

René Descartes's *Meditations on First Philosophy*

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Published online: 9 October 2014
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Keywords Descartes · Psychological doubt · *Cogito* · Cartesian circle · Impelled assent · Eternal truths · Innate ideas · Representationalism · Mind-body dualism · Moore's paradox

The major goal of René Descartes's rich and penetrating recent book, *Meditations on First Philosophy*, is to develop a methodology for the discovery of the truth, more specifically, a methodology that accommodates the dictates of a mathematical physics for our view of physical reality. Such a methodology must accordingly deal with and seek to defuse the apparent conflict between a mathematical physics and our commonsense picture of things, a conflict that continues to pose difficult challenges. Though much in the book is devoted to an account of the mind, that focus results from the broader goal of finding a methodology for discovery that will deliver an overall picture of reality consonant with a mathematical physics.

Much that Descartes says in this book may strike many readers as extravagant and implausible, and perhaps hardly worth serious consideration. But there is a line of argument one can extract that is challenging and often compelling, even if not in the end wholly convincing. The goal of this review is to cut through the superficial implausibility to the challenging underlying arguments and positions.¹

The book is cast as a description of actual thought processes that the author engages in over 6 successive days, along with a pressing injunction to the reader to engage in those same thought processes; hence the reference in the book and chapter titles to meditations. The emphasis on actual thought

processes is not a mere stylistic conceit, but is crucial for the methodology Descartes believes is needed for discovering what is true about both physical and mental reality.

These thought processes begin with a series of doubts that Descartes describes himself as engaging in and enjoins the reader to undertake as well. The doubting described there will strike most readers as so outlandish as to be not worth taking seriously. But they underwrite an important methodological purpose. A careful reading makes clear that Descartes's concern there is not whether the things he doubts might turn out not to be true, nor even that we might turn out not to have good epistemological grounds for believing them. Rather, the doubting of Meditation I is an exploration of how much it is psychologically possible to doubt if one puts as much mental effort into the doubting as one can.

This doubting begins with the observation that our senses sometimes mislead us about the nature of physical objects that we sense. Since there seems to be no reliable mark in the sensing itself that tells us when it is accurate, it may not take much psychological effort to get oneself to doubt whether the deliverances of the senses, no matter how mundane, are ever reliable. That doubting concerns the properties we sense physical objects to have, but Descartes quickly turns his doubting to the very existence of those objects. When we dream, he provisionally urges, there is no sure mark that we are dreaming; so there is no sure mark in waking experience that we are not dreaming. And if we were always dreaming, we would have no reason to believe that the objects that appear to us exist. So we can induce in ourselves, perhaps with rather more mental effort than in the first case, a doubt that any such objects do exist.

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¹ Occasional references will be made when useful to subsequent communications by Descartes intended to clarify the views put forth in the book.

The third stage of doubting is yet more radical, but also reveals the most about Descartes's purposes. Suppose there is a being conceived on the model of an all-powerful deity, but unlike such a deity as usually conceived, this being is malevolent. Being malevolent but all powerful, Descartes urges that such a being could bring "it about that there is no earth, no sky, no extended thing, no shape, no size, no place, while at the same time ensuring that all these things appear to me to exist just as they do now" (1964–1975, VII, 21).² So merely by acknowledging that such a malevolent, all-powerful being is possible, we should be able, with suitably heroic mental effort, to get ourselves to doubt not merely the existence of physical objects because of dreaming, but the existence even of the spatial properties that such physical objects are thought to exhibit.

In addition, since we sometimes err in mathematical calculations and there is no mark internal to the process of calculating that reliably indicates error, we can doubt, again with gigantic mental effort, that we are ever right in such calculations. And the malevolent, all-powerful could again deceive us here. Mathematics and spatial properties both fall to the doubting Descartes enjoins us to make a Herculean effort to engage in.

The focus on doubting may mislead readers into thinking that Descartes's project is to construct a response to traditional epistemological skepticism. But that is plainly not so. For one thing, when the doubts of Meditation I are dispelled in Meditation VI, it is by the flimsiest of considerations, which would be wholly irrelevant to answering skeptical worries. In Meditation VI Descartes casually notes, for example, that it is after all perfectly clear when we are dreaming and when not, so that doubting based on the possibility of always dreaming has no force. The concern is not to meet skeptical worries, but to discover just how much it is psychologically possible to doubt given as much mental effort in doubting as we can muster. And the purpose of that, it will emerge, is to develop a satisfactory methodology for the discovery of the truth.

The extreme doubting of Meditation I comes to an abrupt halt at the outset of Meditation II, when Descartes takes himself to come upon something that it is not psychologically possible to doubt. No matter how much mental effort one brings to bear, one cannot, he urges, doubt that one exists. "This proposition, *I am, I exist*, is necessarily true whenever it is put forward by me or conceived in my mind" (AT VII 25).

One can of course readily doubt the existence of somebody described in a way that happens to pick oneself out uniquely; Descartes could easily doubt that Descartes exists if he is unaware that he is Descartes. So the

proposition he claims is psychologically impossible to doubt must refer to oneself by the so-called essential indexical.³

The reader may wonder just what necessity Descartes is claiming here; the proposition that one exists is plainly contingent even when one thinks or says that one exists. Meditation V makes clear that Descartes sees necessity and possibility as a matter of what our mental nature permits.⁴ Descartes is claiming that our mental nature precludes doubting that we exist; the relevant modality is simply psychological impossibility. The extravagant doubting of Meditation I that Descartes holds we can engage in given suitably great effort lies in stark contrast, he claims, to the Meditation II proposition that is not psychologically possible to doubt no matter how great the mental effort one exerts.

Descartes ties the psychological impossibility of thinking one doesn't exist to a corresponding psychological impossibility of thinking that one isn't thinking, and concludes that thinking is the essence of the thing whose existence is psychologically impossible to doubt. Thinking here is construed broadly, as the holding of any mental attitude towards an intentional content. The thing whose existence one cannot doubt is a thinking thing. And taking essence to be simply what is needed to exist, rather than the traditional idea of essence as what it is for something to be of a particular kind, Descartes concludes that the essence of the thing whose existence one cannot doubt is thinking.

Descartes's point about the psychological impossibility of doubting one's existence bears a noteworthy kinship to Moore's paradox, the observation that one cannot perform a speech act of the form, 'It's raining but I don't think it's raining'.⁵ It can readily be true that one thinks it isn't raining even though it is, but despite that one cannot perform any coherent single speech act of asserting both things.

Similarly, it's by no means impossible for one not to exist; indeed it was for each of us once true. Still, it seems impossible coherently to think or assert that one doesn't. In both cases the difficulty is not due to anything pertaining to the possible truth of the intentional content, but due rather to the conditions for performing a coherent mental act or speech act.

² Translations are from Descartes (1984–1991). References to Descartes are given as volume and page numbers in (1964–1975), hereafter 'AT', which are provided in (1984–1991).

³ See Perry (1979); also sometimes called the indirect reflexive (Anscombe 1975). This will figure in connection with Meditation VI.

⁴ Thus "my thought does not impose any necessity on things" (AT VII 66). And the examples of necessity that Descartes gives in Meditation V all concern what it is necessary for one to think or not thinking, i.e., what thoughts one's mental nature determines one to have or precludes one from having.

⁵ Moore (1942, p. 543; 1944, p. 204; 1993). There are other forms of Moore's paradox, some involving mental attitudes that are not assertoric (Rosenthal 2005, 257–258). But this example is sufficient for present purposes. The term 'Moore's paradox' first appears in Wittgenstein (1953, II, §x).

One can readily explain the impossibility of coherently saying something of the form, 'It's raining but I don't think it's raining' by appeal to the well-entrenched folk view that in asserting something one expresses some thought that one has. So the second conjunct denies that one has the thought that the first conjunct purports to express. It is an aspect of our mental nature that bears on the relation of thought to speech that blocks the assertion of the whole sentence. The sentence is not contradictory, but one conjunct denies a condition that's required to assert the other.

One might invoke similar considerations to explain why it seems one cannot think or assert that one doesn't exist. But though Descartes's explanation also rests on an aspect of our mental nature, it proceeds along somewhat different lines. He hypothesizes that the psychological impossibility of doubt that one exists or thinks is due to the clear and distinct nature of the intentional content that one exists or, relatedly, that one thinks: "In this first item of knowledge there is simply a clear and distinct perception of what I am asserting" (AT VII 35). One cannot doubt that one exists or that one thinks because those intentional contents are clear and distinct.

By contrast, the intentional contents that he enjoins us to doubt in Meditation I are hardly clear and distinct. The contrast between being able to doubt those contents with sufficiently Herculean effort and being unable to doubt that one exists and thinks no matter how great the mental effort is intended to show that "my [mental] nature is such that so long as I perceive something very clearly and distinctly I cannot but believe it to be true" (Meditation V, AT VII 69). One's mental nature is responsible for what one can and cannot think or doubt.

Since Descartes presents one's own existence as a thinking thing as the first thing one cannot doubt, one might misconstrue Descartes's project as one of seeking to derive all knowledge from self-knowledge. But Descartes is not looking for a first principle from which to deduce all other truths, but rather a method of discovering truths. The Meditation I doubting is important not for showing that we are actually uncertain about the things we seem able there to doubt.⁶ Rather, the doubting is important in revealing that what matters in getting at the truth is whether an intentional content is clear and distinct. If a content is clear and distinct, we cannot doubt it no matter how much effort we exert; we are mentally impelled to assent to that content. Given our mental nature, we cannot "but believe it to be true" (AT VII 69).

If this is so, it has important implications for methodology in discovering what is true. Suppose Descartes is right; whenever a content is clear and distinct, we cannot

help but assent to it, and whenever a content lacks clarity or distinctness, we can doubt it. And suppose further that not all clear and distinct contents are true. Our mental nature would then be such as to impel us to assent to some things that are untrue. Our mental nature would not be geared to the reliable discovery of the truth.

It follows that if our mental nature does impel assent to clear and distinct contents and that mental nature does permit the reliable discovery of the truth, then no clear and distinct contents are untrue. And that leads Descartes at the outset of Meditation III to hypothesize "a general rule that whatever I perceive very clearly and distinctly is true" (AT VII 35). Descartes's apparent discovery in Meditations I and II that we are impelled to assent to every clear and distinct content suggests the hypothesis that all clear and distinct contents are true. The contents we are impelled to assent to, those we cannot doubt no matter how much mental effort we put into it, coincide with the contents that are true.

This is what Descartes sees as the striking methodological upshot of Meditations I and II. When we frame wholesale doubts because there is no mark internal to sensing of when our senses are deceiving us or whether we are dreaming, we are not conceiving of things clearly and distinctly. And Descartes accordingly concludes in Meditation VI that such wholesale doubting is on that account misguided.

One might not find this at all credible. Don't we often seem to find ourselves thinking clear and distinct contents that turn out not to be true? Descartes thinks not. Mathematics is the best model for Descartes's methodological conviction here. We clearly and distinctly conceive that $2 + 3 = 5$, and it arguably does seem psychologically impossible to affirm mentally that it isn't, or that $2 + 5 = 9$ and the like. Make as great an effort as one likes; it subjectively seems impossible to mentally affirm such things. And it's natural enough to put this by saying that our mental nature seems to preclude it.

It also seems psychologically impossible to conceive in a clear and distinct way that $2 + 5 = 9$; we can utter the words, but nonetheless we seem unable to get a clear conceptual handle on what that content could be. Such arithmetic falsehoods provide a toy model for how one might regard the clarity and distinctness of an intentional content as a reliable guide to its being true. We seem mentally so constituted as to be unable to have a clear and distinct conception of arithmetic falsehoods, and it can seem tempting to extrapolate to mathematical falsehoods in general.

It can in any case be difficult with complicated mathematical matters to get the intentional contents of our thoughts to be clear and distinct. But Descartes's hypothesis is that once we succeed in clarifying the contents of

⁶ As Descartes in effect notes in Meditation II: "[O]ne who wants to achieve knowledge above the ordinary level should feel ashamed at having taken ordinary ways of talking as a basis for doubt" (AT VII 32).

our thoughts and avoiding any conflation of one thing with another, the resulting contents are a reliable guide to the truth. We operate in mathematical discovery as though clear and distinct conceiving will deliver truth. We may then seek a proof of what we have discovered, but the method of initially discovering mathematical truth is to make our conceptions clear and distinct

That may be good for mathematics, but how about other areas of knowledge? If a mathematical physics is true of physical reality, clear and distinct contents about anything in physical reality should be couched in mathematical terms. Thus Descartes argues in Meditation II that extendedness alone is the essence of everything physical. As a bit of wax melts it continues to exist and so retains its identity despite changing in respect of every property except that of having extension.

Being extended, which demands description in exclusively geometrical terms, is, Descartes argues, the only property essential to the existence and persisting identity of physical objects. But ordinary ways of describing physical objects lead us astray; “I am almost tricked by ordinary ways of talking” (AT VII 32). It is properties such as color, sound, and smell, which loom so large in those ordinary ways of talking, that mislead one into thinking that physical objects have natures or essences that we cannot capture in strictly mathematical terms.

Descartes’s methodological device of relying on clear and distinct contents accordingly supports the idea that we must describe physical reality exclusively in the mathematical terms used in physics, eschewing all appeal to color, sound, and other properties that seem to resist mathematical treatment. In Galileo’s vivid metaphor, the book of nature is “written in the language of mathematics” (1623/1957, p. 238). The senses deceive us is by inviting reliance on properties special to a single sense modality, the Aristotelian proper sensibles, which, at least as they appear to us in conscious perception, resist mathematical description.

Mathematical discovery bears at best only on physical reality; what about minds and mental functioning? It is inviting to hold something similar there, that when we are aware of our mental goings on in a clear and distinct way, it is psychologically difficult if possible at all not to regard such subjective awareness to be dispositive about those mental goings on. So Descartes’s general rule that clear and distinct contents are true may be no less inviting for mental than for mathematical matters.

And many today do see our subjective awareness of mental occurrences as reliable about their nature,⁷ though

typically without Descartes’s more cautious constraint that the relevant subjective awareness must be clear and distinct, and it plainly isn’t always. Moreover, when the contents of our thoughts are unclear and indistinct, our subjective awareness of those thoughts is likely to be in some measure inaccurate.

One can see Descartes’s general rule as reasonable given his view that our mental natures impel assent to clear and distinct contents, and that doctrine of impelled assent as perhaps reasonable at least for purely mathematical matters, and possibly even for access to our own minds. But Descartes advances a far more elaborate and difficult argument in support of the general rule, one that may seem to challenge clear understanding.

Meditation I envisaged a malevolent, all-powerful being that could deceive us by having it be that there are no geometrical properties of size, shape, and location but also making it seem to us that physical objects such spatial properties. But one could question whether it is psychologically possible to conceive clearly and distinctly of a being that is at once all powerful and malevolent. Descartes’s difficult argument in Meditation III is not only that it is not, but that there is instead an all-powerful deity that, being all benevolent, made our mental nature be such that whatever clear and distinct contents we can form are true.

Descartes’s argument here is evidently addressed to those with antecedent theist sympathies. But there is reason to think that the argument, as well as everything else Descartes says, can be understood independent of any appeal to a deity. Indeed, Descartes hints as much. Thus in Meditation VI he remarks that “if nature is considered in its general aspect, then I understand by the term nothing other than God himself, or the ordered system of created things established by God” (AT VII 80). Descartes in effect identifies God with nature, in a way strikingly reminiscent of the seventeenth-century rationalist, Spinoza (1677/1985, vol. I, Book I).

Descartes does not stress this equivalence of God with “nature is considered in its general aspect,” and indeed mentions it almost in passing, and toward the end of a book that earlier has made frequent, seemingly pivotal appeal to God. Evidently Descartes wanted to appeal to the theists left among us. But the equivalence has important implications for how best to interpret those earlier discussions.

And casting the argument in terms of what kind of all-powerful being one can clearly and distinctly conceive of

⁷ One reason it seems tempting to see subjective awareness as decisive about mental occurrences is that there seems to be no subjective way to correct such subjective awareness. But that

Footnote 7 continued

question-beggingly assumes that subjective awareness is the only way to learn about an individual’s mental states, and we have do also have third-person ways to determine what mental states an individual is in.

has a signal disadvantage. An all-powerful being that is also all benevolent would not, Descartes urges, let contents we can form clearly and distinctly be untrue, since then we would have no reliable way to discover the truth. But we know that an all-powerful being must be all benevolent only because we cannot clearly and distinctly conceive otherwise. Cast in terms of such a deity, the argument is evidently circular. The appeal to such a deity rests on clear and distinct contents' being true, which in turn rests on the appeal to that deity.

But given the equivalence of God with nature, we can instead cast the argument simply in terms of our mental nature. The argument for the general rule is then simply that our being impelled to assent to clear and distinct contents, which is an aspect of our mental nature, would impair our ability to get at the truth unless clear and distinct contents are always true. And we can see Descartes's support for this as resting on the extrapolation from mathematics, in which we can arguably take clear and distinct conception to guarantee truth. And extrapolating from mathematics to knowledge in general helps in turn clear the way for the view of physical reality as describable in exclusively mathematical terms.⁸ The equivalence of God and nature points to a way of avoiding circularity in arguing for the general rule.

One might still contest the general rule. Unyielding psychological conviction is by no means a reliable guide to the truth about things in general, and is hardly infallible even in mathematics. Moreover, it can be difficult at best to know when one's intentional contents are clear and distinct, and Descartes's hypothesis that we can test clarity and distinctness by whether it is psychologically possible to doubt a particular content is unlikely to deliver anything reliable. But construed not in terms of God but directly in terms of our mental nature, at least the argument for the general rule is not circular.

The malevolent quasi-deity envisaged in Meditation I, being all powerful, can deceive us about anything except whether one exists and thinks. Happily we cannot,

⁸ And there is reason to think that this way of arguing for the general rule is, despite the appeal to a deity in Meditation III, what Descartes actually has in mind. Thus he writes in this connection to his colleague, Marin Mersenne: "What is it to us that someone may make out that the perception [clear and distinct conception] whose truth we are so convinced of may appear false to God or an angel, so that it is, absolutely speaking, false? ... For the supposition which we are making here is of a conviction so firm that it is [psychologically] quite incapable of being destroyed ... which is clearly the same as the most perfect certainty" (Second Replies, AT VII 145). The appeal to God is evidently superfluous; Descartes's argument is at bottom simply that rejecting contents in which we have the kind of unshakable psychological conviction that clear and distinct contents deliver would preclude our ever discovering the truth about anything.

Descartes argues, clearly and distinctly conceive of an all-powerful being that is not also omnibenevolent. But it is worth pausing over what Descartes sees an all-powerful being as able to do.

Such a being can make it be not just that nothing has geometrical properties, but that there simply are no geometrical properties, "no shape, no size, no place." And without geometrical properties, geometry itself would be false. Such a being would have the power to determine what is true in mathematics. And if the omnipotence of the being described in Meditation I encompasses such extreme power, the omnipotence of a benevolent, all-powerful deity would be no less.

This conception of divine power is made explicit in a letter to Descartes's colleague, Denis Mesland. Since "the power of God cannot have any limits," Descartes concludes that God could have "made it false that the three angles of a triangle were equal to two right angles, or in general that contradictories could not be true together" (AT IV 118; 1984–1991, vol. III). God's power determines what is true even in logic and mathematics. The possibilities inherent in that power have no limit.

But as Descartes stresses in Meditation IV, our mental nature is such that we cannot form intentional contents that conflict with the way God has determined things to be. Whenever it seems to us that we are conceiving of something and that conception conflicts with the way God has determined things to be, we are conceiving unclearly and indistinctly; we are not forming the intentional content that it superficially seems to us we are. Similarly, writing to Mesland: "[O]ur mind is finite and so created as to be able to conceive as possible the things which God has wished to be in fact possible, but not to be able to conceive as possible things which God could have made possible, but which he has nevertheless wished to make impossible" (AT IV 118).

Again, the equivalence of God with nature allows us to cast things without appeal to God. What is possible, Descartes makes clear in Meditation V, is a matter of our mental nature; all possibility is psychological possibility. So construed, it is not possible for contradictories to be jointly true, nor mathematical truths different from what they are. But independent of the narrow possibility determined by what clear and distinct contents we can form, anything is possible, including contradictories' being jointly true and what we know as mathematical truths' being false. The possibility that is independent of our mental nature far outstrips what we can conceive and what clear and distinct intentional contents we can form.⁹

⁹ Such broad possibility echoes the revisability of logic envisaged in Quine (1980), esp. §6.

This results in an unusual position on the hotly contested question of the relation between conceivability and possibility. While some, such as Saul Kripke, see conceivability as a guide to possibility,¹⁰ others see conceivability as extending beyond the merely possible. Descartes sees a kind of possibility that coincides with what we can clearly and distinctly conceive, but also countenances a kind of possibility that far outstrips what it is within our mental nature to conceive. He sees clear and distinct conceivability as revealing what's true and as reflecting what is psychologically possible for us, but not what is possible independent of our mental nature.

Locke had disparaged the view that some ideas are innate to the human mind as the claim as “truths imprinted on the Soul,” and others have taken Locke's dismissal as settling the question.¹¹ Descartes's contention that the ability to form intentional contents is limited provides a richer and less readily dismissed version of the claim that some ideas are innate. If one cannot form the intentional content that $2 + 3 \neq 5$, then it is psychologically impossible to think that content; we cannot mentally affirm a content that we cannot even form. And since it is also psychologically impossible to mentally affirm transparent contradictions, our mental nature impels us to affirm that $2 + 3 = 5$. The intentional content that $2 + 3 = 5$ is in this way an innate idea, that is, an innate intentional content. Descartes's claim that some ideas are innate hinges not on their being imprinted on the mind, but on limits on our mental ability to form particular intentional contents, as he puts it in Meditation IV, limits on our faculty of understanding.

It is not clear how to evaluate the claim that there are such limits on the human ability to form intentional contents. But we can readily imagine that creatures less intellectually capable than us, perhaps our nearest primate cousins, can form and mentally affirm intentional contents but are more limited than we are in the range of intentional contents they can form and mentally affirm. So the ability to form some contents does not obviously imply an absence of limits on what contents one can form. So perhaps we ourselves are limited in the range of contents we can form, and perhaps creatures elsewhere have a capacity to do so that exceeds our own.¹²

¹⁰ Kripke (1980). Cf. Hume: “'Tis an establish'd maxim in metaphysics, that whatever the mind clearly conceives includes the idea of possible existence, or in other words, that nothing we imagine is absolutely impossible” (1739/2000, p. 26.). For more, see Gendler and Hawthorne (2002).

¹¹ E.g., Goodman (1967). See Locke (1700/1975, I, ii, 5).

¹² Noam Chomsky has urged, independent of though related to his claims about Universal Grammar, that we are limited in what intentional contents we can form in various areas, such as “knowledge ... of music, of the behavior of objects, of social structure, of

Evaluating the claim about limits faces difficulty even in connection with specific contents. It might subjectively seem that one can form the intentional content that $2 + 3 \neq 5$, and perhaps even intentional contents that are transparently contradictory. As noted earlier, Descartes's Meditation IV claim that the faculty of understanding is limited in what contents it can form is keyed to those contents' being clear and distinct. If it seems subjectively that one has an assertoric thought that $2 + 3 \neq 5$, he is claiming, the content one is mentally affirming cannot be that content, but must be another. One is in such cases simply wrong about the content of one's thought.

Here Descartes's thinking echoes Kripke's claim that if one seems subjectively to think that heat can occur in the absence of mean molecular kinetic energy, one's thought is not actually about heat, but is about something else, for example, the sensation of heat (*Naming and Necessity*, 150–151). Unclear and indistinct intentional contents can masquerade as intentional contents that, on Descartes's theory of innate ideas, our mental nature is unable to form.

Thinking involves two aspects, intentional content and the mental attitude one holds towards that content, such as mentally affirming or denying, doubting, wondering, and the like. Descartes speaks in Meditation IV of the ability to form intentional contents as the faculty of understanding, and the ability to hold mental attitudes as the faculty of the will. And though he sees our ability to form intentional contents as limited, our ability to attach mental attitudes to contents is on his view unlimited. We can attach a mental attitude to any intentional content we can form. Hence the psychological possibility of the extravagant doubting of Meditation I, though those contents are not clear and distinct. It is because we can form contents that aren't clear and distinct and hold attitudes toward those contents that we come to have erroneous thoughts (Rosenthal 1986).

But there is a difficulty for Descartes's view that our ability to form intentional contents is limited. Though one may find oneself unable mentally to affirm that $2 + 3 \neq 5$, we have no difficulty in mentally denying it. Indeed, we can readily deny that we do not exist and that we aren't thinking. So we must be able to form the content that we can mentally deny. It is unclear that Descartes has any satisfactory answer to this difficulty. And we can extrapolate to argue that a creature that can form any intentional contents at all will face no difficulty in forming any content whatsoever, at least given sufficient intelligence and

Footnote 12 continued
human characteristics, etc.” (1980a, p. 15). See also Chomsky (1980b).

time.¹³ The difficulty in doing so would not be inherent in the ability to form intentional contents.

Descartes's general rule and his doctrines of impelled assent and innate ideas are most appealing as applied to mathematical truths. Mathematical judgments abstract from the input from the senses, especially input that is special to one or another of the sensory modalities. But some of our judgments results from sensory input. So when in Meditation VI Descartes rejects the wholesale Meditation I doubts as based on unclear and indistinct contents, he needs an explanation of exactly how sensory input functions and how it leads to error.

Descartes assumes that the senses, when functioning properly, "produce the one sensation which, of all possible sensations, is most especially and most frequently conducive to the preservation of" the person (AT VII 87).¹⁴ But we tend to treat such sensory inputs instead "as reliable touchstones for immediate judgements about the essential nature of the bodies located outside us" (AT VII 83). And this leads to those judgments having unclear and indistinct contents. "[T]he chief and most common mistake which is to be found here consists in my judging that the ideas which are in me resemble, or conform to, things located outside me" (AT VII 37). Misinterpreting sensory input in this way leads to judgments whose content of is unclear and indistinct, and so erroneous. So in Meditation VI Descartes seeks to reinterpret judgments resulting from sensory input so as to avoid that error. The methodological focus on mathematical thinking facilitates that reinterpretation.

Concern about the role of sensory input raises the question of just what such input consists in. Descartes concluded in Meditation II that he is a thing that thinks. Does thinking include sensing, that is, qualitative mental states? Or is there on his view no qualitative mentality?

In giving examples of thinking in Meditation II, Descartes mentions seeing and hearing, which are typically taken to involve some mental qualitative character in addition to intentional content. But he immediately qualifies those examples as merely seeming to see and hear, and writes that "what is called 'having a sensory perception' is strictly just this [seeming to see or hear], and in this restricted sense of the term it is simply thinking" (AT VII 29). Descartes is evidently pressing the view often called representationalism or intentionalism, that mental occurrences are all exclusively intentional and devoid of mental

qualitative character.¹⁵ This denial of qualitative mentality is not required by Descartes's project of defending a view of physical reality cast in exclusively mathematical terms, but it fits comfortably with that goal.

Descartes's view that one cannot doubt that one thinks might suggest he holds that the mind is transparent to itself. But the transparency he endorses is limited. One's ideas are not all clear and distinct; so the intentional contents of one's thoughts are not all transparent to one. The transparency he sees is in respect of the mental attitude one holds toward an intentional content. One is aware of any powers one has as a thinking thing (AT VII 49), so that it is only "operations of the mind" that cannot occur without one's being aware of them.¹⁶ What is transparent to the mind is solely what mental attitude it is that one holds towards some intentional content. This suggests a special tie between mental attitudes and consciousness, presumably because whenever one holds a particular mental attitude toward a content one cannot clearly and distinctly doubt that one does. Still, one might wish that Descartes had expanded on the connection he sees between consciousness and mental attitude and the reasons for it.

Descartes recognizes that his conclusion in Meditation II that he is a thinking thing cannot deliver mind-body dualism, since for all he has shown there a thinking thing might also be a bodily thing. But he prepares us for mind-body dualism he later argues for by with his claim toward the end of that Meditation that extendedness alone is the essence of all bodily things; as wax melts it retains its identity despite changing in respect of every property except its having extension. It is only in Meditation VI that he argues that a thinking thing cannot also be extended.

One argument is that the clear and distinct conception of bodily powers and states "includes extension, but does not any intellectual act whatsoever" (AT VII 79). That stems from the wax argument that the only property of bodily objects is being extended. So intellectual acts, that is, thinking, must be properties of something distinct from any extended thing. This argument resembles other conceivability arguments for mind-body dualism, which construe conceivability as a reliable guide to possibility, as in

¹⁵ For other defenses of representationalism see Harman (1990) and Byrne (2001).

In the same spirit Descartes writes to Mersenne, replying to an unknown objector, that we use the term 'sensation' in three ways, to refer to nonmental, bodily states, to refer to thoughts about those states, and to refer to thoughts about the external objects we take to cause those states (AT VII 436-7). 'Sensation', he urges, refers to no mental state not characterized in exclusively intentional terms.

Accordingly, Descartes's term 'idea' refers only to intentional contents, despite what some examples of ideas early in Meditation III (AT VII 38) might seem to suggest, since on his intentionalist view there are no other representational mental occurrences.

¹⁶ As he writes to his colleague, Antoine Arnaud (AT VII 232).

¹³ Linguistic ability doubtless greatly enhances the range of intentional contents one can form, though arguably by constructing new contents rather than by directly affecting some content-forming faculty.

¹⁴ Similarly, "the proper purpose of sensory perceptions given me by nature [that is, given my mental nature] is simply to inform the mind of what is beneficial or harmful for the ... [person]; and to this extent they are sufficiently clear and distinct" (AT VII 83).

Kripke (1980, 144–155). And since clear and distinct conception is on Descartes's view a reliable guide to truth, his conceivability argument is more direct than others. Nonetheless, since Descartes also acknowledges a kind of possibility for which conceivability is no guide whatsoever, this argument for mind–body dualism will strike many as less than fully satisfactory.

But Descartes has another argument for the mind's being distinct from anything bodily. Anything bodily is extended, and anything extended can be divided into things that are themselves extended. So anything bodily is indefinitely divisible.¹⁷ By contrast, the mind seems incapable of being divided in any way at all. A mind, it seems, cannot be divided into parts each of which is a mind, and many would agree with Descartes that minds cannot be divided into parts of any sort.

The principal reason to reject the possibility of dividing a mind doubtless stems from the subjective impression of unity that every conscious mind seems to exhibit. But as Descartes in effect concedes in connection with unclear and indistinct ideas, not all subjective impressions are reliable. Descartes may see independent substantiation for the impression of unity in the proposition that he found in Meditation II he cannot doubt, since that proposition must be cast in terms of the first-person essential indexical: I am, I exist, I think. And it may seem that since these essential indexicals refer to oneself as such, the need for the essential indexical guarantees mental unity.

But it might be that the occurrence of the essentially indexical "I" in connection with each mental act refers to a distinct self, as such. The essential indexical cannot by itself deliver unity of mind or consciousness. And it begs the question at hand simply to posit that the "I" in thought refers to the same thing from one occasion to the next (Rosenthal 2012, esp. §2). Perhaps Descartes takes the transparency that applies to mental attitudes to deliver such unity, but it's again unclear how any such transparency can carry over from one mental act to another.

Still, even if we cannot preclude the possibility that the mind is divisible into individual mental acts, so that each mind consists simply of a collection of mental states each of which can stand on its own, a version of the divisibility argument nonetheless goes through. Even if minds are thus divisible, they are not infinitely so, as extended things are. Suppose that minds are divisible into stand-alone mental states; those states are not in turn divisible into parts that are themselves mental states. And even if we regarded the mental attitude and content of intentional states as parts,

¹⁷ Conceivability would figure here too if there are physical atoms, since the argument would then rest on conceivable infinite divisibility. Descartes rejects physical atomism, since extendedness in its nature allows infinite divisibility and bodily objects have no properties other than being extended.

mental attitudes are not divisible at all and content would at best not be divisible beyond its component concepts. So something close to Descartes's divisibility argument, even if not ultimately convincing, seems more compelling than his appeal to conceivability, and arguably more so than any conceivability argument.

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