

13 Descartes and Anti-Individualism: Reply to Normore

Calvin Normore's essay illustrates his remarkable ability to use historical expertise to provide insight into current philosophical discussion. In addition to interesting historical points, his paper raises some important issues about anti-individualism. I am gratified to have called forth some posthumous remarks from Descartes and will try to contribute to the interchange at a level worthy of the Master's attention.

I made two large mistakes in "Cartesian Error and the Objectivity of Perception" (1986b). One concerns the interpretation of Descartes. The other lies in the handling of an argument against individualism. I try to rectify these mistakes in sections I–III. Sections IV–VI discuss some theses about the role of concepts in reference and knowledge. In sections VII–VIII, I confront differences between my view and Descartes's on these same topics. I conclude in section IX with remarks on social factors in determining the nature of thought. This is a long paper whose many topics may appeal to different readerships. I hope to provide an example of how history of philosophy and contemporary philosophy can combine to yield rewards that neither can easily produce alone.

I

My first mistake was the presumption that Descartes is an individualist. I realized this mistake shortly after making it and signaled my awareness of it in a subsequent paper.¹ What is individualistic in Descartes is the presentation of the demon thought experiment in *Meditation I*. What I said about individualistic intuitions that might be drawn from that thought experiment—my criticism of moving without argument from knowledge of one's actual thoughts to knowledge of what one's thoughts would be in counterfactual situations—still seems to me right and to the point. This invalid transition is easy to fall for. It has seduced others. Descartes himself blurs the distinction between self-knowledge and metaphysical knowledge, in such a way as to encourage the transition.

My attribution of individualism to Descartes was nevertheless badly grounded. Descartes holds that the thought experiment of *Meditation I* is not ultimately coherent. As Normore emphasizes, God is invoked as a necessary principle for making our intentional mental contents (ideas) conform to basic natures in the objective world. This is to give God a role *prima facie* analogous to the role of causal history and evolutionary design in determining contents. The general cast of Descartes's account is in many ways congenial to anti-individualism.

Whether Descartes is an anti-individualist, however, is complex and not completely clear. Descartes does not say much about the individuation of mental states. For that matter, he says little about the individuation of minds or of physical objects. I want to explain why the issue is interpretatively complex.

Individualism is consistent with Descartes's claim that God ensures that our clear and distinct ideas apply to objective natures. If one held that there are no individuation conditions on what it is to have a given idea of an objective nature that make reference to anything outside the mind, one could regard God's role as simply to ensure that our ideas always correspond to objective natures. For example, one could hold that what it is to have an idea requires that no further explanatory conditions be met. God's necessarily making a match between the world and ideas so conceived would not entail that there are anti-individualist conditions on the individuation of thoughts. It would entail only that there is a necessary match between our ideas and their objects. Necessity is one thing. Individuation is a further thing. The appeal to God's veracity is congenial with anti-individualism, but does not entail it.

Descartes also has a causal principle: There must be as much reality, "formally," in the cause as there is in the effect. The principle requires that the *objective reality* (roughly, the representational content) of an idea be caused by something whose *formal reality* (roughly, intrinsic reality of the object or referent) is as much or greater than the reality purportedly represented by the idea. Descartes understands degrees of reality in terms of explanatory priority (Normore 1986). The principle would require that the representational nature of an idea of a rock be explained in terms of a cause that has an ontological status at least equal to that of a rock. Thus a rock would do.

In its focus on explanation, this principle is closer to bearing on individuation conditions than the invocation of God's veracity. But the principle is too weak to entail anti-individualism. The finite thinker will have an ontological status sufficient to explain the objective reality of all the thinker's ideas except for the idea of God (for which God must be invoked, according to Descartes's ontological argument). So the principle is again consistent with individualistic individuation conditions for objectively and empirically referring ideas.²

It appears to me, however, that the spirit or main drift of Descartes's reasoning is to explain the representational nature of one's ideas in terms of the objects that those ideas represent. The appeal to God's veracity seems to function as a guarantee that this natural direction of explanation, especially for reference to objects in the physical world, can be relied on, as long as we as thinkers avoid invoking materially false or confused ideas.³ For example, consider this passage from *Meditation III*:

And although the reality which I am considering in my ideas is merely objective reality, I must not on that account suppose that the same reality need not exist formally in the causes of my ideas, but that it is enough for it to be present in them objectively. For just as the objective mode of being belongs to ideas by their very nature, so the formal mode of being belongs to the causes of ideas—or at least the first and most important ones—by *their* very nature. And although one idea may perhaps originate from another, there cannot be an infinite regress here; eventually one must reach

a primary idea, the cause of which will be like an archetype which contains formally all the reality which is present only objectively in the idea.⁴

The phrase “same reality” and the causal account of the objective reality (or intentional content) of ideas seem distinctly anti-individualist in spirit. Our ideas of objective physical space, for example, seem to be explained in terms of our being causally related to spatial shapes. Since Descartes does not explicitly discuss individuation conditions of ideas, this reading requires some judgment. Still, I take the spirit of Descartes’s work to be broadly anti-individualist.

In my formulation of individualism in “Cartesian Error and the Objectivity of Perception,” I indicated some awareness of these issues. I explicitly excluded appeals to God as means of preventing one from being an individualist.⁵ I do think that there are serious difficulties with Descartes’s invocation of theology to guarantee clear and distinct ideas in his account of veridicality and content-determination. The appeal is not only epistemically tenuous. I think that it, together with his extreme reductionist conception of physical reality, may have led him to underrate how large a role mundane, empirical, macro-objects and properties play in content determination. I will return to this point.

On the other hand, no historically sensitive account of early modern rationalist views can afford to bracket the role of God. I believe that my indulging in such bracketing led to underrating anti-individualist elements not only in Descartes but also in Leibniz. I have come to think that there were fewer individualists prior to the twentieth century than I had formerly supposed. Despite the new-science criticism of Aristotelian metaphysics and of commonsense epistemology by nearly all the great early-modern figures, the enormous influence of the anti-individualism of Aristotle carries deeply into the early modern period.

II

Another issue needs to be explored in a discussion of whether Descartes was an anti-individualist. This is how individuation of mental states in terms of relations to objects outside the individual’s mind is to be squared with Descartes’s strong form of dualism. Anti-individualism limits the metaphysical independence of mental states and events from the nonmental. But Descartes’s view of mind as a substance whose principal essential attribute is thought is *prima facie* incompatible with ontological dependence of mind on the nonmental. Finite substances are independent for their existence and nature of anything else except God.

Insofar as Descartes is not an individualist, Descartes must reconcile these views by holding that mental states and events that are about body are not *essential* to any given mind, or to being a mind.⁶ Mental events about body are for him *modes* of mind

(contingent properties). Such mental events are not *attributes* (necessary ones). (A *principal attribute* is an attribute that is constitutive of the entity's nature or essence and explains other attributes.) Anti-individualism does not itself maintain that to have a mind, one must have thoughts about body. It claims that, as a matter of individuation, to have certain thoughts, including specific ideas of body, one must be in causal relations to a wider environment. It is open to Descartes to agree that having particular thoughts about body, even having innate ideas like that of extension, is metaphysically dependent on the thoughts' nonmental objects, without conceding that mind itself is thus dependent. So although this sort of reconciliation involves, to be sure, other difficulties, it does make Cartesian dualism *prima facie* compatible with anti-individualism.

Of course, conceding to anti-individualism that thoughts of body are dependent for their natures not only on mind but on body opens a view of Cartesian dualism that is different from its common construal. On this new construal, some particular thoughts, which Descartes would count as modes of a mind, are necessarily dependent on physical properties. So not just aspects of sensation and imagination, but even aspects of some acts of intellection are, on this position, explanatorily dependent on body. Aside from God, only mental substances (particular minds) and mental attributes derivative from the principal mental attribute (the attribute, thinking) seem to be completely independent of physical substances.

It is important to see how far the exclusion of ideas of body from essential attributes of mind might extend in the Cartesian scheme, if it is to be anti-individualistic. For Descartes the basic idea of body is the idea of extension. Extension, considered in abstraction from actual matter, is supposed to be the fundamental idea in geometry. Geometry is not, according to Descartes, about corporeal extension. It does not depend epistemically on perception of the physical world. It is not committed to the existence of corporeal substance. Descartes seems, however, to think that the shapes studied in geometry are not ontologically independent of possible or actual shapes that can be instantiated in corporeal substance. Descartes's view, like most early modern views about why geometry applies to actual physical space, depends on the claim that such shapes are essentially possible modes of matter, studied independently of whether they are actually instantiated. So the objects of geometry are not ontologically independent of corporeal substance, in Descartes's view. An anti-individualist account of ideas and thoughts about geometric shapes would be committed to some dependency relation between the abstract shapes (the objects of geometrical reasoning) and having those ideas. If such objects of geometrical reasoning, the shapes, are not ontologically independent of (corporeal) extension, then thoughts and ideas about them are not ontologically independent either. If this line of reasoning is correct, Descartes should hold that having geometrical ideas is inessential to being a thinking mind.

What of arithmetical ideas? Unlike geometrical ideas, they seem not to be essentially associated with physical substances or properties. He classes them with duration and order as modes of thought, independent of what they are applied to in counting (*Principles* I, 55, 58). It follows that they are independent of geometrical ideas. I find this interesting. Despite his discovery of analytic geometry, and sophisticated use of algebra, Descartes joined the tradition, dominant since the Greek mathematicians, that held that geometry is more basic than arithmetic or algebra. Geometry was supposed to be the foundation of mathematics. (I shall return to this point in section VII.) But the exact sense in which it is foundational is important for our purposes. It is clear, I think, that Descartes regarded proofs in geometry as necessary epistemic bases for some beliefs about number (for example, belief in the real numbers). But it is unclear to me how far this epistemic dependence was supposed to extend. In any case, Descartes did not hold, as many mathematicians in his day did, that number is ontologically grounded in geometric proportions. As Frege noted, number, unlike geometrical lines and shape, is applicable to all things (through sortals)—so to thoughts as well as to bodies. Descartes seems to have anticipated this insight, although he would not have joined Frege in regarding number as derivable from logic. I think that Descartes was free to regard the idea of number as essential to mind.

If ideas of both body and geometrical shape are inessential to mind, what would remain? One could imagine a view that *no* particular thought- or idea-*types* are necessary for mind, as long as the mind has some thoughts and ideas. On this view, all specific intentional (or in Descartes's terminology, "objective") content is contingent to mind and to minds. This position is at least suggested by Normore's attribution to Descartes (p. 8) of the view that God could have made different natures, but "left our minds the same," and "then formally the same mode of mind would have had a different objective content."

Two versions of the position can be distinguished here. One is that the content (for Descartes, objective reality) of particular thoughts could be different while those thoughts as events (their "formal reality")—and by extension the mind—remained the same. I think that as a substantive view, this position is untenable. Our only individuating grip on the identity of particular thoughts involves their intentional or representational content—primarily the concepts with which the thoughts purportedly represent referents.

The other version of the position is as follows. Although particular thoughts would be different if their contents were different, the mind is metaphysically independent for its identity not only from the identity of any particular thought events, but also from having any particular contents or idea-*types*. That is, there are *no* particular idea-*types* that a mind must have in order to be a mind. I will come back to the question of what the identity of mind would then consist in. But it would have to consist in something (perhaps a field of consciousness and some type of thinking or other) that is what it is independently of the

content of any particular mental activity or process. For all particular thoughts, and all particular types of intentional content, would be contingent modes of a mind.

This second version holds that thinking is necessary to being a mind. It holds that it is not necessary that any particular kinds of thoughts be thought. And it holds that it is not necessary that a mind have any particular idea-types or concepts. This view simply denies that there are any thoughts, ideas, or concepts, that are constitutively necessary and universal to all thinking minds. This is an interesting view, not obviously false, I think. Aristotle and Kant represent a tradition of maintaining that there are fundamental, universal categories of all thought. Their lists, which include a number of traditional metaphysical notions, have not persuaded many. There remains for some an inclination to think that having a few simple logical notions associated with negation, conjunction, and implication, perhaps simple arithmetical ideas, perhaps some few further ideas, is necessary to being a thinking mind. I share such an inclination. Justifying it is, however, a difficult matter. One must confront the variety of nonstandard logics and the apparent possibility of taking different connectives as fundamental even within classical logic. As regards arithmetical notions, one must explain why thinking cannot proceed without sortals and counting, and get by with mass concepts and notions of more and less.

I doubt that either of the positions just outlined is Descartes's. I believe it likely that Descartes held instead that having available to reflection the innate ideas of *thought* and *God* is essential to being a mind. Perhaps Descartes believed that from the idea of *thought* or of *God*, other ideas, such as those of *objective reality* and *cause*, can be derived by reflection. I conjecture that knowledge associated with the *cogito* and the ontological argument are thought by Descartes to be necessarily available to any thinking mind. If he is an anti-individualist, however, I think he must hold that thoughts about the material world and about geometrical shapes are, though central to our actual mental histories, not essential to being a mind.

The view that thoughts and knowledge of mind and of God are more basic—in the sense of necessarily more fundamental to the essence of any thinking mind—than thoughts and knowledge of body and mathematics is, of course, deeply un-Kantian. As an account of all thinking minds, I find such a view unacceptable. Thoughts about thought, let alone thoughts about God, seem absent from some minds—the minds of animals and young children—that nevertheless think about body and can engage in simple counting.

On the other hand, I think that the closely related question of whether thoughts of mind are *conceptually independent* of thoughts of body—and the question of whether knowledge of mind is conceptually independent of knowledge of body—is more complicated than most neo-Kantian, post-Strawsonian discussion has suggested.

We have been discussing Descartes's dualist view of *mind* in the context of anti-individualism. I want to consider now his dualist view of *particular minds* in the same

context. Descartes claims that one cannot conceive of mental substance without its principal attribute, thinking. As we have seen, this principal attribute must be regarded as independent of any particular thought events. What are particular minds for Descartes? And what more can be said about the principal attribute of minds?

If one regards the principal attribute, thinking, as a generic essence common to all minds, one must ask what individuates particular minds. I think that there is no evidence that Descartes thought of mental substances as immaterial “soul stuff.” Understanding immaterial substances on such a model is in effect to treat them as material and immaterial at the same time. Such a view misses what is special about mind, and part of what is interesting about Descartes’s dualism. Descartes’s mental substances are not, I think, best construed as distinguished by a special kind of constitution or stuff.

There is reason to believe that Descartes saw the principal attribute of a mental substance as not (or not merely) generic and common to all mental substances, but as particular and concrete. Thus in a late letter to Arnauld, he writes:

I tried to remove the ambiguity of the word ‘thought’ in articles 63 and 64 of the first part of the *Principles*. Just as extension, which constitutes the nature of body, differs greatly from the various shapes or modes of extension which it may assume; so thought, or a thinking nature, which I think contributes the essence of human mind, is far different from any particular act of thinking. It depends on the mind itself whether it produces this or that particular act of thinking, but not that it is a thinking thing; just as it depends on a flame, as an efficient cause, whether it turns to this side or that, but not that it is an extended substance. So by ‘thought’ I do not mean some universal which includes all modes of thinking, but a particular nature, which takes on those modes, just as extension is a nature that takes on all shapes.⁷

I will discuss two issues raised by this passage.

First, the last sentence of the passage suggests that thinking is considered as a nature that is particularized in the individual mind. Yet in its particularity, it is seen as independent of any particular act of thinking. What could thinking be, so understood? It seems clear that thinking can be understood generically, as common to all particular acts of thinking. But what would thinking be, understood as both particular (or concrete) and independent of particular acts of thinking?

I reject the idea that there is actual thinking independent of particular intentional or representational content. I see no reason to think Descartes was committed to such an idea. Perhaps, though, Descartes thought that a reflexive self-attribution, expressible as *I think*, implicitly attaches to every thought. All instances of such an attachment, somehow regarded as a continuous generative activity, might be seen to constitute the principal attribute of the mind, as a “particular nature.” I think that this is the most promising starting point for understanding Descartes’s notion. (See *Principles* I, 7–9.)

One might also take thinking, the “particular nature,” to be a reflexive *consciousness*. Such a view is at least loosely suggested in *Principles* I, 9. This view would allow the field of consciousness to take on particular images and ideas (which for much of his career Descartes thought about imagistically) as forms, on a loose analogy to matter taking on particular shapes. Perhaps the active element in Descartes’s chosen description of the relevant particular nature—thinking—could be seen as necessarily conscious. So the relevant type of consciousness might be understood in terms of the reflexive self-consciousness, expressible as *I think*, mentioned above. The reflexive self-consciousness involved in the continuing *I think* is filled out by particular thoughts, which are themselves contingent modes of mind.

I would regard such a view as hyper-intellectualized, if it were applied to all thinking minds. Animals and children think, but lack a concept of thinking. They do not think about thinking. But there might be variants worth exploring. One could confine the view to critical reasoners. One could avoid requiring—as Descartes does—that such thinkers be thinking at all times (and be thinking *I think* at all times!), if they are to continue to exist. Perhaps some less intellectual, less fully self-conscious, form of conscious awareness could be attributed to lesser thinking minds—to minds that are not capable of critical reasoning. By reflecting on the role of the different sorts of consciousness, perhaps one could learn something about different levels of mind. Here I think that there are interesting issues about the relation between intellectual reflexive self-consciousness and ordinary phenomenal consciousness. There are also interesting issues about the relation between reflexive consciousness in the activity of thinking (through implicit attachment of *I think* to thoughts) and consciousness of oneself as intellectual agent.

This brings me to the second issue from the quoted passage that I wish to discuss. There is an obscurity in Descartes over the relation between the mental agent and its agency—between the mind and its thinking. There is no obscurity about Descartes’s view of the relation between mental substance and its particular contingent thoughts. Descartes is emphatic that the mind and its modes, its thinking events (whether active or passive), are to be distinguished.⁸ But the matter is more problematic regarding the relation between mental substance and its principal attribute, thinking—especially inasmuch as thinking is considered a “particular nature” in the individual thinker.

Neither a field of consciousness, nor reflexive consciousness in the form *I think*, nor whatever else thinking itself might be—is the mental agent. The agent is a being that engages in such reflexive acts, that has the relevant self-consciousness. To identify the agent with any of these would be to make a category mistake. An ontological view of mental substance that takes the agent simply to be entirely exhausted by thinking seems to me incoherent. Thinking must be the activity of an agent of thinking. The primary essence, or principle attribute, must allow for or include an agent of thinking.

It is clear that Descartes is not committed to mental substances as bare particulars, or as having some further constitution, or stuff, beyond their thinking natures. Thinking is the principal essential attribute of the mind. No other essential property is, on his view, needed for the mind to be a substance. Neither the substance nor the attribute could exist or be understood without the other, and substance is known only through its principal attribute.

But Descartes speaks of the mind as “producing” thoughts. He often seems to respect the distinction that I am emphasizing, by writing of the mind as a thinking thing. Moreover, as I have noted, he is very firm that particular thoughts, modes (contingent properties), are not the same as the thinking thing, the thinker or mind that does the thinking in particular cases. On the other hand, he sometimes speaks of thinking, as a principal attribute (essential property) and particular nature, as if it just *is* the substance. (See *Principles* I, 63.) Some scholars have interpreted these passages in a way that risks attributing the category mistake that I have warned about.⁹

In the passage quoted above, Descartes draws an analogy between thinking and a flame, which might be taken to suggest that thinking, considered as principal attribute, is a process that does not inhere in some further thing, a thinker. The other analogy, in the passage quoted, between thinking, as a principal attribute of the mind that can take on particular thoughts as modes, and material extension, which as a “particular nature” can take on different shapes, raises similar worries. This analogy seems to leave no room for a further distinction between thinking and the mind, as agent—the thing that thinks. For in the case of the corporeal substance, the principal attribute, material extension, takes on further shapes as contingent modes; but there is no need to distinguish between extension and anything further. In my view, although reflexive consciousness, as principal attribute of the mind, might take on particular thoughts as contingent modes, reflexive consciousness (*I think*) must be the consciousness of an agent that has such consciousness.

Descartes’s official account of the distinction between a substance and its principal attribute in the *Principles* I, 60, 62, does not address the issue but may help us in illuminating it. In those passages, he discusses three relevant distinctions. First, he cites a *real distinction*, which holds between substances, which God could separate. Second, there is a distinction *regarding mode*, which holds between substances and their contingent properties or modes. Third, he mentions a *conceptual distinction (or distinction in reason)*, which holds between a substance and an attribute of that substance without which the substance is unintelligible. Descartes says that the latter distinction is recognized in our inability to perceive clearly the idea of the substance if we exclude from it the attribute in question. This latter distinction holds between the thinking thing and thinking, its principal attribute construed presumably as a particular nature in the sense of the letter quoted above. Mental substance and its principal attribute are merely conceptually distinct, or distinct in reason, in this technical sense.

It is natural, and perhaps correct, to read ‘merely conceptually distinct’ (or ‘distinct in reason’) in a way that would require that thinking substance and its principal attribute are exactly the same at the ontological level, only thought about in different ways. This view seems, at least at first blush, to fall into the mistake of identifying agent and act, when it is applied to thinking substance. I think, however, that the view does not, or need not, fall into such an error.

The view that the thinking agent can be understood essentially and purely in terms of its thinking seems to me interesting and characteristically Cartesian. Such a view might resist the move of insisting on conceptual grounds that the agent have a further constitution, one more basic than its thinking.¹⁰ But there remains the need to explicate some distinction between thinking agent and the activity of thinking. If there is no distinction between thinker and activity indeed some ontological distinction, then Descartes would be in my view committed to a category mistake. The problem of making room for a distinction between an act and its agent (hence, in Descartes’s scheme, between thinker and thinking) has no analogue in the relation between bodily substance and its principal attribute, material extension.

I think that Descartes is in a position to solve this problem, even assuming that he identifies substance and principal attribute in some ontological sense. The difference between the principal attributes, material extension and thinking, itself seems to provide a basis for drawing the categorial distinction that I am after. If the principal attribute of a thinker, as a particular nature, is continuous reflexive self-consciousness, then the attribute itself, as expressed in *I think*, requires a distinction between thinker (what is indicated by *I*) and attribute (what is indicated by *think*), between agent and act. The principal attribute would allow for an agent of thinking, because in having an essentially reflexive, “I think” structure, thinking itself contains essentially an agent-act ontological structure. If this conjecture is right, then Descartes’s account of thinking as a particular essential nature yields the desired asymmetry between the principal attributes of material and thinking substances.

Before leaving this point, I want to say a bit more about Descartes’s conceptual distinction, or *distinction in reason*, mentioned above. This is a distinction that holds between any substance and its principal attribute. In a letter of about 1645, commenting on the distinction, Descartes states that conceptual distinctions must have a “foundation in reality.”¹¹ Descartes contrasts conceptual distinctions, or distinctions in reason, with a distinction made purely by the mind—a *rationis ratiocinantes*. Descartes says that he does not recognize a *rationis ratiocinantes*. Traditionally, a purported example of this latter sort of distinction would be a distinction between *definiens* and *definiendum* in a real definition—between man and rational animal, for example. Descartes apparently would say that reason (as opposed to the language) draws no distinction in this case. Descartes denies that the

distinction between substance and principal attribute is a distinction made *purely* by reason, and claims that the distinction has a foundation in reality.

Descartes seems to associate distinctions in reason with the distinction between essence and existence. In any given case, the essence of a corporeal body and the existence of the same body are for Descartes the same. Although the thought of Peter is different from the thought of humanity, “in Peter himself, being a man is nothing other than being Peter.” Similarly, in a corporeal substance, being an instance of material extension is nothing other than being the corporeal substance. The essence can, however, be thought about independently of the existence. And this difference in thought has a foundation in “objective reality” inasmuch as the difference in thought contents is not created by reason (it is not a *rationalis ratiocinantes*), but is grounded in objective ways of thinking.

Descartes’s nominalism about natures prevents him from regarding this difference in “objective reality” as being grounded in an ontology of universal natures. I am not sure that with his thin nominalistic resources he can give a satisfactory account of the objectivity (or “foundation in reality”) of the distinction between substance and attribute—an account of why the distinction in thought is objective. In any case, I think that anti-individualism will require him to say more than he does. But as far as I can see, he has the resources to avoid the particular incoherence of identifying agent and agency that I have been worrying about.

There remains, of course, the notorious question—pressed by Kant in the Paralogisms section of *The Critique of Pure Reason*—of how, in the context of his substance dualism, Descartes individuates *individual minds*. Suppose that we do allow that there is an agent of thought, and (for the sake of argument) that this is the fundamental mind-substance, or at any rate a factor in mind-substance. What is it about this agent that individualizes it? Not the particular thoughts it thinks. They could be different while the agent remains the same. Not the general attribute of thought. That is common to different thinking agents. There is no evidence that Descartes appeals to “mental stuff.” As noted, such an appeal would lose the insight that mind is deeply different from body. It would miss the role of intentionality and *point of view* in making thinking agents what they are. There is the neo-Kantian route of demanding a body as a necessary condition for individuating a mind. The arguments for that view are tantalizing, but I do not think them decisive. At any rate, given his dualism, Descartes cannot appeal to the brain or to “external” physical objects to help individuate mental substances.

Is there any way to think coherently about the individuation problem purely from the point of view of Descartes’s version of dualism? Perhaps one should take seriously Descartes’s apparent tack of simply regarding individuation of particular minds as primitive: We individuate a mind by conceiving it as an agent of particular mental acts. The same mind could have produced other thoughts instead. We count a mind the same by

reference to some type of continuity of a changing point of view. (I would insist that the agent has not only conscious active thinking, but powers, faculties, concepts, and other mental dispositions that are present even when mental activity is not.) I believe that Descartes may be on to something important in regarding thinkers as consisting not in some special sort of stuff, but in particular instances of the special type of agency, power, consciousness, and point of view involved in thinking.

What is interesting and challenging here is to explain why immaterial constitution and bodily constitution are not basic—and why the aforesaid mentalistic features are the basic properties of minds or thinkers. A central challenge for a serious dualism should be to explain why the fundamental sortals can be activity and power sortals rather than constitution-sortals. Another Kantian challenge is to show that a continuous thinker can be made sense of using only mentalistic concepts. Whether or not these challenges can be met, I believe that reflection on these issues so far has not exhausted all possibility of progress. Descartes's dualism seems to me more interesting than traditional or current caricatures of it allow.

I have no interest in reviving a substance dualism, where 'substance' is taken in the old-fashioned sense—requiring complete ontological independence from anything else in the same ontologically basic category (e.g. the category *substance* or the category *entity*). I am not sure that *anything* is a substance in the old-fashioned sense. It is not obvious to me, however, that it is mistaken to suppose that mental agents and their mental powers, acts, and states are in no literal sense physical.

For the present, I am impressed with anti-individualistic elements in Descartes's account of mind. I think that anti-individualism is *prima facie* compatible with some form of dualism. These are profound historical and substantive issues that need more development.

III

My second mistake in "Cartesian Error and the Objectivity of Perception" lay in the presentation of the argument for perceptual anti-individualism. I set out three premises. I then used them to argue for a case in which a creature's internal physical states and dispositions are compatible with being in different perceptual states. I still believe that this argument is sound. However, the case fixes on a rather special situation in which all a perceiver's dispositions to action are equally well fitted to either of two perceptual contents. Moreover, my giving the argument suggested that such antisupervenience arguments are necessary to establish anti-individualism. They can support anti-individualism in a particularly vivid way. But they are not necessary to establishing anti-individualism. My argument also misleadingly suggests that failure of local supervenience of intentional states on the individual's physical states is to be identified with anti-individualism.¹²

The third premise of the argument is initially stated: “some perceptual types that specify objective types of objects, properties, and relations as such do so partly because of relations that hold between the perceiver—or at least members of the perceiver’s species—and instances of those objective types” (Burge 1986b, pp. 127–128). This premise is not as sharply stated as it should be. “Because” could be interpreted causally or individually (which includes causation but goes further). As I go on to explain the premise, it is clear that I intend individuation. For example, I wrote, “The third premise states that some of a perceiver’s perceptual types take on their representational characters partly because their instances interact in certain ways with the objective entities that are represented. . . . It makes no sense to attribute systematic perceptual error to a being whose perceptual representations can be explained as the results of regular interaction with the physical environment and whose discriminative activity is reasonably well adapted to that environment” (ibid., pp. 130, 131). Understood this way, the third premise already *entails* anti-individualism!¹³

Anti-individualism about having perceptual representations is fundamentally supported by reflection on how intentional content is individuated and by the seeming unintelligibility of individualistically construed, ordinary perceptual representations. The perceptual state-types about objective, particularly physical entities, and hence what intentional content they have, is individuated by reference to those entities that causally interact with the perceptual system and explain successful perceptions and successful practical or motor responses to the discriminated objects. The objects give content to the representations both by forming them and by embodying what counts as the endpoint of a successful perception. Perceptual discrimination is normally associated with practical activity to which the discriminated objects are relevant. To attempt to account for perceptual intentional content while abjuring causal connection to the represented objects seems to me empty and ultimately unintelligible.

What the three premises do, independently of their establishing, for a special case, failure of supervenience of perceptual states on local physical states, is to provide a framework for understanding the anti-individualistic nature of ordinary perceptual representation. The first premise indicates that perceptual reference is to objective entities. These are entities whose nature is independent of any particular person’s actions, dispositions, or mental phenomena. The second indicates that perceptual representations specify objective entities in definite ways. Percepts represent edges *as* edges, boundaries as boundaries, corners as corners, cones as cones, and so on. The third indicates that these representational or intentional specifications are individuated partly through interaction with the objective entities that are represented.

IV

Normore discusses a version of anti-individualism that invokes “bare concepts.” He sees this position in Ockham and thinks it suggested by ways of pursuing ideas in Kripke. Normore claims that Descartes and I would agree in rejecting the “bare concepts” view. He seems to me broadly right about this. There are, however, four theses to which he attaches the “bare concepts” label. I would like to distinguish these, and discuss them separately. I discuss the first two of these theses in this section, and the remaining two in sections V and VI.

There is, first, the thesis that “*the mental quality or act that is the concept could have been produced by other things . . . and had it been so produced it would be a different concept*” (p. 5). I believe that this view is incoherent. Something cannot be a concept and be capable of being another concept. Mental entities might *express* concepts, or be the vehicles of concepts, and might remain the same while being associated with another concept. I doubt that concepts must in general have vehicles. But I can leave that issue open. The thesis as stated, however, seems to me entirely unacceptable. Concepts are individuated by their intentional contents. In fact, they *are* “their” intentional contents. In my view, it makes no sense to take something that could remain the same while its content varied to *be* the concept. That is simply to change the subject.

The second “bare concept” thesis is that *mental representation or reference is never representation-as*. This thesis is better understood as a no-concepts, no-representation view. According to this view, one thinks and perceives objects or properties, but the thinking does not specify them or represent them in any particular way. I regard this view as untenable as well.

All thought and perception is perspectival. Each and every reference in thought and perception is perspectival. We represent and perceive objects and properties only from a point of view, by way of abilities that provide partial, incomplete, and sometimes erroneous perspectives on them. Concepts type such perspectives and abilities. One can have different perceptual representations from different angles of perception on the same property, even representing it as the same property. This is the essence of perceptual constancy—the ability to perceive something as the same object or property even though the perceptual mode of presentation, the perspective on the object or property, is different. One can also represent the same property in different sense modalities or conceptual modalities. Representation, in both thought and perception, is typed not only in terms of the referent, but in such a way as to reflect the relevant referential mental abilities that constitute the thinker’s perspective on the objects and properties that are represented. These abilities are subject to normative standards that attach to or are embodied in concepts and perceptions.

It would be absurd to think that finite beings can perceive or think about ordinary objects and properties *neat*—incorporate them into perception or thought without doing so by representing them in some way. No mental ability corresponds to such a view of thought or perception. We lack cognitive power to get on to (refer to) ordinary objects or properties in no way at all, or to incorporate them whole, apart from any representational means that constitutes a partial, usually fallible, perspective on them.¹⁴ Mental representations type cognitive or perceptual abilities. So mental representations must type the partial, perspectival abilities that we in fact have. The abilities so typed enter into psychological explanations. The mental representations enter into accounts of the veridicality of the states and the representational perspective and epistemology of the cognitive process.

Although the basic grounds for my views on this second thesis derive from apriori reflection on human abilities and on the nature of human epistemology, there are empirical grounds as well. Psychological explanation takes the processing of representations that type mental abilities as fundamental. The processing of representations by perceptual subsystems cannot be separated in empirical theory from the end-product perceptual representations attributed to the whole perceiving animal or person, as well as to the perceptual subsystem. Many conceptual abilities and representations are parasitic on these perceptual ones.

I think it untenable to hold that *any* mental reference or application is neat or can be fully typed apart from some representation. All reference in thought is typed in terms of some representation—some mode-of-presentation that in turn types some perspectival referential act or ability of the individual—where the ability itself is individuated in ways that are answerable to normative standards of various sorts. The point applies to general perceptual representations and to concepts, both of which mark representational abilities. The point also applies to demonstrative singular representations that are individuated in terms of—and mark—token, demonstrative singular applications in thought and perception.

Representations fall into two main categories. The first category includes perceptual and conceptual representational types that mark general representational or psychological abilities, abilities that are in principle repeatable. The abilities and the representations that mark them are not simply abstractions from a single token application or event or any specific group of act or event tokens. Both perceptual representations of property types and of relation types and nearly all conceptual representations fall into this category. For example, the ability to apply the predicative concept *cat* does not depend on any specific encounters with cats. Any perceptual encounters with any cats, together with appropriate background information, might suffice to enable one to have the concept. Similarly, any encounters with someone who told one about cats might suffice. Let us call such representations *ability-general*, since they type general psychological abilities. General

psychological abilities are psychological abilities that are freely repeatable: They are not individuated by reference to any specific token act(s) or event(s).

Most concepts and all perceptual representations in this first category are general in a further sense. They are capable, according to their form, of applying to various satisfiers of the representational type. Let us call such representations *formally general*. (Unless I indicate otherwise, I shall use ‘general’, unqualified, in this latter sense.) Thus a predicate concept is formally general. The predicate concept *restaurant* is open to applying to numerous restaurants (all restaurants) according to its form—even if there were in fact only one restaurant in all the world. By contrast a concept that is fully expressed by a context-free singular term would not be formally general.

Some representations that are ability-general are not formally general. These are individual concepts. They apply according to their form to single objects, if to anything. Perhaps the concepts *God* and *three* (understood as singular rather than adjectival) are examples. But like most formally general concepts, and like all ability-general perceptual representations (which are all formally general), they type freely repeatable psychological abilities. Having the concept *God* or *three* is an ability that is not individuated by reference to any specific token acts or events, but rather a cluster of inferential, applicational, and predicational abilities, commonly associated with relations—causal or constituting relations—to the subject matter.¹⁵

The second main category of representation marks a singular application. Such singular applications are of two types. They may be acts of applications in thought—applications of concepts. Or they may be applications in perception—applications of ability-general (and formally general) perceptual representations. These context-dependent singular sorts of representation mark particular acts of context-dependent application to particulars. The particulars may be property- or relation-instances, as well as individuals. The representation can be an abstraction, in that it may remain, in memory, after the moment of the activity that it marks is past. It can even be maintained through interlocution. It is nevertheless individuated ultimately in terms of a specific token act or specific acts, not general abilities. Such token singular representations in thought are expressed by particular tokens of demonstratives like ‘that’, and by pronouns taking such tokens as antecedents. I believe that there are analogous context-dependent singular elements (individuated in terms of token occurrences, if not acts) in perceptual representation.¹⁶

I think it obviously incoherent to hold that any representational perspective by a finite being can do without formally general representations. All thought must make use of predication and predicational grouping. Predication is necessarily a representational type that is formally general; and it necessarily presupposes and must be associated with ability-general predication. All perception must group or type perceptual objects under general perceptual rubrics, at one or another level of abstraction. It must involve perspectival rep-

resentation of aspects of particulars. Such representation constitutes an in-principle freely repeatable psychological ability.

In addition to the thesis that all representation is perspectival and must include some general representations, I think a stronger thesis is true as well. Very roughly, the stronger thesis is that *each representational context-dependent singular element—representations of the second, “token” singular kind—in autonomous thought and perception must be associated with a nonschematic representation that is both formally general and ability-general*. It must be associated with some general typing of the entities represented, as *suches*. More generally, the thesis is that representations in all positions—perceptual, referring, predicational, functional, and quantificational positions—in every autonomous representation must be or be *associated with* a formally general and ability-general representation. Thus, every singular representational element in every representation (simple or complex) has such *association*.

‘Autonomous’ is meant to rule out thought that depends essentially on communication. I shall discuss this provision briefly in section V. I take the relevant guiding formally general and ability-general representations to be nonschematic: They are not themselves purely demonstrative or indexical context free representations (like *this* or *that*) that are in need of a singular element to purport to have a definite referent or application. Such schematic representations do count as formally general and ability-general. But they cannot guide a singular application by themselves.¹⁷

The notion of *association* here is a technical one. A development of the notion, and an exact statement and defense of the thesis that I am broaching, will have to be postponed to another occasion. The main idea, however, is that any autonomously applied context-dependent singular representation must be tied—in perception or imagination, or through inference, predicative determination, memory, or anaphora—to a representation that is both formally general and ability-general, that is somewhere in the individual’s repertoire. According to the representational content of the individual’s overall representational perspective, the referent of the singular representation satisfies the formally general and ability-general representation. General representations include perceptual, imagistic, and conceptual representations of types.¹⁸

The conjecture that I have just broached does not maintain that the formally general and ability-general representation that must be associated with a context-dependent singular applicational representation must *veridically apply* to the referent of the singular representation. It does not maintain that the referent (if any) of the context-dependent singular representation must as a matter of fact satisfy the associated general representation. I will discuss conditions on reference in a moment. The point here is conceived as a condition on thought and perceptual representation purportedly about objects. It is not conceived as a condition that must help determine what the actual referent is. To purport to represent

singularly and autonomously, to purport to refer to a definite thing in a singular way, the singular representation must be associated with a general representation. The idea of the conjecture is that autonomous applications of singular representational abilities must be guided by some general representational ability, some ability to group or categorize object-instances as instances of a type or as having some property, or as being in some relation. This conjecture is less restrictive than most claims in this area. Whether it can fare better than they remains to be seen.¹⁹

V

The third thesis that Normore associates with the “bare concepts” view is that “*the reference of a thinker’s thoughts . . . is wholly fixed by relations, usually causal relations, to a world outside the thinker*” (p. 4). I shall assume *singular* reference to be primarily at issue here. But I believe that there is a parallel issue about the counterpart of singular reference for general representations. This thesis is to be distinguished from the previous one in that it concerns the reference relation, not merely the nature of mental representation.

There is a straightforward reason why, on a certain construal, this thesis is untenable. The reference of a thought even to *empirical* objects outside the thinker depends not only on causal relations to such objects. It depends on the application of a referential apparatus, which depends on a network of intellectual or perceptual abilities in the individual.

All reference in thought or perception must occur within some logical and conceptual structure or some perceptual structure, which types a network of representational abilities. This is fundamental to psychological explanation as well as to a reasonable epistemology. Reference in thought or perception necessarily depends on structural elements in the cognitive subject. To be an element in a thought that refers, the element must fit into the logical or grammatical form of the thought. It must bear relations to other elements in thought. These elements type representational abilities—abilities to predicate, abilities to group the referent as an instance of some kind or type, abilities to make inferences. No reference in thought could be established or fixed if it were not embedded in a network of cognitive or perceptual relations among intentional elements (representations) within the thinking individual.

A perceptual representation of an object must be related to an ability to type the object referred to in perception. It must also be related to an ability of the perceptual system to fit the object into a wider perceptual scene or relate it to an array of other perceptual parameters. Thus reference to external objects even in perception must be fixed by a combination of causal relations with a network of representational abilities. Causal relations alone cannot fix any reference.²⁰

The formulation of the third thesis might be understood in such a way as to avoid the preceding objections. It can be understood to hold that *no formally general representational element need be true of the referent of a singular element in the world external to the individual thinker*. For *given* the perceptual and conceptual framework within which the singular element is used, causal relations suffice to fix the referent. So construed, the thesis denies a role in fixing reference to any general mode of presentation, whether perceptual or conceptual, which guides the reference.

Of course, the thesis is obviously false if singular elements are understood to include context-free definite descriptions, or their analogues in thought. I shall not understand 'singular elements' in this way. I understand the phrase to apply to demonstrative-like token applications in thought and perception. The thesis is, then: *Given the perceptual and conceptual frameworks within which a formally singular context-bound (demonstrative-like applicational) element is employed in the perceptual or conceptual system, no formally general representation in either of these systems (other than trivial mathematical or logical representations) need be veridically applied to, or presupposed to be true of, the referent of the singular element*. Given these frameworks and a singular application within them, causal relations *alone* fix the referent. I believe that this thesis, too, is unacceptable. Although it has other liabilities, I shall consider the thesis only as applied to cases of empirical reference to physical objects.

The thesis can be made vivid by fixing on cases where the singular element succeeds in referring to an object, even though salient general representational elements that accompany it fail to be true of the object.²¹ One can refer to the man in the corner pretending to drink a martini even if one thinks of him as the woman along the wall drinking a coke. One can refer to Socrates even though one calls him 'Hebrides' and is mistaken about what he is known for. One can see a white toy behind one—where one's sight is guided by a mirror or prism one is unaware of—even if one perceives it as a brown rat in front of one. Such cases show how reference in thought or perception can succeed even though the salient general representations that accompany the singular demonstrative-like application do not apply to the referent.

I take for granted that for many singular representations, no set of general representations in the repertoire of the individual need or can uniquely fix the referent by being true of it.²² This point applies to many demonstrative, indexical, and proper names, and many incomplete definite descriptions in thought. It also applies to many perceptual representations, which pick out individuals or spatial locations even though an indiscernible look-alike might be, or even is, somewhere else in the world.

The question I want to discuss is whether there are *any* singular representations in thought or perception that can succeed in referring by ordinary empirical means to physical entities, even though *no* formally general representation conceptually attributed by the

individual or perceptually attributed by the individual's perceptual system applies veridically to the referent. This is a complex and delicate question.

It is arguable that through interlocution an individual might refer, even though literally *no* general representation that the individual is disposed to apply to the object is true of it. Two adults may agree to call some particular atom or some warp in space-time 'Sam' and tell a child some falsehoods about Sam. The child accepts the stories, relies on them, and builds up a fantasy life about Sam. We can imagine that the child has no metaconcepts. So the child cannot think of Sam as the object the adults were talking about, or as the thing referred to by the name or as the referent of its thought. The child might garble the name and think of the object as Slam, wondering what kind of thing Slam is. So the child lacks the ability to count the object one of the Sams. If we suppose that the child has the superordinate concept of a spatial object, we may also suppose the named object to be a number. No general representation true of the referent is available to the child. Some will deny that the child is thinking about anything. I do not see a sound basis for such denial.²³ In such cases, I doubt that any true attribution available to the recipient is required for reference to succeed. I think that we can imagine a child that has no relevant concepts beyond those built on perceptual representations.

It is important that in these cases interlocution is in play. I believe that names and other demonstrative-governed elements in thought pick up reference that is grounded in others' representations. Here the relation is quasi-anaphoric. I want to lay interlocution aside.

So I shall discuss the problem by centering on singular reference in perception, or singular reference in thought that is supported purely by perceptual concepts.²⁴ If one is to perceive or have a perceptual thought about a particular, must one's perceptual system apply some veridical perceptual representational type to something perceived or something thought about demonstratively through perception?

In considering this question, one must bear in mind that perceptual systems attribute perceptual representations at different levels of abstraction. Abstraction is understood here in terms of inclusion of more perceived subtypes. Thus a perceptual representation of something as an edge is more abstract than a perceptual representation of something as an edge-type of such and such a length and width, in such and such an orientation.²⁵

I believe that the perceptual system can mistake nearly all nongeneric characteristics of an object, and the individual can still succeed in perceiving (and thinking about) the object. The visual system can be mistaken about the color, texture, shape, surface properties, spatial location, size, distance, motion, and sortal type—all in a given instance—and yet still enable the individual to see an object that is appropriately causally related to the perceptual representation. Perceptual reference can succeed even if the perceptual system is fooled into representing an object as being in front, when in fact the object causing the representation—and being perceived—is behind. One perceives the object even though

one misperceives its location and most of its features.²⁶ For example, one can see an object through an unknown distorting prism and have so limited a view that one gets its shape and sortal type wrong. One can see something as an object with a definite surface, whereas it is in fact a coherently formed and trackable wisp of fog or a strikingly salient beam of light, perhaps a hologram.

There are, however, limits on how mistaken the perceptual system can be and still succeed in having a perceptual referent. I think that to be visually perceived, an object must produce visual representations in such a way that the object's properties form a coherent, trackable group that bear some systematic correspondence to the representations, even if the representations are mistaken. Suppose that light came from an odd angle and, because of its reflections off particles in the air, caused a representation of an object as straight ahead. Suppose that neither the light nor the particles form any coherent, trackable shape analogous to the apparently trackable shape of the apparent objects. The light is not a flash with a shape that is a deformation of the shape represented, nor is it a hologram. Then I think neither the light nor the dispersed particles are perceptual referents, with misperceived features. They are not objects of perception at all. There is only illusion.

Perception fails not merely because the light is not where the perceptual system represents an object as being. As noted, we can perceive things while mislocating them. Perception does not fail because we cannot see light or dust and mistake them for more mundane objects. We can. Moreover, we can misperceive the shape and surface disposition of things we see.

The problem is that, by hypothesis, the light and particles lack any coherence that is like the bodies and surfaces normally represented and tracked by the visual system. The visual system's binding together various representations into a representation of a single entity does not correspond to any such system of properties in the environmental cause (or causes) of the complex representation. We would be seeing the light or particles if they formed a bounded shape of some sort, and some deformation of that shape were represented. The seen entity must have something like the boundedness of a trackable object.

This does not mean that the "object" must be internally spatially connected. We see constellations, flocks of birds, and so on. In some of these cases, we are seeing several bounded objects at once, and successful reference depends on seeing a sufficient number of the component objects as bounded. In other cases, the boundedness of the whole is all that matters.²⁷

I think that this sort of point suggests a requirement that some formally general perceptual representations must be veridical if singular perceptual reference is to occur. I will not try to specify such a requirement in detail. But I conjecture that if one is to see a physical object, the perceptual system has to get right certain spatial connectedness relations

among the parts of an object seen. It might also have to get right some of the relations between the object and other objects, or a background, in the presented scene. I also conjecture that similar limitations occur for other types of perceptual representations, besides object-representations. But developing these points is a matter for other occasions.

I believe that to perceive a physical object in the environment, there is a more abstract point that the visual system must get right. It is a fundamental feature of the visual system, for example, that it represents its objects as in particular spatial locations outside itself. This feature is fundamental to the role of the perceptual system in generating motor activity that is geared to finding, fleeing, or otherwise coping with perceived objects. I have noted that we can perceive objects even though we are quite mistaken about where they are. But if the perceptual system represents an object as being in a specific location and the representation is caused by some internal event or malfunction, then the perceptual representation fails to have a perceptual referent. Nothing is perceived. It fails because the causes of the perceptual representation are not spatially located in the environment of the perceptual system. The system's commitment to the object's being spatially located outside the perceptual system must be veridical if normal visual reference is to succeed. Perceptual reference cannot succeed if its cause has no location in the environment—or at least on the surface of the perceptual system—at all. Not understanding this point lies at the root of the hoary mistake that we see sense data.

It does not follow from this point that there must be a veridical perceptual representation that accompanies successful perceptual reference. In particular, it seems implausible to presume that the perceptual system has as abstract a representation as *spatially located in the external environment*. Although such general *conceptual* representations make a partition for a mature thinker, they do not provide any usable distinction for a perceptual system. So *spatially located in the external environment* is not a perceptual category, a representation available to the perceptual system. Subhuman primates and young children probably lack any such concept, even though they incorporate their perceptual representations into a belief system. So the point does not directly aid the third thesis.

Still, there is information in visual representations from which a general concept of spatial location can be extracted. As noted, applications of the perceptual demonstrative representation *is at angle such and such to the right of straight on* might be mistaken, and one might still see the object through a distorting prism. The concept of *spatial location in the environment* can be conceptualized or inferred from particular representations by an individual with the requisite conceptual maturity. I conjecture that such a concept must be true of a referent of a singular element in visual perception (with provision for a special case to be noted shortly), even if it is not the case that an individual perceiver must have the concept. Such formally general representations are reasonably regarded as presupposed by the visual system.

We can imagine a sophisticated adult in highly disorienting circumstances thinking as follows: “I do not care whether *that* is spatially located in the environment in the usual way; it may be a reflection on the retina; or it may be an internal, even hallucinational, image; I want to know what *that* is”—where the use of ‘*that*’ in the thought is accompanied by the perceptual presentation. Here the individual has in effect canceled the commitment to an environmental spatial location presupposed by the perceptual system. The perceptual demonstrative ‘*that*’ is understood to apply, in a default manner, to a physical object if the perceptual system is successful in perceiving such an object, and to a retinal or internal image if it is not successful.

It does seem possible to refer in this way. Is the reference in thought unaccompanied by any general representation that is true of the referent? I believe that to carry out such a reference, involving qualification of the normal commitment to an environmental location for the object of reference, the thinker must *have* concepts of appearance, perceptual representation, retinal image, and so on—in addition to physical object concepts. I think that an individual who knew nothing of reflections on retinas or perceptual representational images could not make reference to them. Thus the thinker *has and applies* a disjunctive concept—*either physical object or retinal image or perceptual representation*—that is true of the referent. I believe that such a thinker probably must also have the concept of cause or the concept of explanation.

The sophisticated adult understands the perceptual demonstrative *that* to apply, in a default manner, to a physical object if the perceptual system is successful in perceiving such an object, and to a retinal or (presumably as a third back-up choice) internal image if it is not successful. The individual could refer to a perceptual representation even in the case of veridical perception, if he or she intended to.

Children and apes need not have the ability to think of their perceptions as being caused by objects. Their perceptual systems do not represent causal relations between objects and perceptual representations.²⁸ However, an individual who thinks the sophisticated thought just indicated probably must have such an ability. The individual who can take reflections on the retina and internal images as possible referents of his perceptually guided demonstrative must have some rudimentary concept of there being other possible causes or explanations of his perceptual representations than the ones that established the intentional content and reference of ordinary successful perceptions. I think that such an individual presumes a metaview of the referent as a cause or explanatory factor of the perceptual representation. So the individual is disposed to attribute a general relational representation—that of the cause or explanatory basis of the perceptual representation—that is in fact true of the referent.²⁹

Issues regarding the limits on perceptual-conceptual referential error are a rich topic for further inquiry.

VI

I want now to consider the fourth thesis that Normore associates with the “bare concepts” view. This is the thesis that *all of our basic categorematic concepts are such that “there is nothing that we can see to be true about them apriori”* (p. 3). I take it that this thesis is not meant to exclude purely logical apriori truths, such as that *if Socrates exists then Socrates is self-identical* or that *orcas are orcas*. I will ignore the thesis insofar as it is meant to apply to mathematical or philosophical concepts. I am interested in the thesis insofar as it is meant to apply to empirical concepts.

One way of understanding the fourth thesis to see it as postulating empirical concepts as being introduced to apply to *whatever best empirically explains this introduction*, where it is a radically open empirical question how to explain the introduction.³⁰ But one could regard the relevant empirical concepts as nonindexical and still maintain the thesis under discussion.

I believe that this thesis is mistaken. In the first place, there are apriori knowable truths associated with judgments derived from basic limitative principles governing the reference of perceptual representations in perceptual systems. These are nearly entailed by what I have already said about the third thesis. Take, for example, the judgment that *if that exists* (where the demonstrative *that* relies basically on an ordinary visual representation), *then that is spatially located*. For any individual who has a concept *spatial location*, such a truth is apriori knowable. By hypothesis the individual must have the relevant concepts and the visual experience to make the judgment. But sense experience does not seem to figure essentially in the warrant for the judgment. The judgment is warranted by reflection on the referential norms governing the visual system. (There are analogous metarepresentational truths that are also apriori.)

Are there further apriori truths of categorization, beyond those associated with principles governing perceptual reference? Are there apriori truths about the referent of an empirical concept that are not mere instances of mathematical or logical principles and that do not derive from principles governing the referential limits of a perceptual system?

Earlier I maintained that all reference depends on there being inferential connections between the judgment in which the inference is made and judgments involving other concepts. I shall take this as granted by all sides. A negative answer to the question just posed maintains that none of these inferences is a good nonempirical inference, unless it is an inference from instances of principles of logic or mathematics or from principles governing perceptual systems. I doubt this thesis as well. But I find it interesting and challenging. Putnam’s claim that *cats are animals* is not apriori points in the direction of this thesis.³¹

I think it plausible that most empirical concepts are associated with superordinate concepts that provide conditions for application of the subordinate concepts and for singular reference accompanied by or guided by the subordinate concept.³² I think that one can be defeasibly apriori warranted in believing and even knowing certain general limitative principles governing the reference of concepts. For example, I think that we can know apriori that water is, if anything, physical and occupies space; that if something is yellow, it is colored; that a cat is, if anything, something with a physical body that has causal properties.³³ It seems to me that many of our empirical concepts have apriori connections of this categorizational sort to other concepts.

Despite my rejection of the fourth thesis, I believe that the kinds of connections that are apriori are extremely abstract. The point that we know only empirically that a kind like gold or water is a natural kind and has a unifying empirical principle is made very explicitly by Kant. Perhaps Descartes was on to the point as well. However, our conception of the taxonomic arrangement of genus and species is vastly more fluid and empirically sensitive than the conceptions prevalent in the early modern period. The apriori connections of the classificational sort that I have discussed here are mostly between relevant concepts and concepts for extremely generic features or relations in the world.

I assume that Normore is broadly right that Descartes is unsympathetic with the four theses just criticized. I turn to differences that Normore sees between my views and Descartes's.

VII

Descartes's conception of the ways we might fall into error is a perpetual challenge to attempts to answer scepticism.³⁴ He is sensitive to the fact that some of our representations are composites of other representations (griffins, satyrs). He challenges us to distinguish the representations that apply to genuine realities from implicitly composite ones that do not. Moreover, he is aware that some of our sensory systems are geared not to detect objects and properties as they really are, but rather to signal contrasts and changes that are potentially relevant to our survival or other practical needs.³⁵ Again he challenges us to distinguish veridical perception from practically useful but epistemically unreliable perception, and objective detection from practically useful sensory signals that do not function to detect objective properties at all. These points go very deep. They enrich the sceptic's arsenal in ways that are often not adequately appreciated today. Scepticism is not our primary topic, but some remarks on Descartes's view of reference are in order.

Descartes's view of reference is, as far as I understand it, simpler than mine. I think it too simple. He tends to see unsuccessful reference with kind concepts as the result of our

making a fictitious combination out of basic ideas for simple natures or out of parts of simple natures. The idea of a satyr is a prime example.³⁶ There are, however, other ways of making referential errors with kind concepts—ways that Descartes does not seem to recognize. The concept *phlogiston* is not a composite built out of representations for simple natures. It is the product of an explanatory theory that is constitutively dependent not on combination from simpler elements, but on an inference from observational beliefs. Descartes might, of course, extend the notion of combination to this case. He might insist that although we may not think that the concept of phlogiston is composite, it nevertheless is. But the notion of composition or combination would then seem to be so flexible as not to be very informative. I see no evidence that Descartes made use of what we now think of as scientific theoretical explanatory inference in his account of concept formation.

On Normore's exposition, Descartes holds that reference succeeds only when the explanatory cause of the mental event is the same as the explanatory cause of the content of the mental event (its objective reality). In such a case, the cause is identified with the referent. This view, too, appears to incorporate too simple a causal picture. A Martian scientist could refer to H₂O even though he or she bore no causal relation to H₂O and did not bear causal relations to all the factors postulated in the theory. Suppose that the scientist has causal relations to oxygen and hydrogen and, despite lacking any experimental causal relation to the particular sort of bonding connection between them, guesses or hypothesizes—near enough—the correct bonding relation. Then the object of the idea, H₂O, is not the explanatory cause of either the representational content or the mental event. Moreover, there is no straightforward sense in which the cause of the mental event is the same as the explanatory cause of its representational content. I do not see that explanations of psychological events and explanations of representational content are likely to track one another in the case of complex theorizing.³⁷

Nothing depends here on the referent's being a compound. It could be an element or even a type of elementary particle. A scientist could correctly postulate and refer to such kinds, without having a causal relation to their instances. Descartes might not have counted particles, elements, or compounds as genuine elements of the world—as simple natures. The paradigm for him is geometrically shaped matter. But I do not see that he has the resources to form a plausible account of how we come into a referential relation to actual physical kinds that we now recognize as kinds and that we bear no causal or perceptual relations to. The tools of perceptual reference and combination seem inadequate to the task. Descartes may have thought that our only genuine referential relation to *simple* natures was quasi-perceptual.³⁸

I think that Descartes's oversimple account of reference is associated with his seeing all representation as a sort of perception, or a combination of perceptions. This picture

underlies the tendency to see reference to an object or kind as dependent on causal relations to *that* object, or else “combinations” of representations each of which bears causal relations to an object.

It may seem surprising that Descartes was guided by such a picture, given his focus on the mathematicization of nature. The picture was encouraged by a venerable but now dated conception of mathematics. Although Descartes’s unification of geometry and algebra began the process that eventually freed mathematics for a more abstract view of its subject matter, Descartes joined a dominant tradition, which ran even into Newton’s early mathematical practice and motivated Kant’s philosophy of mathematics, of seeing geometry as epistemically basic in mathematics. Geometry was supposed to be an abstraction from our perceptual experience of objects in space. Thus Descartes seems to have seen the methods of mathematics as quasi-perceptual at their basis, with an attendant abstraction from empirical assumptions of actual existence.³⁹ Descartes saw geometry as studying the shapes of the physical world, with no presumption that they were actually materially instantiated.⁴⁰ Both mathematics and the use of mathematics in physics have become increasingly independent of their geometrical origins. The progressively more abstract conceptions of mathematics and of physical explanation have forced a more complex picture of the representation of physical reality. The recognition that representation and mathematicization of physical reality can be tied to perception in only very loose and complex ways, involving theoretical explanatory inference, has been forced on us by these developments in the physical and mathematical sciences.⁴¹

Descartes’s difficulty with theoretical reference to physical kinds to which one bears no causal relation was hidden by two elements of his philosophy. One is his extremely austere ontology, which admits only geometrical forms of matter as simple physical natures. Such an ontology disallows not only nearly all commonsense macro-objects but even most of the natural kinds of present-day science. The other element is his tendency to blur the distinction between mathematical and physical kinds. Given the austere ontology, he did not need to worry about the sorts of theoretical kinds that I have mentioned. (See note 36.) Given his view of physical kinds as being instances of geometrical kinds, he could believe that all the relevant basic kinds are available to perception informed by geometrical structures. More complicated kinds are constructible by geometrical reasoning from the simpler ones. But Descartes regards even the results of construction ultimately in quasi-perceptual terms rather than terms of proof or formal construction.⁴²

It must be said that an analogue of the problem that I have raised for Descartes regarding reference to theoretical physical kinds faces us today. Once a modern distinction between mathematics and physics is in place, one needs to account for reference to mathematical objects (or functions) that are not in any straightforward sense physical properties. We have no causal relations to the objects. I think that we cannot plausibly help

ourselves to the idea of a theoretical explanatory inference from perceptual references that are grounded causally. Cartesian mathematical perception of geometrical properties does not seem viable either, as a full account of reference to mathematical objects. Geometry is not a foundation for all mathematics. Moreover, pure geometry itself can no longer be seen to directly concern physical space. I think that accounting for mathematical knowledge and mathematical reference requires notions that Descartes did not employ. It requires notions of objective formal structures that inform thought and reason, and rational commitment to entities associated with these formal structures—a commitment that is implicit in the very practice of mathematical reasoning. This is a complex matter whose exploration is not in place here.

I differ with Descartes in two other ways that are associated with the difference in our conceptions of reference. One difference lies in our conceptions of physical reality. The other lies in our conceptions of representation-as. I begin with the former difference.

As I have noted, Descartes has an extremely austere conception of physical reality. For him, physical reality is made up of extension and parts of extension. This is an impoverished conception even of the world of physics. The subsequent history of physics, beginning with Newton's recognition of forces as fundamental and continuing with the addition of dynamical and field-relations to mechanical ones in the nineteenth and early twentieth centuries, has made Descartes's conception seem even more impoverished than it did to his contemporaries. Moreover, I do not accept Descartes's apparent reductions of physical reality to physics. There are chemical and biological kinds that are fundamental natural kinds.

Equally important, there are ordinary physical kinds that do not fit neatly into the sciences; and there are perceptible, artifactual, and social kinds that Descartes tends to treat as modes, or perhaps even constructs, acceptable in everyday practical life but unacceptable as basic in a serious account of reality. I take clouds, rainbows, brisket, rocks, the North Sea, arthritis, redness, shadows, cracks, rough-texturedness, sounds, cold, sofas, clothes, symphonies, the United States—as well as human bodies—to be kinds or individual entities that need not be reduced to parts of extension or of matter or to sequences of collections of particles. And they are not mere projections of our minds. Yet all of these are kinds or properties of *physical entities*, with the possible exceptions of symphonies and the United States.

Thus if Normore is right that Descartes believes that we make such kinds in the sense that we “project principles of unity” for them, then Normore is isolating a basic difference between Descartes's conception of physical reality and mine. (I am not convinced by this reading of Descartes, incidentally. But there is no question that Descartes thought that such objects have *some* kind of ontologically secondary status.) I do not agree that such objects or kinds are “ideal” or merely practical. I do not agree that they are in any sense con-

structed by us. Of course, most *artifacts* are dependent on our intentionally making them, causing them to come into existence more or less according to some plan. Once made, the artifacts are what they are, regardless of how we regard them. An amplifier is not a kind of thing only by courtesy of our “projecting” a principle of unity whose reality lies entirely in our projection.

We fix on and represent kinds, features, and relations in the world. Often our representations reflect interests and needs special to us. One should not, however, conclude that since we represent a pattern only because it corresponds to some need or interest of ours that the pattern is a product or projection from our needs or representational abilities. The world is made up of individuals that instantiate a rich, hierarchical, cross-quilt of patterns made up of properties, relations, kinds. Science deals with those that submit to relatively deep explanatory systematization. But pattern is not less real by being local, or by being perceptible only by certain sensory modalities, or by being constitutively dependent on causal processes that do not fall under the systematic principles of some science. The realities that we represent are largely independent of our “projecting” principles of unity. The unities and similarities that we make use of are for the most part quite independent of us, even where they are of special interest to us, and might be of no interest to some other species.

Granting Normore’s historical account, Descartes’s apparent combination of ontological reductionism about physical reality with conventionalism or idealism about *ordinary* kinds is fundamentally at odds with my view. Even if Descartes does not hold this sort of conventionalism (as I suspect he does not), his reductionistic picture of physical kinds is, I believe, unacceptable. I believe that Descartes’s view of physical reality can be seen, in retrospect, to be one of the more flamboyant products of intellectual hubris. It is no longer a rationally warranted view of the physical world.

VIII

The difference regarding our conceptions of *representation-as* is perhaps best developed by considering the thought experiment that Descartes posthumously puts to me in a letter unearthed by Professor Brown, which Normore quotes.⁴³ I will assume for the sake of argument that the letter is genuine, although I harbor some doubts, textual and anthropological, as to its authenticity.

Descartes thinks that we have two ideas of the Sun. One is of the Sun as a small disk about the size of a Canadian dollar. The other is of the Sun as a huge gaseous body larger than the Earth. Descartes insists that these are different ideas, not different judgments involving the same idea. Descartes imagines that there is a twin world in which Twin Sun is smaller than Twin Earth, and is made of different gases from the gases our Sun is made

of. Given the differences in the Suns, Descartes infers that I will count counterpart representations of the Suns as different representations with different referents. He believes that for me the difference must lie in the “information encoded” in representations on earth and Twin Earth. And he further infers that on my view, our Earthean representations encode the view that the Sun is a heavenly body larger than the Earth. He takes this view to be absurd. Astronomy revised our conception of the Sun on precisely this point.

Normore produces a further gloss on the argument. He takes Descartes to infer from my holding that perceptual representations specify perceptual kinds *as such* that I hold that our representation of the Sun specifies the Sun “as such.” He takes Descartes to infer further that such specification means that our conception of the Sun has been different from the Twin Sun conception even before the astronomical discoveries, and different in a way that leaves it veridical of the Sun. This conflicts with our sense that astronomy corrects our conception of the Sun and that we did not have the true conception all along. Normore goes on to criticize this Cartesian argument for presuming that I would say the same thing about as “complex a representation as that of the Sun” as I would the about perceptual representations. And he proceeds to construct a new argument that challenges my position and illustrates Descartes’s different views about representation. Before discussing the new argument, I want to indicate what is wrong with Descartes’s own criticism of my position. It turns on a misconstrual.

I agree with Descartes that there are at least two conceptual representations of the Sun. I think that there were at least two *before* the astronomical discoveries. One such conceptual representation is closely tied to the visual appearance of the Sun. It applies to the object visually represented in such and such a way in roughly such and such visually determined positions over the course of a day. The other one is a conceptual representation dependent on language, that could be shared by blind and sighted alike, or by anyone who did not use the concept in such a way as to tie it essentially to the visual presentation of the Sun. Presumably the reference of the second concept was originally fixed through use of the first, but the mode of presentation came to be separated from essential connection to perception. This second concept is probably the concept normally expressed by the word ‘Sun’ (or Latin, French, etc. counterparts) prior to the astronomical discoveries. Both of these conceptual representations specify ‘*as such*’. It is crucially important to be careful about exactly what *specifying as such* amounts to.

If the letter to me is genuine, Descartes holds that the visually based conceptual representation is committed to taking the Sun to be about the size of a Canadian dollar. This is surely a mistake. The visual system specifies size and distance in terms of a variety of factors. It does not, of course, indicate size and distance purely in terms of the proportion of the visual field occupied by the visual image. Angular disparity between the images of the two eyes is a central and representative factor for determining distance and hence size.

In the case of the Sun, the usual cues that would indicate how far away the Sun is are not available to the perceptual system, apart from elaborate astronomical experiments. Ordinary changes of position, on Earth, with respect to the Sun would not discernibly change the angular disparity. So the visual system will not produce a representation of how far away or how large the Sun is. It will produce a representation of an object that specifies a certain shape, color, and (over time) series of positions in the sky. The visual concept that conceptualizes the visual perception should have similar commitments. Given the anomalies about distance and size, the perceptual concept will remain uncommitted about the other objective characteristics of the object, much as a perceptual concept of an object known to be seen at a distance and poor light would be. Thus I believe that reasonable people who do not know the astronomy might well leave open whether some of the represented visual characteristics of the Sun are real or merely apparent. The nonperceptual concept of the Sun also specifies it as such. The specification is merely *as the (or a) Sun*. Neither concept “encodes” mistaken opinions or astronomical knowledge about what the Sun is. Mistaken opinions as to the Sun’s size did not arise merely from analyzing a common concept.

It is plausible to me that ‘the Sun’ in the latter nonvisual usage, before the astronomical discoveries, was a proper name rather than a specification of a specially salient Sun, among many other Suns. In that case, it is especially obvious that the conceptual representation does not encode mistaken descriptive information. I shall, however, discuss the case in a way that remains neutral as to whether the second conceptual representation is a proper name or an indefinite description that uses the general concept of a Sun.

Of course, there is something to Normore’s point that people had a mistaken *conception* of the Sun, which got corrected by astronomical discoveries. I distinguish concept from conception.⁴⁴ A conception incorporates (correct or incorrect) explicatory glosses on the concept. Some of the glosses might include empirical information or misinformation. It might well be that before the astronomical discoveries people who had both concepts went beyond what the visual system presented regarding the size of the Sun and took it to be less large than the Earth, perhaps even as small as a Canadian dollar. (As I have intimated, I think that this latter view would have been irrational; perhaps both views would have been irrational.) These views might even have been considered basic explicatory truths by some. So it might be right to hold that astronomy came to correct the common idea or *conception* of the Sun, in that sense. I see no reason to think that the mistake was incorporated into the concept of the Sun before the relevant discoveries. The mistakes did not ensure that their concepts failed to apply to the Sun; nor did mere mastery of their concepts ensure that they made mistakes about the Sun.

As to the thought experiment, I believe that if Twin Sun looks from Twin Earth exactly as the Sun does from Earth, and follows an observationally similar course through the sky,

then the perceptual representations and perceptual concepts will be type-identical. The difference in reference would be in the demonstrative-like applications of the perception and perceptual concept to different individuals.⁴⁵

The nonperceptual concepts, respectively used on Earth and Twin Earth, would similarly specify different individuals. Whether the Twin and Earthean nonperceptual concepts are different concepts depends more on the usage of the concepts than Descartes has specified. In the likely case that the concepts are expressed by proper names ('the Sun'), then they would seem to be type-identical names—and type-identical name-concepts—with different etymologies that are contextually applied to different individuals (as 'Smith' might be applied to different Smiths).⁴⁶ If the concepts are kind concepts, then their anti-individualist individuation would seem to depend not on composition of the objects that cause them—the Sun and Twin Sun. Individuation would seem to depend on the objects' being heavenly bodies that bear some cyclical spatial relation to Earth and Twin Earth respectively. Since the cyclical relation is by hypothesis the same, it seems broadly plausible to me that the kind concepts are (prior to astronomical discovery) the same. They are applied contextually, in a demonstrative-like way, to different individual Suns.

I see no reason to think that in either case the nonperceptual concept changed or needed to be corrected after the astronomical discoveries on Earth. It was indeed a surprise that the cyclical relation consisted in the Earth (Twin Earth) revolving around the Sun—and at a huge distance—rather than vice versa. I do not, however, see any reason to think that it was built into the perceptual concepts or the language-dependent concepts that the cyclical relation had the particular character that pre-discovery physicists (or common folk) thought that it had. Even if these false astronomical theories were used in conceptual explications, they were not built into the concepts being explicated. The concepts themselves carry no essential, heavy astronomical commitments. That is why they continued to refer to heavenly bodies, even though the astronomical theories, and conceptions associated with the concept, were rejected. Whether a new scientific concept that represents the Sun emerged after the Copernican revolution, or other astronomical discoveries in science, seems to me unclear, and indeed doubtful. Certainly, new scientific accounts of the Sun and new conceptions of the Sun emerged.

The main trouble with the Master's Twin Sun objections, at least as presented in his alleged letter to me, lies in a misconstrual of how much I build into the notion of specifying a referent in a given way—as some *such*. I see concepts, especially empirical concepts, as usually noncomplex in themselves. The concept *water* specifies water as water. The linguistically dependent concept of the Sun specifies it as the Sun. The perceptual concept of the Sun is no more complex than the image together with abilities to reidentify and track the Sun visually over a day. Visual specification is phenomenally but usually not theoretically complex.

Having the concepts requires having inferential relations to other concepts. In some cases, some inferential relations to specific concepts are essential to having a given concept. But in most cases, I think it a philosophical mistake to regard strong, detailed empirical commitments as built into ordinary macroconcepts.

The ordinary specification of water as water is held in place by its causal relations to the environment, by very generic classificational relations, by perception, and by a network of perhaps collectively necessary but certainly individually dispensable empirical inferential connections and connections to perception. What holds a concept in place is not in general built into the concept as intrinsic components. Concepts are not bare. The concept *water* has a definite content that specifies water in a particular way. But the concept is not richly articulated individually and in itself. Conceptual richness derives from inferential connections to other concepts, from applicational relations, and from relations to perceptual representations.

Some of the inferential connections are apriori. Others are empirical. As I have emphasized, in most cases the apriori connections are very generic ones. Breaking empirical inferential connections does not normally undermine the concept or its success in referring, except in the cases of massive empirical error. If the term is applicable more or less directly on the basis of observation, the error usually must undermine the perceptual basis for the referential application of the concept if it is to show the concept fails to indicate a property. If the term is more theoretical, the error usually must radically undermine the type and direction of the theory in which it is embedded (as in the case of the concept of phlogiston).⁴⁷

Normore goes on to offer a variant of Descartes's challenge. He presents a slippery slope "between the view that some of our basic percepts are veridical *apriori* and the view that we cannot be mistaken in any of our perceptual representations" (p. 11). He writes, "Somewhere along this slope Burge will dig in his heels, and it would be very helpful to know where and why." He sees my view as differing from Descartes's in taking perceptual kinds rather than true and immutable natures as "basic" (p. 10). And he attributes to me the view that "for perceptual kinds the perceptual representation must represent the kind as it is." But this is not quite my view.

I do take some perceptual concepts as basic in the sense that they are not made up of more basic representations and in the sense that they are among the concepts that can be utilized in producing genuine knowledge. I do not take them as more basic—in these senses, or in any other senses I can think of—than mathematical concepts or other concepts that Descartes might regard as specifying true and immutable natures.

I have not set foot on the proffered slippery slope. So I need not dig in my heels anywhere on it. My anti-individualist view about particular perceptual representations like *crack*, *edge*, *dark* was not defended from a purely apriori view. Recall that I *assumed* that

perceptual objects and properties—the particular ones that we represent—are objective, mind-independent entities.⁴⁸ I think that in the absence of special argument, this assumption must be construed as an empirical assumption. I assume that there are such things as edges, bars, boundaries, (approximate) cones, surface textures, and so on. I assume that we perceive the objects and kinds in the world that we think we do. Given these empirical assumptions, I maintain that the contents of perceptual representations and concepts essentially associated with such representations constitutively depend on causal relations between individuals and an environment.

Thus I did not assume or argue that we know apriori that our basic percepts are veridical of the perceptual kinds they purportedly represent. Such a view would be relevant to certain discussions of scepticism. My account of individuation conditions has explicitly bracketed attempts to answer scepticism.⁴⁹

I did and do claim that those perceptual representations that veridically apply to objective kinds get their content through complex interactions with instances of some perceivable kinds. I think that this claim has apriori status. But maintaining apriori that those perceptual representations that actually *do* veridically apply to objective kinds do so by virtue of a network of causal relations between the relevant kinds in the environment and the perceptual system is quite different from showing apriori that representations that purport perceptually to refer to mind-independent entities in fact do so.

I believe that anti-individualism yields material relevant to answering the sceptic. I think, for example, that it is apriori that our purported representation of particular spatial relations would be impossible if we or our perceptual systems were not at some time veridically and reliably in perceptual touch with things in space.⁵⁰ I think that it may be apriori that some or most of our purportedly perceptual representations veridically apply to kinds that were at some time actual. Perhaps there are more specific apriori points that would be relevant to contending with the sceptic without assuming from the beginning the objectivity of perceptual reference, as I have in most of my work.

Anti-individualism certainly suggests a challenge to the sceptic to show how representations that purport perceptually to represent objective entities could do so unless they bore some relation, through theory or composition, to some successful application of some perceptual representations to some objective kinds, somewhere in the history (perhaps the evolutionary history) of the formation of such perceptual representations. I believe that ultimately the sceptic cannot coherently meet this challenge in such a way as to leave open the possibility that all of our purportedly perceptual representations fail to refer to mind-independent entities.

I have not probed all the complexities here. As I have noted elsewhere, some perceptual presentations are systematically unreliable, though useful for survival.⁵¹ How are we to show apriori that some are epistemically reliable? Can we know apriori which ones are?

Can perceptual mistakes derive from bad theory? Can such a possibility be accommodated in an answer to scepticism?

Some representations may seem to perceptually represent intrinsic objective properties, but in fact represent only changes in our sensory states or our bodily surfaces. There is the standard example of plunging one hand into lukewarm water after it has been in hot water, and the other hand into the same lukewarm water after it has been in cold water. It is easy to think mistakenly that the products of the relevant sensors indicate the objective temperature of the water, whereas they in fact give indications of sudden temperature changes on the skin's surface or even sudden changes in sensory qualities. The sceptic might claim that as far as we know, we confuse sensory presentations with purportedly perceptual representations and these in turn with perceptual representations. This would constitute a claim that we are ignorant of the intentional content of our apparently perceptual representations.

These and more issues would have to be addressed in a discussion of scepticism. I believe that such sceptical moves would face serious difficulties. Pursuing this dialectic would, however, be complex.

The apriori principles that I have alluded to, and that are relevant to confronting a sceptic, do not seem to me to threaten a slippery slope toward claiming that we cannot be mistaken in any of our perceptual representations. I have allowed that error in the application of *particular* perceptual representation tokens, purportedly of objects or kinds, is always possible. Thus it is always possible to perceive *an individual* as being smaller or closer than it is, or to mistake a crack for a discoloration, or even to have a perceptual representation that lacks an individual referent. I have so far not claimed apriori of any particular, nongeneric, purportedly perceptual representation that it applies to a genuine mind-independent kind. I allow that error about the existence of purportedly perceptual kinds can occur through false theory. We can misconstrue sensory presentations of contextual changes local to the individual with perceptual representations of objective entities. I also grant that one can *misconceive* the nature of perceived objects.

Whether the perceptual mistakes, or even the mistakes of conception, that I have allowed for could be systematic and generic in such a way as to raise rational doubt about the physical world seems to me questionable at best. The nature of content determination suggests that these various sorts of errors must be confined. I believe that it is apriori and relevant to scepticism that some (purportedly) perceptual representations (purportedly) of objective entities depend on successful applications. Representation of types is parasitic in complex but inevitable ways on successful application to instances of some types. For all that, these are suggestions that require far more development and defense than I have attempted to provide.

IX

Before concluding, I want to comment on the role of the social in individuating representational content. I have already indicated that if Descartes sees the social as projecting principles of unity so as to put brisket or arthritis or the North Sea into the world, then my position is quite different. I think that these are kinds and individuals in the world that we in no sense put there. Communities may take an interest in some pattern, property, or kind that is not a natural kind, in the sense that it is not subject to some systematic comprehensive law of nature. Communities may introduce words or develop concepts for these kinds. And individuals in the communities may develop patterns of reliance on other individuals to connect them to these kinds through interlocution, or to set standards for correct application of the words or concepts. In my view such kinds are still not ideal, socially independent, or mind-dependent.

Communities are not metaphysically necessary for the development of kind concepts (natural or un-natural). They are not even necessary for establishing conditions for the having of those nonperceptual, non-natural kind concepts that allow for Twin Earth thought experiments. One can be doubtful or agnostic about the application conditions of almost any empirical concept that one has, even if one does not rely on a linguistic community to fix the referent. Such doubt or agnosticism can fuel anti-individualistic thought experiments.⁵² The key factor in bringing out the anti-individualistic character of having empirical concepts is the gap between what we must know about a referent of a nonindexical representation in order to represent it as a kind, type, property, or relation, and the way the referent actually is. It is objectivity and lack of omniscience, not natural kinds or community, that lie at the root of anti-individualism.

Communities figure in the individuation of our *actual* concepts. This fact had been neglected, and I tried to highlight it.⁵³ I do not agree with those who hold that one cannot have concepts except in a community. Nor do I think that being in a community fixes one's concepts regardless of one's intentions. The role of communities in individuating concepts is not metaphysically necessary. Though profound and central in actual human culture, it is not dictatorial.

Descartes gives the appearance of being more centered on the individual's thought, and less interested in the ways individuals depend on their communities, than I am. But it is hard to determine whether this is oversight or principled disagreement. My view of the role of community in determining what concepts an individual has does not fall under any simple generalization that I know of. I certainly do not, for example, think that communal ways of individuating intentional contents trump other ways no matter what the individual intends. Individuals can quite self-consciously opt out of communal usage. Or they can be legitimately idiosyncratic, indifferent, or oblivious. As long as they abide by their

idiosyncratic usage and do not unconsciously rely on or draw on—or otherwise become responsible to—communal usage, their words and concepts need not be dependent communal usage, or the ways that usage is tied to the physical world. So communal practice does not trump individual intention.⁵⁴

Individual intention is not, however, sufficient to opt out. The individual's intention must accord with the individual's practice. An individual can stubbornly resist correction from communal usage and be mistaken to do so. He must tailor his usage to his resistance. Or rather the resistance must be tailored to his usage and the commitments of that usage. An individual can intend to use 'arthritis' in a way that disregards communal practice and communal causal ties to a referent, but be disposed in various unrecognized ways to be corrected by that practice, or be otherwise subject to the practice and its referential connections to the world.

Although concept individuation is a matter of choice, narrowly understood, only in special cases of stipulated (and adhered to) usage, it is in *all* cases heavily dependent on the individual's own attitudes and on how and whether the individual relies on his fellows. It is a deep fact about human culture—dare I say “human nature”?—that we do rely on others in ways that make others' intentional activity sometimes play a role in individuating our own.

Descartes underemphasizes this fact, even though his view is probably in the broadest sense anti-individualist. Like most early modern philosophers, his concern was with the individual's relation to God, to himself, and to the physical world. History and community seemed to him sources of superstition and inertia. A full understanding of individual minds cannot ignore, to the degree the early modern period did, ways that individuals depend on others for knowledge, reference, and intentional content.

Notes

1. See note 4 of my (1988).
2. I have one caveat about Normore's presentation of Descartes on these matters. Normore reads Descartes as an externalist “in the sense that the content of our ideas depends on their causes—but on the cause of the objective reality of the idea, not the cause of its formal reality” (p. 7). It is not sufficient to be an anti-individualist (or externalist) that one hold that the content of our ideas depends on their causes. One needs the further points that the causes are external to the individual and that the dependence is individuating, not merely causal. The caveat does not alter the fact that Normore seems right to hold that Descartes is an anti-individualist.
3. I read *Meditation* III and VI as illustrating this drift. I think that this issue in interpreting Descartes is worth further investigation. I have benefited from several conversations with Normore in my remarks about Descartes. Normore recommends further reflection on God's creation of real possible natures. God's idea and the natures are created in the same act. Nevertheless, Normore sees Descartes, here as elsewhere, as tending to take the nature that the idea refers to as explanatorily prior to the idea.
4. Descartes (1988), p. 29; *Oeuvres de Descartes*, (1964–76) VII, pp. 41–42. I am indebted to Calvin Normore for discussion of this passage and other passages in Descartes's interchange with Arnauld in the fourth

set of Objections and Replies. The essay as a whole has benefited from several conversations with him and with Deborah Brown and Lilli Alanen.

5. I wrote, “Individualism is the view that an individual person or animal’s mental state or event kinds . . . can in principle be individuated in complete independence of the natures of empirical objects, properties, or relations (excepting those in the individual’s own body . . .)—and similarly do not depend essentially on the natures of the minds or activities of other (*non-divine*) individuals” (my retrospective emphasis). See my (1986b), pp. 118–119.

6. God’s mental events are special and may not be subject to anti-individualist considerations. The objects of God’s mind depend on his creating them through his thinking them. See, however, note 5. Moreover, I will assume that Descartes’s holding that a human mind’s idea of God depends on the existence of God is not incompatible with his substance dualism, since no finite substance is completely independent of God. Similarly, I assume that the fact that Descartes holds that God could bring about anything, including the falsity of eternal truths, does not show that Descartes was an individualist. Even though he thinks that relations between having ideas about body and being in relation to the physical environment are, in this sense, contingent, I take the issue to remain alive. If anti-individualist principles were, like mathematical truths, necessary except for the qualification about God’s power, then I would regard Descartes as an anti-individualist. I was led to make this point through a criticism by Carl G. Anderson.

7. Descartes to Arnauld, July 29, 1648, in Descartes (1981). I am indebted to Deborah Brown for calling my attention to this passage.

8. See Descartes’s reply to Hobbes’s worry that Descartes had reduced the thinking agent to thinking—the second objection in the Third Set of Replies (Descartes 1988), pp. 122–124.

9. There is a body of scholarly opinion that takes Descartes to hold that mental substance consists in its principal attribute. I have some sympathy with this view, but I think that it should be developed in the light of the difficulties that I am raising. As will become clear, I believe that Descartes has a way out of these difficulties. As far as I know, however, the problem that I have been raising has not been addressed. For a brief discussion of the construal of Descartes that takes mental substance to consist in its principal attribute, see Marleen Roze-mond, *Descartes’s Dualism* (1998), pp. 8–12.

10. This is a move that Sellars pressed. I am not convinced by Sellars’s view. I shall discuss the matter elsewhere. See Wilfrid Sellars, “. . . this I or he or it (the thing) that thinks . . .” (1970).

11. See Descartes, Letter to *, 1645 or 1646, Descartes (1981), p. 187. (The letter is to an unknown recipient, jocularly called “Starman” in the trade.) I owe this reference and useful discussion of this issue to Lilli Alanen. For discussion of the distinction, see her “On Descartes’ Argument for Dualism and the Distinction between Different Kinds of Beings” (1986).

12. See my “The Indexical Strategy: Reply to Owens,” this volume.

13. Thus I do not agree with Normore’s remark that “the individualist as such need not reject Burge’s three premisses” (p. 2). When I wrote the paper I seem to have acknowledged that the third premise already entails anti-individualism, at least when conjoined with the second. See my (1986b), p. 135. I claimed, however, that the first premise—and implicitly the whole argument—was needed to show that nonindividualist methods of individuation do not “in principle” have counterpart methods that are individualistic. I think that I wanted to show that the possibility of error made it impossible, contra Leibniz, to reduce the relations that are necessary for the individuation of mental states to nonrelational properties of the individual. But I seem not to have firmly recognized that if intentional mental states and events are individuated relationally, then their individuation conditions are necessarily relational. I do (and did) not understand individuation merely as a contingent practice. It is a condition on the nature of the mental states and events—a necessary fact about them. I made substantially the same error, involving a similar blurring of the difference between failure of local supervenience and anti-individualism, in my (1986c), pp. 3–45.

14. Traditionally, God was said to have such a power to think of things without any discursive or general representation associated with the thinking. The power was called “intellectual intuition.” I regard this view as of doubtful coherence. For present purposes I maintain the more circumspect view that such reference in thought is impossible for finite beings, whose perspective on any object is limited. Russell made the mistake, at one stage in his career, of in effect thinking of acquaintance as the fundamental representational power, where acquaint-

tance has all the key nonperspectival aspects of intellectual intuition except for bringing the objects of thought into being. For many of Russell's purposes the objects are treated as perspectives. This is obvious in his treatment of sense data as the objects of acquaintance. Qualitative elements of consciousness are one thing. Singular representation of them in thought is another. Treating them as data for perceptual belief is a third. Singular representation of qualitative elements utilizes demonstrative-like applications associated with general concepts that make use of the qualitative features as repeatable types. Russell runs these things together. Russell took universals both as properties of objects and as perspectives of the mind on objects. I believe that this is another fundamental conflation or confusion. Russell never provided any discussion or defense of his fantasy about human epistemology and the mental abilities that go into making reference possible. All of the foregoing concerns the natures of belief and perception and of human psychology and epistemology. It seems to me a separate question whether an illuminating theory of aspects of language can abstract from the perspectival character of thought and perception in some instances. Even in this area, I am inclined to think that the perspectival character of linguistic representation is never fully obliterated in linguistic natural kinds.

15. As noted, I am inclined to believe that concepts like *God* and *three* are individual *concepts*, the conceptual counterparts of individual constants. They are ability-general, but formally singular. Unlike ordinary proper names, they are not associated with demonstrative-like determiners. See my (1973), pp. 425–439. I believe that the rejection of the second thesis applies to individual concepts. I think that these concepts also cannot be thought autonomously unless they are associated with and guided by formally general, predicational concepts. Thus in thinking the concept *three*, we must associate the concept with formally general concepts that guide the referential application. We presuppose a capability to think that *three is a number*, or *three is the (natural) number immediately following two*. Singular uses of *three* are conceptually associated with adjectival or quantifier uses, which have an obvious second-order formal generality: *There are three oranges on the table*. Some such associations of *three* with formally general concepts help guide its application, in the sense that they are taken as prominent in determining the referent. Similarly for other individual concepts. Traditionally, the concept *God* was understood as entailing certain general attributes—deity, power, knowledge, agency, and so on. One could not have the concept without associating it with at least some guiding, formally general concepts of associated attributes. Autonomous applications of concepts like *Tlaloc* for more primitive deities also seem necessarily to be associated with such concepts as *agent* or *god of rain*, as well as with certain images. In sum, I believe that individual concepts require some formally general conceptual associations to enable them to be context-free.

16. I discuss this singular sort of context-dependent representation, insofar as it occurs in thought, in my (1977), pp. 338–362; and “Russell’s Problem and Intentional Identity” in *Agent, Language, and the Structure of the World* (1983). I discuss such singular representations insofar as they occur in perception, in “Perceptual Entitlement,” forthcoming. Such perceptual singular elements must be recognized if one is to account for the fact that perception involves representation of particulars that need not be uniquely specified by the formally general perceptual representations of aspects (or properties and relations) of the particulars. Perception is of the particular objects and property or relation instances that the perceiver interacts with. It represents those particulars, not some look-alikes that the perceiver is not interacting with. Analogous singular elements in thought are needed to account for the fact that we can think about objects that we do not fully specify through ability-general or formally general conceptual representations. We apply the general conceptual representations to particular objects. The singular, context-dependent application must be seen as associated with, or marked by, a singular representation in order to account for the fact that beliefs about such particulars are true or false. Of course, such demonstrative-like token-based representations in thought are commonly guided by counterpart singular context-dependent elements in perception. The guidance may rely on memory or interlocution. I think, however, that there are singular, demonstrative-like representations in thought (such as applications of the first-person concept) that are not ultimately guided by perception, even by way of memory or interlocution. Thus not all *de re* thought is ultimately perception-based.

There are context-dependent formally general representations, like *such*, *next*, *later*. I think that an analogue of the thesis about to be stated applies to them. They require association with non-context-dependent formally and ability general representations. I also conjecture that deictic application of these context-dependent formally general representations necessarily involves at least implicit use of a context-dependent singular representations. Thus deictic use of *such an animal* is associated with singular representation of a particular animal, or of a picture of an animal.

17. The thesis actually needs some further qualification that I will not go into here. I believe that context-bound, formally singular egocentric indexing elements that provide origins for frameworks, such as spatial frameworks

or motivational frameworks, are exceptions to the thesis as stated. Similar qualifications will be needed for my rejection of the next thesis. I shall develop these matters further on another occasion.

18. I think that each context-dependent singular representation *in perception* must be *accompanied* by a general perceptual representation. A general element *accompanies* a singular element if the general and singular elements are part of a single complex representation, and the meaning of the complex representation is such that the general element is supposed to be veridical of the referent (if any) of the singular element. Context-dependent singular representations *in thought* can be associated with a general representation by being accompanied by a general conceptual representation. (I do not count the most general representations like *entity* as fulfilling the requirement of association. Young children probably lack such concepts. Moreover, such concepts do not serve the purpose of putting a putative constraint on the putative referent of the singular representation.) Context-dependent representations in thought can also be associated with general conceptual representations by being anaphorically connected (through memory or inference) to singular elements in other thoughts that are themselves accompanied by general conceptual elements. I am inclined to think that association in thought can be even more permissive. I am inclined to think that a context-dependent singular representation in thought can be associated with a general *perceptual* representation—if the singular thought is guided by an unconscious perceptual representation of a particular, where the general perceptual representation has not been conceptualized and where it accompanies a singular perceptual representation that picks out an object. Imagine that one believes that something is bothering one. One can particularize the thought to the extent that one thinks “there it goes again, bothering me.” But one cannot say what kind of thing it is that is bothering one. We might suppose, however, that by psychological tests we could find that the perceptual system is picking something up and referring to it, even though the belief system, or system of propositional thought, has not categorized it.

19. Thus I think that principles governing when singular application is possible that have been articulated by Quine, Strawson, Evans, and others have obvious counterexamples. The theoretical underpinning of these views seems to me insufficient to deal with the counterexamples, or with other theoretical considerations. Much current discussion of these issues is influenced by Kant’s dictum that intuitions without concepts are blind. Some of this discussion has lost touch with Kant’s view of concepts as essentially ability-general representations. Moreover, some of the discussion of Kant’s famous dictum is committed to what I regard as empirically refuted views—for example, that insects that lack concepts cannot have perceptions that single out individual objects or cannot have perceptual categories for physical objects or properties. I discuss these issues in “Perceptual Entitlement,” forthcoming in *Philosophy and Phenomenological Research*.

20. The point of these three paragraphs is, of course, a variant of Kant’s points that concepts are elements of propositional attitudes (paradigmatically for him, judgments), and that perceptions have a formal structure. They are the origin of Frege’s point that meaning occurs only in the context of (or only through presupposing) a proposition, and that propositions are essentially bound up in inferential structures. It is also the origin of Wittgenstein’s point that naming can occur only in the context of a larger representational context.

21. In the study of language these cases were introduced with special vividness by Keith Donnellan in his (1966).

22. See Keith Donnellan (1966, 1970); Kripke (1980); Kaplan (1989); and my (1977). I think that this is a necessary truth about empirical thought, as I argue in “Belief *De Re*” (1977). Certain types of singular reference involve ineliminable singular elements whose referents depend partly on causal relations external to the thinking individual.

23. For a defense of such a denial, see Evans (1982), pp. 105–120. Evans requires that to refer to an object, one must know which object it is by discriminating it from other objects by perception, description, or recognition. More generally, he requires that one know what sort of thing would make one’s thought true. And in working out what this requirement means, he places restrictions on reference through ordinary cognitive capacities that I regard as poorly motivated and quite unacceptable. I find his arguments for this view as applied to memory and interlocution (pp. 127ff.) unpersuasive, his account of thoughts about natural kinds (e.g., p. 117) mistaken, and his strictures on perceptual belief quite excessive. I think that his view is backed by a sophisticated but rear-guard defense of the old over-reliance on agent knowledge and control in determining a referent, an over-reliance driven by the traditional philosophical hyperintellectualization of accounts of thought. A detailed critical discussion would be out of place here.

I will ignore universal categorizations like “object” or “entity.” The child need not have these. More important, I regard the thesis as making a stronger claim than such a defense would defend.

24. I am taking the distinction between perceptual representation and conceptual representation for granted here, as I did in “Cartesian Error and the Objectivity of Perception.” I shall discuss the distinction in future work.

25. For empirical discussion of such levels of abstraction see Sutherland (1960), (1971), and Marr (1982), esp. chapters 2–5.

26. I think that the same applies to seeing objects through magnification when the individual fails to realize that the seen objects are not in the vicinity. This is contrary to Evans’s view, which I regard as in other respects too restrictive an account of spatial reference. See Evans (1982), pp. 151–170. For criticism of Evans that I largely agree with see Marleen Rozemond, “Evans on De Re Thought” (1994). The details of these issues deserve further development on another occasion.

27. Event perception probably complicates the picture further. I think that seeing a flash of light, or a scattered group of explosions, again requires getting on to the boundedness of either the whole flash or a sufficient number of the individual component events. But I believe that event perception requires further reflection.

28. The view that causation between object and perception is a perceptual category was defended as a thesis in psychology some years ago. See Michotte (1963). There are numerous empirical objections to the theory, and it is no longer taken seriously in psychology. John Searle gave a more apriori argument for the view in *Intentionality* (1983). I criticize his argument in my (1991).

29. I believe that appeals to such metarepresentations in discussions of reference are usually cheap and mistaken. In the present case, the presence of such a metarepresentation is, I think, forced by the sophisticated and somewhat artificial (but still possible) move by the individual of canceling the standard presumption of spatial location generated by the perceptual system. Of course, even in this case, the metarepresentation is not sufficient to specify the referent. Which relevant cause or explanatory factor the referent is is a matter that the individual is usually not going to be able to specify, unless he is a very able philosopher. The general metarepresentation provides only a loose restriction on the reference, a necessary condition, not a sufficient one. The demonstrative element in the thought remains irreducible.

30. This is a form of indexicalism. For discussion of other forms of indexicalism see my “Phenomenality and Reference: Reply to Loar.” See also “The Indexical Strategy: Reply to Owens.” I think that all positions that take all our empirical concepts to be essentially indexical are out of touch with the specificity of our actual conceptual and perceptual representations. I think it beyond serious doubt that our ordinary empirical concepts are not introduced in the way indicated in the text. They are commonly constitutively tied to perception or to other concepts. Would concepts so introduced provide supporting instances for the fourth thesis? The apriori connection between the concept and the concept of an explanatory factor would remain. The introduction, associated as it is with perception, must presume that what the concept applies to has causal properties. If the concept is allowed to depend on the perceptual representations of the introduction, there is the further connection to the concept of spatial location, and any other concepts that categorize limitations on the relevant perceptual reference. I think a thorough discussion of the case would require investigation of conditions that limit what counts as an introduction of a concept—the perceptual and presupposed unifying conditions that enable an explanation to get started.

31. Putnam (1962). Whether Putnam ever intended to hold the thesis in full generality is unclear to me.

32. I will not discuss in detail here some interesting issues involving proper names. I think that we know that if Socrates existed, Socrates was not a transfinite number and was a temporal being. This is not to deny that *some* names could be introduced through interlocution into the repertoire of a recipient (as with the two adults and the child, discussed above) in which there are no conceptual representations available to the individual that restrict what kind of referent is involved. I think that in the case of the most famous Socrates, however, too much lore has accumulated around the name to admit assimilation of this case to the case of the child’s use of a name that is grounded in stipulation by the adults. If the name ‘Socrates’ as we use it began as such a joke about an irrational number, the right conclusion would be that Socrates did not exist (even though an irrational number’s being named ‘Socrates’ got the whole story going). Whether we know this apriori, or know it only by knowing something about the historical lore surrounding the name ‘Socrates’, is open to question. For discussion of effects of accumulated lore on reference, in some cases, see Evans (1973).

33. It is important to remember here that being apriori warranted is not equivalent to being invulnerable to empirical counterconsiderations. Apriori warrant concerns the source of positive support, not sources of possible

overthrow. Thus a belief can be apriori warranted even though it is vulnerable to possible empirical overthrow. The mere fact that someone theorizes that there is no space or time and that it is epistemically possible that this may turn out to be empirically supported does not show that our warrant for certain applications of spatial concepts is not apriori.

34. Normore speculates that I would say that in the “Ur demon world” all our thoughts are about the demon or about ourselves. He holds that Descartes would say that we have no general thoughts at all because there are no natures (p. 9). What I would say depends on a more detailed account of the relation between the demon and us and of how the demon purportedly thinks. I am not committed to disagreeing with Descartes on this matter.

35. For a recent discussion of empirical aspects of this point, see Akins (1996).

36. I take it that Normore is right that simple natures, for Descartes, do not include human or goat bodies. Although the ontological status of ordinary bodies is obscure, it seems to me that Descartes’s satyr example in *Meditation* I is meant to exemplify a primary sort of error. Satyr representations are made up of parts that veridically apply to the simpler natures. The simpler elements one most immediately thinks of (human heads and torsos, goat legs) are not genuinely natures, but can be regarded as such for the sake of illustration. Ultimately the real simple natures are parts of extension.

37. I cite such a case in my “Other Bodies” (1982).

38. One might maintain that with such a simple view of elementary natures and of the ways they relate to one another to form complexes (basically part–whole ways), Descartes can afford to rely on his simple account of reference. Everyone has had causal relations to chunks of matter and to part–whole relations. Assuming that all geometrically possible combinations are innately available to our mathematical intuition, perhaps Descartes can hold that it is safe to assume that we bear causal relations to all the genuine constituents and have access to all the genuine relations needed to form all kinds that we in fact have ideas of. Then my objection would be to his ontology, which I shall discuss shortly.

39. Shuster, (1980); Gaukroger, “Descartes’ Project for a Mathematical Physics,” in Gaukroger (1980). To Descartes’s credit, he came to place less and less emphasis on the role of images in mathematical thinking.

40. Descartes, *Conversations with Burman*, AT X, 160; (1976), p. 23. Cf. *Meditations* VI, AT VIII, 79–80.

41. I believe that representation of most mathematical reality is in principle independent of perception not only for its justification but also for individuation of its content. This is a complex issue that I will not pursue here.

42. See Hacking (1973).

43. Brown (1992), pp. 167–168. Elsewhere Professor Brown has provided evidence that Descartes faked his death in Sweden, emigrated to San Diego for a warmer climate, left there because of an inhospitable intellectual environment in the philosophy department, and moved north to Santa Monica, becoming very fond of beach life. The circumstances in which he allegedly wrote his letter to me are somewhat obscure. Something like the point about the ideas of the sun can be found in *Meditation* III, though I am not confident that the doctrines of the letter and those in the *Meditations* are precisely the same.

44. See my (1986a), where I use the term ‘normative characterizations’ for conceptions, and my (1990).

45. See my (1982). Even if the perceptual concepts were to specify the sun more richly than I think they do, I would see no reason not to say that they are the same. As applied on earth, the visual representation and visual concept would provide false information about the size of the referent; as applied on Twin Earth, it would produce either true information or less false information about its referent. But the information would seem to be the same. The difference in visual referent and the consequent differences in truth-value would depend on indexical differences, not conceptual or perceptual differences.

46. See my (1973). If one thought, as I do not, that proper names of different objects are mere homonyms, then the difference in name-concepts would trivially derive from the difference in their individual referents. Again, no associated descriptive material is encoded in the concept associated with the name.

47. Descartes’s views of reasoning strongly suggest that he thinks that clear and distinct ideas are not complex. At any rate he seems to make little use of formal compositional relations in his account of scientific or mathematical reasoning. And he thinks that reasoning that hinges on formal relations among thoughts plays no significant or essential role in scientific discovery, even in the mathematical sciences. This suggests that structural relations among ideas as well as propositions are irrelevant to reasoning, hence not a significant part of his theory.

Cf. Ian Hacking (1973). Thus Descartes is in a position to take a sympathetic view of my conception of most concepts. The differences lie in his view that perceptual concepts, and indeed most of the other ordinary macro-concepts of the world, are confused or infected with material error, and thus not a proper basis for scientific inference. This view, as I have said, seems a piece of hubris with no sound grounding.

48. I wrote in my first “premise” (in 1986b), “our perceptual experience represents or is about objects, properties, and relations that are *objective*. That is to say, their nature (or essential character) is independent of any one person’s actions, dispositions, or mental phenomena.” Later I glossed this premise as “we make veridical perceptual reference to objective entities.” I wrote in my second “premise,” “Representations specify such objective entities as blobs, bars, boundaries, convexity, cones, rough texturedness, being farther from x than from y ; and they specify them *as* blobs, bars, boundaries, and so on.” Both of these points *assume* that perceptual reference is veridical and is to mind-independent entities.

49. See e.g. my (1982). As I indicate in “Some Remarks about Scepticism: Reply to Stroud,” this is an issue that I hope to say more about.

50. One can use ‘*perceptual* representation’ to apply only to representations that have sometimes succeeded in applying to kinds or properties that they purport to apply to. We could perhaps mistake a representation as a perceptual representation of something outside us when the kind or property represented is not outside us. We could mistake a presentation of a sensory quality for a perceptual representation. If the term ‘perceptual representation’ is used in the way just indicated, then the issue for the skeptic is whether we know which representations are perceptual and which perceptual representations are of objective kinds. This is why I shall use ‘purported perceptual representation’ in what follows. Of course, throughout, I am not discussing scepticism about particular perceptual experiences, but about the applicability of perceptual representations to corresponding kinds.

51. See my (1996), note 11.

52. A natural variant of the thought experiment I give regarding sofas in my (1986a) shows this. The individual could wonder whether sofas are really religious artifacts rather than articles to be sat on even if she relied on no one to tell her the true “nature” of sofas.

53. See my (1979), and (1989).

54. I make this point in my (1989).

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