not distinguish the two things *as instances of distinct species*.

Returning to *Watches*, Locke argues that the same must be said of the man who employs the general term *Watch* for *all* timepieces, including those that are "silent" and those that are "striking". In that case, "a silent and a striking *Watch*" are "but one *Species*" to him, because he has "but one name for them." Conversely, "he that has the name *Watch* for one [silent watches], and *Clock* for the other [striking watches], and distinct complex *Ideas*, to which those names belong, to him they are different Species."

However, an imagined interlocutor responds: surely what *makes* for the distinction in kind between *silent* and *striking* watches amounts to something independent of a speaker's employment of distinct general terms for each. *For these two kinds of watch must be different in their internal constitutions*. Furthermore, the Watchmaker has an idea of these different constitutions:

> It will be said, perhaps, that the inward contrivance and constitution is different between these two [silent and striking watches], which the Watch-maker has a clear *Idea* of.

The moral of *Watches* lies in Locke's reply to precisely this challenge. That challenge can be articulated as follows: "Contrary to what you, *Locke*, say, the measures of

parochial species like *watch* and *clock* are *independent* of linguistic practice, independent of our making nominal essences and annexing general terms to them. Membership in these parochial species is determined by the internal constitutions of things themselves."

In the next section I argue that we find guidance for how to read Locke's response to this challenge in a passage I refer to as *Creatures*.

§5.5 'Our measures of Species are only our abstract Ideas'

In the previous section, I suggested that Locke makes two claims in *Watches*. The first has to do with the role general terms play with respect to whether a speaker regards a qualitative difference between two things as a difference in kind. Locke then imagines an objector who disputes this claim. The objector argues that, whether or not a speaker happens to regard, say, silent and striking watches as belonging to two distinct species, there really is a difference in kind between them, and the reason they belong to distinct species lies in the fact that they must differ in their internal constitutions. In order to adjudicate this dispute, Locke asks us to consider what the Watchmaker would be able to do on the basis of his knowledge of the internal constitutions of watches. If the objector is correct, Locke argues, the Watchmaker should be able to identify, just on the basis of his acquaintance with the differences in internal constitution between various watches, which internal mechanical properties make it the case that silent and striking watches belong to distinct species.

However, Locke clearly thinks that the Watchmaker can't locate *which* of the internal mechanical properties of various watches make a "specific" difference, that is, which of their properties make it the case that a watch possessing that property belongs to

a distinct lower species of watch from others. And if the watchmaker can't identify *any* of these internal mechanical properties *as* difference making properties, it follows that he will not be able to identify those mechanical features that underwrite a watch's behavior, say, its behavior as a striking watch, *as* a difference making property. And that, Locke thinks, contradicts the objector's claim that a watchmaker would be able to identify striking watches *as* distinct species from silent watches just on the basis of his acquaintance with the internal constitutions of watches.

The question that faces us as interpreters is *why* Locke thinks that the watchmaker cannot locate which of the various internal mechanical properties of watches are "sufficient" to make for a difference in kind. Ayers et al. will say that it is because of the nature of mechanism. There just are no specific differences to be found. Contrary to this reading, I will suggest that we find the answer to that question if we pay close attention to the *task* the watchmaker is faced with. We can get a better grip on the nature of that task if we turn to yet another passage, what I'll refer to as the *Creatures* passage. Not only does the passage offer guidance for how we should understand the nature of the task the Watchmaker is faced with, it supplies an answer to why the Watchmaker cannot locate a specific difference in the internal constitutions of watches.

In *Creatures* Locke writes:

> There are Creatures…that have shapes like ours, but are hairy, and want Language, and Reason. There are Naturals[247]…that have perfectly our shape, but want Reason, and some of them Language too. There are creatures…that with

[247] By a "Natural" Locke means what he elsewhere refers to as a *Changeling*, a creature that has the shape and appearance of a human being but lacks rationality. We find the following definition of the term "Natural" in the Oxford English Dictionary: "A person having a low learning ability or intellectual capacity; a person born with impaired intelligence." *The Oxford English Dictionary,* Third edition, June 2003; online version December 2011. <http://www.oed.com.ezp prod1.hul.harvard.edu/view/Entry/125332>; accessed 12 January 2012. An entry for this word was first included in *New English Dictionary*, 1906.

> Language, and Reason, and a shape in other Things agreeing with ours, have hairy Tails; others where the Males have no beards, and others where the Females have. If it be asked, whether these be all *Men*, or no, all of humane *Species*; 'tis plain, the Question refers only to the nominal Essence. For those of them to whom the definition of the Word *Man*, and the other not.[248]

Here Locke provocatively cites creatures that invite doubt about how to classify them. And while "'tis plain" *to Locke* that whether they are of "humane *Species*" "refers only to the nominal essence" of *Man*, Locke understands this will satisfy few of his readers. Elsewhere Locke notes:

> When a man asks, whether this or that thing he sees, let it be a Drill, or a monstrous Foetus, be a *Man*, or no; 'tis evident, the Question is not, Whether that particular thing agree to his complex *Idea*, expressed by the name *Man*: But whether it has in it the real Essence of a Species of Things, which he supposes his name, *Man* to stand for.[249]

When we ask whether a Drill (a baboon) belongs to the parochial species *man* we are not concerned to answer that question in reference to our nominal essence. Rather, we tacitly assume that what makes it the case that something is a *man* is not its agreement with criteria embodied in our nominal essence, but its possession of a real essence. But this, Locke points out, is to treat the kind *man* not as a parochial species, i.e., as a species made by us, but rather as a species "made by nature". Nature, so the mistaken assumption goes, makes the species *man* by imparting a supposed "real essence" – the real essence of man – to particulars that are *men*. The species is thus understood to be prior to and independent of any way we happen to define it in our nominal essence.

Returning to *Creatures*, Locke writes:

> But if the Enquiry be made concerning the supposed real Essence; and whether the internal Constitution and Frame of these several Creatures be specifically

[248] *E* III.vi.22: 450-51.

[249] *E* III.x.21: 502-503.

> different, it is wholly impossible for us to answer, no part of that going into our specific *Idea* [nominal essence][.]

The "Enquiry" Locke mentions in this passage concerns whether "these several Creatures be specifically different". By "specifically" Locke means species-wise. Are these creatures different *in kind* because of differences in their "internal Constitution and Frame"?

That question is impossible to answer, Locke replies, because "no part of" the internal constitution and Frame of these creatures goes into the nominal essence of *man*. It is important to see, then, that Locke takes the enquiry not to be whether differences between the internal constitutions of these creatures make for just *any* difference in kind, but rather whether they make a difference to their *being men*. It is "impossible" to answer that question, not because these differences in internal constitution are hidden, but rather because these differences are *irrelevant* to whether they are men. Invoking them in order to answer that question is otiose.

Certainly, as Locke admits:

> …only we have Reason to think, that where the Faculties, or outward Frame so much differs, the internal Constitution is not exactly the same[.]

That is, differences in the sensible qualities of these creatures – differences in faculties or outward frame – indicate that they are correspondingly different in their internal constitutions. But, Locke writes:

> [W]hat difference in the internal real Constitution makes a specifick difference, it is in vain to enquire; whilst *our measures of Species* be, as they *are, only our abstract* Ideas, which we know; and not that internal Constitution, which makes no part of them.[250]

[250] *E* III.vi.22: 450-51.

The lesson of *Creatures* is thus to unmask and debunk a way of thinking about our parochial kinds. We are liable to treat them not as the product of our own workmanship but rather as species "made by nature". In *Creatures* this mistaken way of thinking is exposed when we invoke the real constitutions of things as the basis for *settling* questions about membership in a parochial kind. In the next section I argue that a similar lesson is at work in *Watches*.

§5.6 Watches Revisited

In *Watches*, an interlocutor suggests that surely what makes for the distinction in kind between silent and striking watches is something independent of whether a speaker employs a distinct general term for each. For these two kinds of watch are different in their internal constitutions.

In response, Locke appeals to an overwhelming array of hidden mechanical properties and asks: "Are any, or all of these enough to make [a difference in species] to the Workman?" Call this the Rhetorical Question. According to commentators, Locke invokes the Rhetorical Question to argue that no one of these mechanical properties stands out as *the* basis for distinguishing *distinct species*, in which case any sorting of substances by their hidden properties must be arbitrary.

However, the Rhetorical Question is aimed at showing, not that sorting by internal constitutions is *arbitrary*, but that differences in internal constitution are silent regarding whether there is a parochial distinction in kind between two things that differ from one another qualitatively. Timepieces that differ in their outward behavior – for instance those that differ in terms of whether they are striking or silent – certainly differ in their

internal constitutions, since it is in light of those differences that differences in their observable behavior are to be explained. However, the distinction in kind between silent and striking watches is a *parochial* distinction. It is not written into the natures of things, but rather drawn by human beings on the basis of criteria they deem significant. Whether timepieces that differ in internal constitution belong to the same parochial species or to different parochial species depends not on those differences but on the content of the nominal essence (or nominal essences) for the parochial kind (or kinds) in question.

To see this, note that one speaker's nominal essence and corresponding general term may embrace both silent and striking watches, while another speaker's nominal essence and corresponding general term may exclude striking watches as belonging to a distinct species of watch. Differences in internal constitution between silent and striking watches are thus idle with respect to the parochial distinction between silent and striking watches; in some cases watches that differ in internal constitution belong to *the same* parochial species, in other cases to *distinct* parochial species. And that shows that facts about whether watches belong to the same or to distinct parochial species do not depend on differences in internal constitution.

If Locke's objector *were* right, there should be some difference in the internal constitutions of watches that are specific differences, and they should be specific differences independently of the parochial criteria in terms of which speakers distinguish striking from silent watches as belonging to distinct kinds. In that case, the watchmaker ought to be able to identify those internal mechanical differences *as* specific differences, and he must be able to do so just by eyeballing them, so to speak. That is – and this is the

crucial point – he should be able to identify them as specific differences independently of any nominal essence.

Thus I'm suggesting that the reason that the watchmaker cannot identify any internal mechanical differences as specific differences is because, *ex hypothesi*, he has no nominal essence in light of which any of these internal mechanical properties *count* as specific differences. And on Locke's view it's going to follow quite clearly that the Watchmaker is going to come up empty handed, because *nothing* counts as a specific difference independently of any nominal essence. That is, Locke subscribes to what might be the more familiar Quinian dictum, namely, that nothing is essential to a thing independently of any way of describing it. A feature is a specific difference only in relation to some nominal essence.

In that case, it should come as no surprise that the watchmaker is unable to locate any of these features as sufficient to make for a specific difference. Here a simple-minded analogy may be helpful for illustrating the point. Suppose you were charged with the task of evaluating whether particulars in the world are bachelors on the basis of their mass *alone*. But the criteria for bachelorhood make no reference to the mass of a thing. So something's mass is going to be silent with respect to whether a thing is a bachelor. Were we to attempt to sort things into bachelors and non-bachelors by reference to their mass alone we would be at a loss. I'm suggesting that we read Locke as making a similar point: The internal constitutions of various creatures are going to be silent as to whether they are men; that is, they are going to be silent as to whether they belong to the *parochial species* we pick out with the general term 'man'. And, *likewise*, the internal constitutions of clocks are going to be silent (no pun intended) as to whether there is a distinction in

kind between silent and striking watches because that distinction in kind is a parochial distinction individuated solely in terms of the outward, observable behavior of watches.

Still, some might argue, the Rhetorical Question has implications beyond what I claim is its intended meaning. For how *would* we sort watches on the basis of their internal constitutions? Isn't it true that no one of their internal, mechanical properties would stand out as *the* basis for distinguishing watches as belonging to distinct species, in which case any sorting of them by their hidden properties must be arbitrary?

In the following chapter I take a closer look at Locke's claim that we defer to an artificer's idea or nominal essence as a standard in light of which we determine which of an artifact's properties are relevant to its classification. I take this to be a clue for how to think about natural substances, and I go on to suggest the following line of interpretation. The real essences of natural substances are individuated in terms of *God's* workmanship. Just as a watchmaker, acting in accordance with his idea of a *kind* of thing – a watch – "frames" matter such that it gives rise to a watch's characteristic behavior – behavior that matter would not otherwise and of its own accord display – God "frames" matter at the level of a body's microstructure such that the resulting body exhibits features characteristic of its kind. It seems reasonable to assume, then, that like the artificer, God does so according to his *ideas* of kinds. What kinds there are, then, is a matter of God's ideas. That existing particulars are *instances* of these kinds is explained by appeal to God's workmanship, or his framing matter in various ways when he creates substances.

Chapter VI

Artifacts, Natural Substances, and God's Workmanship

§6.1 Artifacts and natural substances

Immediately following *Watches*, Locke explains that speakers have no trouble settling on definitions of artifactual kinds because they can easily identify the features in virtue of which an artifact is the kind of thing it is:

> [A]n *artificial* Thing being a production of Man, which the Artificer design'd, and therefore well knows the *Idea* of, the name of it is supposed to stand for no other *Idea*, nor import any other Essence, than what is certainly to be known and easily enough to be apprehended.[251]

First, we understand artifacts as products of design and often in terms of a function or purpose bestowed on them by a designer. Second, Locke claims that because a contriver (designer) fashions the contrivances or features in virtue of which a thing has its characteristic purpose or function, the features that are characteristic of the kind are, in the usual case, *sensible* to all who would form an idea of that kind of artifact.

Locke concludes: "it is not beyond the reach of our Faculties to attain a certain *Idea* thereof; and so settle the signification of the Names, whereby the Species of *artificial* Things are distinguished[.]"[252] The reasons are clear. Artifacts are the artifactual kinds of things they are in virtue of being made to realize features a designer intends them to have, where such features are often understood in terms of a function or

[251] *E* III.vi.40: 464.

[252] *E* III.vi.40: 464-65.

purpose.[253] In the usual case, Locke appears to be suggesting, what these features are is a matter that is transparent to us. In the usual case, we have a sufficient grip on which features a thing ought to have in order to be, say, a clock. Locke writes that the "*Idea*, or Essence, of the several sorts of *artificial* Things, [consists], for the most part, in nothing but the determinate Figure of sensible Parts; and sometimes Motion depending thereon, which the Artificer fashions in Matter, such as he finds for his Turn."[254] The question regarding *which* features of an artifact are relevant to its being the kind of artifact it is, and so which features are relevant to its classification, is something about which we can, in principle, be certain.

It seems, then, that we can motivate the idea that there is a *privileged* classification of artifacts in terms of a designer's *nominal essence*. Further, to argue that there is a privileged classification of artifacts is compatible with Locke's claims regarding the role that general terms play in grounding facts about what constitutes a "specifick difference". However, we might think that it is the *designer's* nominal essence that we privilege when we develop a taxonomy of artifacts. In fact, Locke's claim that "*in the Species of artificial Things, there is generally less confusion and uncertainty, than in natural*" suggests that we *do* defer to a common standard, which cuts down on disagreement regarding how to define artifactual kinds.

Unlike artifacts, we distinguish the species of natural substances with "Doubt, Obscurity and Equivocation". This is because, Locke says, their "differences and

[253] It follows, then, that a thing that is designed to realize that function, but which, for whatever reason, fails in that realization, would count as an instance of that kind – for instance, a broken watch.

[254] *E* III.vi.40: 464-65.

Operations depend upon Contrivances, *beyond the reach of our Discoveries*".[255] Note that the contrast Locke draws between artifacts and natural substances is *epistemological*. In the next section I take a closer look at this line of thought, which surfaces throughout the *Essay*, namely, that *if* we had insight into the features of natural substances relevant to their classification – their real essences – we would have no trouble settling on relatively clear and certain meanings for our kind terms because these essences would *fix* their significations in much the way that an artificer's idea fixes the significations of the names of artifactual kinds. Then, in the section that follows (6.3), I adduce some considerations for thinking that objective kinds are, on Locke's view, to be understood by reference to divine ideas and God's workmanship.

§6.2 Real Essences and the Names of Substances

Locke traces the ultimate source of the variability in the criteria speakers attach to the same general term to "our want of Knowledge, and Inability to penetrate into [substances'] real Constitutions".[256] Thus it appears that the variability we find in the signification of the names of substances arises because we don't know what would *fix* their significations: we don't know their 'real Constitutions', what he also refers to as their "real essences" or "formal constitutions".

In fact, Locke claims that, were we to know the real essence or "formal constitution" of a particular substance that possesses all those features commonly thought to give a particular a right to the name 'gold', we would be able to "ascertain" the

[255] *E* III.vi.40: 464-65.

[256] *E* III.ix.21: 488.

signification of that word as easily as we are able to ascertain the signification of the word 'triangle'.[257] Thus Locke endorses the following conditional: if we knew the real essences of substances, our ideas of these real essences would fix the signification of their names.

But what is it about the "formal constitution" or real essence of a triangle that makes it easy to ascertain the signification of its name? As we have already seen, one of the themes of Locke's discussion of language and classification is the variable criteria speakers attach to the same general term, although we have thus far focused on the case of substantial kinds.[258] And the cases in which that variability is most pronounced are those in which the names in question pick out complex or "compounded" ideas, that is, ideas that consist in a number of simple ideas of their qualities. Thus the names of *simple* ideas, Locke says, are the least likely to be confused and uncertain. Moving from simple ideas to ideas that have slightly more complexity, we find that examples of what Locke calls simple modes, for instance, ideas of "figure" and "number," are "least liable to doubt or uncertainty" because they are the "least compounded" of their kind:

> [T]he *names of* ***simple Modes*** *are next to those of simple* Ideas*, least liable to Doubt or Uncertainty,* especially those of **Figure** and Number, of which Men have so clear and distinct *Ideas*. Who ever, that had a Mind to understand them,

[257] *E* III.xi.22: 520.

[258] The same can be said of the species of 'mixed modes', which is arguably a bit of grab-bag category, but consists primarily of our ideas of moral and social kinds. Our ideas of the species of mixed modes are, like our ideas of substantial kinds, variable, and for the following reason: "[T]hough the Names of *simple Ideas*, have not the help of *Definition* to determine their signification; yet that hinders not but that they are generally less doubtful and uncertain, than those of mixed Modes and Substances. […] There is neither a multiplicity of simple *ideas* to be put together, **which makes the doubtfulness in the Names of mixed Modes**; nor a supposed, but an unknown real Essence, with properties depending thereon, the precise number whereof are also unknown, which makes the difficulty in the Names of Substances. But on the contrary, in simple *Ideas* the whole signification of the Name is known at once, and consists not of parts, whereof more or less being put in, the *Idea* may be varied, and so the signification of its Name, be obscure, or uncertain" (*E* III.iv.15: 427).

> mistook the ordinary meaning of *Seven*, or *a Triangle*? And in general **the least compounded *Ideas*** in every kind have **the least dubious names**.[259]

Since the formal constitution, or real essence, of a triangle consists in just three lines enclosing a space, the signification of its name is easy to ascertain, in which case there isn't a great deal of room for variability in the criteria speakers attach to that name, and so simple modes like a triangle have the "least dubious names".

Above we saw Locke proposing that the signification of the term 'gold' would be as easy to ascertain as the signification of the term 'triangle' were we to know the formal constitution of a particular substance that has the properties commonly associated with the general term 'gold'. Locke appears to be suggesting that, were we to know the formal constitution of that substance, there would not be "confusion and uncertainty" with respect to the significance of the term 'gold'. And the reason, Locke is suggesting, is that we would apprehend something relatively simple, as simple as the definition of a triangle. In that case, the idea would be "compounded" to a small degree, and so would *limit* the various possible ways various speakers might define the term. Returning to the example of a triangle, notice that there are very few ways that a speaker could vary her definition of a triangle from that of other speakers while still counting as thinking and talking about a *triangle*.

In order to appreciate Locke's point, it's helpful to note his explanation for why our ideas of substantial kinds are all over the place. Since we don't know their real essences, we are consigned to collecting the various candidate qualities of substances – their propria, or those qualities that we can reasonably hypothesize to flow from their unknown real essences. But these qualities are "endless". In addition, speakers "cannot

[259] *E* III.ix.19: 487; bold emphasis mine.

doubt, but different Men may have discovered several Qualities in Substances of the same Denomination, which others know nothing of."[260] By this method of defining substantial kinds there is thus enormous room for variability in the way that speakers define them. But all of these factors would not be in play, Locke is suggesting, were we to know the real essences of substances. This is confirmed by Locke's remark that "The great disorder that happens in our Names of Substances" proceeds "for the most part from our want of Knowledge, and Inability to penetrate into their real Constitutions."[261]

In addition, when Locke considers what it would mean to have an idea of something's real essence, Locke appears to conceive of it as a matter of our *apprehending* it, that is, as a matter of *discovery*. Or so I will argue below.

In chapter IV we saw Locke describe *two* possible ways we might come to know the properties that belong to a kind. We can "collect" them piecemeal, as we do in the case of substances by trial and experiment. Thus Adam subjects the piece of matter he names 'zahab' to various proto-experiments, e.g., "he finds it will bend without breaking."[262] Or we can, as we do in the case of geometrical figures, start from their real essences and *derive* their properties. Of course, the latter method is unavailable to us in the case of substances. Locke writes:

> In the Knowledge of Bodies, we must be content to glean, what we can, from particular Experiments: since we cannot from **a Discovery** of their real Essences, **grasp at a time whole Sheaves; and in bundles, comprehend the Nature and Properties of whole Species together**.[263]

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[260] *E* III.vi.48: 469.

[261] *E* III.ix.21: 488.

[262] Locke adds: "Is not now Ductility to be added to his former *Idea*, and made part of the Essence of the Species, that Name *Zahab* stands for?" (*E* III.vi.47: 469).

[263] *E* IV.xii.12: 647; bold emphasis mine.

I argued in chapter IV that the properties belonging to substantial sorts are a matter of discovery. I then argued that Voluntarism, according to which properties that are a matter of discovery are to be understood as qualities common to particulars falling within conventionally imposed boundaries, did not have the resources to account for Locke's story of how Adam introduces a *new* sortal term 'zahab' to denominate a piece of matter that "no Body…will deny to be a distinct Species, and to have its peculiar Essence[.]"[264]

In the "sheaves and bundles" passage cited above, we find Locke claiming that *real essences* are a matter of discovery.[265] Further, it appears that the properties that we would apprehend 'at a time' in 'whole Sheaves' by grasping a real essence are just those properties that we glean from observation and particular experiments. But Locke's claim that properties and the real essences that flow from them are a matter of discovery suggests that there are two routes to determining the signification of a kind term. In fact, it is just this contrast between two ways of coming to know the signification of a kind term that provides context to the claim we saw at the beginning of this section, namely, that we could easily ascertain the signification of 'gold' if we knew the real essence.

In the passage in which we find these remarks, Locke describes the ways we make the signification of the names of substances known to others. Locke first suggests we *show* a sample of a substance we call gold to a subject so that by sight she can see

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[264] *E* III.vi.47: 468.

[265] Of course, it would still be a matter of *abstraction* to arrive at *general ideas* of these real essences. For, as I will argue in the next chapter, real essences are to be understood as some aspect of the totality of a thing's microstructure, which aspect is individuated by God's workmanship. Thus to apprehend a real essence is much like what it means to apprehend the propria of body: we select them out from all the further observable qualities that we find in the thing but which we have reason to believe are not propria.

some of its "leading" qualities. But since this method fails to make known the less obvious qualities belonging to the sample – its ductility, fusibility, fixedness and solubility in aqua regia – Locke suggests we *enumerate* them to our observer:

> [B]ecause many of the simple *Ideas* that make up our specifick *Ideas* of Substances, are Powers, which lie not obvious to our Senses in the Things as they ordinarily appear; therefore, *in* the signification of our *Names of Substances*, *some part of the signification will be better made known, by enumerating those simple* Ideas*, than in shewing the Substance it self*. For he that, to the yellow shining Colour of *Gold* got by sight, shall, from my enumerating them, have the *Ideas* of great Ductility, Fusibility, Fixedness, and Solubility, in *Aqua Regia*, will have a **perfecter** *Idea* of *Gold*, than he can have by seeing a piece of *Gold*, and thereby imprinting in his Mind only its obvious Qualities.[266]

However, the easiest way to get at the signification of "*the Names of Substances* as they stand for the *Ideas* we have of their distinct Species" is to know their real essences:

> But if the formal Constitution of this shining, heavy, ductil Thing (from whence all these Properties flow) lay open to our Senses, as the formal Constitution, or Essence of a Triangle does, the signification of the word *Gold*, might as easily be ascertained, as that of *Triangle*.[267]

In coming to know the *source* of properties we otherwise collect by trial and experiment, why does Locke think that we come to know something that is easy to ascertain? Above we saw that the significations of the names of simple modes like figure and number are easily ascertained because there are few components to our complex ideas of them. Our complex idea of a simple mode like a triangle is an idea of its real essence. Locke describes that real essence as lying in "a very little compass", and so easy to ascertain. In the passage below, Locke compares the real essence of a triangle to the real essences of substances:

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[266] *E* III.xi.22: 520.

[267] *E* III.xi.22: 520; bold emphasis mine.

> The essence of a Triangle, lies in a very little compass, consists in a very few *Ideas*; three Lines including a Space, make up that Essence: But the Properties that flow from this Essence, are more than can be easily known, or enumerated. So I imagine it is in Substances, their real Essences lie in a little compass; though the Properties flowing from that internal Constitution, are endless.[268]

Michael Ayers notes Locke's claim that the signification of the term 'gold' would be easy to ascertain were we to know the real essence. Recognizing the suggestion of an objective criterion for the definition of a species, Ayers counters:

> Yet this means, not that we would then perceive the objective boundary of a species, but that we could then fix and agree on a nominal essence consisting of a relatively few mechanical properties, as in the classification of machines with observable working parts, or indeed of geometrical figures.[269]

Ayers resists the reading I have articulated in this section because he thinks that, on Locke's view, nothing *could* supply objective boundaries: "Locke really believed that nothing on earth" supplies objective boundaries between kinds.[270] The argument of this chapter and the next is that there are reasons for thinking that *God* supplies the objective boundaries between kinds.

§6.3 Natural Substances and God's Workmanship

Which features of natural substances are relevant to their classification? I argue in the next chapter that God makes substances such that they have real essences distinctive of their kind. There is thus a case to be made for thinking that the factors that determine which of an *artifact's* features are relevant to its being the kind of artifact it is – and thus

[268] *E* II.xxxii.24: 392-93; bold emphasis mine.

[269] Ayers, *Locke: Epistemology and Ontology*, 2: 76.

[270] Ayers, *Locke: Epistemology and Ontology*, 2: 68.

relevant to its classification – are also at work in the case of natural substances. Locke describes the natural world as "The Workmanship of the All-wise, and Powerful God,"[271] and he describes God as "the infinite wise Contriver of us, and all things about us".[272] This suggests that natural substances are the products God's design, in which case an objective sorting of natural substances would be grounded in *God's* ideas.

However, we have limited insight into the natures of natural substances. We are privy only to the outward signs of their internal "contrivances" or mechanisms, much as the "gazing Country-man," standing before the Strasburg Clock, "barely sees the motion of the Hand…hears the Clock strike, and observes only some of the outward appearances." The Countryman's idea is "far different from" he "who knows all the Springs and Wheels, and other contrivances within."[273]

Locke himself exploits the analogy between what the gazing countryman can observe of the Strasburg Clock and what *we're* in a position to observe in natural substances. Locke writes:

> Our faculties carry us no farther towards the knowledge and distinction of [natural] Substances, than a Collection of those sensible *Ideas*, which we observe in them; which however made with the greatest diligence and exactness, we are capable of, yet is more remote from the true internal Constitution, from which those Qualities flow, than…a Countryman's *Idea* is from the inward contrivance of that famous Clock at *Strasburg*, whereof he only sees the outward Figure and Motions.[274]

It is worth noting Locke's appeal to a *countryman* – he is presumably someone for whom the Strasburg Clock is a completely novel thing. As such, he figures in an analogy Locke

[271] *E* III.vi.9: 444.

[272] *E* II.xxiii.12: 302.

[273] *E* III.vi.3: 440.

[274] *E* III.vi.9: 444.

draws between the workmanship of God and the workmanship of the "most ingenious Man":

> The Workmanship of the All-wise, and Powerful God, in the great Fabrick of the Universe, and every part thereof, farther exceeds the Capacity and Comprehension of the most inquisitive and intelligent Man, than the best contrivance of the most ingenious Man, doth the Conceptions of the most ignorant of rational Creatures. (III.vi.9: 444)

To put it quaintly, we are all gazing countrymen with respect to God's workmanship. "Our faculties carry us no farther towards the knowledge and distinction of [natural] Substances, than a Collection of those sensible *Ideas*, which we observe in them[.]" Locke observes that "[t]here is not so contemptible a Plant or Animal, that does not confound the most inlarged Understanding." And what "counfounds" the understanding is the "make" of natural things. Locke writes:

> When we…examine the Stones, we tread on; or the Iron, we daily handle, we presently find, we know not their Make; and can give no Reason, of the different Qualities we find in them. 'Tis evident the internal Constitution, whereon their Properties depend, is unknown to us […] What is that Texture of Parts, that real *Essence*, that makes Lead, and Antimony fusible…And yet how infinitely these come short, of the fine Contrivances, and unconceivable *real Essences* of Plants and Animals, every one knows.[275]

Locke suggests that natural substances, like artifacts, also have a "make" which are conceived in terms of hidden, internal "fine Contrivances, and unconceivable *Real essences*".

It seems reasonable to presume, then, that God has ideas in terms of which he creates and "distinguishes" substances. There is also some textual evidence for this claim. In Book IV of the *Essay*, Locke defends his proposal to reclassify changelings as a

[275] *E* III.vi.9: 444.

species distinct from the species '*Man*' and '*Beast*'[276] in light of the fact that they possess our shape and appearance, but, like beasts, do not possess reason. Locke imagines the protests that would greet such a proposal: "If *Changelings* are something between Man and Beast, what will become of them in the other World?" Locke replies:

> They [Changelings] are in the hands of a faithful Creator and a bountiful Father, who disposes not his Creatures according to our narrow Thoughts or Opinions, nor distinguishes them according to Names and Species of our Contrivance.[277]

Here Locke contrasts the ways in which God distinguishes creatures from the "Names and Species of our own Contrivance", that is, from what I've been calling *our parochial* species. Their ultimate fate depends on God's sorting, not on ours. And while Locke does not say here that God's ideas are nominal essences, it's reasonable to conclude that God distinguishes creatures in terms of ideas that specify features that form the bases for such distinctions.

I conclude this section by noting briefly some of the additional textual reasons for embracing my suggestion that (i) there are objective, or natural kinds, and (ii) that these kinds are individuated in terms of God's Workmanship and thus ultimately by reference to the ideas in terms of which God creates things.

First, consider the fact that Locke states unequivocally that there are sharp boundaries between men and beasts, and between beasts and plants. What distinguishes men from beasts is our power of reason, more specifically our ability to form abstract ideas. What distinguishes beasts from plants is the faculty of perception.[278] In the

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[276] According to linguistic practice, a changeling is classified as belonging to the *same* species as *man*, that is, a changeling is "a Man without Reason" (*E* IV.iv.13: 569).

[277] *E* IV.iv.14: 570.

[278] *E* II.ix.11-14.

passages in which we find these claims, it is evident that Locke is not merely recording how speakers in fact draw the boundaries between human beings and animals, and animals and plants. Locke's remarks occur in the chapters on perception and 'discerning', in which he draws out the implications of what it means to have these faculties. It is thus difficult to reconcile a commitment to conventionalism with *arguments* that, for instance, there is a real criterion according to which we ought to distinguish men from beasts:

> [T]he having of general *Ideas*, is that which puts a perfect distinction betwixt Man and Brutes; and is an Excellency which the Faculties of Brutes do by no means attain to.[279]

These remarks also go a long way towards explaining why Locke argues that we must *revise* our classificatory practices in a way that excludes changelings from the kind man, since such creatures fail to have the intellectual faculties requisite for membership in the kind. It is notable that Locke is here *resisting* common practice, which lumps changelings in the category of man. If he believed that there is no genuine fact of the matter about how things ought to be classified, it is unclear why he should have reasons for resisting it.

Second, Locke argues in his *Essays on the Law of Nature* and *Two Treatises of Government* that the world – and all of the things we find in it – is the product of God's workmanship. In the *Two Treatises*, Locke argues that God has fitted human beings with the faculties of perception and reason so that we may carry out our business on this earth. More specifically, God has made us such that we may arrive at knowledge of God and how to conduct ourselves in this life given the *kind* of creatures we are. Rather notably, we stand *above* other creatures in a hierarchy of kinds. We have dominion over other creatures, but, importantly, not over other human beings. Locke thus appears to think that

[279] *E* II.xi.10: 159.

there are moral considerations that ride on *correctly* identifying the kinds to which creatures belong, since we are not permitted to have dominion over other *human beings*.[280] In that case, kinds appear to be part of the order God creates when he creates the world and the particulars we find in it.

[280] For a conventionalist account of the significance of Locke's claims, see Jeremy Waldron, *God, Locke, and Equality* (Cambridge: Cambridge University Press, 2002).

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Chapter VII

Real and Nominal Essences

§7.1 Real Essences not Relative to Nominal Essences

In this chapter I argue that we should understand real essences as what Locke elsewhere describes as the "frame" or structure of a thing, and I provide an account of how we should understand the notion of a frame or structure. In his correspondence with Stillingfleet, Locke is quite clear that it is *God* who individuates a thing's real essence or frame, and God does this by way of "framing" or organizing matter in certain ways. I argue that these claims are nothing short of a refutation of the Standard Reading, according to which *we* individuate that aspect of a thing's hidden microstructure that counts as its real essence by way of observable qualities we freely choose to include in a general idea, a claim familiar from the thesis of *Voluntarism* articulated in Chapter IV.

In his correspondence, Locke responds to Stillingfleet's various misrepresentations of Locke's own views on real essence. For instance, Locke writes that:

> I think the real essences of things are not so much founded on, as that they are the very real constitution of things, and therefore I easily grant there is reality in them; and it was from that reality that I called them real essences.[281]

Locke goes on to address Stillingfleet's claim that the real essences of things "are unchangeable, i. e. the internal constitutions are unchangeable." Locke replies:

> Of what, I beseech your lordship, are the internal constitutions unchangeable? Not of any thing that exists, but of God alone; for they [internal constitutions] may be

[281] Locke, *Works*, 4:83. Incidentally, this passage displays what is evident in the *Essay*, namely, that by real essence Locke understands the real constitution of things – that is, he uses these terms interchangeably.

> changed all as easily by that hand that made them, as the internal frame of a watch.[282]

Locke is here drawing a parallel between real essences, or the real, internal constitutions of things and the "frame" of a watch. We understand the frame of a watch as individuated in terms of a designer's workmanship, and so consists of just those features a designer realizes in a thing by organizing or "framing" its matter in certain ways.

Natural substances also have a frame, and God is responsible for what frame they have. This is evident in Locke's insistence to Stillingfleet that real essences do not flow from the substance of a thing:

> Here I must acknowledge to your lordship, that my notion of these essences differs a little from your lordship's; for I do not take them 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 to every particular creature, when he gives a being: and such essences I grant there are in all things that exist.[283]

It is worth noting that Locke very clearly equates the notion of a frame with an internal constitution in the *Essay*.[284] In order to give a little more content to the notion of an internal constitution, frame,[285] or modification of a substance, we can look to the *Essay*'s

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[282] Locke, *Works*, 4:90-91.

[283] Locke, *Works*, 4:82.

[284] To cite just a couple of passages, Locke writes: "But if the inquiry be made concerning the supposed real essence, and whether the internal constitution and **frame** of these several creatures be specifically different, it is wholly impossible for us to answer, no part of that going into our specific idea" (*E* III.vi.22); "And so of the rest, if we pretend that distinction of species or sorts is fixedly established by the real **frame** and secret constitutions of things" (*E* III.vi.22); "This then, in short, is the case; nature makes many particular things which do agree one with another, in many sensible qualities, and probably too in their internal **frame** and constitution" (*E* III.vi.36).

[285] To see Locke's various uses of the term 'frame', the following passage is helpful: Locke writes that we can imagine "that **spirits can assume to themselves bodies of different bulk, figure, and conformation of parts**" in which case it seems that "one great advantage some of them have over us, may not lie in this, that **they can so frame and shape to themselves organs of sensation or perception, as to suit them to their present design, and the circumstances of the object they would consider."** Further down, Locke writes "And though we cannot but allow that, the Infinite Power and Wisdom of God,

account of how we are to understand the differences between the mere "mass of matter" that composes an oak tree, and the oak itself:

> 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 any how 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, &c. of an oak, in which consists the vegetable life.[286]

By appealing to the fact that a succession of masses of matter instantiate something like a "disposition" or "organization of parts", we can determine that in which the persistence conditions of an oak tree consist. Given that Locke describes a real essence as that internal constitution, or frame, or modification of a substance, all of these remarks, taken together, suggest that, while a mass of matter is what, at any given instant, realizes a thing's disposition or organization of parts, a real essence is not to be identified with that mass of matter. The question is what further implications can be gleaned from that observation.

As a proponent of the Standard Reading, according to which *we* individuate a thing's internal constitution or real essence by way of sensible qualities we freely choose to include in a general idea, Ed McCann argues for one of that view's implications, namely, that the *persistence conditions* of things are *also* tied to our abstract ideas:

> It is the (our) idea of the kind of thing whose identity is at issue which determines its identity, and thus which accounts for its being the same thing through changes in its (accidental) qualities and particularly in its matter. There is no question, of course, of this idea's playing a causal role in organizing a thing's matter, or being a causal basis for its vital processes; it is in no sense a constituent of the thing. **But as long as a spatio-temporally continuous series of masses of matter**

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may **frame** creatures with a thousand other faculties and ways of perceiving things without them, than what we have: Yet our thoughts can go no farther than our own" (*E* II.xxiii.13: 303-304; bold emphasis mine).

[286] *E* II.xxvii.4.

> **continues to satisfy the idea, we have the same thing: the same horse, or oak-tree, or whatever; and in that sense the idea keeps the thing the same**.[287]

In particular, and this is the important point, McCann argues that it makes no sense to talk of a thing's internal structure or organization *independently* of *our general ideas*:

> The taxonomic divisions we have set up, more or less arbitrarily, are what determine the level of abstraction at which internal structure is to be described so as to arrive at an internal constitution characteristic of the species.[288]

The thought is that there are any number of ways of picking out internal "structure" in a thing, so something, namely, one of our ideas, must determine which way of picking out structure is relevant to a thing's identity, and so which way of picking out structure is relevant to a thing's persistence conditions.

McCann's reading runs into difficulties, however, when we return to Locke's correspondence with Stillingfleet, who continues to confuse our parochial kinds for real or objective kinds, and continues to mistake real essences for the essences of parochial species, or species as distinguished and denominated by us. Though Stillingfleet only further misrepresents Locke's view by claiming that "the essences of men and horses, and trees, remain always the same; because they do not depend on the ideas of men, but on the will of the Creator," Locke is happy to make one concession in response:

> **It is true, the real constitutions or essences of particular things existing, do not depend on the ideas of men, but on the will of the Creator**; but their being ranked into sorts, under such and such names, does depend, and wholly depend, upon the ideas of men.[289]

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[287] Edwin McCann, "Locke on Identity: matter, life, consciousness," *Archiv fuer Geschichte der Philosophie* 69 (1987): 58; bold emphasis mine.

[288] McCann, "Locke on Identity," 66.

[289] Locke, *Works,* 4:91.

Intuitively, the thought Locke is expressing is that real essences are *independent* of the ideas of men. As Locke continues to engage Stillingfleet, he signals his agreement that real essences cannot be "altered" by changes in our nominal essences:

> And therefore I grant it true, what your lordship says in the next words, "and let the nominal essences differ never so much, the real, common essence or nature of the several kinds, is not at all altered by them;" i. e. that our thoughts or ideas cannot alter the real constitutions that are in things that exist; there is nothing more certain.[290]

Pace McCann, these passages suggest that real essences are not at all tied to, individuated by, or dependent upon our nominal essences. This reading is confirmed in Locke's observation that our nominal essence of the sun *comes apart* from its real essence. Wheeling out the familiar story of what gives a thing a right to a species name, Locke writes "any thing will be a true sun, to which the name sun may be truly and properly applied". It follows, Locke observes,

> [that] our sun is denominated and distinguished from a fixed star; not by a real essence that we do not know (for if we did, it is possible we should find the real essence or constitution of one of the fixed stars to be the same with that of our sun) but by a complex idea of sensible qualities co-existing; which, wherever they are found, make a true sun.[291]

Locke's admission is striking. It is possible that we should "find" that the real essence of the sun is the same as the real essence of one of the fixed stars. Further, Locke observes that were we to find that one of the fixed stars shared the same real essence with the sun, it nevertheless would not count *as a sun* since it would not satisfy our nominal essence of the sun:

> For should it be true (as is now believed by astronomers) that the real essence of the sun were in any of the fixed stars, yet such a star could not for that be by us

[290] Locke, *Works*, 4:90.

[291] Locke, *Works*, 4:84.

> called a sun, whilst it answers not our complex idea or nominal essence of a sun.[292]

The difficulties of rendering Locke's remarks consistent with the Standard Reading articulated by McCann are apparent. If we understand real essences as individuated relative to our nominal essences, as McCann et al. will argue, and if our nominal essence of the sun is distinct from our nominal essence of a fixed star – Locke argues that we could not call a fixed star a sun – then it would appear that we *could not* find that the real essence of the sun was the same as the real essence of one of the fixed stars.

[292] Locke, *Works*, 4:84.

Chapter VIII

Knowing the Real Kinds

§8.1 Marks of Distinction and God's Workmanship

In this chapter I raise an objection to my reading. If the essences of the real or objective kinds are individuated in terms of God's ideas, and if the internal microstructures of things that answer to those ideas are unavailable to us in perception, aren't the objective kinds, for all intents and purposes, of little interest in the wider context of Locke's views? While there is certainly no reason to think that we have insight into God's ideas – at least, not those that would fix how we are to sort substances – I argue that we do more or less *track* the real kinds, albeit imperfectly. That we do is again a matter of God's workmanship and design. God places marks of distinction in things that provide a clue to their proper classification. Finally, this story is of a piece with Locke's conception of God as the benevolent creator of man.[293]

As we saw in Chapter II, words have no *natural* signification, in which case *any* idea may "properly" be annexed to a word. For instance, Locke writes "the word *person* in itself signifies nothing; and so no idea belonging to it, nothing can be said to be the true idea of it."[294] However, once the convention of annexing a name to an idea takes hold within a linguistic community – which convention Locke refers to as "common use" – we make judgments about the truth or falsity of our ideas with respect to the ideas *other speakers* annex to those names. Amongst the three primary categories of idea – simple ideas of the qualities and powers of things; general ideas of substantial sorts; and general

[293] I thank Don Rutherford for suggesting this latter claim as a plausible reading of Locke.

[294] Locke, *Works,* 4:92; emphasis mine.

ideas of what Locke refers to as the species of mixed modes – all are liable to be false in respect of common use. However there are notable differences between the three cases. As Locke observes, our simple ideas are the least liable to be false on this count, while our ideas of mixed modes are more liable to falsity than our ideas of substantial sorts. What is revealing is Locke's reasoning as to why this is so, for the differences turn on whether there are *sensible standards* that regulate common use, and the degree to which those sensible standards both determine common use, and function as the standard against which speakers can rectify violations of common use.

We are least liable to annex the wrong names to our simple ideas, where, again, the impropriety Locke speaks of is measured only with respect to common use, that is, with respect to the names (most) other speakers annex to their simple ideas. Only in rare instances would someone apply the name 'red' to her simple idea of green because, Locke explains, speakers are by their "Senses and every Day's Observation" able to determine "what the simple Ideas are, which their several Names, that are in common use stand for."[295] Further, Locke explains that a subject "may easily rectify" any mistakes by reference to "the Objects they [simple ideas] are to be found in."[296] That is, we look to things themselves in order to determine which simple idea goes with a name.

There is, however, a much greater liability for error with respect to our ideas of the species of mixed modes. Mixed modes are primarily social and moral kinds,

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[295] *E* II.xxxii.9: 386-87.

[296] Locke writes "Because a Man by his Senses and every Day's Observation, may easily satisfy himself, what the simple *Ideas* are, which their several Names, that are in common use stand for, they being but few in Number, and such, as if he doubts or mistakes in, he may easily rectify by the Objects they are to be found in. Therefore it is seldom, that any one mistakes in his Names of simple *Ideas*; or applies the Name *Red*, to the *Idea* of Green; or the Name Sweet, to the *Idea* of Bitter: Much less are Men apt to confound the Names of *Ideas*, belonging to different Senses; and call a Colour, by the Name of a Taste, *etc.* whereby it is evident, that the simple *Ideas*, they call by any Name, are commonly the same, that other have and mean, when they use the same Names" (*E* II.xxxii.9: 386-87).

properties like justice, cruelty, liberality, and prodigality.[297] Our ideas of mixed modes are made up of collections of simple ideas of qualities united in one complex idea. However – and this is the important point – the *qualities* represented by each component simple idea are not *themselves* united in nature, which is Locke's way of saying that we do not find these qualities united together *in one, existing thing*, as we find the qualities of yellowness and a smooth, waxy surface united in a lemon. While our abstract or general idea of a lemon reflects the unity of qualities in a thing, the simple ideas we combine in our idea of justice or prodigality are "scattered" across different subjects and different things; it is "the mind alone that collects them, and gives them the union of one idea."[298]

Locke's reasoning here provides a common explanation as to why, on the one hand, we rarely violate common use with respect to the names of simple ideas, and, on the other hand, why we make such mistakes in the case of mixed modes. In respect of the former, there is a "sensible standard" in reference to which we both settle and rectify which simple ideas go with which names, while there is no such standard in the case of mixed modes. What Locke's reasoning suggests, then, is that where there is a sensible standard, common use is *fixed* in part by what *the world* is like. For this explains how, without access to ideas in others subjects' minds, any given speaker applies the term 'green' in much the way most speakers do; it explains how it is that we more or less pick out not only the same things, but the same qualities in those things in our use of the names of simple ideas.

[297] These are Locke's examples; see *E* II.xxxii.10: 387.

[298] *E* III.xi.18.

Remarkably, Locke appeals to the *same* reason as an explanation of how, between the names of mixed modes and the names of substantial kinds, we are less apt to make mistakes of common use with respect to the *latter*. Thus if common use annexes the name 'frog' to the idea of a living thing that is green and hops, and annexes the name 'stabbing' (a mixed mode) to the idea of killing with the sharp point of an object,[299] we are, Locke will observe, *less* apt to apply the name 'frog' to creatures common use designates 'lizards' than we are to apply the term 'stabbing' to an act of bludgeoning. This is because,

> some remarkable sensible qualities, serving ordinarily to distinguish one [substantial] sort from another, easily preserve those, who take any care in the use of their words, from applying them to sorts of substances, to which they do not at all belong.[300]

Common use distinguishes substantial kinds in terms of particularly remarkable qualities to which speakers can refer in determining common use and correcting mistakes. On the other hand, the combination of simple ideas we find in our complex ideas of stabbing and bludgeoning are "voluntary Combinations" of simple ideas "made by Men alone." There is no "sensible Standard existing anywhere"[301] to which we can refer. In fact, the act of

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[299] "Thus the Mind in mixed Modes arbitrarily unites into complex *Ideas* such as it finds convenient; whilst others that have altogether as much union in Nature, are left loose, and never combined into one *Idea*, because they have no need of one name. 'Tis evident then, that the Mind by its free choice gives a connexion to a certain number of *Ideas*, which in Nature have no more union with one another than others that it leaves out: Why else is the part of the Weapon, the beginning of the Wound is made with, taken notice of to make the distinct Species called *Stabbing*, and the Figure and Matter of the Weapon left out? I do not say, this is done without Reason, as we shall see more by and by; but this I say, that it is done by the free choice of the Mind, pursuing its own ends; and that therefore these Species of mixed Modes are the workmanship of the Understanding: And there is nothing more evident, than that, for the most part, in the framing these *Ideas* the Mind searches not its Patterns in Nature, nor refers the *Ideas* it makes to the real existence of Things; but puts such together, as may best serve its own Purposes, without tying itself to a precise imitation of any thing that really exists" (*E* III.v.6: 431).

[300] *E* II.xxxii.10.

[301] [T]he abstract *Ideas* of mixed Modes, being Men's voluntary Combinations of such a precise Collection of simple *Ideas*; and so the Essence of each Species, **being made by Men alone**, whereof we

defining mixed modes is "*the only way* whereby the signification of the most of them can be known with certainty" for, as Locke explains,

> the assistance of the senses in this case not helping us, by the proposal of sensible objects, to show the ideas which our names of this kind stand for, as it does often in the names of sensible simple ideas, **and also to some degree in those of substances.**[302]

It is worth lingering over the contrast Locke draws between substantial kinds and species of mixed modes. For the suggestion is that the proposal of sensible objects, e.g., pointing to a thing, or pointing to a thing while speaking a name, can show a speaker "the ideas which our names [of substantial kinds] stand for," while no such recourse is available to us in the case of mixed modes. In fact, it is this difference that, as Locke explains below, *distinguishes* the species of mixed modes from substantial kinds:

> These mixed modes being…such combinations of simple ideas as are **not looked upon to be characteristical marks of any real beings that have a steady existence**, but scattered and independent ideas put together by the mind, are **thereby distinguished from the complex ideas of substances**.[303]

This passage echoes Locke's earlier point that what distinguishes the case of substantial kinds from the species of mixed modes is the fact that substances possess "remarkable sensible qualities", what he here refers to as "characteristical marks". In what follows, I argue that these characteristical marks provide the occasion for making our ideas of substantial sorts and so are the independent standard that *fixes* common use. This much is already implied in Locke's claim that violations of common use may be held in check if

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have no other sensible Standard, existing any where, but the Name it self, or the definition of that Name: We have nothing else to refer these our *Ideas* of mixed Modes to as a Standard, to which we would conform them, but the *Ideas* of those, who are thought to use those Names in their most proper Significations" (*E* II.xxxii.12: 387-88).

[302] *E* III.xi.18: 518; bold emphasis mine.

[303] *E* II.xxii.1: 288; bold emphasis mine. Note that by "complex ideas of substances" Locke means *general* ideas of substances, not complex ideas of particular substances.

only speakers attend to sensible standards. For the only way that sensible standards could *by themselves* guide speakers towards common use is if common use is itself (in part) a matter of apprehending certain qualities of things *as* the characteristical marks *of a sort*. In other words, which qualities count as the characteristical marks in accordance with which we sort substances is *not*, as the standard, conventionalist reading would suggest, a matter of choice.

My claim will be that God makes us, and makes natural substances, such that the sorts to which they belong are more or less obvious to us by their sensible qualities. To put it crudely, confronting things as they appear to us is not, as Guyer suggests, a matter of apprehending innumerably many possible resemblances between things. Rather, God makes us, and he makes things, such that certain qualities are particularly salient to us for the purposes of classification. What Locke elsewhere (and often) refers to as "marks of distinction in things" afford a foundation for distinguishing substances into *kinds*, the implication being that God, through his own workmanship, *positions* us to make ideas of substantial kinds whose *extensions* may, and likely often do, approximate the extensions of real, objective kinds.

Here Locke's reasoning appeals to the fact that the existence of natural kinds, and the possibility of sorting in accordance with them, promotes not only our survival, but our particular aims and interests given the *kinds* of creatures we are – that is, there are real kinds, and we sort substances accordingly, and well enough for our business in this world. Notice that to say this does no violence to Locke's thesis that the *essences* of species as distinguished and denominated by us are the workmanship of the understanding. For note Locke's response to Stillingfleet's claim that "when we see

several individuals that have the same powers and properties, we thence infer, that there must be something common to all, which makes them of one kind." Locke replies:

> **I grant the inference to be true**; but must beg leave to deny that this proves, that the general idea the name is annexed to is not made by the mind.[304]

What Locke grants here is similar to an admission he makes on more than one occasion in the *Essay*:

> [M]any particular substances are so made by nature, that they have agreement and likeness one with another, **and so afford a foundation of being ranked into sorts.** But the sorting of things by us, or the making of determinate species, being in order to naming and comprehending them under general terms; I cannot see how it can be properly said, that nature sets the boundaries of the species of things.[305]

We assume there are real sorts in nature – as I will argue, Locke thinks that this is *obvious* to us from observation and experience – nevertheless, Locke cautions, their real essences are unknown, so we cannot make them the criteria for the application of our general terms, and so we cannot be said to sort substances by their real essences. How we in fact sort substances is according to criteria, essences, or general ideas of *our* making.

We set the boundaries of the species of substantial kinds. However, it is still the case that we make our general ideas by reference to standards made by nature. This brings us back to the comparison Locke draws between mixed modes and substances. Unlike the essences of the species of mixed modes, the essences of the species of substances are a joint venture between us and nature – nature makes contributions in the form of particularly salient qualities or marks of distinction in things (and, in addition, by offering up collections of qualities that are "regularly and permanently united in

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[304] Locke, *Works,* 4:86-87; bold emphasis mine.

[305] *E* III.vi.30: 457-458; bold emphasis mine.

nature"[306]). By comparison, nature – the realm of sensible things – makes *no* contribution to how we form our ideas of mixed modes, which are "voluntary Combinations" "made by Men alone" and "whereof we have no other sensible standard, existing any where…but the definition of that Name."[307]

The names of substantial sorts stand for Ideas that are "supposed conformable to the reality of Things, and are referred to *Standards* made by Nature." More importantly, Locke writes:

> In our *Ideas* of Substances we have not the liberty as in mixed Modes, to frame what Combinations we think fit, to be the characterstical Notes, to rank and denominate Things by[.][308]

This seems as clear a statement as any that our ideas of substantial kinds are not "voluntary combinations" of simple ideas, and that we do not decide what qualities are to count as the marks of distinction in things – the "characteristical Notes" – by which we classify them. In fact, Locke's observation helps to explain what would otherwise be a puzzling feature of Locke's story about how Adam forms his abstract idea of gold, which we saw in the previous chapter. Locke writes that the object in respect of whose qualities Adam goes on to make an abstract idea is "quite different from any he had seen before" in which case no one "will deny [it] to be a distinct Species, and to have its peculiar Essence[.]" Locke's observation is of course no argument that Adam is faced with an objective kind, but it does capture a feature of Locke's account that has to do with how substances appear to us and how those appearances strike us vis-à-vis the task of classification. Thus Locke describes the glittering substance as notable for its "peculiar

[306] *E* III.x.4: 492.

[307] *E* II.xxxii.12: 387-88.

[308] *E* III.ix.11: 481-82.

bright yellow Colour, and an exceeding great Weight." In fact, in a completely unrelated passage, Locke writes that we can, *by sight,* distinguish true from counterfeit gold:

> [T]he *Idea* of the particular Colour of *Gold*, is not to be got by any description of it, but only by the frequent exercise of the Eyes about it; as is evident in those who are used to this Metal, who will frequently distinguish true from counterfeit, pure from adulterate, by the sight, where others, (who have as good Eyes, but yet, by use, have not got the precise nice *Idea* of that peculiar Yellow) shall not perceive any difference.[309]

Moreover, gold is not an isolated case. The passage occurs in the context of an argument that the signification of the names of substances "*are best made known by shewing*" – that is, by proposing a sensible object that counts as an exemplar of the kind. And this is because, Locke explains, the qualities distinctive of kinds are sufficiently peculiar that we have no names for our simple ideas of them. After noting that we can, with practice, distinguish true from counterfeit gold, Locke writes:

> The like may be said of those other simple *Ideas*, **peculiar in their kind to any Substance**; for which precise *Ideas*, there are no peculiar Names. The particular ringing sound there is in *Gold*, distinct from the sound of other Bodies, has no particular Name annexed to it, no more than the particular Yellow, that belong to that Metal.[310]

This much seems to be true, then: we are struck by qualities whose peculiarity is our cue to classify substances on their basis. In fact these qualities are sufficiently striking that Locke writes that they are peculiar *to a kind*.

Locke's observations provide the context in which we can understand his repeated claims that secondary qualities serve primarily to help us distinguish substances one from another *and so* make up the lion's share of qualities we include in our ideas of substantial kinds. Locke isn't arguing that secondary qualities help us distinguish *particular*

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[309] *E* III.xi.21: 519.

[310] *E* III.xi.21: 519; bold emphasis mine.

substances one from another – circumstances of time and place are alone sufficient to distinguish qualitatively identical particulars. Locke is saying, rather, that secondary qualities help us distinguish *sorts* of substances. He writes:

> Nor are we to wonder, that *Powers make a great part of our complex* Ideas *of Substances*; since their secondary Qualities are those, which in most of them serve principally to distinguish Substances one from another, and commonly make a considerable part of the complex *Idea* of the several sorts of them.[311]

Note that the claim expressed here runs against Guyer's Idea-Theoretic account, according to which secondary qualities are not *distinguishing* marks of sorts, but rather provide innumerably many respects in which substances resemble one another. By the lights of Guyer's account, secondary qualities could not of themselves serve to distinguish the sorts of substances, for they are merely the basis upon which we may generate innumerably many abstract ideas, all of which are on all fours with respect to one another, thus forcing us to make decisions about which secondary qualities are relevant to species membership. As further cause for resisting such a reading, note Locke's reference below to secondary qualities as "characteristical marks" on the basis of which we distinguish *sorts*:

> [O]ur Senses failing us in the discovery of the Bulk, Texture, and Figure of the minute parts of Bodies, on which their real Constitutions and Differences depend, we are fain to make use of their secondary qualities, as the characteristical Notes and Marks, whereby to frame *Ideas* of them in our Minds, and distinguish them one from another.[312]

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[311] *E* II.xxiii.8: 300.

[312] Ibid. That the complex ideas Locke speaks of here are *abstract* or *general* ideas is clear from what he says in the passage immediately preceding: "For he has the perfectest *Idea* of any of the particular **sorts** of *Substance*, who has gathered, and put together, most of those simple *Ideas*, which do exist in it, among which are to be reckoned its active Powers, and passive Capacities […] [T]he Powers that are severally in them, are necessary to be considered, if we will have true distinct Notions of the several sorts of Substances (*E* II.xxiii.7: 299-300; bold emphasis mine).

We find the strongest declaration of the claim that secondary qualities *of themselves* serve to distinguish the sorts of substances in Locke's explanation of why knowledge on the basis of our simple ideas (most of which are simple ideas of secondary qualities) is "real", which is just to say that our simple ideas have a *conformity* to "the reality of things". Locke reasons that since the mind cannot make its own simple ideas, they "must necessarily be the product of Things operating on the Mind in a natural way". Locke then explains that the conformity between a simple idea of a quality and the quality itself lies in the fact that the perceptions produced in us are "by the Wisdom and Will of our Maker" "ordained and adapted to" the thing that produce those perceptions. Locke continues:

> For they [simple ideas] represent to us Things under those appearances which they are fitted to produce in us: whereby we are enabled to distinguish the sorts of particular Substances, to discern the states they are in, and so to take them for our Necessities, and apply them to our Uses.[313]

This passage echoes a point Locke makes much earlier in Book II of the *Essay*, where he explains that even if our ideas of secondary qualities do not *resemble* their causes in bodies, they nonetheless have all the necessary conformity to things requisite for knowledge. Again, part of Locke's justification for this claim appeals to the fact that our simple ideas of secondary qualities are *designed* by God to be the "marks" whereby we know and distinguish things:

> …those *Ideas* of Whiteness and Coldness, Pain, &c. being in us the Effects of Powers in Things without us, ordained by our Maker to produce in us such Sensations; they are real *Ideas* is us, whereby we distinguish the Qualities that are really in things themselves. **For these several Appearances being designed to be the Marks, whereby we are to know and distinguish Things which we have to do with**; our *Ideas* do as well serve us to that purpose, and are as real

[313] *E* IV.iv.4: 564.

> distinguishing Characters, whether they be only constant Effects, or else exact Resemblances of some thing in things themselves.[314]

(It is worth noting that Locke's claims that sensible qualities enable us to distinguish the sorts of substances sheds light on Locke's preferred account of the real essences of substances. Recall that Locke contrasts "Two Opinions" about the real essences of corporeal substances, the more rational opinion being held by

> those who look on all natural things to have a real, but unknown constitution of their insensible parts; from which flow those sensible qualities which serve us to distinguish them one from another, according as we have occasion to rank them into sorts under common denominations.[315]

As this passage is often read, a real essence is what, in a particular, gives rise to *all* of its qualities, some of which qualities we freely choose to make essential to a kind. Drawing upon the evidence cited thus far, however, it appears that the sensible qualities to which a real essence gives rise are not *all* of a particular's qualities but rather just those qualities that serve us to distinguish substances into sorts.)

Also notable in these passages is the prominent role God plays in making substances, and us, *such that* we are able to distinguish substances into sorts. Locke writes that "we have reason to be satisfied" that "the all-wise Architect has suited our organs, and the bodies that are to affect them, one to another."[316] Being able to

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[314] *E* II.xxx.2: 372-73. In a similar passage, Locke writes that "…our simple ideas being barely such perceptions as God has fitted us to receive, and given power to external objects to produce in us by established laws and ways, suitable to his wisdom and goodness, though incomprehensible to us, their truth consists in nothing else but in such appearances as are produced in us, and must be suitable to those powers he has placed in external objects, or else they could not be produced in us: And thus answering those powers, they are what they should be, true ideas" (*E* II.xxxii.14).

[315] *E* III.iii.17: 418.

[316] *E* II.xxiii.12: 302; Elsewhere Locke writes "[T]he certainty of things existing in *rerum natura,* when we have the testimony of our senses for it, is not only as great as our frame can attain to, but as our condition needs. For our faculties being suited not to the full extent of being, nor to a perfect, clear, comprehensive knowledge of things free from all doubt and scruple; but to the preservation of us, in whom

distinguish substances into sorts by their secondary qualities itself serves a purpose. For natural kinds, and the possibility of distinguishing things accordingly, ground the possibility of inductive reasoning, which in turn enables us to form hypotheses about what we can expect from things, and so make use of them for our purposes.

Locke explains that "God, in his wisdom" "set [simple ideas] as marks of distinction in things, whereby we may choose any of them for our uses, as we have occasion[.][317] Simple ideas are that "whereby we are enabled to distinguish the sorts of particular substances, to discern the states they are in, and so to take them for our necessities, and apply them to our uses[.]"[318] This echoes a point brought up in Chapter II, *viz*., Locke's observation that common folk, pretending no insight into real essences, and "content with knowing things one from another by their sensible Qualities," are "often better acquainted with their Differences, can more nicely distinguish them from their uses, and better know what they expect from each."[319]

We find an example of the practical importance of distinguishing things for our uses in Locke's complaint that knowledge of many of the useful properties of sorts remains out of reach given our ignorance of real essences:

> Knowing the colour, figure, and smell of hyssop, I can, when I see hyssop, know so much, as that there is a certain being in the world, endued with such distinct powers and properties; and yet I may justly complain, that I want something in order to certainty, that hyssop will cure a bruise or a cough, or that it will kill moths; or, used in a certain way, harden iron; or an hundred other useful properties that may be in it, which I shall never know; and yet might be certain of,

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they are; and accommodated to the use of life; they serve to our purpose well enough, if they will but give us certain notice of those things, which are convenient or inconvenient to us" (IV.xi.8: 634).

[317] *E* II.xxxii.14: 388.

[318] *E* IV.iv.4: 563-64.

[319] *E* III.vi.24: 452.

> if I knew the real essences, or internal constitutions of things, on which their properties depend.[320]

Nevertheless, Locke explains that our ignorance of real essences, and our imperfect knowledge of their characteristic properties, is a function of, and suitable to, our natures:

> [I]t appears not, that God intended we should have a perfect, clear, and adequate knowledge of [things]: That perhaps is not in the comprehension of any finite being. We are furnished with faculties (dull and weak as they are) to discover enough in the creatures, to lead us to the knowledge of the Creator, and the knowledge of our duty: And we are fitted well enough with abilities to provide for the conveniences of living: These are our business in this world.[321]

Thus one reason to think that we have an (admittedly imperfect) grasp of the boundaries between kinds is that it is implied by a larger story Locke tells regarding how we are suited to the world, and how things are suited to us, such that we can make our way through the world:

> The infinitely wise contriver of us, and all things about us, hath fitted our senses, faculties, and organs, to the conveniences of life, and the business we have to do here. We are able, by our senses, to know and distinguish things; and to examine them so far, as to apply them to our uses, and several ways to accommodate the exigencies of this life.[322]

It should be noted that the argument of this section is not that *there are* objective kinds individuated in terms of God's workmanship, although the texts clearly suggest that Locke presupposed that there are observable distinctions between things that are the basis of their classification. What I attempted to show here was that it is not obvious we require insight into God's ideas, or insight into the unknown real essences of things that answer to those ideas, in order to arrive at a sorting of things that roughly approximates the

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[320] Locke, *Works*, 4:81-82.

[321] *E* II.xxiii.12: 302-303.

[322] Ibid.

boundaries between objective kinds. In fact, that we more or less cotton on to the real kinds would itself be explained in terms of God's workmanship.

Chapter IX

~ Conclusion ~

In this dissertation, I have argued that objective kinds, on Locke's view, are grounded in divine ideas in accordance with which God designs natural things. These ideas, and the real essences of substances that answer to them, are remote from our comprehension. This account is in keeping with Locke's conceptualism, the view that universals or general natures that correspond to genus and species are to be understood, not as metaphysical constituents in numerically many particulars, but rather as concepts in the mind.

In Chapter II, I argue that Locke's primary complaint against the Aristotelian shows him to be objecting not to the Aristotelian's understanding of real essences as the essences of objective kinds, but rather to the Aristotelian's understanding of real essences as the essences of our parochial species. The Aristotelian, Locke argues, takes the names of our parochial kinds to be the representatives of unknown real essences, and tacitly takes our parochial concepts of genus and species to represent unknown real essences. Thus the important difference between Locke's own understanding of real essence and the Aristotelian conception is, I argue, how each conceives of the relationship between real essences and the species and genus concepts in accordance with which *we* classify substances. The Aristotelian believes that a sorting of substances in accordance with our genus and species concepts just is a sorting according to real essences.

Further, because the Aristotelian believes that our definitions of species and genus *represent* real essences, the view fails to recognize the need for refining and *revising* our current definitions of kinds in light of reflection, observation and experiment. Nor does it

recognize any need for further scrutinizing our verdicts regarding whether a particular is indeed a member of a kind. These claims help us understand the significance of Locke's appeal to monsters and changelings in the *Essay*. Against the Standard Reading, I argue that Locke does not raise these examples as a challenge to the claim that there are stable, clear boundaries between kinds – the Aristotelian may happily admit of the existence of defective cases. Rather, Locke is interested in challenging the *verdicts* speakers are disposed to make regarding these examples. Locke argues that we have reason to revise these initial verdicts, in some cases our definitions, too, a fact that would otherwise be apparent to us were we not in the grip of the Aristotelian view.

In Chapter III, I follow commentators like McCann, who argue that the *modesty* with which Locke approaches metaphysical questions in the *Essay* was motivated by his methodological aims in that work. Locke's project was that of providing an account of what ideas we have and how we come to have them. However, I argue that Locke nevertheless signals his own metaphysical commitments in at least one important case. Locke believed in the existence of a divinely decreed moral law. However, he saw the *Essay* as no place to provide any extended argument for that view. I argue that we can understand Locke's position with respect to natural kinds on the model of his approach to morality in the *Essay*. Locke did signal his belief in the existence of objective or natural kinds; however I suggest that his primary aim in the *Essay* was that of providing an account of how we form *our* ideas of substantial kinds. Finally, I argue that limits on the expressibility of the very thesis that there are natural kinds goes some way towards showing that Locke, by his own lights, would have found himself limited to only certain ways of expressing that commitment in the *Essay*.

In Chapter IV, I consider one powerful motivation for thinking that Locke meant to reject natural kinds. According to the Idea-Theoretic account, Locke's theory of meaning entails conventionalism about kinds. On my own interpretation, the unknown real essences of substances, and the propria that flow from them, are fixed in advance of our coming on the scene to classify them. Further, I argue that the propria of a kind count as the independent standard in light of which we make our ideas of substantial sorts. This is evident in Locke's claims that (i) we make our general ideas by reference to constantly coexisting qualities (propria), whose coexistence merits the inference to a real essence; (ii) propria are a matter of discovery; and (iii) no property (proprium) may be excluded from an idea of a substantial kind. I then articulate the most promising way of explaining these apparently realist commitments and argue that that attempt fails.

In Chapter V, I take on another powerful motivation for thinking that Locke meant to reject natural kinds. Many have thought that corpuscularian mechanism entails conventionalism about kinds. Thus according to Michael Ayers's reading of a widely discussed passage, Locke argues that, just as sorting natural substances in terms of their observable qualities is arbitrary, sorting them in terms of their inner corpuscularian constitutions or real essences is also arbitrary, and so there are no objective kinds. According to Ayers, Locke's argument turns on corpuscularian mechanism: there is no end to the inner, mechanical differences between bodies, hence there are no naturally lowest species. I argue that Locke's aim in the passage is orthogonal to whether there are objective boundaries between kinds.

In Chapter VI, I argue that the objectivity of kinds is grounded in divine ideas.

In Chapter VII I take up the Standard Reading's claim that real essences are individuated only relative to qualities we freely (and so arbitrarily) choose to include in a general idea. I argue that Locke's exchanges with Stillingfleet reveal that real essences are individuated in terms of God's workmanship.

In Chapter VIII, I consider an objection to my view, namely, that the objective kinds are idle on Locke's view because God's ideas of kinds, and their real essences, cannot be known. I argue that God places observable marks of distinction between things that enable us to more or less track objective boundaries between kinds.

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