

# Locke, Arnauld, and Abstract Ideas\*

Kenneth L. Pearce  
Trinity College Dublin

A great deal of the criticism directed at John Locke's theory of abstract ideas, including George Berkeley's famous critique (PHK, Intro §§7–21),<sup>1</sup> assumes that a Lockean abstract idea is a special kind of idea which by its very nature either represents many diverse particulars or represents separately things that cannot exist in separation (see PHK, Intro §10).<sup>2</sup> I will call this the *intrinsic theory* of abstraction, since it holds that abstract ideas differ intrinsically from concrete (i.e., non-abstract) ideas.

The claim that Locke held the intrinsic theory has been challenged by scholars such as Kenneth Winkler and Michael Ayers who regard it as uncharitable to Locke in light of the obvious problems faced by this theory of abstraction. Winkler and Ayers argue that Locke held instead that to have an abstract idea is to attend selectively to some portion of the content of a particular idea. On this view, to have an abstract idea is not to have a special kind of idea but to have an ordinary idea in a special way. I will call this the *extrinsic theory* of abstraction, since it holds that ideas are not intrinsically abstract but rather are abstract in virtue of the manner in which they are had (perceived). According to Ayers, this interpretation is contextually plausible since Locke was greatly influenced by Antoine Arnauld, and Arnauld endorsed the extrinsic theory of abstraction.

I argue, on the contrary, that both Arnauld and Locke endorse the intrinsic theory. I begin, in §1, with a more careful definition of the difference between the intrinsic and extrinsic theories of abstraction. In §2 I show that, despite Arnauld's talk about selective attention, Arnauld holds the intrinsic theory. In §3, I show that a consistent interpretation of Locke's remarks on abstract ideas can be developed on the assumption that Locke did indeed follow Arnauld in this. Thus, contrary to Winkler and Ayers, both textual and contextual evidence favors the attribution of the intrinsic theory to Locke. In §4, I address the argument from interpretive charity against the attribution of the intrinsic theory to

---

\* Forthcoming in *British Journal for the History of Philosophy*. Accepted 26 June, 2018.

<sup>1</sup> Although Berkeley makes this assumption, it is unclear what role, if any, it plays in his argument. See, e.g., Bolton 1987; Winkler 1989, ch. 2; Pappas 2000, ch. 3; Pearce 2017, 15–29. I am here focused on the interpretation of Locke and Arnauld, and will therefore not be addressing this question.

<sup>2</sup> In the secondary literature on Berkeley, these two kinds of abstraction have been dubbed 'generalizing abstraction' and 'singling abstraction'. See Rickless 2012. A predecessor of this distinction can be found in the Port-Royal *Logic*'s distinction between four kinds of "knowledge by parts," three of which are said to be species of abstraction (Logic, 37–38). Varieties 2 and 3 are kinds of singling abstraction, the fourth and final variety is generalizing abstraction.

Locke. I provide a threefold response to this argument: first, although my interpretation does recognize a tension in Locke's thought, it does not attribute any obvious incoherence to him. Second, Locke might well regard attempts to remove this tension as violating the principles of his "Historical, plain Method" (EHU, §1.1.2). Third and finally, the tension in question can plausibly be seen as arising from Locke's attempt to adapt the Cartesian logic of Port-Royal to an empiricist philosophy of ideas. I conclude that considerations of charity do not outweigh the textual and contextual evidence: Locke's process of abstraction produces special ideas of a peculiar and problematic sort.

## 1 Intrinsic and Extrinsic Theories of Abstraction

According to intrinsic theories of abstraction, abstract ideas differ intrinsically from concrete ideas. In other words, the intrinsic theory holds that an abstract idea is *an idea of a special kind* while the extrinsic theory holds that an abstract idea is merely an ordinary idea *had in a special way*.

The distinction between intrinsic and extrinsic theories of abstraction should be distinguished from the debate over what Winkler calls 'the content assumption' about ideas. According to the content assumption, "the content of thought is determined by its object" (Winkler 1989, 39). The content assumption is a component of one particular version of the intrinsic theory. On this view, ideas are the internal, immediate objects of thought and the intrinsic nature of the idea determines the content of thought. On such a view, abstract ideas must differ intrinsically from concrete ideas because they differ in content: the abstract idea *apple* is about apples in general, while a particular apple idea is about a particular apple.

Winkler and Ayers hold that Locke rejects the content assumption and instead holds a version of the extrinsic theory.<sup>3</sup> According to this view, as Winkler puts it, "we may be thinking of a particular triangle or of triangularity in general while confronting one and the same idea, *depending on how much of the idea we attend to*" (Winkler 1989, 39). Similarly, according to Ayers, "The abstract idea just is the phenomenal particular currently before the mind and representing all particulars which precisely resemble it in the respect upon which the mind is focused in abstraction" (Ayers 1991, 1:249).

One reason it is important to distinguish the content assumption—a component of one particular version of the intrinsic theory—from the intrinsic theory more broadly, is that the version of the intrinsic theory that relies on the content assumption also contains a second assumption: that ideas are *objects* of thought. However, according to both Winkler and Ayers, Locke's text contains an ambiguity between ideas considered as objects of thought and ideas as acts of thinking (Winkler 1989, 41–42; Ayers 1991, 1:56–57). Further, Arnauld is often interpreted as taking ideas to be acts, rather than objects, of thought (see below, §2). The distinction between intrinsic and extrinsic theories of abstraction is, however, independent of the question of whether ideas are acts or objects: the intrinsic theory simply holds that an abstract idea is a special kind of idea, differing

---

<sup>3</sup> Yaffe 2004 argues that Locke does endorse the content assumption as part of his general theory of ideas.

intrinsically from a concrete idea, while the extrinsic theory holds that one and the same idea may be either abstract or concrete depending on circumstances extrinsic to that idea.

On the particular version of the extrinsic theory attributed to Locke by Winkler and Ayers, an abstract idea is just a concrete idea to which the mind attends selectively. In other words, to have an abstract idea is just to attend to some particular feature or features of a fully determinate concrete idea to the exclusion of its other features. I will now argue that both Arnauld and Locke held the intrinsic theory.

## 2 Arnauld on Abstraction

That Arnauld held the intrinsic theory rather than the extrinsic theory of abstraction is apparent both from direct textual evidence and from systematic considerations. I begin with the textual evidence.

In the Port-Royal *Logic*, Arnauld (with his collaborator Pierre Nicole), describes abstraction as follows:

Suppose, for example, I reflect that I am thinking, and, in consequence, that I am the I who thinks. In my idea of the I who thinks, *I can consider a thinking thing without noticing that it is I*, although in me the I and the one who thinks are one and the same thing. *The idea I thereby conceive* of a person who thinks can represent not only me but all other thinking persons. By the same token, if I draw an equilateral triangle on a piece of paper, and if I concentrate on examining it on this paper along with all the accidental circumstances determining it, I shall have an idea of only a single triangle. But if I *ignore all the particular circumstances* and focus on the thought that the triangle is a figure bounded by three equal lines, *the idea I form* will, on the one hand, represent more clearly the equality of lines and, on the other, be able to represent all equilateral triangles ... Now in these abstractions it is clear that the lower degree includes the higher degree along with some particular determination, just as the I includes that which thinks, the equilateral triangle includes the triangle, and the triangle the straight-lined figure. But *since the higher degree is less determinate, it can represent more things* (Logic, 38, emphasis added).<sup>4</sup>

This text is quite explicit that selective attention results in the formation of a new idea. In the first example, I focus on myself *qua* thinking thing and thereby conceive a new idea that includes only this thinking, without my particularities, and is therefore suited to represent all thinking things. In the second example, I attend only to the fact that the thing in question “is a figure bounded by three equal lines” and thereby form a new idea containing only this content and therefore suited to represent all equilateral triangles.

Additionally, according to this text, these abstractions form ideas that “can represent more things.” The concrete ideas with which we began are capable *only* of representing some particular individual. Abstraction forms new ideas capable of representing many individuals.

This interpretation is confirmed at the beginning of the next chapter:

---

<sup>4</sup> The account here is likely derived from Descartes (1644) 1984, §1.59 (see Kambouchner 1995, 185; Ndiaye 1991, 78–81). Descartes also endorses the intrinsic theory in this passage.

Although everything that exists is singular, nevertheless, by means of the abstractions we have just explained, we all have several sorts of ideas. Some of these represent only a single thing, such as the idea each person has of himself. Others are *capable of* representing several things equally. For example, when we conceive a triangle without considering anything except that it is a figure having three lines and three angles, our ideas *allows us* to conceive all other triangles (Logic, 39, emphasis added).

The authors here clearly treat general and singular ideas as two “sorts” of ideas, and claim that the former, because of their (lack of) content, “are capable of representing several things equally,” a capacity singular ideas lack.

Both of these points—that abstraction is a process for forming new ideas, and that these are ideas of a special kind—are even clearer in *On True and False Ideas*. There, Arnauld tells the following story:

The philosopher Thales, having to pay twenty workers one drachma each, counted twenty drachmas and paid each worker. He would not have been able to do this unless there were at least two perceptions in his mind: one of twenty men and one of twenty drachmas ... Having some spare time he began to reflect, and thinking about what the two *perceptions* or *ideas* have in common, namely that there is 20 in both, he abstracts from what is particular in them the abstract idea of the number 20, which can subsequently be applied to twenty horses, twenty houses, twenty stadiums. This is a third idea or perception (TFI, 74).

Arnauld must not hold that to have the abstract idea of the number 20 is just to have the idea of some particular group of 20 things attending only to the number, for he here says explicitly that the abstract idea is a *third* idea, in addition to the two ideas of particular groups of 20. Further, this “abstract idea of the number 20” differs from the singular ideas of twenty men and twenty drachmas in that it “can subsequently be applied to” all other groups of twenty. Again, this is a capacity that the singular ideas lack.

These texts clearly show that Arnauld adopted the intrinsic theory of abstraction, holding that an abstract idea is a special kind of idea formed by a process involving selective attention. Additionally, there are systematic reasons why Arnauld could not have adopted the extrinsic theory.

Arnauld frames his dispute with Nicolas Malebranche over the nature of ideas as a dispute about whether ideas are ‘representative beings’ “actually distinct from our mind as well as from the [external] object” (TFI, 63). Arnauld rejects this claim, thereby endorsing a direct realist theory of perception and cognition. Yet Arnauld continues to speak of ideas. This has led some interpreters to question whether Arnauld is really the direct realist he claims to be (see, e.g., Hoffman 2002; Van Cleve 2015; Ott 2017, §6.4). However, most interpreters agree that chapter 6 of *On True and False Ideas* is intended to give a semantics for ‘idea’ talk that is consistent with Arnauld’s rejection of perceptual intermediaries. In the absence of perceptual intermediaries, Arnauld’s word ‘idea’ has been taken to refer either to the perceptual act or to its external object. The former interpretation is widely held and has been developed in detail by Steven Nadler (1989).<sup>5</sup> I have defended the latter interpretation (Pearce 2016).

I here assume that Arnauld really is a direct realist. However, it will not matter to my argument whether Arnauld identifies ideas with perceptual acts or with external objects;

---

<sup>5</sup> Other advocates of this interpretation include Cook 1974; Radner 1976; and Watson 1994, 267–70.

on either interpretation, Arnauld's direct realism is inconsistent with the extrinsic theory of abstract ideas.

The inconsistency is easiest to see on the act interpretation. If the idea just is the perceptual act, then a different perceptual act—such as one that attends to a different aspect of the object—just is a different idea.

The external object interpretation is somewhat more complex, but yields the same result. According to this interpretation, 'idea' is an extrinsic denomination of the external object (see TFI, 67, 89–90; Pearce 2016, 382–83). In the Port-Royal *Logic*, Arnauld and Nicole define an 'extrinsic denomination' as a mode "taken from something that is not in the substance, such as 'loved,' 'seen,' and 'desired,' names derived from the actions of something else" (*Logic*, 32). Thus it is my act of perceiving (for instance) the sun that makes it correct to apply the name 'idea' to the sun.

On this interpretation, the word 'idea' functions semantically like an adjective in that it signifies a mode distinctly but indirectly and signifies the subject of that mode confusedly but directly (see *Logic*, 74–75). What is peculiar about an extrinsic denomination is that the subject signified by the extrinsic denomination is not the substance that is actually (metaphysically speaking) modified by that mode. The mode that is distinctly but indirectly signified by 'idea' is a perceptual act and the substance it modifies must be a mind. However, the substance that is confusedly but directly signified is not that mind but rather the external object. In this way, the word 'idea' functions semantically like the word 'perceived' in the phrase 'perceived object'.

This yields the result that, if there are two acts of conceiving the sun, then the sun is, in a certain sense, an idea 'twice over' and in this sense there are two ideas. (For comparison: a two-pronged fork is, in a certain sense, pointy 'twice over' and we say that it has two points. These points are modes of the fork.) Thus we arrive ultimately (though by a more circuitous route) at the same conclusion: wherever there are two perceptual acts, there are two ideas. This conclusion is again inconsistent with the extrinsic theory: the abstract idea Thales has when he conceives of the number twenty is a different idea than the one he has when he conceives twenty drachmas.

What, then, is the role of selective attention in Arnauld's theory of abstraction? Here, *On True and False Ideas* is particularly illuminating. In that work, Arnauld draws a distinction between *implicit* and *explicit* reflection. Implicit reflection is the kind of awareness of one's own thinking that, according to Arnauld, accompanies all thought. Explicit reflection "occurs when we examine our perception by means of another perception" (TFI, 71). That is, explicit reflection involves a perceptual act that is directed toward another perceptual act.<sup>6</sup>

According to Arnauld, explicit reflection:

occurs above all in the sciences, which are constituted through the reflections men have made on their own perceptions, as when a geometer finds in examining his perception of a triangle that, having conceived it as a figure bounded by three straight lines, it must have three angles, and that these three angles are equal to two right angles (TFI, 71).

---

<sup>6</sup> On this distinction in Arnauld see Nadler 1989, 118–22 and Kambouchner 1995, 184–90.

The story of Thales, the beginning of which was quoted above, illustrates this process in more detail: Arnauld goes on to show how Thales, beginning from these reflections, can prove, for instance, that “2 is the only even number which is *prime*” (TFI, 75).<sup>7</sup> The process of abstraction, therefore, involves *explicit* reflection, which is by definition an additional perceptual act and therefore an additional idea.

In the story, Thales’ introduction to arithmetic begins by raising the question of “what the two *perceptions* or *ideas* [of twenty men and twenty drachmas] have in common” (TFI, 74). This is a question about the ideas (not about the objects as such) and so asking and answering it requires having ideas *of those ideas*. To have such higher-order ideas is to engage in explicit reflection. This reflection allows Thales to compare his two first-order ideas and identify what is in common between them. He thereby forms “the abstract idea of the number 20, which can subsequently be applied to twenty horses, twenty houses, twenty stadiums.” Arnauld explicitly asserts that this abstract idea “is a third idea or perception” in addition to the other two (TFI, 74).

Arnauld’s theory of ideas requires that this “third idea or perception” differ in nature from the previous two since this third idea has a greater range of objects than the other two. According to Arnauld, the states of the mind include nothing but “the perception and knowledge of an object.” Because “it is the nature of the mind to perceive objects” the modifications of the mind can differ from one another only in the objects they are of or about (TFI 54).<sup>8</sup> Accordingly, the abstract idea, being of or about different objects, must differ in its intrinsic nature from the singular ideas from which it is constructed.

Selective attention for Arnauld is a kind of explicit reflection. In selective attention, one thinks about one’s ideas and identifies certain features of them.<sup>9</sup> To construct an abstract idea, one reflects in this selective way and thereby constructs a new idea containing only the selected features. This idea, like all Arnauldian ideas, has the representational content it does just in virtue of the intrinsic nature of the perceptual act.

---

<sup>7</sup> On the Thales example and the role of abstraction and explicit reflection in Arnauld’s account of scientific knowledge, see Ndiaye 1991, 70–81.

<sup>8</sup> For defense of this interpretation, see Nuchelmans 1983, 72; Nadler 1989, 126–27, 167–70, 177–78; Pearce 2016, 378–79.

<sup>9</sup> On the act interpretation, to think about one’s ideas is to think about one’s perceptual acts. On the external object interpretation, to think about one’s ideas is to think about objects not as they are in themselves but as they are represented in one’s perception. It is because of this distinction between how objects are represented and how they are in themselves that reflection on ideas is crucial to ‘the art of thinking’. This observation is needed to justify the project of part 1 of the Port-Royal *Logic*. See Pearce 2016, §5.

### 3 Locke on Abstraction

Like Arnauld, Locke frequently speaks of abstract ideas as new ideas formed by a process involving selective attention.<sup>10</sup> For instance, Locke says that after children have perceived the similarities between many different human persons, “they **frame** an *Idea*, which they find those many particulars do partake in” (EHU, §3.3.7).<sup>11</sup> Similarly, after concluding this account, Locke says, “this is the *way, whereby Men first formed general Ideas*” (EHU, §3.3.9). Again, in the notorious ‘inconsistent triangle’ passage, Locke says that “it ... require[s] some pain and skill to **form** the *general idea* of a *Triangle*” (EHU, §4.7.9).

The evidence for the influence of Arnauld, and especially the Port-Royal *Logic*, on Locke is extensive.<sup>12</sup> As we saw above, Arnauld held that selective attention is part of a process for constructing intrinsically abstract ideas. Locke’s usual way of talking about abstract ideas appears to presuppose this as well, by speaking of a process of ‘framing’ or ‘forming’ them. This, I believe, is sufficient to make the attribution of the intrinsic theory to Locke the default interpretation: if this was not what Locke meant, he should have said so.

However, specific textual evidence has been adduced by scholars aiming to show that Locke *did* say so. I will show that the passages in question are better interpreted as agreeing with Arnauld in taking selective attention to be part of a process whereby intrinsically abstract ideas are formed.

According to Winkler, EHU, §2.13.13 is “the decisive text” in favor of the attribution of a selective attention-based version of the extrinsic theory to Locke (Winkler 1989, 40). Ayers also appeals to this passage, which he says is “reminiscent of the Port Royal *Logic*” (Ayers 1991, 1:251).<sup>13</sup> The passage in question reads as follows:

The parts of pure Space are inseparable one from the other; so that the Continuity cannot be separated, neither really, nor mentally ... to divide mentally, is to make in the Mind two Superficies, where before there was a Continuity, and consider them as removed one from

---

<sup>10</sup> In taking abstraction to be a process involving selective attention which produces new ideas, I am agreeing with Matthew Stuart (2008, 519–27; 2017, 489–91). However, at one point Stuart considers the possibility that the ideas formed by abstraction may not differ intrinsically from certain other ideas, and he does not decisively reject this possibility (Stuart 2008, 524). I find Stuart’s hesitation about this puzzling. If, as Stuart suggests, “Abstract ideas are just ideas produced by the process of abstraction, and they need not differ intrinsically from ideas acquired in other ways” (Stuart 2008, 524) then why must general terms signify abstract ideas? Shouldn’t an intrinsically identical idea acquired in some other way be equally eligible to be the meaning of a general word?

<sup>11</sup> Due to the frequent use of italics in Locke’s text, I use boldface for added emphasis, here and in what follows.

<sup>12</sup> See, e.g., Yolton 1975, 146–47, 153; Bolton 1992a; Schaar 2008.

<sup>13</sup> Thomas Lennon (1993, 344–48) also cites this passage as the primary basis for attributing a selective attention-based version of the extrinsic theory to Locke. However, unlike Ayers, Lennon emphasizes the differences between Locke and Arnauld generated by their differing views on ideas and essences.

the other; which can only be done in things considered by the mind, as capable of being separated ... 'Tis true, a Man may consider so much of such a *Space*, as is answerable or commensurate to a Foot, without considering the rest; which is indeed a partial Consideration, but not so much as mental Separation, or Division; since a Man can no more mentally divide, without considering two Superficies, separate one from the other, than he can actually divide, without making two Superficies disjoin'd one from the other: But a partial consideration is not a separating. A Man may consider Light in the Sun, without its Heat; or Mobility in Body without its Extension, without thinking of their separation. One is only a partial Consideration, terminating in one alone; and the other is a Consideration of both, as existing separately.

This passage does indeed appear to favor an extrinsic interpretation of the sort advocated by Winkler and Ayers. However, it must be balanced against other passages, such as EHU, §3.3.6, where Locke says “*Ideas* become general, by **separating** from them the circumstances of Time, and Place, and any other *Ideas*, that may determine them to this or that particular Existence.” Assuming (as both Winkler and Ayers do) that the ‘partial consideration’ of §2.13.13 is abstraction,<sup>14</sup> we have Locke asserting that abstraction is a separating and also that abstraction is not a separating. If we are to avoid convicting Locke of contradiction, we must say that he is using the word ‘separating’ in two different senses.

Fortunately, Locke explains in §2.13.13 precisely what he means by mental separation, and it does not seem to be the same kind of separation that, according to §3.3.6, is involved in abstraction. When Locke says, “to divide mentally, is to make in the Mind two Superficies,” he is talking about forming a positive conception of the two parts of space *as* separated. Locke emphasizes this point again later when he says “a Man can no[t] ... mentally divide, without considering two Superficies, separate one from the other,” and again at the very end of the quoted passage when he distinguishes “a partial Consideration, terminating in one alone” from “a Consideration of both, as existing separately.” In other words, what we cannot do is *believe in* or *conceive of* the existence of two separate spaces. On the other hand, what we can do is “consider so much of such a *Space*, as is answerable or commensurate to a Foot, without considering the rest.” This, however, is precisely what Locke, in §3.3.6, calls ‘separating’: he is talking about removing certain circumstances from our conception, so that we no longer conceive of them.

We should therefore distinguish between what we might call ‘negative’ and ‘positive’ separation. Negative separation proceeds by the removal of certain content from an idea, and this is what is involved in the process of abstraction. Positive separation is the construction of a positive conception of two portions of that content as separated. It is by just this sort of distinction that Arnauld and Nicole can hold, simultaneously, that it is *not* possible to conceive a mode as existing apart from its substance and that it *is* possible to abstract a mode from its substance (Logic, 30–31).

---

<sup>14</sup> Jonathan Walmsley (1999, 130–34), in criticizing Ayers, argues that this section is not about abstraction at all. This also resolves the contradiction, and does so in a way that is consistent with my overall interpretation of Locke on abstraction. Nevertheless, I will continue to operate under the assumption—favorable to my opponents—that the ‘partial Consideration’ here is or involves abstraction.



A more serious problem for the attribution of the intrinsic theory to Locke is EHU, §3.3.11, where Locke writes:

*Ideas* are general, when they are set up, as the Representatives of many particular Things: but universality belongs not to things themselves, which are all of them particular in their existence, even those Words, and *Ideas*, which in their signification, are general. When therefore we 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.

C. C. W. Taylor (1978, 106) has employed this text to argue that Locke anticipates the Berkeleian view that general ideas, like general words, stand for the many objects in their extension by convention only (see PHK, Intro §12).

I agree with Taylor that Berkeley holds that general ideas represent (or ‘signify’) only in virtue of being used by thinkers in a certain way (see Pearce 2017, 31–36), and I concede that this passage appears to support the attribution of the same view to Locke. Once again, however, other texts put pressure on the interpretation and ultimately lead us to realize that another interpretation is possible, and indeed preferable.

The central problem for Taylor’s interpretation is that, as Taylor explicitly recognizes (Taylor 1978, 107–8), this view undermines Locke’s insistence that all meaningful words (except ‘particles’) must stand for ideas and that differences in meaning must be accounted for by differences in the ideas for which words stand (see, e.g., EHU, §§3.1.2–4). If, as Berkeley claims, general words and general ideas represent generally in precisely the same way, then positing ideas behind the words makes no explanatory progress. The claim that words get to be meaningful by being conventionally associated with ideas can serve as an explanation of the meaningfulness of words only if the representational capacity of ideas is prior to and independent of the meaningfulness of words.

With this issue in mind, let us return to EHU, §3.3.11. Locke’s central, overarching point is that both general words and general ideas are particular objects and not Platonic or Aristotelian universals. When we say these words and ideas are general, we mean only that they represent or signify generally. In other words, the distinction is between the features they *have* and the features they *represent*. Since it is itself particular, the abstract idea *apple* is fully determinate: for every possible feature, it either has or lacks that feature. Yet it *represents* generally, and this implies that there are certain properties such that it represents neither those properties nor their negations. Examples would include *being located in England* and *being red*. Since some apples have and some apples lack these features, neither they nor their negations can be part of the representational content of the abstract idea *apple*.<sup>15</sup>

So far so good. However, the most serious problem for the attribution of the intrinsic theory to Locke comes at the end of the quoted passage, where Locke says that their generality is a “Capacity they are put into by the Understanding” and “a relation, that by

---

<sup>15</sup> On my reading, it is this feature of abstract ideas, and not their status as indeterminate images, that is the primary target of Berkeley’s critique. See Pearce 2017, ch. 1.

the mind of man is added to them.” Both of these phrases make it appear that a general idea is an idea *used* in a certain way, just as Berkeley would have it.

To clarify what Locke has in mind here, it is helpful to attend to his discussion of the relationship between general names and general ideas in the very next section:

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 *Ideas*, 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. Whereby it is evident, that the *Essences of the sorts, or ... Species* of things, are nothing else but these abstract *Ideas* ... From whence it is easy to observe, that the essences of the sorts of things, and consequently the sorting of Things, is the Workmanship of the Understanding, since it is the Understanding that abstracts and makes those general *Ideas* (EHU, §3.3.12).

This last claim, that sorts are “the Workmanship of the Understanding,” is the central thesis of the whole chapter in which Taylor’s passage occurs. Locke defends this thesis by arguing that the names of sorts stand for abstract general ideas which are made by the understanding, and not for pre-existing universals (see Bolton [1992b] 1998).

The abstract general ideas in which Locke is most interested, and which he certainly has most in mind in this passage, are the abstract ideas that signify sorts of substances. Unlike the ideas of mixed modes, which are likewise abstract but may be put together any which way (EHU, chs. 2.22 and 3.5), “the Mind, in making its complex *Ideas* of Substances, only follows Nature; and puts none together which are not supposed to have an union in Nature” (EHU, §3.6.28). Further, in such cases, we suppose that there is a “real essence, on which the Properties depend” (EHU, §3.6.6), i.e., that the similarity in the observed qualities is explained by a similarity in the unknown inner constitution of the things.

For Locke, “set[ting] up [ideas] as the Representatives of many particular Things” is a matter of using them for these classificatory purposes, and this is indeed something “that by the mind of man is added to them” (EHU, §3.3.11). Nevertheless, Locke holds that “the Understanding ... abstracts and **makes** ... general Ideas” for this purpose (EHU, §3.3.12). Our use of these ideas as the nominal essences of sorts (*genera*) is what makes them *general*, but it is not what makes them *abstract*. What makes them abstract is that they lack the sort of determinacy that is characteristic of the ideas we initially get from the senses—“the circumstances of Time, and Place, and any other *Ideas*, that may determine them to this or that particular Existence” are omitted from them (EHU, §3.3.6). Thus although generality is, in a sense, dependent on our use of these ideas, the ideas that are used in this way must be, by their own intrinsic nature, abstract rather than concrete. Our classificatory practices require the construction of new ideas by means of abstraction.<sup>16</sup>

Lockean abstract ideas are constructed by negative separation, i.e., by the omission of portions of the content included in the original ideas of sensation or reflection from which they are constructed. Locke’s most careful and detailed account of this construction process is found in EHU, §3.3.7:

the *Ideas* of the Persons Children converse with ... are like the Persons themselves, only particular. The *Ideas* of the Nurse, and the Mother, are well framed in their Minds; and, like

---

<sup>16</sup> A similar account is briefly suggested by Bolton 1992a, 411; 2017, 221.

Pictures of them there, represent only those Individual ... Afterwards, when time and a larger Acquaintance has made them observe, that there are a great many other Things in the World, that in some common agreements of Shape, and several other Qualities, resemble their Father and Mother, and those Persons they have been used to, they frame an *Idea*, which they find those many Particulars do partake in; and to that they give, with others, the name *Man*, for example. And *thus they come to have a general Name*, and a general *Idea*. Wherein they make nothing new, but only **leave out** of the complex *Idea* they had of *Peter* and *James*, *Mary* and *Jane*, that which is peculiar to each, and retain only what is common to them all.

A few sections later Locke tells us that the “*Idea* of *Man* differ[s] from that of *Peter*, and *Paul* ... in the **leaving out something**, that is peculiar to each Individual; and retaining so much of those particular complex *Ideas*, of several particular Existences, as they are found to agree in” (EHU, §3.3.9). Thus the construction of the abstract idea *man* involves comparing different particular humans and separating (in the negative sense) the qualities in which they differ from those they have in common.

## 4 Locke’s Philosophy of Ideas

So far, I have argued on textual and systematic grounds that Arnauld endorses the intrinsic theory. This in turn provided contextual support for the hypothesis that Locke also endorses the intrinsic theory, and this hypothesis is indeed borne out by the main texts in which Locke describes abstraction. However, I have yet to address systematic considerations in Locke’s philosophy, and here there are serious difficulties. Unless Locke endorses a form of direct realism patterned on Arnauld’s, the systematic considerations that supported the attribution of the intrinsic theory to Arnauld will be inapplicable to Locke. Furthermore, if there are significant differences between Locke and Arnauld on the nature of ideas, then the contextual argument is significantly weakened.<sup>17</sup>

John Yolton (1975; 1984, ch. 5) famously argued that Locke *did* endorse a form of direct realism patterned after Arnauld’s. However, most scholars have found this interpretation simply too difficult to reconcile with Locke’s text.<sup>18</sup> I agree. In fact, it seems to me that Yolton’s interpretation rests on an attempt to impose Arnauld’s Cartesian methodology on Locke’s Baconian project.

Locke’s stated aim in Book II of the *Essay* is to show “whence the Understanding may get all the *Ideas* it has, and by what ways and degrees they may come into the Mind” In order to support his conclusions, Locke says, he will “appeal to every one’s own Observation and Experience” (EHU, §2.1.1). As Locke had explained in Book I, he uses the word ‘idea’ “to stand for whatsoever is the Object of the Understanding when a Man thinks” (EHU, §1.1.8). These ideas are introduced as objects “that Men have in their Minds” and express by their words (EHU, §2.1.1). Locke’s “Historical, plain Method”

---

<sup>17</sup> I thank Kenneth Winkler for pressing this objection.

<sup>18</sup> Against direct realist interpretations see, e.g., McCracken 1983, 132–33; Hight 2001, 17–24; 2008, §4.1; Yaffe 2004; Newman 2004; 2009; Bolton 2004; Pyle 2013, 33–36.

(EHU, §1.1.2) of inquiring into the origin of ideas, based on the methods of Baconian natural history, is to produce a catalogue of observed ideas, trace the origin of each idea identified, and then draw an empirical generalization about the origin of all ideas, namely, that they are all derived from sensation and reflection (cf. LW, 4:134–145).

Arnauld, by contrast, begins (in good Cartesian fashion) from the clear and distinct idea of thought. He holds that this idea reveals our thought to be *active* and *representational* (see TFI, ch. 2). It is this observation about the nature of the mind as a thinking substance that leads Arnauld to the conclusion that thinking consists in perceptual acts which are, by their very nature, about external objects and have no need for any internal object to mediate their contact with the world. This line of argument about the nature of thought, in addition to being based on an allegedly innate idea, is part of the “Physical Consideration of the Mind” with which Locke promised not to “meddle” (EHU, §1.1.2). Locke aims merely to catalogue our ideas and draw generalizations about them. In describing our ideas, Locke takes them to be immediately observable objects in the mind, distinct both from acts of perception and from external objects. There is no place in Locke’s methodology or general epistemology even to consider the kind of argument Arnauld employs in defense of his direct realism.<sup>19</sup>

I have employed Arnauld’s account of abstraction as contextual support for an interpretation of Locke’s theory, and in this I have followed Ayers (though I have interpreted Arnauld, and consequently Locke, quite differently). If Locke’s general understanding of ideas differs widely from Arnauld’s, this certainly weakens this line of argument. However, it does not undermine it totally. The fact remains that the account of abstraction in the Port-Royal *Logic* was among the best-known ‘modern’ accounts in Locke’s time and there is ample evidence that Locke was familiar with it. Further, as we saw in the last section, Locke often uses language quite similar to Arnauld’s in describing abstraction. This still amounts to a plausible case for the claim that Locke held a theory similar to Arnauld’s.

On the whole, then, both textual and contextual evidence favors the attribution of the intrinsic theory to Locke. However, Ayers also has a systematic argument against this attribution. Ayers provides both textual and contextual support for the claim that Locke’s ideas are *images* (Ayers 1991, vol. 1, ch. 5 *et passim*).<sup>20</sup> Many philosophers have thought it obvious that images cannot be intrinsically abstract (see, e.g., Pyle 2013, 52–53).<sup>21</sup> Hence the intrinsic theory saddles Locke with a rather obvious incoherence, and should therefore be rejected.

My position is that Locke did indeed combine an imagistic view of ideas with an intrinsic theory of abstraction, and that this combination of views is of questionable coherence. The attribution of such a view to a philosopher of Locke’s stature raises

---

<sup>19</sup> For defense of this general approach to reading Locke on ideas, see Tomida 2005; Allen 2010; Pearce manuscript.

<sup>20</sup> The context here is not Arnauld but rather Hobbes (and possibly also Gassendi). In addition to Ayers, see Lennon 1988, 234–36. On the question of the extent of Gassendi’s influence on Locke, see Michael and Michael 1990; Lennon 1993, §18 *et passim*; Milton 2000.

<sup>21</sup> Some interpreters have held that Berkeley’s criticism rests on this point (e.g., Lennon 1988).

methodological and historiographical questions that cannot be adequately addressed here. However, I will suggest three reasons why it is not implausible that Locke might have endorsed such a combination of views.

First, although this combination of views is of *questionable* coherence, it is not *obviously* incoherent. Nicholas Jolley (1999, 51), for instance, has suggested that Locke's abstract ideas might be understood as indeterminate images (i.e., images lacking in detail), and that the existence of such images is plausible. For instance, it is not phenomenologically implausible to say that one can mentally picture a speckled hen without picturing it as having some determinate number of speckles (cf. Tye 2009). Admittedly, this will be less plausible with respect to highly abstract ideas like *substance*, but Locke himself says that these ideas are very obscure (see, e.g., LW 4:221–222).

Second, a central principle of the “Historical, plain Method” Locke claims to be following (i.e., the method of Baconian natural history) is the separation of data from theory. According to Thomas Sprat's *History of the Royal Society*, this method involved recording observations “in publique *Registers* to be nakedly transmitted to the next Generation of men.” This was to be done “without digesting them into any perfect model” in order to leave “room for others, that shall succeed, to *change*, to *augment*, to *approve*, to *contradict*” the results derived from the data (Sprat 1667, 115–116). Locke's philosophical methodology requires him to describe the ideas he introspects without prematurely imposing order or coherence on the messy data. Given this methodology, it is not surprising that there are questions about whether Locke's generalizations about ideas really apply to *all* the ideas he has observed—just as there are questions about whether generalizations that might be drawn about, e.g., beetles really apply to *all* the specimens the Royal Society collected. If Locke seems to find indeterminate images in introspection (as some other philosophers have), his methodology requires him to ‘register’ this fact, even if it generates some embarrassing puzzles for his philosophy.<sup>22</sup>

Third and finally, the scope and structure of Locke's *Essay* appears to have been borrowed from the Port-Royal *Logic*. None of the surviving drafts of the *Essay* includes Book III (Aron 1965, 53, 55), and Locke himself says that Book III was no part of “the method [he] at first proposed to [him]self” (EHU, §2.33.19).<sup>23</sup> Thus, in its original design, the *Essay*, like the *Logic*, would have begun, in Books I and II, with an account of “Ideas according to their nature and origin” (*Logic*, 25; cf. EHU, ch. 2.1), then gone on to discuss the various sorts of ideas and the distinctions that can be drawn among them. After this, the *Essay* would have discussed the formation of ideas into judgments or propositions (*Logic*, Part II; EHU, chs. 4.1–16), then the mental operation of reasoning (*Logic*, Part III; EHU, ch. 4.17), and finally the method and division of the sciences (*Logic*, Part IV; EHU ch. 4.21). To this general structure, Locke adds Book III, on language, because, he tells us,

---

<sup>22</sup> On Locke's understanding and practice of Baconian natural history, see Anstey 2011. On Locke's *Essay* as a natural history of the understanding, see again Tomida 2005; Allen 2010; Pearce manuscript.

<sup>23</sup> Some small portions of the material that became Book III are inserted at various places in Drafts A and B. For details, see Appendices I and II in Locke 1990.

there is so close a connexion between *Ideas* and words; and our abstract *Ideas*, and general Words have so constant a relation to one another, that it is impossible to speak clearly and distinctly of our Knowledge, which all consists in propositions, without considering, first, the Nature, Use, and Signification of Language (EHU, §2.33.19).

This closely mirrors the justification Arnauld and Nicole give for adding, in the fifth (1683) edition of the *Logic*, some additional material on language borrowed from the Port-Royal *Grammar*. The material is added at the very beginning of Part II, on judgments, and is said to be useful for understanding judgments because “The mind is accustomed to linking [words and ideas] so closely that we can scarcely conceive one without the other, so that the idea of the thing prompts the idea of the sound, and the idea of the sound that of the thing” (*Logic*, 73–74).

There is no conclusive evidence for Locke’s familiarity with the fifth edition of the *Logic* or with the *Grammar*.<sup>24</sup> However, it is not implausible that Locke’s decision to add Book III to the *Essay* could have been influenced by this text. One way or another, Locke ultimately decided to add a discussion of language in just the place where Arnauld and Nicole added theirs—between the discussion of ideas and the discussion of judgments—and the theory of language he endorses is very similar to the Port-Royal theory.<sup>25</sup>

However, despite these robust similarities, Locke’s account of the nature and origin of ideas differs widely from that of Port-Royal. Arnauld and Nicole hold that *no* ideas are images and *all* ideas are innate (*Logic*, 25–26, 30). Locke famously (and unambiguously) held that no idea is innate, and I have endorsed Ayers’ contention that Locke adopted an imagist theory of ideas derived from Hobbes (and possibly Gassendi). A plausible interpretation of what is happening here is that, just as the Port-Royalists sought to adapt what they considered to be the useful part of traditional (Aristotelian) logic to a Cartesian theory of mind, so Locke sought to adapt the Cartesian logic of Port-Royal to an empiricist theory of mind. If Locke is engaged in this kind of synthesizing project, then we should not be surprised if he is less than fully successful in harmonizing the opposing perspectives of his sources.

In short, the textual and contextual evidence supports the claim that Locke endorsed both an imagistic account of ideas and an intrinsic theory of abstract ideas. While this does produce a systematic tension in Locke’s philosophy, this tension does not provide a convincing reason to revise our evaluation of the textual and contextual evidence.<sup>26</sup>

---

<sup>24</sup> There were two copies of the *Logic* in Locke’s library, the French original and a Latin translation, both published in 1674 (Harrison and Laslett 1971, 178). Locke did not own a copy of the *Grammar*. Maria van der Schaar (2008, 332) concludes from this that Locke did not have access to these chapters, but the evidence is far from conclusive.

<sup>25</sup> See, e.g., Ott 2002; Schaar 2008; Marušić 2014. Although the earlier editions of the Port-Royal *Logic*—like the earlier drafts of Locke’s *Essay*—do not include any section dedicated specifically to the theory of language, the scattered discussions would have been sufficient to provide a source for Locke’s philosophy of language whether or not he had seen the fifth edition.

<sup>26</sup> I thank Kenneth Winkler, Eric Stencil, and two anonymous referees for helpful comments on previous drafts.

## Abbreviations

- EHU            Locke, John. (1690) 1975. *An Essay Concerning Human Understanding*. Edited by Peter H. Nidditch. Oxford: Oxford University Press.
- Logic            Arnauld, Antoine, and Pierre Nicole. (1662) 1996. *Logic or the Art of Thinking: Containing besides common rules, several new observations appropriate for forming judgments*. Edited and translated by Jill Vance Buroker. Cambridge Texts in the History of Philosophy. Cambridge: Cambridge University Press. French edition: *La Logique ou L'Art de Penser*. 2nd ed. Edited by Pierre Claire and François Girbal. Textes Philosophiques. Paris: J. Vrin, 2012.
- LW                Locke, John. 1823. *The Works of John Locke*. 10 vols. London: Thomas Tegg.
- PHK                Berkeley, George. (1710) 2008. *A Treatise Concerning the Principles of Human Knowledge*. In *Philosophical Writings*, edited by Desmond M. Clarke, 67–149. Cambridge Texts in the History of Philosophy. Cambridge: Cambridge University Press.
- TFI                Arnauld, Antoine. (1683) 1990. *On True and False Ideas*. Translated by Stephen Gaukroger. Classics of Philosophy and Science. Manchester: Manchester University Press. French edition: *Des Vraies et Des Fausses Idées*. Edited by Denis Moreau. Paris: J. Vrin, 2011.

## Bibliography

- Aaron, R. I. 1965. *John Locke*. 2<sup>nd</sup> edition. Oxford: Clarendon Press.
- Allen, Keith. 2010. “Locke and the Nature of Ideas.” *Archiv Für Geschishte Der Philosophie* 92 (3): 236–55.
- Anstey, Peter R. 2011. *John Locke and Natural Philosophy*. Oxford: Oxford University Press.
- Ayers, Michael. 1991. *Locke: Epistemology and Ontology*. 2 vols. London / New York: Routledge.
- Bolton, Martha Brandt. 1987. “Berkeley’s Objection to Abstract Ideas and Unconceived Objects.” In *Essays on the Philosophy of George Berkeley*, edited by Ernest Sosa, 61–81. Dordrecht: D. Reidel.
- . 1992a. “The Epistemological Status of Ideas: Locke Compared to Arnauld.” *History of Philosophy Quarterly* 9 (4): 409–24.
- . (1992b) 1998. “The Relevance of Locke’s Theory of Ideas to His Doctrine of Nominal Essence and Anti-Essentialist Semantic Theory.” In *Locke*, edited by Vere Chappell, 214–25. Oxford Readings in Philosophy. Oxford: Oxford University Press.
- . 2004. “Locke on the Semantic and Epistemic Role of Simple Ideas of Sensation.” *Pacific Philosophical Quarterly* 85 (3): 301–21.
- . 2017. “Locke’s *Essay* and Leibniz’s *New Essays*: Competing Theories of Universals.” In *The Problem of Universals in Early Modern Philosophy*, edited by Stefano Di Bella and Tad Schmaltz, 220–51. Oxford: Oxford University Press.

- Cook, Monte. 1974. "Arnauld's Alleged Representationalism." *Journal of the History of Philosophy* 12 (1): 53–62.
- Descartes, René. (1644) 1984. *The Principles of Philosophy*. Translated by John Cottingham. In *The Philosophical Writings of Descartes*, edited by John Cottingham, Robert Stoothoff, and Dugald Murdoch, 1:177–291. Cambridge: Cambridge University Press.
- Harrison, John and Peter Laslett. 1971. *The Library of John Locke*. 2<sup>nd</sup> edition. Oxford: Clarendon Press.
- Hight, Marc A. 2001. "Locke's Implicit Ontology of Ideas." *British Journal for the History of Philosophy* 9 (1): 17–42.
- . 2008. *Idea and Ontology: An Essay in Early Modern Metaphysics of Ideas*. University Park, PA: The Pennsylvania State University Press.
- Hoffman, Paul. 2002. "Direct Realism, Intentionality, and the Objective Being of Ideas." *Pacific Philosophical Quarterly* 83 (2): 163–79.
- Jolley, Nicholas. 1999. *Locke: His Philosophical Thought*. Oxford: Oxford University Press.
- Kambouchner, Denis. 1995. "Des Vraies et Des Fausses Tenébrès: La Connaissance de L'Âme d'après La Controverse Avec Malebranche." In *Antoine Arnauld: Philosophie Du Langage et de La Connaissance*, edited by Jean-Claude Pariente, 153–90. Histoire de La Philosophie. Paris: J. Vrin.
- Lennon, Thomas M. 1988. "Berkeley and the Ineffable." *Synthese* 75 (2): 231–50.
- . 1993. *The Battle of Gods and Giants: The Legacies of Descartes and Gassendi, 1655–1715*. Princeton: Princeton University Press.
- Locke, John. 1990. *Drafts for the Essay concerning Human Understanding, and Other Philosophical Writings*. Vol. 1. Edited by Peter H. Nidditch and G. A. J. Rogers. Oxford: Clarendon Press.
- Marušić, Jennifer Smalligan. 2014. "Propositions and Judgments in Locke and Arnauld: A Monstrous and Unholy Union?" *Journal of the History of Philosophy* 52 (2): 255–280.
- McCracken, Charles J. 1983. *Malebranche and British Philosophy*. Oxford: Clarendon Press.
- Michael, Fred S., and Emily Michael. 1990. "The Theory of Ideas in Gassendi and Locke." *Journal of the History of Ideas* 51 (3): 379.
- Milton, J. R. 2000. "Locke and Gassendi: A Reappraisal." In *English Philosophy in the Age of Locke*, vol. 3 of *Oxford Studies in the History of Philosophy*, edited by M. A. Stewart, 87–109. Oxford: Clarendon Press.
- Nadler, Steven. 1989. *Arnauld and the Cartesian Philosophy of Ideas*. Studies in Intellectual History and the History of Philosophy. Princeton: Princeton University Press.
- Ndiaye, Aloyse Raymond. 1991. *La Philosophie d'Antoine Arnauld*. Bibliothèque d'Histoire de La Philosophie. Paris: Librairie Philosophique J. Vrin.
- Newman, Lex. 2004. "Locke on Sensitive Knowledge and the Veil of Perception—Four Misconceptions." *Pacific Philosophical Quarterly* 85 (3): 273–300.
- . 2009. "Ideas, Pictures, and the Directness of Perception in Descartes and Locke." *Philosophy Compass* 4 (1): 134–54.



- Nuchelmans, Gabriel. 1983. *Judgment and Proposition: From Descartes to Kant*. Amsterdam: North-Holland.
- Ott, Walter. 2002. "Propositional Attitudes in Modern Philosophy." *Dialogue: Canadian Philosophical Review* 41 (3): 551–568.
- . 2017. *Descartes, Malebranche, and the Crisis of Perception*. Oxford: Oxford University Press.
- Pappas, George S. 2000. *Berkeley's Thought*. Ithaca, NY: Cornell University Press.
- Pearce, Kenneth L. 2016. "Arnauld's Verbal Distinction Between Ideas and Perceptions." *History and Philosophy of Logic* 37 (4): 375–90.
- . 2017. *Language and the Structure of Berkeley's World*. Oxford: Oxford University Press.
- . Manuscript. "Ideas and Explanation in Early Modern Philosophy."
- Pyle, Andrew. 2013. *Locke*. Classic Thinkers. Cambridge: Polity Press.
- Radner, Daisie. 1976. "Representationalism in Arnauld's Act Theory of Perception." *Journal of the History of Philosophy* 14 (1): 96–98.
- Rickless, Samuel C. 2012. "The Relation Between Anti-Abstractionism and Idealism in Berkeley's Metaphysics." *British Journal for the History of Philosophy* 20 (4): 723–40.
- Schaar, Maria van der. 2008. "Locke and Arnauld on Judgment and Proposition." *History and Philosophy of Logic* 29 (4): 327–41.
- Sprat, Thomas. 1667. *The History of the Royal-Society of London: For the Improving of Natural Knowledge*. London: J. Martyn / J. Allestry.
- Stuart, Matthew. 2008. "Lockean Operations." *British Journal for the History of Philosophy* 16 (3): 511–33.
- . 2017. "Locke on Attention." *British Journal for the History of Philosophy* 25 (3): 487–505.
- Taylor, C. C. W. 1978. "Berkeley's Theory of Abstract Ideas." *Philosophical Quarterly* 28 (111): 97–115.
- Tomida, Yasuhiko. 2005. "Locke's Representationalism without the Veil." *British Journal for the History of Philosophy* 13 (4): 675–696.
- Tye, Michael. 2009. "A New Look at the Speckled Hen." *Analysis* 69 (2): 258–263.
- Van Cleve, James. 2015. "The Sun in the Sky and the Sun in My Mind: Or, Why Arnauld Is Not Steadfastly a Direct Realist." Appendix H to *Problems from Reid*. New York: Oxford University Press.
- Walmsley, Jonathan. 1999. "Locke on Abstraction: A Response to M. R. Ayers." *British Journal for the History of Philosophy* 7 (1): 123–34.
- Watson, Richard A. 1994. "Malebranche and Arnauld on Ideas." *The Modern Schoolman* 71 (4): 259–70.
- Winkler, Kenneth P. 1989. *Berkeley: An Interpretation*. Oxford: Clarendon Press.
- Yaffe, Gideon. 2004. "Locke on Ideas of Substance and the Veil of Perception." *Pacific Philosophical Quarterly* 85 (3): 255–72.
- Yolton, John W. 1975. "Ideas and Knowledge in Seventeenth-Century Philosophy." *Journal of the History of Philosophy* 13 (2): 145–65.
- . 1984. *Perceptual Acquaintance from Descartes to Reid*. Minneapolis: University of Minnesota Press.