THE CARTESIAN CONTEXT OF BERKELEY'S ATTACK ON ABSTRACTION

BY

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Abstract: I claim that Berkeley's main argument against abstraction comes into focus only when we see Descartes as one of its targets. Berkeley does not deploy Winkler's impossibility argument but instead argues that what is impossible is inconceivable. Since Descartes conceives of extension as a determinable, and since determinables cannot exist as such, he falls within the scope of Berkeley's argument.

It has long seemed puzzling that Berkeley should have chosen to open his *Principles of Human Knowledge*[1] with an extended attack on abstract ideas. In order to "prepare the mind of the reader for the easier conceiving what follows," Berkeley argues against the doctrine that "the mind hath a power of framing *abstract ideas* or notions of things." But it has proven exceedingly difficult to understand just how that doctrine has "occasioned innumerable errors and difficulties in almost all parts of knowledge" (PI 6).[2] I shall argue that these arguments and their relation to materialism[3] become fully intelligible only when located in their Cartesian context. For among Berkeley's targets is the Cartesian conception of material substance as a determinable quality, namely extension; this conception is one cause of the "great extravagancies" of the materialists (P 99). This is not to deny that Locke is the most obvious of Berkeley's adversaries. But to argue, as Berkeley undoubtedly does, that we cannot have an intellectual grasp of extension would be an odd way in which to argue against Locke, who is vociferous in his attacks on those who claim that extension is the real essence of material substance.[4] If we insist on seeing Locke as the sole target in the *Principles*, it will remain obscure why Berkeley would think

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that mounting an attack on the idea of extension could be an essential maneuver in defeating materialism. Once placed in their Cartesian context, however, these passages become a natural enough attempt to undermine pretensions to knowledge of material substance. If, as I shall show, Descartes's material substance *just is* extension,[5] we can see why materialism and the Cartesian conception of extension are so closely linked in Berkeley's mind.

A full account of the relevance of abstraction to materialism would have to consider, as I cannot here, its role in Berkeley's denial of the primary/secondary quality distinction and in his so-called 'master argument.'[6] For Berkeley also believes that materialism presupposes that we can, in thought, abstract the existence of material things from their being perceived (P 99); he also thinks his opponents mistakenly claim to be able to abstract the primary qualities of a thing from its secondary ones (P 10).[7] My goal is only to consider a strand of argument that I believe has gone unnoticed.

Although I shall argue that Descartes's clear and distinct idea of extension is, according to Berkeley, a paradigm case of an abstract idea, it is important to see that Descartes himself would not agree. In Descartes's philosophy, abstraction has a quite different role to play, as I shall show. Nor does Descartes think that a grasp of extension is to be achieved along the lines sketched by Berkeley in PI 7–9. None of this, however, prevents Descartes from being among Berkeley's targets.

1. Three kinds of abstraction

In PI 7–9, Berkeley introduces two kinds of abstraction.[8] First, one frames an abstract idea of, say, color by separating the idea from its concomitants:

> [W]e are told, the mind being able to consider each quality singly, or abstracted from those other qualities with which it is united, does by that means frame to itself abstract ideas. For example, there is perceived by sight an object extended, coloured, and moved: this mixed or compound idea the mind resolving into its simple, constituent parts, and viewing each by itself, exclusive of the rest, does frame the abstract ideas of extension, colour, and motion. Not that it is possible for colour or motion to exist without extension: but only that the mind can frame to itself by *abstraction* the idea of colour exclusive of extension, and of motion exclusive of both colour and extension (PI 7).

Call this abstraction (I). The beginning of this passage suggests that one perceives an extended, colored, moving object, and then frames the abstract ideas of extension, color, and motion, each exclusive of the others. Here, Berkeley must have in mind *determinate* colors, motions, and extensions, which, in perception, are "blended together, several in the same object," and then separated. This process issues in a determinate idea that is abstract in the sense that it does not include the ideas with which it

was originally intromitted by the senses. But by the end of PI 7, Berkeley has begun to speak of determinable qualities (color, motion, extension); abstraction, here, is supposed to allow one to frame an idea of, say, motion, that does not include extension. Thus under abstraction (I) Berkeley classes both the separation of determinates from determinates and determinables from determinables.

How are ideas of determinables generated? According to the purveyors of abstraction, the mind:

> having observed that in the particular extensions perceived by sense, there is something common and alike in all, and some other things peculiar, as this or that figure or magnitude, which distinguish them one from another; it considers apart or singles out by itself that which is common, making thereof a most abstract idea of extension, which is neither line, surface, nor solid, nor has any figure or magnitude but is an idea entirely prescinded from all these. So likewise the mind by leaving out of the particular colours perceived by sense, that which distinguishes them one from another, and retaining that only which is common to all, makes an idea of colour in abstract, which is neither red, nor blue, nor white, nor any other determinate colour (PI 8).

Call this abstraction (II). In this passage, Berkeley runs together the processes of forming an idea of a determinable quality and an idea of a kind. The former process is not one of retaining a single property common to a set of determinate qualities and omitting the rest.[9] Note that the ideas serving as the material for the generation of a sortal idea must themselves have gone through (II) already: presumably, the most useful abstract idea of humanity includes the idea of musculature in general, rather than the idea of the muscle structure of Carrot Top. Berkeley might have run these together simply because in the case of extension, with which he is obviously centrally concerned, we have an idea that is at once an idea of a determinable quality and of a class of things. On Descartes's view, that quality is also the "principal attribute" of extended things. As we shall see, each substance has a principal property that constitutes its essence; between this property and the substance that possesses it there is merely a conceptual distinction, a fact of which Berkeley was fully aware.[10] Thus in conceiving of extension we are conceiving of both a quality (which picks out a natural kind) and a substance.

There is still a third model of abstraction. In PC 318, Berkeley writes,

> Qu. is it not impossible there should be General ideas? All ideas come from without, they are all particular. The mind, tis true, can consider one thing wthout another, but then consider'd asunder they make not 2 ideas. both together can make but one as for instance Colour & Visible extension.

Call this abstraction (III), the model J. L. Mackie calls 'selective attention.'[11] It is possible to focus one's attention on certain features of an idea

while ignoring others. Here, Berkeley points out that the process of selective attention does not issue in a new idea. One simply considers the visible extension of a thing without considering its color, something we can do even if there could never be an idea of color that lacked extension. Note that by this process one can consider qualities even of the same sense modality, as well as qualities that necessarily go together, apart from one another. Every colored surface must have an extension; it does not follow that I cannot attend to one without attending to the other. This is to deny what Kenneth Winkler has called "the content assumption": the assumption that the content of thought is fixed by its object.[12] If the content assumption were true, selective attention would be impossible.

It is not clear that Berkeley held the selective attention model of abstraction throughout the period we are investigating. For PC 318 is marked with '+,' probably indicating that it was to be rejected. We must be wary of conflating this model with that involved in PI 10 (and P 5), where Berkeley writes:

> To be plain, I own myself able to abstract in one sense, as when I consider some particular parts or qualities separated from others, with which though they are united in some object, yet, it is possible they may really exist without them. But I deny that I can abstract one from another, or conceive separately, those qualities which it is impossible should exist so separated . . . (PI 10).

This is abstraction (I), the separation in thought of parts or qualities, and not selective attention.

Berkeley admits that he can perform precisive abstraction so long as the qualities so separated can exist separately in reality. The PC passage, by contrast, includes no such requirement: Berkeley would presumably, even then, have denied that a colored surface could exist without suffusing a determinate expanse of extension. So as long as what is abstracted can exist without that which has been separated from it, Berkeley *can* abstract, in one of the accepted senses of that term. In P 5, he gives us examples of what he has in mind: "I imagine the trunk of a human body without the limbs, or conceive the smell of a rose without thinking on the rose itself." Here we do not have the selective attention model, because that model made no claims about the possibility of its products existing independently in the world. Instead, we have the separation of an idea of one quality or substance from its concomitant ideas, which results in a new idea. Berkeley is careful to provide us with examples of both the separation of qualities (the smell of the rose from its other qualities) and that of substances (the trunk of a man from the rest of his body). Note that with regard to the former, the ideas so separated are intromitted through different senses: there is no talk here of separating qualities such as extension and color, which Berkeley thinks are necessarily linked, from one another.

It seems that after writing PC 318, Berkeley came to have doubts about the process of selective attention as an account of abstraction. At the very least, he saw no need to include it explicitly in the *Principles*. But in the second edition of that work, published some 24 years after the first, he added to PI 16 three sentences that clearly endorse selective attention:

> And here it must be acknowledged that a man may consider a figure merely as triangular, without attending to the particular qualities of the angles, or relations of the sides. So far he may abstract: but this will never prove, that he can frame an abstract general inconsistent idea of a triangle. In like manner we may consider Peter so far forth as man, or so far forth as animal, without framing the forementioned abstract idea, either of man or of animal, in as much as all that is perceived is not considered.

Abstraction (III), then, is perfectly acceptable, as are instances of (I) where those things separated are capable of independent existence. Berkeley rejects only those cases of abstraction that are such that the idea so generated has an intentional object that is incapable of extra-mental existence; this rules out (II) altogether. To see why, we must look more closely at Berkeley's conception of the relation between conceivability and possibility.

2. *The conceivability principle*

The conceivability principle states that if x is conceivable, x is possible, where x can stand for either a thing or a state of affairs. Berkeley states this principle twice, at PI 10 and P 5: "my conceiving or imagining power does not extend beyond the possibility of real existence or perception." In the *Draft* of PI, Berkeley had offered theological grounds for this view. He writes, "It is, I think, a receiv'd Axiom that an Impossibility cannot be conceiv'd. For what created Intelligence will pretend to conceive, that which God cannot cause to be?"[13] It would be impious to suggest that any finite intelligence could conceive of something impossible. Descartes, as we shall see, accepts the principle in a modified form. The principle is so prevalent in the early modern period that in 1739 Hume is able to declare that it is "an establish'd maxim in metaphysics, *That whatever the mind clearly conceives includes the idea of possible existence*."[14]

The converse of the conceivability principle would be implausibly strong, a fact Berkeley recognizes in TD (232–233). Many things may be possible of which we are unable to form an idea or notion.[15] But the principle on its own is sufficiently powerful for Berkeley's purposes. For, by contraposition, it entails that we cannot conceive that which is impossible. This, as we shall see, plays a crucial role in his argument.

Before proceeding, I would like to examine the very different anti-abstractionist argument Kenneth Winkler attributes to Berkeley. This "impossibility" argument, I believe, does not capture the role of the conceivability principle in the *Principles*. The argument is clearly stated in *Alciphron*:

> *Euphranor*. Pray, Alciphron, which are those things you would call absolutely impossible?
> *Alciphron*. Such as include a contradiction.
> *Euph*. Can you frame an idea of what includes a contradiction?
> *Alc*. I cannot.
> *Euphr*. Consequently, whatever is absolutely impossible you cannot form an idea of.
> *Alc*. This I grant.
> *Euph*. But can a colour or triangle, such as you describe their abstract general ideas, really exist?
> *Alc*. It is absolutely impossible such things should exist in nature.
> *Euph*. Should it not follow, then, that they cannot exist in your mind, or, in other words, that you cannot conceive or frame an idea of them?[16]

Winkler sums up the argument thus: "What an abstract idea purports to represent is impossible. But what is impossible is inconsistent, and what is inconsistent cannot be conceived. It follows that there can be no abstract ideas."[17] Although the argument does not explicitly appear in the *Principles*, Winkler believes the materials for constructing it do appear there, and that it is Berkeley's main argument against abstract ideas.

What is striking about this argument is that there is no hint at all of what the inconsistency is supposed to be. Indeed, it is very hard to see how the processes Berkeley describes *could* generate self-contradictory ideas, since abstraction is either (I) a separation of one quality from another or of a quality from a substance, or (II) the generation of an idea of kind or a determinable quality from its observed determinate instances. In no case is there an accretion of further incompatible qualities.[18] Instead, the inference runs the other way: *from* impossibility to inconsistency. As Berkeley puts it in the *Defence of Free-Thinking in Mathematics*: "I desire to know . . . whether we may not infer that what cannot possibly exist, the same doth include a contradiction."[19]

Whatever we make of the status and defensibility of the impossibility argument, I shall argue that in the *Principles* we find an argument that does not and need not rely on premises that invoke inconsistency. Instead, Berkeley simply argues that one cannot conceive that which is impossible.[20] If Descartes is among Berkeley's targets, as I suggest, this makes sense, for Descartes clearly endorses a version of the conceivability principle in Meditation VI that makes no reference to consistency or contradiction. Berkeley, I shall argue, deploys the contrapositive of this principle against Descartes, and so has no need, in this context at least, to exploit considerations of inconsistency.[21]

3. Cartesian substance and essence

Before examining how Berkeley's attack on abstraction applies to Descartes, however, I must set out the relevant points of Descartes's view.[22] First, we must note that Descartes is a nominalist in the relatively uninformative sense that he claims that everything existing outside of the mind is particular. Everything that exists, on his view, is either an individual substance or a mode of a substance (AT VIIIA 23/CSM I 208; cp. AT IXB 45). A mode of a substance must also be individual: he speaks of modes as "concrete" rather than "abstract" (AT III 356/CSM III 178). Universals, by contrast, exist only in the mind; they arise "solely from the fact that we make use of one and the same idea for thinking of all individual items which resemble each other" (AT VIIIA 27/CSM I 212).

Our grasp of the essence of any substance, however, does not consist in our generating such a universal. Instead, Descartes claims that such understanding comes about when we apprehend the "principal property that constitutes [the substance's] nature and essence, and to which all its other properties are referred" (AT VIIIA 25/CSM I 210). The essence of material substance is extension, "the property . . . of taking up space" (AT XI 35/CSM I 92), while that of mental substance is thought. But we should not think that these properties must inhere in some further substratum. Instead, material substance *just is* extension, and mental substance is thought. Descartes is careful to point out that 'thought' and 'extension' can be understood in two very different ways, as referring to a determinable or an essence, or to a determinate quality or mode, a way that essence has of existing. Descartes writes:

> Thought and extension can be regarded as constituting the natures of intelligent substance and corporeal substance; they must then be considered as nothing else but thinking substance itself and extended substance itself – that is, as mind and body (AT VIIIA 30–1/CSM I 215).

This is a crucial aspect of Descartes's position, the importance of which I do not believe has been appreciated by commentators. On Descartes's view, there is only a conceptual distinction between a substance and its essence. This is signaled by our inability to form a clear and distinct idea of one without the other (AT VIIIB 30/CSM I 214). By contrast, when we say that thought and extension are modes of a substance, we can only mean that "one and the same mind is capable of having many different thoughts; and one and the same body, with its quantity unchanged, may be extended in many different ways" (AT VIIIB 31/CSM I 215). Thus to say that extension is a mode of material substance is simply to acknowledge the inessentiality of any given determinate extension to that substance. It is *not* to say that the determinable quality inheres in or modifies some

underlying substratum. Thus whenever Descartes speaks of extension or thought as *modes*, he is referring to fully determinate modes, and not to those qualities as determinables. (This point will become important when we return to Berkeley.)

Let me draw out Descartes's conception of extension as a determinable quality. The famous piece of wax argument might be read thus: observed at time t, the wax has determinate extension E_1; at t', it has E_2, and could take on $E_3 \ldots E_n$. Descartes then asks whether sensation or imagination could be responsible for his clear and distinct idea of the wax. The answer, of course, is no, because "I would not be making a correct judgment about the nature of wax unless I believed it capable of being extended in many more different ways than I will ever encompass in my imagination" (AT VIII 31/CSM II 21). All perception or imagination of determinate extensions of the wax will not exhaust the range of its possible extensions. If I understand the wax at all, it is by virtue of the intellect and not sensation or imagination, which are limited to determinates. It is worth noting that the relevant difference is not that the intellect, as opposed to sensation or imagination, can encompass each individual member of $E_3 \ldots E_n$ one by one. Instead, what the intellect grasps is the nature or essence of the wax that includes $E_3 \ldots E_n$ in the sense that the idea of color, for instance, might be said to 'include' all determinate colors, since these last are simply ways things have of being colored, just as $E_3 \ldots E_n$ are ways things have of being extended.

We are now in a position to see how Descartes himself uses the notion of abstraction. In his replies to Caterus and Arnauld, Descartes distinguishes between complete and incomplete entities. To be complete is to be capable of independent existence; on this definition, all modes are incomplete. By contrast, substances are complete, for "[b]y substance we can understand nothing other than a thing which exists in such a way as to depend on no other thing for its existence" (AT VIIIA 24/CSM I 210).[23] This means that any two substances are separated by a real distinction. Incomplete entities can never exist on their own; they can be "separate" only in thought, only in virtue of a conceptual or "modal" distinction. It is revealing that Descartes explicitly invokes abstraction in accounting for our ability to conceive separately of two modes (such as motion and shape) of a single substance, or of a mode and the substance it modifies. Descartes writes,

> As for the "formal" distinction which the learned theologian introduces on the authority of Scotus, let me say briefly that this kind of distinction does not differ from a modal distinction; moreover, it applies only to incomplete entities, which I have carefully distinguished from complete entities. It is sufficient for this kind of distinction that one thing be conceived distinctly and separately from another by an abstraction of the intellect which conceives the thing inadequately. It is not necessary to have such a distinct and separate conception of each thing that we can understand it as an entity in its own right, different

from everything else; for this to be the case the distinction involved must be a real one[24] (AT VII 120/CSM II 85–6).

But this abstraction does not yield a "complete understanding":

For example, the distinction between the motion and shape of a given body is a formal [i.e., modal] distinction. I can very well understand the motion apart from the shape, and vice versa, and I can understand either in abstraction from the body. But I cannot have a complete understanding of the motion apart from the thing in which motion occurs, or of the shape apart from the thing which has the shape; and I cannot imagine there to be motion in something which is incapable of possessing shape, or shape in something which is incapable of possessing motion[25] (AT VII 120–121/CSM II, 86).

Abstraction is here introduced to solve a difficulty in Descartes's thinking about the relation between conceivability and possibility. The argument for the real distinction between mind and body rests on a form of the conceivability principle: it is because he can clearly and distinctly conceive of one in the absence of the other and vice versa that the meditator knows that a state of affairs in which either one exists without the other is possible, which is just to say that there is a real distinction between them.[26] In the above passage, Descartes realizes that the contrapositive of that principle entails that he cannot clearly and distinctly conceive incomplete entities. That is, the principle he deploys rules out the possibility of clearly and distinctly conceiving of impossible things, and among these are modes that exist independently of the substance they modify, and modes (such as motion) that exist independently of others with which they are necessarily linked. Abstraction, then, must be invoked in order to explain how we are able to think of such things.

In fact, there is evidence that Descartes himself conceives of abstraction as nothing more than selective attention. He speaks of "turning [his] thought away" from one part of an idea and focusing on another.[27] He distinguishes abstraction from exclusion, a process by which one actually separates two things in thought. Exclusion is possible only when there is a real distinction.[28] Cartesian abstraction then is Berkeley's abstraction (III), while exclusion is abstraction (I), with the caveat that the things separated must be really distinct, i.e., capable of independent existence. Thus there is a surprising area of agreement between Descartes and Berkeley on the nature of abstraction.

Thus if the question is, can one conceive of a mode apart from the substance modified, Descartes seems in fact to agree with Berkeley that one cannot, except by means of selective attention. The understanding so gained is incomplete in that it does not represent something that is capable of independent existence.

The important result of all of this is that we must be careful in reading Descartes's assertion of the independence of substance and mode. The

independence holds between the determinable property and any given determinate property, not between a substance *qua* determinable and *all* of its modes, determinate or otherwise. This would be absurd, since the modes are nothing more than ways that determinable quality has of existing. Descartes need not disagree, then, with Berkeley's claim that "it seems no less absurd to suppose a substance without accidents, than it is to suppose accidents without substance" (P 67).

4. *Berkeley* contra *Descartes*

Despite this agreement, however, it remains the case that Descartes's intellectual idea of the piece of wax is abstract in Berkeley's sense (II). In PI 8, Berkeley gives an example of (II): "the mind having observed that in the particular extensions perceived by sense, there is something common and alike in all . . . it considers apart or singles out by itself that which is common, making thereof a most abstract idea of extension, which . . . has no figure or magnitude." This idea is "most abstract" because it issues in an idea of a determinable property that, although capable of taking on determinates, has none.

The argument I wish to attribute to Berkeley is quite simple, and uses only what Descartes himself has agreed to. The contrapositive of the conceivability principle entails that there can be no idea of a determinable. As we have seen, Descartes himself invokes a modified form of this principle in the course of arguing for the real distinction between thought and extension. We must add the very plausible premise that nothing that is merely determinable can exist. Now, if we take the contrapositive of the conceivability principle so modified, we get the result that extension *qua* determinable is not clearly and distinctly conceivable. Thus if clear and distinct conceivability entails possibility, *im*possibility must entail a failure of clear and distinct conceivability; and if extension can only exist in its fully determinate forms, then one cannot clearly and distinctly conceive of extension *qua* determinable.

Let me try to make clear the form of Berkeley's argument. How does it differ from Winkler's impossibility argument? After all, it simply *is* that argument, minus the considerations about consistency. I think this is an important difference. As I have suggested above, the impossibility argument at best provides a promissory note: there must be something inconsistent about the abstract idea of extension or what have you, even though as Berkeley himself points out, the formation of abstract ideas involves stripping away certain features, not adding them on. The decisive point, to my mind, is the fact that nowhere in the introduction does Berkeley appeal to facts about inconsistency; nor did Descartes make such an appeal in defending his conceivability principle. Thus neither the text nor

considerations of charity favor attributing the impossibility argument's premises about inconsistency to Berkeley. A related difficulty concerns the relation between possibility and consistency. If, as Winkler argues, Berkeley commits himself to the view that they are logically equivalent,[29] it might seem that my argument is in danger of collapsing into Winkler's impossibility argument. But again, I simply do not see Berkeley making this claim in the texts I have been explicating: the inference is from impossibility to inconceivability, with no detour through consistency. So much the better, since, as with abstract ideas generally, it is difficult to see how the idea of a determinable could be intrinsically contradictory.

Note that Berkeley's argument does not depend on an appeal to introspection, in contrast to the argument attributed to him by Willis Doney.[30] Doney suggests that Berkeley introspects, discovers he is psychologically unable to conceive an abstract idea, and infers that it is impossible. First, this has Berkeley moving from the claim that he lacks a capacity for the generation of abstract ideas to the claim that those ideas are impossible. But even granting this, it is hard to see why Berkeley should be permitted to project his own psychological limitations on to others. Instead, Berkeley's argument moves in the other direction: the inference is from the impossibility of the thing to its inconceivability. Berkeley has put his finger on a key difficulty in Descartes's view. Note also that denying the content assumption is no help in this case. This at most allows one to conceive of one determinate quality without conceiving of its concomitants. It does *not* enable one to conceive of a determinable quality such as extension.

If the argument I have set out is to tell against Descartes, we must see whether and in what sense he accepts its premises. It is undeniable that he accepts the conceivability principle; we have already seen that he relies on it in his famous argument for the real distinction between mind and body. But it is important to note that Descartes's allegiance to the conceivability principle is independent of his voluntarism.[31] Notoriously, Descartes seems to hold that what is possible and impossible is fixed by the arbitrary decree of God. He takes the claim that "every basis of truth and goodness depends on his omnipotence"[32] to entail that God's omnipotence extends even to the truths of logic, mathematics, and geometry. But even if modality is dependent on the will of God, it remains true that anything God has chosen to make impossible is not clearly and distinctly conceivable (see his Letter to Mesland of 2 May 1644, AT IV 118/CSM III 235). So even if God *could* have made it possible for determinables to exist as such outside the mind, it will still be the case that such things are inconceivable.

This argument is also independent of a notoriously difficult issue: the nature of conceivability.[33] Berkeley might well have construed conceiving and conceivability in thoroughly imagistic terms; it should be obvious that Descartes would never accept such a view. But for the purposes of

the argument I am reconstructing, Berkeley can remain agnostic on this issue, leaving the question of the nature of conceivability entirely open. The conclusion that extension, and indeed material substance (from which it is only conceptually distinct), is inconceivable, does not rely on any particular conception of conceivability.

One might wonder whether our ability to conceive of extension *qua* determinable requires that we be able to conceive that it exists as such, i.e., as a determinable.[34] Is there room for Descartes to wriggle out of Berkeley's grip by allowing for the object conceived and the object thus proved possible to differ in their "manner" of existence, the conceived object being determinable, and the possible realization being determined? If so, Descartes would be able to grant that extension *qua* determinable is impossible without admitting that it is inconceivable.

This maneuver fails simply because it does not represent Descartes's view. Descartes's form of the conceivability principle includes the claim that what is clearly and distinctly conceived can exist in precisely the way in which it is so conceived. In the Sixth Meditation, the most central of all Descartes's statements of the principle, he writes, "everything which I clearly and distinctly understand is capable of being created by God *so as to correspond exactly with my conception of it*" (AT VII 78/CSM II 54, emphasis added). There is no reason to think Descartes wished to qualify the conceivability principle in any way. What is more, the logic of his argument requires this: if he did not accept that one could infer from a clear and distinct idea of x, where 'x' includes all of the conceived object's properties or states or what have you, he could not infer to the conclusion that x is possible. For if the conceived x and the possible x differed in one of these ways, in what sense would one's idea of x be an idea *of* x?[35]

Let us turn now to the question of the impossibility of a mere determinable, the second premise of the argument. For his part, Berkeley thinks it is "agreed on all hands" (PI 7) that the intentional object of an abstract idea cannot exist. Let us leave extension for a moment and examine another case of a determinable, color. It seems not just odd but metaphysically impossible that the property color could exist without being some particular color. This sort of consideration, I suspect, might lie behind Pierre Gassendi's objection to the wax argument. Gassendi asks, "when you think you somehow perceive this underlying 'something'. . . . do you not perceive it as something spread out and extended? . . . And since this kind of extension is not infinite but has limits, do you not conceive of the thing as having some kind of shape?"[36] Later, Gassendi mocks Descartes's alleged grasp of "this mysterious something that exists over and above all the forms."[37] There are two ways of construing Gassendi's point here. He might be arguing that Descartes has posited a propertyless substratum in which the qualities of the wax inhere; but as we have seen, this is not Descartes's position. Indeed, Descartes claims that "all attributes taken

together are identical with the substance" (AT V 155). But given Gassendi's insistence on the determinateness of his idea, it seems equally plausible to read him as arguing against Descartes's claim that he has an idea of the wax over and above all of the *determinate* qualities of the wax before him. The "mysterious something" need not be so because it is without properties; it is sufficiently mysterious, Gassendi might argue, if it is a determinable.

Does Descartes himself grant the premise that everything that exists must be fully determinate, and hence that no purely determinable property like extension could exist outside the mind? In one way, this seems obvious from the wax argument. For this argument would fall apart if it were possible for us to encounter in sensation a purely determinable quality. This would allow us to derive our idea of the wax from sensory experience, which is precisely what Descartes thinks we cannot do (see AT VII 308/CSM II 261). This defense is hardly adequate, however, since it might be the case that although a purely determinable substance is possible, it is never actual. More to the point is the fact I appealed to above – the determinateness of any existing determinable is guaranteed by the very nature of the relationship between the determinable and its modes. If the substance exists, it must exist in some way, and these ways just are the determinate modes. Just as color cannot exist without existing *as* some color or other, so extension cannot exist except as modified.

Matters are complicated by Descartes's use of motion to individuate bodies, a move that commentators have deplored almost from the start.[38] "By 'one body' or 'one piece of matter' I mean whatever is transferred at a given time, even though this may in fact consist of many parts which have different motions relative to each other" (AT VIIIA 53–4/CSM I 233). Although God created matter and motion at the same time (AT VIIIA 61/CSM I 36), Descartes does not say that God could not have created matter first and then introduced motion. Before the introduction of motion, then, matter would not be split off into different bodies, each having its own determinate qualities. Would not matter in such circumstances be a really existing determinable?

Two points are central here. First, even if matter were to lack such qualities, it is far from obvious that this would be matter in the sense of a determinable quality, extension. For imagine a Cartesian mind encountering such an environment. That mind would, I think, *still* have to deploy its innate idea of extension. Second, and more important, the physical bodies Descartes attempts to individuate through motion are not to be identified with material substances.[39] The distinction between these two notions becomes clear if we keep in mind Descartes's claim that "each and every part [of extension], as delimited by us in our thought, is really distinct from the other parts of the same substance" (AT VIIIA 28/CSM I 213). Given the infinite divisibility of matter, each part one can conceive is itself a substance because it is capable of existing independently of the

other parts surrounding it. Physical bodies, by contrast, are the sorts of macrophysical objects that figure in the laws of nature. So although motion is required to individuate the bodies that Descartes treats in his physics, it is irrelevant to the question at hand, which concerns material substance(s).

A final worry about attributing the premise in question to Descartes must be allayed. For Descartes calls extension "indefinite," which might seem to threaten my claim that for him extension cannot exist apart from its determinate modes. But to say that extension is indefinite is only to say that however great an expanse of space we imagine, "there are always some indefinitely extended spaces beyond them, which we not only imagine but also perceive to be imaginable in a true fashion, that is, real" (AT VIIIA 52/CSM I 232). By contrast with God's positive infinity, the indefiniteness of material substance is simply an absence of limits. This, clearly, is not the sense of indeterminate that I intend when I say that extension *qua* determinable is indeterminate. Even taking all of these considerations into account, there is good reason to think that Descartes would grant that extension existing outside of the mind must be fully determinate.

So far I have argued that Berkeley's argument finds purchase when deployed against Descartes, for Descartes accepts its premises. Let us now turn to some Cartesian replies. One might invoke, on Descartes's behalf, the distinction between mental and real existence, arguing that Descartes can with consistency allow for things that can exist *only* in the mind. But note that the conceivability principle is used by Descartes precisely to bridge this gap between mental and real existence: the inference is from the possibility of existing in the mind (i.e., conceivability) to the possibility of real existence. Having set up this bridge, Descartes cannot prohibit Berkeley from traveling back across it in the other direction.

Another natural objection from the Cartesian is that Berkeley has misunderstood the sense in which the idea of extension is the idea of a determinable. When I conceive of a tiger, to use Stephen Yablo's example, I conceive it as having some determinate striping or other, and yet there need be no determinate striping that I imagine my tiger possessing. As Yablo puts it, "the content of my imagining is satisfiable by *various* striped tigers, but not by tigers of *no* determinate striping."[40] On this view, my conceiving of extension is the conception of a determinable only insofar, and because, that idea ranges over or is satisfied by any and all particular, fully determinate extended things; it need not itself be indeterminate. But even if Descartes had this view in mind, we might wonder whether he is entitled to it. It is not clear that Yablo's account can be made to fit a theory that takes my grasp of extended substance to depend on the presence in my mind of an idea representing that substance. For in such a context to say that I have an idea of extension whose content is determinate, but for all determinate extensions E_1–E_n, the content of my idea lacks E_1–E_n,

sounds paradoxical. It is rather like saying that though there is a determinate number of cornflakes left in the box, there is no number 0–n that is the number of remaining cornflakes.

We must consider a final possible Cartesian reply. Descartes, as we have seen, claims that there is a conceptual distinction between extension and material substance. Perhaps Berkeley's argument shows that extension, *qua* determinable, is not clearly and distinctly conceivable. But given this conceptual distinction, Descartes can still maintain that material substance is conceivable. This reply is not open to Descartes. For he claims that the determinable quality extension is the attribute of material substance "without which the substance is unintelligible" (AT VIIIA 30/CSM I 214). Thus if one cannot (clearly and distinctly) conceive of extension, one's understanding of material substance or body is in doubt.

Although these are complex issues, I hope to have shown both that Berkeley is concerned to argue against the Cartesian conception of material substance and that his argument finds some purchase. And although there are other ways in which materialism depends on abstraction, the sense in which Descartes's materialism does so is now clear. If Berkeley's argument goes through, it is indeed impossible to conceive of Cartesian material substance.[41]

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NOTES

[1] All references are to *The Works of George Berkeley* (1950) A. A. Luce and T. E. Jessop (eds.) 8 vols. London: Thomas Nelson. When citing the *Principles*, the numbers given refer to paragraphs; when citing the *Philosophical Commentaries*, the reference is to a numbered entry; when other works are cited, the reference is to the page number of the relevant volume in Luce and Jessop. The following abbreviations are convenient: PC, *Philosophical Commentaries*; PI, the published Introduction to the *Principles*; P, *Principles*, Part I; TD, *Three Dialogues*. References to Locke's *Essay* are to the edition of P. H. Nidditch (1975) Oxford: Clarendon Press. References to Descartes are to the edition of his collected works by Adam and Tannery (1964–76) Paris: Vrin, 12 vols.; translations generally follow those of *The Philosophical Writings of Descartes* (1985) John Cottingham, Robert Stoothoff, and Dugald Murdoch (eds.) Cambridge, UK: Cambridge University Press, 3 vols. (hereafter 'CSM').

[2] Numerous commentators have sought to make out the connection between materialism and abstraction since Jonathan Bennett called it into question in his (1971) *Locke, Berkeley, Hume: Central Themes*. Oxford: Oxford University Press, pp. 45–6. A brief list of the most important contributions, some of which are discussed below, would include Martha Bolton's (1987) "Berkeley's Objection to Abstract Ideas," in Ernest Sosa, (ed.) *Essays on the Philosophy of George Berkeley*. Dordrecht: Reidel, pp. 61–81; T. M. Lennon's (1988) "Berkeley and the Ineffable," *Synthese* 75, pp. 231–250; Kenneth Winkler's (1989) *Berkeley: An Interpretation*. Oxford: Clarendon Press; and George Pappas's (2000) *Berkeley's Thought*. Ithaca: Cornell.

[3] I mean 'materialism' in Berkeley's sense, i.e., the belief in unperceiving material substance.

[4] For instance, Locke writes, "[T]here be [those] that say that the Essence of *Body* is extension: If it be so, we can never mistake in putting the Essence of any thing for the Thing it self. Let us then in Discourse, put *Extension* for *Body*; and when we would say, that Body moves, let us say, that Extension moves, and see how it will look" (*Essay* III.vi.21: 450; cp. III.viii). For a careful analysis of this argument, see Michael Ayers' (1991) *Locke*. London: Routledge, vol. II, pp. 51–65. See also my (2003) *Locke's Philosophy of Language*. Cambridge: Cambridge University Press, p. 84.

[5] Berkeley is fully aware of this feature of Descartes's view. In a letter to Molyneux of 8 December, 1709 (*Works*, vol. 8, 27), Berkeley writes, "In Med.3 and in the Answer to the 3: Objection of Hobbes he [Descartes] plainly distinguishes betwixt himself & Cogitation, betwixt an extended Substance & Extension, and nevertheless throughout his Principles he confounds those Things as do likewise his Followers."

[6] See P 22–4 and TD 200. André Gallois seems to have coined this phrase; see his (1974) "Berkeley's Master Argument," *Philosophical Review* 83, 1, pp. 55–69. For the role of abstraction in the master argument, see Bolton (1987) and Robert G. Muehlmann's (1992) *Berkeley's Ontology*. Indianapolis: Hackett.

[7] Care is needed here, because, although materialism as such must distinguish between the existence of material things and their being perceived, it is not clear that such a view is *ipso facto* committed to the primary/secondary quality distinction. I think in P 9–11 Berkeley is careful to mark that he is moving on from arguments that apply to materialism *per se* to *ad hominem* arguments against the most prominent purveyors of the view at his time.

[8] I shall be concerned only with the abstract ideas that figure in the *Principles*. Other sorts of abstract idea, such as force and gravity, which Berkeley discusses in *De Motu*, introduce different considerations. For an exhaustive catalogue of abstract ideas in the whole of Berkeley's corpus, see George Pappas's (2000).

[9] Note that species are marked off from genera by the addition of differantia(e), whereas determinates cannot be said to be distinguished from determinables by such an addition.

[10] See Berkeley's letter to Molyneux, quoted above, n.5. For Descartes, see Principles Part One §§53,62; AT VIIIA 25, 30/CSM I 210, 214, and below.

[11] See Mackie (1976) *Problems from Locke*. Oxford: Oxford University Press, pp. 107–112. In chapter two of his (1989), Winkler distinguishes between selective attention as an activity and as a form of contemplation. In the latter case, an idea is held before the mind, but only some of its attributes are the subject of mental scrutiny. In the former case, an idea need not be present in the mind; selective attention simply means, in this case, that in, for example, a demonstration, only certain features are taken account of. I believe that the *Principles* usually construes selective attention as a form of contemplation, although nothing turns on the issue for my purposes. For an instance of the former, see Berkeley's letter to Molyneux of 19 December 1709, in *Works*, vol. VIII, 26–7.

[12] Winkler (1989, p. 39).

[13] In Bertil Belfrage (ed.) (1987) *Berkeley's Manuscript Introduction*. Oxford: Doxa, p. 7.

[14] Hume, *A Treatise of Human Nature*, L. A. Selby-Bigge (ed.) rev. P. H. Nidditch (1978) Oxford: Clarendon Press, p. 32.

[15] Winkler (1989, pp. 30–1), claims that one of Berkeley's "most deeply held beliefs is that conceivability and possibility coincide: a state of affairs is conceivable, he thinks, if and only if it is possible." But I think Berkeley wishes to take Winkler's biconditional in only one direction.

[16] *Works*, vol. III, 333–334.

[17] Op.cit., 33.

[18] Winkler makes this point. He concludes that although the impossibility argument might fail to show that abstract ideas are absolutely impossible, "it can succeed as an *ad hominem* argument against the defenders of abstraction" (op.cit., p. 37), since they (including Locke) accepted each of the premises.

[19] *Works* vol. IV, 134.

[20] He does not even seem to invoke the alleged inconsistency of ideas until he delivers the "killing blow" (PC 561), where he quotes Locke's unfortunate and notorious discussion of the abstract idea of a triangle (IV.vii.9). Winkler has argued persuasively, however, that Berkeley does not read Locke as claiming that abstract ideas are inconsistent because they pile on contradictory qualities, a point confirmed by the fact that Berkeley does not take Locke to be discussing a kind of abstract idea distinct from those of PI 7–9. Berkeley then seizes on Locke's text for rhetorical purposes but does not suppose that Locke has here confessed his abstract ideas to be self-contradictory.

[21] Descartes's own views on the relation between possibility and consistency are controversial. At times he seems to suggest that the impossible is what involves a contradiction: "the only things that are said to be impossible for God to do are those which involve a conceptual contradiction, that is, which are not intelligible" (Letter to Regius, June 1642: AT III 567/ CSM III 214). But it is not at all clear that Descartes has a formal notion of contradiction in mind – that is, he does not seem to think that if a given proposition or state of affairs S involves a contradiction, it must contain or entail p and ~p. This is clear from his glosses on 'contradiction' – it is something that "conflicts with my way of conceiving things" (Letter to More, 5 February 1649: AT V 272/ CSM III 363). Descartes argues that "we may not be able to conceive as possible things which God could have made possible, but which he has nevertheless wished to make impossible" (Letter to Mesland, 2 May 1644: AT IV 118/ CSM III 235), and he does not suggest here that such things must contain formal contradictions. One might well argue that for Descartes meeting the formal criterion of inconsistency is sufficient but not necessary for "involving a contradiction." Another important issue lurking here is Descartes's voluntarism, discussed below.

[22] This account owes much to Jorge Secada's (2000) *Cartesian Metaphysics*. Cambridge: Cambridge University Press.

[23] This means that 'substance' is applied to God and his creations equivocally, since all of the latter depend on God for their existence.

[24] In the *Principles* I §62, Descartes admits that he ran together modal and conceptual distinctions in the *Replies*. The distinction need not detain us here. What is crucial is that in neither case is there the possibility of the things so distinguished existing independently.

[25] See also *Comments on a Certain Broadsheet* AT VIIIB 350/CSM I 298.

[26] See *Meditation* VI; see also *Comments on a Certain Broadsheet* AT VIIIB 352/CSM I 299. In the latter text, Descartes is concerned to correct Regius's interpretation of the conceivability principle. Descartes writes. "We should note that even though the rule, 'Whatever we can conceive of can exist,' is my own, it is true only so long as we are dealing with a conception that is clear and distinct, a conception that embraces the possibility of the thing in question, since God can bring about whatever we clearly perceive to be possible. But we ought not to use this rule heedlessly, because it is easy for someone to imagine that he properly understands something when in fact he is blinded by some preconception and does not understand it at all." In the *Regulae*, Descartes notes that "there are many instances of things which are necessarily conjoined, even though most people count them as contingent, failing to see the relation between them . . ." (AT X 421/ CSM I 46). Note that this point allows Descartes to respond to the objection that the conceivability principle is too strong, since some of the things we have found conceivable have turned out to be impossible. The clarity and distinctness criterion, echoed in Hume (see above), allows us to

locate such errors, when they occur, not in the move from conceivability to possibility, but in the claim that a given thing was clearly and distinctly conceived.

[27] Letter to Gibieuf of 19 January 1642, AT III 475/CSM III 202. See also the *Regulae*, Rule Twelve, AT X 413 ff/CSM I 41 ff.

[28] See the letter to Mesland of 2 May 1644 AT IV 120/CSM III 236.

[29] See Winkler, op.cit., pp. 76–103.

[30] See Doney (1987) "Berkeley's Argument Against Abstract Ideas," *Midwest Studies in Philosophy Volume VIII*. Minneapolis: University of Minnesota Press, p. 297.

[31] See e.g. *Sixth Replies* AT VII 431–2/CSM II 291 f.; Letter to Mersenne of 15 April 1630, CSM III 23 f.

[32] Letter for Arnauld, 29 July 1648, CSM III 358.

[33] In his (1993) "Is Conceivability a Guide to Possibility?" *Philosophy and Phenomenological Research* 53 (1), pp. 1–43, 25 f., Stephen Yablo makes some interesting cautionary remarks in this regard. Following Yablo, we can at least distinguish between objectual conceiving, the conceiving of an object, and propositional conceiving, where we conceive *that* such and such is the case. As the statements of the principle quoted above and in Winkler (1989) indicate, it seems most likely that the moderns, and certainly Descartes, Berkeley, and Hume, construed conceiving on the objectual model. On the other hand, one might cash out the (objectual) claim that x is conceivable by saying that a state of affairs in which x exists is conceivable. This, it seems, is merely a refinement of the objectual model, but one that avoids the natural objection that these statements of the conceivability principle take existence to be a predicate (Hume's statement in particular invites this objection).

[34] I owe this observation to an anonymous referee.

[35] I also see no way for this reading to motivate the exclusion of existence as determinable or as determinate from the content of the idea. Such a move is *ad hoc*, and I can find no evidence that Descartes would want to make it. Indeed, his whole discussion of abstraction (see above) suggests that he would not want to make it.

[36] AT VII 272–3/CSM II 190.

[37] This is not to say that Gassendi's other writings present a doctrine of abstraction that is not vulnerable to a similar objection. See Gassendi's *Institutio Logica* (1658), Pars Prima, Canon VIII. T. M. Lennon also adverts to these passages in the *Objections*, but to a different end. See his (1988).

[38] See Daniel Garber (1992) *Descartes's Metaphysical Physics*. Chicago: University of Chicago Press, chapter six.

[39] See Garber (1992, p. 176).

[40] Yablo (1993, p. 27).

[41] I would like to thank Rebecca Hanrahan and an anonymous referee for very helpful comments. Paul Lodge and others commented on an earlier version of the paper presented at the 2001 Eastern Division meeting of the American Philosophical Association.