

Contingent necessary truths

Philipp Blum

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Abstract

I will reassess the reasons Descartes gives for the startling claims that it may be rational to doubt necessary truths and that such truths are, in some sense, ultimately contingent. I argue that these two interrelated tenets provide the background to, and an independent justification, of Descartes' method of doubt in the first *Meditation*. Understanding maximal doubt as doubt *per impossibile* allows for a way of establishing the so-called truth-rule independently of the later proof of God's veracity. This interpretation squares the Cartesian Circle: the *Cogito* is prior in the analytical order; God is prior in the synthetical order. It also identifies a – in my view interesting, fruitful and unduly neglected – sense in which modal truths may defensibly be said to be contingent.

1 Descartes' project and its major difficulty

Descartes famously held that God could have made false necessary truths like those of mathematics, logic and metaphysics.¹ Even more famously, he staged a three-step sceptical argument in the first *Meditation* at the end of which its proponent, the first-person narrator of the *Meditations* (whom I will call “the Cartesian thinker” to distinguish her from the historical Descartes), is, or at least seems to be, rationally doubting everything, including mathematical, logical and metaphysical truths, only to establish a little later the most certain and paradigmatically knowable proposition, namely that she exists. It is a controversially debated question whether this procedure is consistent: if all eternal truths can rationally be doubted, then the *Cogito* is not indubitable; if it is, then there is at least one truth God (or an evil demon) could not have made false. The question of relative priority concerns both ontology and epistemology:

- What is the first principle of the Cartesian system: the existence of God or the existence of the Cartesian thinker?
- What is the foundation of all our knowledge: God's guarantee of the truth-rule or the rejection of the evil demon hypothesis through the *Cogito*?

Briefly put, my answer is that Descartes distinguishes two kinds of priority, in relation to what he calls the “analytic” and the “synthetic” methods respectively. In the analytic order, the *Cogito* is the first truth, and the *res cogitans* the existence of which it proves is the first being; in the synthetic order, however, it is God and His veracity which are prior to everything else.

The question of priority is of great importance for an evaluation of what has been called the *Cartesian circle*. This is the fallacy attributed to Descartes of not distinguishing sufficiently clearly epistemic from metaphysical modality and inferring illegitimately the latter kind of possibility from the former. It consists in the charge of having produced an argument along the following lines:

- (i) I clearly and distinctly perceive that the idea I have of God implies His existence.
- (ii) Whatever I clearly and distinctly perceive is true.
- (iii) So God exists if I have an idea of Him.

1. In my discussion of Descartes' “voluntarism” (which others have called his “creationism” or his “modalism”) I will make abstraction from its theological ramifications. I also refrain from making a terminological distinction between “eternal” and “necessary” truths.

The problem with this argument is that, on Descartes' own terms, the second premiss, the so-called "truth-rule" – like every other true proposition – depends on God's will and existence. Descartes therefore seems to be committed to the following two claims:²

- (a) I can be certain that whatever I perceive clearly and distinctly is true only if I first am certain that God exists and is not a deceiver.
- (b) I can be certain that God exists and is not a deceiver only if I first am certain that whatever I perceive clearly and distinctly is true.

The combination of the two claims entails that I cannot be certain of either the truth-rule or of God's existence. Like the so-called 'Memory Interpretation' of Doney (1955) and contrary to Gewirth (1941, 1970), Feldman (1975), van Cleve (1979) and many others, I propose to deny (a). Unlike the memory interpretation and its more recent descendant – what Loeb (1992: 201) calls the "psychological interpretation" –, however, I do not want to restrict God's guarantee to truths about the past nor adopt a very weak reading of the truth-rule as establishing only psychological inability to doubt. On my interpretation, the truth rule concerns truths that are *in themselves* clear and distinct and that can therefore be doubted only *per impossibile*. That doubt concerning them is doubt *per impossibile* is shown by the *Cogito* and the *Cogito* itself thus suffices to establish the truth of the truth-rule (its applicability in concrete cases is another matter): truths that are by themselves clear and distinct just cannot be false. *In another sense*, however, these truths still depend on God: they could not exist without having been created by God, even though we cannot consistently take them to not having been created.

My argument has two parts: after having laid out what I take to be Descartes' method of doubt (sct. 2) and his conception of the analytic method (sct. 3), I argue that truth that are in themselves clear and distinct *can* be doubted – albeit *per impossibile* (sct. 4) – and that they are established as necessary by the *Cogito* (sct. 5). In the second part, I argue that such necessary truths do exist in Descartes's system (sct. 6), that their contingency is neither higher-order (sct. 8) nor 'conceptual' (sct. 7), but is best understood as a contingency of being (sct. 9). Before embarking on this project, a general worry has to be addressed, however.

The worry underlying the charge of circularity against (a)/(b) may be generalised, to a degree even where it may appear doubtful that it could every be solved: Descartes' project to rationally validate reason may seem doomed from the start if it is taken to be a reconstruction of the sciences on indubitable bed-rock which is secured by the same scientific methodology it itself is supposed to guarantee in turn. Given that "clear and distinct" is the highest possible qualification we may bestow on any of our beliefs (the highest 'epistemic modality', in the terminology I will use in the following), no argument seems possible to guarantee the truth of those beliefs – at best, any such argument could establish that we clearly and distinctly perceive that our clear and distinct beliefs must be true. It cannot, however, establish the truth, as opposed to the clearness and distinctness of the truth-rule itself, given the way we coined the term of art "clear and distinct". So either truth must be understood along coherentist lines, as not going any further than our epistemic modalities, or we must interpret the 'self-validation of reason' somewhat hypothetically, perhaps as a transcendental argument.

Taking this worry seriously amounts to a dismissal of the Cartesian project. We cannot do him justice if we presuppose a prior distinction between the realm of beliefs and subjective certainty, the realm of epistemology, and the realm of reality, objective truth and mind-independent modality, which is the realm of metaphysics. For it is precisely Descartes' project to make these two realms match by aligning epistemic with metaphysical modality, the truth-rule providing the bridge between the two. Presupposing at the outset that no such alignment is possible without identifying the one with the other is just failing to engage with Descartes' arguments. Epistemic necessities for Descartes are not just apparent or presumed necessities, not necessities given a stock of knowledge we take for granted and not merely psychological constraints on how we happen to think. Epistemic modality, if Descartes' arguments are of any worth, is much more. I think it worthwhile to engage with him in the search for such a substantive and irreducible notion of epistemic modality, given the fact that even we, after half a decade of epistemic logic, have ourselves no clear idea of what epistemic modality might be.

2. This is the way van Cleve (1979: 55) frames the problem of the Cartesian Circle. It does not matter what exact reading is given to "first", if only it denotes a position in some strict order, be it epistemic or metaphysical.

2 Hyperbolic doubt

Descartes, as it is well known, wanted to rebuild the sciences on a secure foundation he tried to uncover in metaphysics. In his *Meditationes de Prima Philosophiae* he gives us an account of what he takes to be the “premier principe de la philosophie” (AT VI 32^{22–23})³ and what I will henceforth call the *Cogito*. The privilege of the *Cogito* resides in its resistance to what Descartes calls ‘scepticism’.

Descartes’ sceptic is not only someone who doubts that we have any knowledge, i.e. any beliefs meeting a certain given standard of justification, but what one might call a *Pyrrhonian* sceptic, someone who doubts the existence of a standard of knowledge, not only of beliefs meeting such a standard.⁴ Descartes thought it worth while to (try to) prove the sceptic wrong not because he doubted that we have any knowledge. Instead he aimed to show that and how we can *defend* our knowledge claims against someone who questions their legitimacy. He wanted to prove our entitlement to them by showing that they are not only true, but justifiably taken to be so. Not satisfied with the mere fact *that* the sceptic is wrong – because there is something we know – he wanted to show *why* the sceptic is wrong. To achieve this, he had to show more than just that we know something; he had to show that we know that we know something, i.e. that we know that the sceptic is wrong. This is the task of the *Cogito*: to prove the untenability of universal doubt by refuting the evil demon hypothesis and *thereby* to establish a standard of knowledge.

To induce, in us and in the Cartesian thinker, the most general and far-reaching doubt one may entertain (AT VII 158¹³) and thus to uncover the most certain of our beliefs, Descartes mounts a sceptical argument in three steps in *Meditation One*, leading to the ‘bracketing’ (on grounds of dubitability) of larger and larger classes of truths, for reasons Descartes takes to be valid and rational (AT VII 21^{26–30}). In a first step, the Cartesian thinker of the *Meditations* notes the existence of sensory illusions:

Nempe quidquid hactenus ut maxime verum admisi, vel a sensibus, vel per sensus accepi; hos autem interdum fallere deprehendi, ac prudentiae est nunquam illis plane confidere qui nos vel semel deceperunt. (AT VII 18^{15–18})

Tout ce que j’ay receu iusqu’à present pour le plus vray & assuré, je l’ay appris des sens, ou par les sens: or j’ay quelquefois éprouvé que ces sens estaient trompeurs, & il est de la prudence de ne se fier jamais entierement à ceux qui nous ont une fois trompez. (AT IX/1 14)

The conclusion drawn in the last clause, *never* to rely on sense perception (“a sensibus”) nor on testimony (“per sensus”), may seem a little too quick.⁵ It makes sense, however, if we place it in its epistemological context: if my senses are not always reliable, then this method of forming beliefs is not fool-proof; barring further information, I must consider it as at any instant potentially unreliable. I am not justified in assuming the reliability of my senses *unless* I have at my disposal a way of knowing that they are reliable at the times when they are. I cannot, however, detect such optimal sensory conditions without relying on my senses: bracketing their evidence, I cannot establish their reliability. This is why I am forced to conclude **A2** from **A1**:

A1 It is possible that my senses deceive me.

A2 It is always possible that my senses deceive me.

The Cartesian thinker has to go further than even this, however. He cannot justifiably assert of *any* instance of sense perception that his senses did not deceive him on that occasion. To do this, he would have to know that conditions were optimal – which he cannot, if he has not prior sensory assurance that they were. Because the proposition that they conditions are optimal is itself doubtful, he must treat it as if it were false (AT VII 18^{4–10}) – he must assume the worst case scenario, that his senses always deceive him:

A3 It is possible that my senses always deceive me.

3. All references to Descartes are to the standard edition by Adam and Tannery (1996).

4. The distinction is Sextus’s: “Pyrrhonian skepticism is a more radical position [than academic skepticism]. It holds that the academics are dogmatic even to affirm the impossibility of certain knowledge and denies that propositions differ in their probability. A judgement of probability can be made only by someone who possesses a standard of knowledge and truth. But the existence of such a standard is just what the pyrrhonians question. Since probability cannot guide our choices, they propose to follow custom.” (Curley 1978: 12)

5. The transition is even hastier in the *Discours*: “Ainsi, à cause que nos sens nous trompent quelquefois, je voulus supposer qu’il n’y avait aucune chose qui fût telle qu’ils nous la font imaginer.” (AT VI 31^{30–32})

Many have doubted that the Cartesian thinker could rationally entertain something like **A₃** – if I need my senses to establish that they deceived me on another occasion, they argue, the hypothesis of permanent sense deception does not make sense. Though it is clear that Descartes is not *committed* to **A₃** and that neither **A₃** nor **A₂** can plausibly be said to follow from **A₁**, such worries, I think, misunderstand the nature of Descartes’ project. Though Descartes requires reasons for doubting, he requires those to be neither true nor assertable by the Cartesian thinker.⁶ They are reasons for doubting in the sense that they present the Cartesian thinker with scenarios he is in no position to exclude. The Cartesian thinker cannot exclude the possibility of universal sense deception merely on the basis of the observation that the assertability of “my senses deceive me” requires some veridical sense perceptions. But neither can he *deny* their veridicality – *when* they are reliable – justify my knowledge claims based on them. So the sceptic needs to take another step.

This second step is known as the “dream argument”:

Quasi scilicet non recorder a similibus etiam cogitationibus me aliàs in somnis fuisse delusum; quae dum cogito attentius, tam plane video nunquam certis indiciis vigiliam a somno posse distinguere, ut obstupescam, & fere hic ipse stupor mihi opinionem somni confirmet. (AT VII 19^{17–22})

Mais, en y pensant soigneusement, je me ressouviens d’avoir esté souvent trompé, lors que je dormais, par de semblables illusions. Et m’arrestant sur cette pensée, je voy si manifestement qu’il n’y a point d’indices concluans, ny de marques, assez certaines par où j’en puisse distinguer nettement la veille d’avec le sommeil, que j’en suis tout étonné; & mon estonnement est tel, qu’il est presque capable de me persuader que je dors. (AT IX/I 15)

Contrary to the first, this second step rules out the possibility that there might be conditions under which knowledge claims about material objects are justified. Trusting my senses to establish their reliability is a perfectly respectable procedure; but I am never entitled to trust my senses to answer the question whether I might be sleeping now. I can only know that *p* by present sensory evidence if certain conditions *C* hold – but I can find out whether *C*, for the conditions *C’* which have to obtain for that may differ from *C*. Not so with dreaming: I cannot find out that I am dreaming – for *if* I am dreaming, I cannot find out anything whatsoever. As I can never find out that I am dreaming (at that time), I can never know that I am awake (at that time), not being able to rule out a possibility I would not detect if it were actual.⁷

Whereas the argument from sensory illusion undermined any knowledge claims based on present sensory evidence, the dream argument carries the doubt further by making any knowledge about material things unclaimable: it thereby undermines any contingent knowledge claim whatsoever, including most examples of what has been called *the contingent a priori*. There is, for any such proposition, whether a priori or not, a circumstance in which it would be false and I may dream that this circumstance obtains.⁸ As with the first step, the Cartesian thinker infers **B₂** from **B₁**, and then finds no grounds to rule out **B₃**:

B₁ It is possible that I am now dreaming.

B₂ It is always possible that I am dreaming (then).

B₃ It is possible that I am always dreaming.

That I am always dreaming, then, describes an epistemic possibility for the Cartesian thinker of the *Meditations* – not in the sense of describing a world in which he, for all he knows, might be (for he may also know that he is, from

6. He explicitly says to Bourdin that reasons for doubting may themselves be doubtful: “Eae enim sunt satis validae rationes ad cogendum nos ut dubitemus, quae ipsae dubiae sunt, nec proinde retinendae, ut jam supra notatum est. Atque validae quidem sunt, quandiu nullas alias habemus, quae dubitationem tollendo certitudinem inducant.” (AT VII 473^{27–474³}), “Verissimum enim est, nihil admittendum esse ut verum, quod non possimus probare esse verum, cum de eo statuendo vel affirmando quaestio est; sed, cum tantum de effodiendo vel abdicando, sufficit quod suspicemur.” (AT VII 553^{18–22})

7. What then about the coherentist criterion Descartes provides us with in the *Sixth Meditation*? It only works given the assumption that there is a time *t* when I am not sleeping – and this we know only after having established the legitimacy of at least one knowledge claim: “Potest verò Atheus colligere se vigilare ex memoriâ anteaetae vitae; sed non potest scire hoc signum sufficere ut certus sit se non errare, nisi sciat se a Deo non fallente esse creatum.” (AT VII 196^{11–14})

8. It is not required that my conception is a coherent one: most of us dream very weird things. It might seem difficult to imagine dreaming that I am not here now or that I am not Philipp Blum but in fact it is not. I may dream that I am dead or a multiply located universal, that I look into my passport and find another name written in it, that I look into the mirror and see nothing etc. That reasons to doubt are not required to be coherent overall scenarios, as long as they achieve their intended effect which is helping us to get rid of our beliefs, marks another respect in which pyrrhonian differs from academic scepticism.

time to time, awake), but in the sense of expressing a belief he can never rule out on the basis of present evidence alone. The dream argument, then, leaves almost nothing untouched, sparing only necessary truths, which are true in all circumstances, and a fortiori true in all circumstances one may dream to obtain. Getting rid of these is the aim of the next step.

The third and final step in Descartes' argument is the *malin génie* hypothesis:

Verum tamen infixam quaedam est meae menti vetus opinio, Deum esse qui potest omnia, & a quo talis, qualis existo, sum creatus. Unde autem scio illum non fecisse ut nulla plane sit terra, nullum coelum, nulla res extensa, nulla figura, nulla magnitudo, nullus locus, & tamen haec omnia non aliter quam nunc mihi videantur existere? Imò etiam, quemadmodum iudico interdum alios errare circa ea quae se perfectissime scire arbitrantur, ita ego ut fallar quoties duo & tria simul addo, vel numero quadrati latera, vel siquid aliud facilius fingi potest?" (AT VII 21¹⁻¹¹)

Toutefois il y a longtemps que j'ay dans mon esprit une certaine opinion, qu'il y a un Dieu qui peut tout, & par qui j'ay esté créé é & produit tel que je suis. Or qui me peut avoir assuré que ce Dieu n'ait point fait qu'il n'y ait aucune terre, aucun Ciel, aucun corps estendu, aucune figure, aucune grandeur, aucun lieu, & que neantmoins j'aye les sentimens de toutes ces choses, & que tout cela ne me semble point exister autrement que je le voy? Et mesme, comme je juge quelquefois que les autres se méprennent, mesme dans les choses qu'ils pensent scavoit avec le plus de certitude, il se peut faire qu'il ait voulu que je me trompe toutes les fois que je fais l'addition de deux & de trois, ou que je nombre les costez d'un carré, ou que je juge de quelque chose encore plus facile, si l'on se peut imaginer rien de plus facile que cela. (AT IX/I 16)

The Cartesian thinker here entertains the possibility that he might be fooled even in things he considers most certain – due to the manipulation of an omnipotent evil demon who perverts his epistemic instincts and makes him spontaneously assent to propositions which are in fact false.⁹ The evil demon hypothesis is thus more than the supposition that I might err in the most certain of my beliefs – it is the far scarier supposition that I might err in them *precisely because* I hold them to be the most certain. It is for this reason that the Cartesian thinker is led to infer **C₂** from **C₁**, and is in no position (yet) to exclude **C₃**:

C₁ It is possible that I am deceived in what I consider most certain.

C₂ In all my beliefs am I possibly deceived.

C₃ It is possible that I am deceived in all my beliefs.

Because **C₃** states an epistemic possibility, all our knowledge claims are undermined, including our presumed knowledge of simple mathematical (AT VIII/I 6⁸⁻²⁰), logical and other necessary truths, throwing the Cartesian thinker into a state of despair. The doubt induced by consideration of the evil demon hypothesis is thus maximal.¹⁰

We will see below that, by proceeding a *facilioribus ad difficiliora*, the analytic method brings with it a distinction between two senses of “primary”: it starts from what is *prima facie primary*, i.e. most familiar to us, carrying us to what is *primary in itself*, the true ground on which a given body of (alleged) knowledge rests. The world, in itself, i.e. independently of our beliefs about it, has a certain epistemological structure; some truths are *by themselves* more evident, certain and epistemologically basic than others. The epistemic activities of humans, on the other hand, exhibit another, and possibly divergent, pattern. Custom, training and talent bring it about that some truths are more accessible, more easily graspable and more familiar to (some of) us. It is the task of the *right method* to make these two orderings match, i.e. to make what is most familiar in itself most familiar to us. This is the rationale of the method of doubt.

9. That the possibility envisaged is one of a perversion of what one might call our ‘epistemic instincts’, our spontaneous and almost inevitable belief in certain very simple and (seemingly) evident propositions, is made even clearer in the *Discours* and the *Principes*: “Et parce qu’il y a des hommes qui se méprennent en raisonnant, même touchant les plus simples matières de géométrie, et y font des paralogismes, jugeant que j’étais sujet à faillir autant qu’aucun autre, je rejetai comme fausses toutes les raisons que j’avais prises auparavant pour démonstrations.” (AT VI 32³⁻⁹); “Dubitabimus etiam de reliquis, quae antea pro maximè certis habuimus; etiam de Mathematicis demonstrationibus, etiam de iis principiis, quae hactenus putavimus esse per se nota: tum quia vidimus aliquando nonnullos errasse in talibus, & quaedam pro certissimis ac per se notis admisisse, quae nobis falsa videbantur; tum maximè, quia audivimus esse Deum, qui potest omnia, & à quo sumus creati.” (AT VIII/I 6⁸⁻¹⁵)

10. Descartes calls it “summa de omnibus dubitatio” (AT VII 158¹³). Cf. also his comments on the relevant passage to Burman: “Reddit hic [VII 22²²] auctor hominem tam dubium, et in tantas dubitationes conjicit ac potest...” (AT V 147) The inclusion of mathematics is explicitly stated at AT VIII/I 6⁸⁻²⁰. Curiously, both Kennington (1971: 444) and Soffer (1987: 41) have denied that mathematical statements are doubted in *Meditation One*, partly on dubious methodological and systematic grounds which will be discussed below.

The evil demon hypothesis is the suspicion that the epistemic capacity underwriting the possibility of such a transition is fatally flawed: that we may in principle be incapable of matching our epistemic instincts, what we find plausible or evident, to what really *is* plausible or evident (in itself). The sceptical scenario, then, is that what I find most plausible might be false precisely *because* I find it plausible.¹¹

The Cartesian sceptic (the philosophical opponent of the *Meditations*) is not someone who believes or says that everything we believe is false. Instead, he believes that all our knowledge claims (our beliefs of the form “I know that *p*”) are unwarranted, i.e. that there are possible situations (**A₃**, **B₃**, **C₃**) we are not justified to exclude where they are false – not so much because what we claim to know would be false in that situation, but because we would, in the imagined circumstances, not know it. The possibility we are called upon to exclude by the sceptic, then, is not one in which what we believe to know is false, but the possibility that our knowledge claims are true only by chance, that the link between belief and truth underwriting them, while obtaining in the actual world, is not within our epistemic reach and cannot be conclusively established to hold. The doubt, then, is that if we know something, then we know it only by chance. The sceptic thereby challenges our entitlement to all our knowledge claims – not by producing a scenario in which they are false, but one that makes them unjustified and thus unclaimable in the methodological context of a refoundation of our whole system of beliefs.

3 Descartes’ analytic method

Descartes formulates the question he is interested in in terms of certainty. He wants to uncover the most certain of our beliefs, a paradigmatically knowable proposition:¹²

Quin & illa etiam, de quibus dubitamus, utile erit habere pro falsis, ut tantò clariùs, quidnam certissimum & cognitu facillimum sit, inveni-
amus. (AT VIII/I 5^{12–14})

Il sera mesme fort utile que nous rejections comme fausses toutes celles [de nos croyances] où nous pourrons imaginer le moindre doute, afin que, si nous en découvrons quelques-uns qui, nonobstant cette precaution, nous semblent manifestement vraies, nous facions estat qu’elles sont aussi tres-certaines, & les plus aisées qu’il est possible de connoistre. (AT IX/II 25)

To uncover such a paradigmatically knowable proposition, he uses what he takes to be the *analytic method*, allegedly used by the ancients to *find* the theorems then synthetically presented and taught e.g. in Euklid’s *Elements*. The analytic method was taken by Descartes to be the method of discovery of the ancient mathematicians, an almost magical algorithm enabling us to discover the true and most general principles on which any science is based. Starting from what is most familiar to us, and basing every step only on what is already available (in the order of reasons, not of subject matter),¹³ it leads us to what is most clear and certain *in itself*.

11. As with the other two sceptical hypotheses, it does not have to be coherent to achieve its intended effect: it does not have to depict a possibility which might in fact obtain. It is enough if it describes a situation which the Cartesian thinker is in no position to *rule out*. Descartes himself takes a malin génie to be *impossible*: both because he shows its incoherence in the Second Meditation and because it is incompatible with the true nature of God. Cf. his remarks to Burman: “Loquitur hic [AT VII 22²⁵] auctor contradictoria, quia cum summâ potentiâ malignitas consistere non potest.” (AT V 147) It has to be noted, however, that showing that the malin génie hypothesis is impossible, is *not* Descartes’ main aim – even a hypothesis entertainable only *per impossibile* undermines our knowledge claims, if it keeps popping up. We have to be able to *show* that it is impossible, thereby vaccinating ourselves against it.

12. That is why he presents a potential negative result of this search as a valuable *addition* to our knowledge: “...pergamque porro donec aliquid certi, vel, si nihil aliud, saltem hoc ipsum pro certo, nihil esse certi, cognoscam.” (AT VII 24^{7–9}) Obviously, this is not a conclusion a sceptic could draw.

13. “Et il est à remarquer, en tout ce que j’écris, que je ne suis pas l’ordre des matieres, mais seulement celui des raisons: c’est à dire que je n’entreprends point de dire en un mesme lieu tout ce qui appartient à une matiere, à cause qu’il me seroit impossible de le bien prouver, y ayant des raisons qui doivent estre tirées de bien plus loin des unes que les autres; mais en raisonnant par ordre à *facilioribus ad difficiliora*, j’en déduis ce que je puis, tantost pour une matiere, tantost pour une autre; ce qui est, à mon avis, le vray chemin pour bien trouver&expliquer la verité.” (AT III 266^{16–26}) This is Descartes’ reason for not proving the immortality of the soul in the Second *Meditation*: “Sed quia forte nonnulli rationes de animae immortalitate illo in loco [in secunda meditatione] expectabunt, eos hic monendos puto me conatum esse nihil scribere quod non accurate demonstrarem; ideoque non alium ordinem sequi potuisse, quàm illum qui est apud Geometras usitatus, ut nempe omnia praemitterem ex quibus quaesita propositio dependet, antequam de ipsâ quidquam concluderem.” (AT VII 12^{16–13⁵})

In Descartes' times, this method was assimilated to the explanatory syllogism (*sylogismos tou dioti, demonstratio quia*) of Aristotle's *Analytica Posteriora*. Descartes' primary source for the methodological dichotomy was probably Pappos¹⁴ which he cites in his dedication of the *Meditations* (AT VII 4¹⁷). For Pappos, the difference between analysis and synthesis is one of direction: analysis proceeds from the explanandum to its explanatory grounds and takes us from the phenomenon to be explained (what is most clear to us) to the most general principles that are most clear in themselves. Synthesis proceeds in the reverse direction: starting from self-evident principles, it demonstrates (in paradigm cases deductively) what we wanted to have explained. For Descartes, analysis is the right method both in mathematics (AT II 637^{12-17,24-27}) and in philosophy (AT III 266¹⁶⁻²⁶): it not only presents results already found, but proceeds "a facilioribus ad difficiliora", thereby showing *how* the principles have been found. He explicitly says that his *Meditations* show the analytic method at work.¹⁵ In metaphysics, where we are trying to uncover the most general principles of physics,¹⁶ what is most clear and certain in itself is what is most resistant to doubt. Descartes' famous 'methodological doubt', then, is nothing but the application of the analytic method to metaphysics.¹⁷ It leads us from what is most familiar to us, i.e. sensory testimony, and what we are psychologically unable to doubt, to what is most clear and certain in itself (and *for this reason* indoubtable), i.e. the *Cogito* and our existence as thinking substances.

Some of Descartes' contemporaries have believed that such a maximal doubt as one allegedly entertained at the end of *Meditation One* is incoherent. Bourdin, in the *Seventh Objections* remarks that nothing can be indubitable in the Cartesian system, since everything *had* been rationally doubted by the Cartesian thinker in *Meditation One*. In reply,¹⁸ Descartes reiterates the relational account of certainty he gave in the *Second Replies*: whether a truth is certain or not depends on our relations to it, not only on the truth itself.¹⁹ We cannot but assent to what we clearly and distinctly perceive – such perceptions are epistemically irresistible to us.²⁰ At the same time, however, we can doubt what we could, but do not, so perceive; and, what is more, we can suppose that the beliefs in question do not merit their status, that their irresistibility is not backed up by their truth but rather the effect of an evil demon fooling us by perverting our epistemic instincts.

14. That's why he refers to both analysis and synthesis as the "geometrical method" (AT X 373¹²⁻¹⁵, VII 156¹⁷⁻²⁰) and uses it as his primary source of inspiration not only for metaphysics, but also for the *Géométrie* (AT VI 372¹⁰⁻²⁴) and the *Dioptrique* (AT I 559¹⁴⁻²⁴).

15. "Ego vero solam Analysisim, quae vera & optima via est ad docendum, in Meditationibus meis sum sequuntus..." (AT VII 156²¹⁻²³)

16. "...ces six Méditations contiennent tous les fondements de ma Physique." (AT III 298¹⁻²)

17. Doubting that *p*, for Descartes, is not trying to believe $\neg p$, but trying to suspend judgement on whether *p*. Only that on which we cannot suspend judgement may be most certain to us. This inability to get rid of certain beliefs, however, may have different causes: it may be due to an idiosyncratic epistemic make-up or to the intrinsic plausibility of the beliefs themselves. That it is always due to the former is exactly the suspicion raised by the evil demon hypothesis.

18. "Notandumque ipsum ubique considerare dubitationem & certitudinem, non ut relationes cognitionis nostrae ad objecta, sed ut proprietates obsectorum quae perpetuo ipsis inhaereant, adeo ut ea, quae semel dubia esse cognovimus, non possint unquam reddi certa." (AT VII 473¹⁷⁻²²)

19. Cf. "Vel enim, ut vulgo omnes, per *possibile* intelligitis illud omne quod non repugnat humano conceptui; quo sensu manifestum est Dei naturam, prout ipsam descripsi, esse possibilem, quia nihil in ipsa supposui nisi quod clare & distincte perciperemus debere ad illam pertinere, adeo ut conceptui repugnare non possit. Vel certe fingitis aliquam aliam possibilitatem ex parte ipsius objecti, quae, nisi cum praecedente conveniat, nunquam ab humano intellectu cognosci potest, ideoque non plus habet virium ad negandum Dei naturam sive existentiam, quam ad reliqua omnia, quae ab hominibus cognoscuntur, evertenda." (AT VII 150^{19-151³}) This passage has been cited as "the strongest evidence" for the conceptualist reading of Cartesian epistemic modality, to be discussed below (Bennett 1994a: 647-648). The distinction between what 'non repugnat humano conceptui' ("ne répugne point à la pensée humaine" (AT IX/I 118)) and what is possible 'ex parte ipsius objecti' is made in reply to the charge that the ontological proof is premised on the coherence of the idea of God (AT VII 127¹²⁻¹⁴). Descartes' point, as the context makes clear, is that the ontological proof only presupposes that the idea we have of God is *de facto* coherent, not that it is known to be coherent. Only the latter, but not the former, presupposes a proof of God's benevolence. The coherence of the idea we have of God is put on a par with necessary truths and the *Cogito* itself, things which have been doubted in *Meditation One*: "Par enim jure, quo negatur Dei naturam esse possibilem, quamvis nulla impossibilitas ex parte conceptus ["de la part du concept ou de la pensée"] reperitur, sed contra omnia, quae in isto naturae divinae conceptu complectimur, ita inter se connexa sint, ut implicare nobis videatur aliquid ex iis ad Deum non pertinere, poterit etiam negari possibile esse ut tres anguli trianguli sint aequales duobus rectis, vel ut ille, qui actu ["actuellement"] cogitat, existat; & longe meliori jure negabitur ulla ex iis quae sensibus usurpamus vera esse, atque ita omnis humana cognitio, sed absque ullâ ratione, tollitur." (AT VII 151³⁻¹³) The passage, then, weakens rather than supports the conceptualist reading Bennett advocates: we have no other guide to possibility than clear and distinct perception of the coherence of certain ideas – but this only makes us *equally* certain of modal truths than we are, e.g., of mathematical or metaphysical truths. The 'possibility which relates to the object itself' is not a "contrivance, something faked up for purposes of argument" (Bennett 1994a: 648), but plays an important rôle: it is the purpose of Descartes' method to align conceivability with (real) possibility and a substantive thesis of his modal epistemology that such an alignment can be achieved.

20. For a vivid description of the kind of epistemic irresistibility in question, cf. Kemmerling (1996a).

Not only some of his contemporaries, but also many of Descartes' commentators believe that such universal a doubt undermines the stability of the whole Cartesian project.²¹ There is, however, nothing *in general* problematic with rule-circular justification, nor is there any *general* problem in establish, by using a richer range of resources, what can be done with less.²² We may also quite unproblematically entertain metaphysical hypothesis which we could not entertain if they were actual. We may talk, e.g., about possible worlds where no language-using creatures exist. In the Cartesian context, such qualms do not take seriously enough the different argumentative 'levels' of the *Meditations*: the book is, first, the most complete and elaborate exposition of Descartes' metaphysics; it is, second, the story of a certain person I call the 'Cartesian thinker' who sets out to doubt her beliefs, proving her existence and rebuilding the 'edifice of her beliefs' on supposedly firmer grounds; this Cartesian thinker is not identical to the first-person persona of the *Meditations*, the person who sits by the fire, touches the wax, remembers what he did yesterday – the former rather reflects on the latter, observing and commenting his cognitive exercises; last but not least, the *Meditations* are a philosophical exercise, a thought-experiment, that Descartes asks his readers to perform for themselves. We thus have to distinguish:

- the first person** of the *Meditations* who doubts of everything – until he stumbles at the beginning of the Second Meditation over the epistemic irresistibility of “sum”;
- the Cartesian thinker**, reasoning about her intellectual development, who will finally establish “sum” as the most certain of her former beliefs, thereby establishing “cogito ergo sum” as a basic truth and showing that the *malin génie* hypothesis is impossible;
- the reader** of the book Descartes wrote, who will finally uncover the *Cogito*, an argumentative method to vaccinate ourselves against scepticism;
- Descartes** himself who tries to show to the actual reader how he found what he takes to be his philosophical insights.

This distinction of levels is important for the assessment of claims of performative inconsistency or circularity: what is a dead-end for the Cartesian thinker is not necessarily one for Descartes, nor for the reader. While the third performative dimension is certainly important, it should not be overrated, however: The Cartesian thinker is concerned with the *dubitability* of his beliefs, not with the actual doubting of them. Descartes is concerned with *reasons* for doubting certain beliefs (AT VII 21^{26–30}), not with the inducing of certain brain states in his readers. ‘Mad’ doubt is excluded from the start, and justifiably so.²³ It is because the Cartesian thinker wants to determine the dubitability of his beliefs, and not just try to doubt them, that it is rational for him to rule out beliefs he can find the slightest reason to doubt (AT VII 18^{4–10}).

It is the first person (the referent of “I” in the direct speech passages of the *Meditations*) that we are asked to imaginatively project ourselves into, but it is the findings of the Cartesian thinker that Descartes wants to convince us of – the distinction is necessary because the epistemic irresistibility of “sum” does not limit maximal doubt, but rather refutes its entertainability. *As a sentence*, “sum” is doubtable like any other truth: precisely because I find it irresistible, the evil demon could have made it false. What the Cartesian thinker discovers in the *Cogito* is not that she must exist or that maximal doubt is not universal, but rather that some of the things the first person doubted in

21. Cf. Kennington (1971: 441–442): “Finally, the finitude of the power of the Evil Genius is demanded by the argument if the Evil Genius were omnipotent, the law of noncontradiction would be suspended, and all further reasoning would have to cease.” Similar qualms have been mounted by R. Walker (1986: 45): “...if truth is a matter of correspondence [that’s how he rightly interprets Descartes] *no* argument could be a decisive refutation of the *malin génie* hypothesis [...] since any argument has to rely upon assumed premisses and principles of inference.” Compare also Carriero (1987: 15–16): “Moreover, viewing Descartes as seeking to defend us from the epistemic onslaught of an omnipotent being leaves him engaged in a project that is futile on its face. It would be a quite weak omnipotent being indeed who lacked the power to convince us of the self-evidence of whatever premise he chose or of the validity of whatever reasoning he wanted. Therefore, if the anti-skeptic should ever produce an argument beyond our criticism, the skeptic would still be free to plead that our inability to criticize the anti-skeptic’s argument is simply the result of the deceiver’s nefarious activity.” or Olson (1988: 407): “Descartes did hold the curious view that God freely created the eternal truths and could have made contradictories true. So it seems that, if God is a deceiver, then the law of non-contradiction is dubitable. Thus, if God is a deceiver, no argument could be formulated. Indeed, all reasoning would have to cease.”

22. It is, e.g., standard mathematical practice to reason about a formal system drawing on resources not available in the system under scrutiny. We may give intuitionistically unacceptable proofs of the completeness of some system of intuitionistic logic, prove various theorems about proof systems having no or only very weak induction axioms by “ordinary mathematical induction” (cf. e.g. Smullyan 1992: 62 for an instructive example).

23. I borrow this terminology from (Lewis 1980) for psychological states that are realised by the same brain states as is doubt for normal subjects but have a different functional or causal role.

as actual, but as merely possible. Achilles just asks a question – because the question is ultimately unanswerable, he succeeds in creating doubt. In the same way, the first person of the *Meditations* entertains, in his first meditation, a series of questions – sentio istud aut illud?; sentio aut imagino?; opino aut intelligo? – which are in their context unanswerable: the Cartesian thinker realises that any answer would presuppose the reliability of the very same belief forming mechanism that is in question.

The possibility of doubt per impossibile is itself explained by the fact that the rationality of doubting is sensitive to how what is doubted is given to us. Suppose Socrates is a man and that every man is an animal. May it then be rational to doubt that Socrates is an animal? Well, it depends. If the argument is given the form:

$$\frac{Fa \quad \forall x(Fx \rightarrow Gx)}{Ga}$$

the falsity of the conclusion is ruled out by the truth of the premisses (and the validity of Modus Ponens and Universal Specialisation in first-order predicate logic). If the same piece of reasoning is formalised as the following, however, the situation is remarkably different:

$$\frac{q \quad p}{r}$$

Nothing in the premisses of this inference schema seems to exclude $\neg r$. There is, in other words, no manifest contradiction in $\{p, q, \neg r\}$ as there is in $\{\forall x(Fx \rightarrow Gx), Fa, \neg Ga\}$. Whether or not we are able to perceive the contradiction in a given hypothesis (say, the premisses and the negation of its conclusion of a valid argument), then, seems to depend on the way in which this hypothesis is given to us.

It would be out of place to make, at this point, the following counter-objection: Notational dependency cannot matter, if what is in question is the dubitability of certain modal truths, i.e. propositions which we suppose to be understood by all parties in the dispute. Such a reply misses the point, which is that any form of epistemic access to modal truths is mediated by notation. It is therefore to beg the question to *start* from the supposition of some form of unmediated access and to insist that dubitability pertains to propositions rather than sentences. Notational dependency matters just because it is unavoidable. We cannot ever be sure that our formalisation matches the ‘true’ propositional structure of what we are grasping and we cannot therefore be certain that some idea we have (not only seems to be but) is a clear and distinct one.

5 From the *Cogito* to the truth-rule

There is, however, an important connection between clarity and distinctness and dubitability: even though truths that are in themselves clear and distinct need not be clear and distinct for us, and thus *can* be doubted, they can only be doubted per impossibile, even though this does not need to be always transparent to us. It is, however, transparent to us if we correctly apply the analytic method. Herein lies an important presupposition: that the analytic method, as it is employed in the first *Meditation* allows us to keep track of epistemological, and perhaps even metaphysical dependencies.²⁶ The *Cogito*, in which the analytic method ‘culminates’, then aligns the *ordo cognoscendi* with the *ordo essendi*, allowing Descartes to proceed in a way such that he does not have to presuppose anything which was not previously demonstrated. The transition, within this order, from thinking (entertaining the evil demon hypothesis) to existence (realising that the evil demon hypothesis is not entertainable without pragmatic inconsistency), becomes indicative of real dependence. The dependence of the Cartesian thinker’s existence on the first-person’s thinking is, first, dialectical. Only by granting the premiss that he is thinking can we prove her existence. Second, it is epistemological: we, and the Cartesian thinker, need no other belief about him than the one that he is thinking to prove that he exists – in this way, we prove his existence *as a thinking thing*. Third, it is

26. This is what Descartes explicitly claims in the seventh set of *Replies*, commenting on “Certissimum est hujus sic praecise sumpti notitiam non pendere ab iis quae existere nondum novi; non igitur ab iis illis, quae imaginatione effingo.” (AT VII 28¹⁻²): “...scripsi enim, fieri non posse ut ea, quam jam habeo, notitia rei, quam novi existere, pendeat a notitiâ ejus, quod existere nondum novi. [...] Nam sane perspicuum est, rei, quae cognoscitur ut existens, notitiam illam, quae jam habetur, non pendere a notitiâ ejus, quod nondum cognoscitur ut existens; quia hoc ipso quòd aliquid percipiatur ut pertinens ad rem existentem, necessario etiam percipitur existere.” (AT VII 54^{24-26;30-515})

one of Descartes' later doctrines that any such 'distinction of reason', where we clearly and distinctly perceive that two things can exist without each other, is underwritten by a 'real difference' the ontological independence of two substances. We are not, of course, at the stage of the *Cogito* in a position to know that some such doctrine is true; but it is enough that it *is* true. If it is true (and this in turn depends on the validity of the ontological proof of the existence of God), then we can truly claim *in retrospect* to have demonstrated the existence of *res cogitans*. And this is quite much, too much perhaps, but in any case another issue.

The situation is importantly different with the truth-rule, however. The truth rule is, but the real distinction is not established by the *Cogito*. If the first *Meditation* instantiates (a correct way of applying) the analytic method, then we are justified in reserving our highest epistemic modality ("clear and distinct") for just those truths that withstand even the strongest of all possible doubts. We have seen reasons both to believe in the antecedent and to take Descartes to be convinced of it, so the question of the universality of maximal doubt becomes the question whether there are any clear and distinct beliefs at all. The *Cogito* is the claim that the belief I express by "I think; therefore I am" falls into this category and indeed is its paradigm exemplar. By showing us how to overcome the most general doubt, Descartes provides us with a foundation and justification of the analytic method – it is in this sense that he validates reason. He also achieves something else: not only is everything that is clearly and distinctly perceived doubted at the end of *Meditation One* (so much is built into the evil demon hypothesis), but it is also the case that whatever can *only* be doubted by this most general doubt is (by itself) clear and distinct.

The hyperbolic doubt entertained by the Cartesian thinker reaches as far as the truth-rule, which is why Descartes is able to take the latter to be established as soon as the maximal sceptical scenario has been shown to be incoherent by the *Cogito*. This means that claim (a) – the dependency of the truth-rule on God's veracity – has to be restricted: it only concerns things that we perceive clearly and distinctly and which are not by themselves also clear and distinct. This is compatible with God being called upon only to guarantee the truth of those propositions that we cannot doubt without invoking the idea of an omnipotent being fooling us as much as it is able to (AT III 65^{5–8}, VI 38^{15–21}, 39^{3–7}, VII 69^{10–15}, VIII/I 68^{8–11}) – to withhold judgment in cases of epistemic irresistibility, we need to invoke the evil demon hypothesis. Because the evil demon hypothesis is internally incoherent, however, we are still entitled to believe them, unless we suppose that they only seem clear and distinct without, by themselves, really being so. To exclude this latter possibility, God is needed.²⁷ Even if God only guarantees the applicability of the truth-rule in these cases, not its truth itself, it remains the case that we cannot say, except in the case of the *Cogito*, that some given proposition must be true because it is clear and distinct. As with other necessary truths, this would mean to limit God's omnipotence.

This concludes the first part of my argumentation: necessary truths are doubted in *Meditation One*, and nevertheless their truth follows from their inner nature (their being clear and distinct); this explains why, and how, they are necessary. In another sense, however, they

6 Against possibilism

The content, motivation and systematic rôle of Descartes' doctrine of the creation of eternal truths has been subject to intense debate, both among Descartes scholars and general philosophers. The doctrine does not overtly appear in the major works, but enters the stage only in eight letters and two *Replies*.²⁸ Three main interpretations of the doctrine have been proposed. I will discuss them in decreasing order of generality, together with the textual evidence they rely on.

27. This gives us another reason to believe that the hyperbolic doubt of the Cartesian thinker at the end of *Meditation One* encompasses mathematics and logics is internal to the logic of Descartes' overall argument: Descartes is quite clear that mathematical beliefs fall under the truth-rule: only God guarantees the truth of mathematical propositions (AT VII 15^{17–19}, 70^{10–18}). Necessary truths are doubted in *Meditation One* because the maximal doubt entertained at the end of it precisely questions the divine guarantee of the truth of clear and distinct perceptions.

28. These are, in chronological order, four letters to Mersenne: 15.4.1630 (AT I 145^{7–146}19), 6.5.1630 (AT I 149^{21–150}27), 27.5.1630 (AT I 151^{1–153}3), 27.5.1638 (AT II 138^{1–15}), a letter to Hyperaspistes (AT III 429^{3–430}10), the Fifth (AT VII 380^{1–13}) and Sixth Replies (AT VII 435^{22–436}25), a letter to Mesland 2.5.1644 (AT IV 118^{6–119}14), a letter to Arnauld 29.7.1648 (AT V 223^{31–224}17) and a letter to More 5.2.1649 (AT V 272^{13–273}6).

The most straightforward and farthest reaching interpretation, which Curley (1984: 576) calls “standard” and which is defended e.g. by Frankfurt (1977: 29), Plantinga (1980) and van Cleve (1994), ascribes to Descartes what Plantinga calls *unlimited possibilism*, i.e. the view that there are no necessary truths at all:

(c) Everything is possible: $\forall p \ \Diamond p$.

This reading might be backed, e.g., by the following passage from the third letter to Mersenne:

“Vous demandez aussi qui a nécessité Dieu à créer ces veritez [eternelles]; et je dis qu’il a esté aussi libre de faire qu’il ne fust pas vray que toutes les lignes tirées du centre à la circonference fussent égales, comme de ne pas créer le monde.” (AT I 152^{19–23})

The possibilist interpretation along the lines of **possibilism** has both systematic and exegetical problems. The systematic problems stem from the fact that the Cartesian system is replete with propositions called necessary by their proponent.²⁹ On the exegetical side, this reading makes it difficult to see the contrast between the equally voluntarist doctrines of Descartes and Gassendi, described by themselves as sharp.³⁰ Some, like Bennett (1994a: 645), have even concluded that Descartes’ voluntarism, on this interpretation, turns “into a rogue elephant crashing destructively through the rest of Descartes’ work” and has “horrendous systematic consequences” (Curley 1984: 593).

Another, weaker, interpretation which Plantinga calls *limited possibilism* and which is defended e.g. by Geach (1973), Curley (1984) and Barnes (1996) is the following:³¹

(d) Everything is possibly possible $\forall p \ \Diamond\Diamond p$.

Limited possibilism seems supported by the following passage in a letter to Mesland:

“Pour la difficulté de concevoir, comment il a esté libre & indifferent à Dieu de faire qu’il ne fust pas vray, que les trois angles d’un triangle fussent égaux à deux droits, ou generalement que les contradictoires ne peuvent estre ensemble, on la peut aisement oster, en considerant que la puissance de Dieu ne peut avoir aucunes bornes; puis aussi, en considerant que nostre esprit est finy, & créé de telle nature, qu’il peut concevoir comme possibles les choses que Dieu a voulu estre veritablement possibles, mais non pas de telle, qu’il puisse aussi concevoir comme possibles celles que Dieu auroit pû rendre possibles, mais qu’il a toutesfois voulu rendre impossibles. Car la premiere consideration nous fait connoistre que Dieu *ne peut avoir esté déterminé* à faire qu’il fust vray, que les contradictoires *ne peuvent* estre ensemble, & que, par consequent, il a pû faire le contraire; puis l’autre nous assure que, bien que cela soit vray, nous ne devons point tascher de le comprendre, pour ce que nostre nature n’en est pas capable. Et encore que Dieu ait voulu que quelques veritez fussent necessaires, ce n’est pas à dire qu’il les ait necessairement vouluës; car c’est toute autre chose de vouloir qu’elle fussent necessaires, & de le vouloir necessairement, ou d’estre nécessité à le vouloir.” (AT IV 118⁶-119¹, italics mine)

The problem with this interpretation is that, first, it collapses into unlimited possibilism, at least in the form exposed by Curley³² and, second, that it either seems to ascribe to Descartes some very bizarre non-normal modal logic (cf. Curley 1984: 592),³³ or, at least, commits him to a denial of the **S₄** axiom that whatever is necessary is necessarily necessary, and, a fortiori, of the **S₅** axiom that whatever is possible is necessarily possible:

29. See Curley (1984: 574ff.) for an account of the different problems with combining possibilism with other parts of Descartes’ system.

30. This at least according to the interpretation M. Osler (1995: 148) gives of Gassendi’s views: “According to Descartes, the eternal truths are necessary, even though God created them freely and their existence depends entirely on him.” (Osler 1995: 153)

31. Curley (1984: 593), following Gueroult (1953: 26–29), restricts (??) to propositions *p* about contingently existing entities, a restriction Frankfurt (1977: 34) forcefully criticises.

32. van Cleve (1994) shows that the argument given by Curley (1984: 580–1) can be strengthened to show not just (d), but (c). Van Cleve calls the principle underlying such criticism the *Dependency premis*: “...to whatever extent it is plausible to make necessity dependent on some factor *F*, it is also plausible to make the simple truth of what is necessary likewise dependent on that factor.” (van Cleve 1994: 62) and he also notes that this problem is common to all forms of modal contingentism (cf. sect. 8).

33. Jonathan Barnes (1996: 181–182) has presented a persuasive argument against such a move: even if Descartes had (that is, relied on in his reasoning) some non-standard logic, the problem of ultimate contingency in the eyes of God would just re-surface with respect to *its* theorems.

S4 Nothing is contingently necessary: $\diamond\neg\Box p \rightarrow \neg\Box p$.

S5 Nothing is contingently possible: $\diamond\neg\diamond p \rightarrow \neg\diamond p$

To be sure, Descartes allows that God may change the modal status of a proposition, i.e. that he may bring it about that something necessary be contingent or that something contingent may be necessary. This is just to say that God might have made more or less truths necessary than he did.³⁴ This denial of the claim that God is bound by the modal status of some propositions is just a special case of Descartes' insistence that God's omnipotence really is a power to bring about everything He wants – it has nothing particular to do with iterated modalities and there is even some doubt that Descartes had a clear and distinct grasp of them.³⁵

7 Against conceptualism

There is a third interpretation to be discussed, one endorsed by Bennett (1994a) and Ishiguro (1986), which we might call the “conceptualist” interpretation.³⁶ Conceptualism claims that inconceivability, in Descartes' view, implies strict impossibility – that even God could not have made true some particular proposition like $2 + 2 = 5$ we clearly and distinctly perceive to be impossible:

“...the doctrine that God made us unable to conceive of certain things, and this was his making those things impossible. We could say that God created modal truths *by* making us unable to conceive of impossibilities, but let us be careful not to think of this in terms of means to ends.” (Bennett 1994a: 646)

They interpret Descartes as claiming, in the passages cited, not more than the following: *if* God had given us different minds, different things might appear (and thus be) possible or impossible for us. God, *if* he had wanted, could have made our present modal concepts inapplicable and have given us different concepts instead:

“...our conceptual limits could have been different, but we cannot have a specific thought about any such difference.” (Bennett 1994a: 664)

“...the necessity of a truth like $1+2=3$ is conditional [...] because it is necessary only given that God freely chose to make our minds in a certain way. [...] We cannot conceive of the particular state of affairs that makes true the negation of an eternal truth, or the negation of any truth that is conditional on how our mind is constituted.” (Ishiguro 1986: 466, 467)

The problem with this interpretation is that it ascribes to Descartes too psychologistic a doctrine.³⁷ Descartes did not think that we are trapped in our God-given conceptual set-up. Quite on the contrary, he makes the Cartesian thinker in *Meditation* One explicitly reason about other ways our minds might have been organised.

The conceptualist reading, analyzing modal concepts “in terms of what does or does not lie within the compass of our ways of thinking” (Bennett 1994b: 647), trivialises the Cartesian thesis that modal theorizing gives us a priori access to necessity. It deflates, e.g., the Cartesian thinker's claim that after the *Cogito* argument he is now convinced

34. Barnes formalises these claims with the help of Pörn's operator “ $xE : p$ ” (“ x brings it about that p ”) (cf. 1970; 1977). Unfortunately, as Barnes (1996: 167, n. 18) notes, it is a theorem of Pörn's system that any agent can bring about any logical truth – God's distinctive rôle is lost. The formalisation has the further drawback that Descartes does not derive modal voluntarism from God's omnipotence, but from the fact that everything, including eternal truths, depends on Him (as Bennett 1994a: 642–643 has emphasised). A formalisation in terms of a dependency relation would therefore seem more appropriate.

35. As Barnes (1996: 175) points out, Descartes construed modalities as verbs and sometimes adverbs, but not as operators. Iterated adverbs are a very intricate thing. There is some evidence, however, that he had a relatively clear grasp at least of non-iterated modalities. He is aware, e.g., of $\Box p \equiv \neg\diamond\neg p$, as shown by this translation of “...non possit non esse a causâ summe perfectâ” (AT VII 14^{26–27}) by “qu'elle doit nécessairement venir d'une cause souverainement parfaite”.

36. Wilson (1978: 125) comes close to such an interpretation when she writes: “Descartes did regard the ‘necessity’ we perceive in mathematical propositions as in some sense and degree a function of the constitution of our minds – themselves finite ‘creatures’”, though the evidence is not unequivocal.

37. This psychologist or subjectivist strand is equally present in some variants of possibilism, cf.: “The necessities human reason discovers by analysis and demonstration are just necessities of its own contingent nature. In coming to know them, it does not necessarily discover the nature of the world as it is in itself, or as it appears to God.” (Frankfurt 1977: 32).

that he by necessity exists (AT VII 25¹³), to a mere ascertainment of his inability to conceive of himself as non-existent.³⁸ Rather than “harmoniz[ing] as well as possible” with the arguments for the divine guarantee of the truth-rule (Bennett 1994a: 641) and providing “a solid basis for Descartes’s modal epistemology” (Bennett 2001: 63), the conceptualist reinterpretation of Cartesian modality rather preempts any need for any of them.

8 Against higher-order contingency

In contemporary philosophy, there has been an extensive discussion whether or not modal conventionalists have to deny **S4**. Three versions of conventionalism can be distinguished:

possibilist If $\Box p$, then there is a convention C such that “ p ” is true by C .

limited possibilist If $\Box p$, then there is a convention C such that “ $\Box p$ ” is true by C .

conceptualist If $\Box p$, then there is a convention C such that

9 Contingency of truth and contingency of being

To arrive at a fourth, and I believe the correct, interpretation of Descartes’ view on the contingency of modal truths, let us reconsider the argument for possibilism, as presented by Plantinga³⁹ and suggested by the passage from the letter to Mersenne quoted above:

God was free to make p false.
 Whatever is possible for God is possible *tout court*.
 —————
 It is possible that p is false.

The problem with this argument is that the second premiss is not only not to be found in Descartes’ work, but quite explicitly denied by him. It would be preposterous, according to him, to limit God’s power, including his power to bring about the impossible, in any way. In the same way that we cannot say that what is necessary for us is also necessary for God, we cannot say that what is possible for God is possible for us – this would limit his creative power to what is possible for us. This claim is to be found in a short passage of a letter to More which will provide us with the clue to the creationist doctrine Descartes endorses:

“Ego verò, cùm sciam meum intellectum esse finitum, & Dei potentiam infinitam, nihil unquam de hac determino; sed considero duntaxat quid possit à me percipi vel non percipi; & caveo diligenter ne iudicium ullum meum à perceptione dissentiat. Quapropter audacter affirmo Deum posse id omne, quod possibile esse percipio; non autem e audacter nego illum posse id, quod conceptui meo repugnat, sed dico tantum implicare contradictionem.” (AT V 272^{16–25})

“For my part, I know that my intellect is finite and God’s power is infinite, and so I set no bounds to it; I consider only what I can conceive and what I cannot conceive, and I take great pains that my judgment should accord with my understanding. And so I boldly assert that God can do everything which I conceive to be possible, but I am not so bold as to deny that He can do whatever conflicts with my understanding – I merely say that it involves a contradiction.” (Descartes 1970: 241)⁴⁰

So there is, according to Descartes, the following important asymmetry between our judgments of possibility and of impossibility respectively:

Given God’s benevolence:

- (1) It is not the case that $\forall p \Diamond p \rightarrow (p \text{ is conceivable})$
- (2) Even if it is the case that $\forall p (p \text{ is conceivable}) \rightarrow \Diamond p$

³⁸ If, as Bennett (2001: 62) says, “it is absolutely impossible that P ” means for Descartes “no human who is thinking efficiently can add P to his system of beliefs without running into outright contradiction”, then the necessity of the Cartesian thinker’s existence becomes an uninteresting, and uncontroversial, psychological fact of him.

³⁹ Cf.: “And if God could have brought it about that $2 \cdot 4 = 8$ should have been false, then $2 \cdot 4 = 8$ could have been false and is not necessarily true.” (Plantinga 1980: 102)

⁴⁰ Cottingham, Stoothoff and Murdoch translate the second sentence somewhat more accurate as “I consider only what I am capable of perceiving, and what not, and I take great pains that my judgment should accord with my perception.”, but unnecessarily weaken the third to “...I am not so bold as to assert the converse, namely that he cannot do what conflicts with my perception of things” (1991: 363). Descartes is not just refraining from an assertion that would limit God’s powers, but refraining from a denial that His power has any limits.

(2) means that we are justified in relying our epistemic instincts with respect to possibilities as a guide to truth. Its conceivability-to-possibility link *depends* on God's benevolence and our clear and distinct idea of his omnipotence.⁴¹ The asymmetry between (1) and (2) is due to the fact that God's powers transcend our conceptual limits. The converse direction, however, the inference from a perceived contradiction to an impossibility claim, is illegitimate, for it imposes constraints on the power of God and takes man to be the measure of what is possible and what is not: a true believer should not *dare* to say that what appears contradictory for him is impossible for God. The motivation behind (1) is just that we cannot, for any p , justifiably say that it has not been in God's power to effect $\neg p$, given that we have a clear and distinct idea of his omnipotence. This is confirmed by the following passage of the letter to Arnauld, where he claims that the impossibility of the vacuum does not set any limits to God's powers:⁴²

"...ex eo quòd recurramus ad potentiam Divinam, quam infinitam esse scientes, effectum ei tribuimus, quem involuere contradictionem in conceptu, hoc est à nobis concipi non posse, non advertimus. Mihi autem non videtur de ullà unquam re esse dicendum, ipsam à Deo fieri non posse; cùm enim omnis ratio veri & boni ab eius omnipotentia dependeat, nequidem dicere ausim, Deum facere non posse ut mons sit sine valle, vel ut unum & duo non sint tria; sed tantùm dico illum talem mentem mihi indidisse, ut à me concipi non possit mons sine valle, vel aggregatum ex uno & duobus quòd non sunt tria, &c., atque talia implicare contradictionem in meo conceptu." (AT V 223²⁷-224⁹)

"...[the difficulty in recognizing the impossibility of the vacuum] arises because we have recourse to the divine power: knowing this to be infinite, we attribute to it an effect without noticing that the effect involves a contradictory conception, that is, is inconceivable by us. But I do not think that we should ever say of anything that it cannot be brought about by God. For since every basis of truth and goodness depends on his omnipotence, I would not dare to say that God cannot make a mountain without a valley, or bring it about that 1 and 2 are not 3. I merely say that he has given me such a mind that I cannot conceive a mountain without a valley, or a sum of 1 and 2 which is not 3; such things involve a contradiction in my conception." (Descartes 199: 35⁸-359)

Instead of confirming the conceptualist interpretation, this passage shows that Descartes presents **noguide** as a fall-back position: in the face of an apparent absurdity, he recommends us to stay with the weaker "I cannot take it to be possible that p " instead of " p is impossible" by which we would contradict God's omnipotence.⁴³

What are we to make of all this? We first have to distinguish two ways in which modal truths, i.e. true sentences of the form $\Box p$ or $\Diamond p$, may be called contingent. On the first reading, the one endorsed by possibilism, contingency pertains to the (unmodalised) proposition p that is called a modal truth. Every eternal truth, then, is possibly false. On the second reading, the one endorsed by limited possibilism, it is the modalised proposition $\Box p$ itself which is called contingent. Every eternal truth, then, is possibly not what we take it to be, i.e. a necessary truth.

Doubting per impossibile whether p is possible, and may even be rationally required, if we do not know whether what we are grasping has itself modal force, i.e. whether it is of the form q or $\Box q$. The question, with respect to clearly and distinctly perceived truths which impress themselves upon us with the highest epistemic modality, is whether the modality perceived qualifies the *content* or rather the *act* of apprehension. This partly depends on

41. In the *First* and *Second Replies*, Descartes says that possible existence is contained in the idea of everything we clearly and distinctly understand (AT VII 163-164, VII 166), in the *Fourth Replies* that God can bring about everything I clearly and distinctly perceive (AT VII 219). He repeats the point in a letter to Mersenne March 1642 (AT III 544-545). We also find the doctrine in other works: He writes, e.g., in *Le Monde*: "Si j'y mettois la moindre chose qui fût obscure, il se pourroit faire que, parmy cette obscurité, il y auroit quelque repugnance cachée, dont je ne me serois pas apperceu, & ainsi que, sans y penser, je supposerois une chose impossible; au lieu que, pouvant distinctement imaginer tout ce que j'y mets, il est certain qu'encore qu'il n'y eust rien de tel dans l'ancien monde, Dieu le peut toutesfois créer dans un nouveau: car il est certain qu'il peut créer toutes les choses que nous pouvons imaginer." (AT XI 36¹⁵⁻²⁴) He also accepts the general principle: "Deum enim agnoscentes, certi sumus ipsum posse efficere quidquid distinctè intelligimus." (AT VIII/I 28²³⁻²⁵) and he writes in the *Notae in Programma*: "Ubi notandum est, hanc regulam, *quicquid possumus concipere, id potest esse*, quamvis mea sit, & vera, quoties agitur de claro & distincto conceptu, in quo rei possibilitas continetur, quia Deus potest omnia efficere, quae nos possibiliter esse clare percipimus; non esse tamen temere usurpandam, quia facile sit, ut quis putet se aliquam rem recte intelligere, quam tamen praepudicio aliquo excaecatus non intelligit." (AT VIII/II 351²⁸-352⁶)

42. It is also confirmed, e.g., by the last sentence of the pertinent passage in the first letter to Mersenne: "Mais je ne laisseray pas de toucher en ma Physique plusieurs questions metaphysiques, & particulièrement celle-cy: Que les vérités mathématiques, lesquelles vous nommés éternelles, ont esté établies de Dieu & en dependent entièrement, aussy bien que tout le reste des creatures. [...] On vous dira que si Dieu avoit établi ces vérités, il les pourroit changer comme un Roy fait ses lois; a quoy il faut respondre qu'ouy, si sa volonté peut changer. – Mais ie les comprends comme éternelles & immuables. – Et moy ie iuge le mesme de Dieu. – Mais sa volonté est libre. – Ouy, mais sa puissance est incomprehensible; & généralement nous pouvons bien assurer que Dieu peut faire tout ce que nous pouvons bien comprendre, mais non pas qu'il ne peut faire ce que nous ne pouvons pas comprendre; car ce seroit temerité de penser que nostre imagination a autant d'estendue que sa puissance." (AT I 145⁵⁻¹⁰, 145²⁸-146¹⁰)

43. That this is the correct interpretation of the passage cited has been argued by Jonathan Barnes (1996: 172).

the way the truth in question is given to us.⁴⁴ Our doubting of a necessary truth may be rational insofar as it is grounded on this act/result ambiguity. There is no such duality for God, for knowing something and willing it to be true are for Him the same act. So the act and the content of the act cannot be distinguished.⁴⁵

There are two other features of Descartes' theory of modality which seem to confirm my interpretation. The first, noted by Barnes (1996: 175–176), is that Descartes sometimes, most explicitly in his conversation with Burman (AT V 160), puts his voluntarist doctrine in past tense: the eternal truths are necessary, so nothing *can* make them false, but they are subject to God's will in so far as he *could have made* them false. Unfortunately, Barnes interprets the past tense as iterated modality, thereby collapsing his interpretation into limited possibilism. There is, to be sure, some need for re-interpretation: Descartes cannot mean such formulations literally, for God, according to him, cannot change and does not act in time. The eternal truths, as he points out to Mersenne (27.5.1630, AT I 152), have not been created by time, but “ex hoc ipso quod illas ab aeterno esse voluerit & intellexerit, illas creavit”. It cannot, therefore, be strictly true that “la modalité de cette proposition [that $2+2=4$] a changée”, as Barnes (1996: 177) recognises. There is another interpretation available, however.

Consider the by now notorious story of Kripke's ‘discovery’ of a posteriori necessities: “Water is H_2O ”, Kripke told us, is necessary. At first, this seems counterintuitive. Are we not able to imagine possible worlds where it is false; is not Putnam's Twin Earth a world in case? It is not, says Kripke, for by “the world where water is XYZ” we are *misdescribing* something which we should rather call a “way our world might have turned out”, but did not. *Given* that it did not, it could not have: “water is H_2O ” is, *if* true, necessarily true. What we are imagining when we imagine water having another chemical structure than it actually has is not a possible world, a way our world could have been, but an impossible world, a way our world could have turned out but did not. Twin Earth, if it is to be possible, is not a world with water, but a world with a clear, drinkable liquid in its lakes and oceans, that we *would have called* “water” if we lived there. As we live here not there, however, the liquid we referred to when we actually fixed the reference of “water” had the chemical structure H_2O and so “water”, being a ‘rigid designator’, *actually* refers in all worlds to H_2O , though it could have done otherwise. For Kripke (1972: 307, 103), the “might” in “water might not be H_2O ” is *merely* epistemic and represents “a present state of ignorance or uncertainty”: given the evidence before the empirical investigation of the nature of water, it could have turned out that water is not H_2O – but in this case “water” would not mean what it actually means. The qualification “given the evidence” is hence crucial, for given *our* evidence, it is no longer true that water could have turned out not to be H_2O .⁴⁶

The uncertainty in question is not just whether the liquid before me is water – it is equally, and more importantly, an uncertainty whether the liquid before me *belongs to a natural kind*. For all I know the liquid before me could be something which has its internal structure contingently, a functional kind say. I may thus very well doubt that the liquid in front of me is H_2O , and I may even describe my state of ignorance as doubting whether water is H_2O (from the outside, as it were), as long as I am prepared to take back my doubt on being told that the thing before me is a sample of *water* (this being a natural kind). Whether or not an epistemic impossibility (our inability to imagine that this very stuff has another chemical composition than it actually has) matches a metaphysical impossibility (of water being something different from H_2O) depends on how “it is given to us”.

This act/result-interpretation is also confirmed by the way the Cartesian thinker formulates his modal insights and Descartes' more general conception of *de re* modality. Consider, e.g., the *Cogito* passage of the *Meditations*:

44. Bernard Williams (1978: 80–81) has stressed the importance of notation in the context of Cartesian epistemology: “But the formulation [of attributions of certainty] explicitly in terms of propositions brings out something which is important and which is indeed implicit in Descartes's own treatment, that his certainty depends not just on what states that he is in, but on how they are described. Take some state described as his having an experience *as of* seeing a table, or its seeming to him that he sees a table: then under that description, Descartes claims, he is certain of it. But that very same experience *could* be caused by the physical presence of a table, and if it is described in such a way as to imply that it is so caused – for instance, if it is described as the experience *of seeing a table* – then he is not certain of it.” Descartes' explicitly acknowledges epistemic asymmetries even between necessarily equivalent truth, e.g. in the *Second Replies* where he claims that it is possible to perceive clearly and distinctly that a triangle in a semicircle is rectangular without thereby perceiving that the Pythagorean theorem holds of it, while every clear and distinct perception of the latter *ipso facto* is a perception of the former (AT VII 224²²–225²).

45. This way of phrasing the doctrine comes close to what Descartes' says in his letters to Mersenne 6.5. and 27.5.1630 (AT I 149, 152).

46. Kripke (1972: 141–142, 332) claims that “it might have turned out that *p*” entails “it could have been the case that *p*”. It seems incorrect to me to say, as Chalmers (1995: 17) does, that “Kripke allows that it might *turn out* that Hesperus is not Phosphorus”. Cf. also: “...it seems reasonable to say that if the XYZ world *turns out* it be actual, then it will *turn out* that water is XYZ.” (Chalmers 2002: 612) All Kripke allows for is that it *might have turned out* in a world in which we had not discovered that it could not.

“Nondum verò satis intelligo, quisnam sim ego ille, qui jam necessario sum.” (AT VII 25^{24–25})

The French translation, authorised by Descartes, startlingly reads: “Mais je ne connais pas encore assez clairement ce que je suis, moi qui suis certain que je suis.” (AT IX/I 19^{34–35}) Analogous formulations may be found all over the *Meditations*.⁴⁷ In the conversation with Burman and elsewhere, Descartes repeatedly claims that impossibility or contradiction resides “in our ideas alone”.⁴⁸ It is only where the act of apprehension and its content coincide, as it is with God’s will and understanding, and as it is, for us humans, with the *Cogito*, where we can have a guarantee that what we perceive to be impossible really *is* possible.

10 Conclusions

I hope that my interpretation also allows for a weaker reading of the truth-rule. In itself, it does not establish – quite absurdly, given that clear and distinct perception is a purely epistemic notion – that what I clearly and distinctly perceive cannot fail to be true. Instead, it provides me with a criterion of assertability, a rule of evidence, validating the transition of spontaneous assent to *justified* believing something to be true. It thereby enshrines what has been accomplished by the proof that the *Cogito* cannot be doubted even by the furthest-reaching sceptical scenario imaginable. This establishment that even maximal doubt cannot be total justifies the Cartesian thinker in taking his spontaneous assent to be a sign of truth, and not just a caprice of his possibly perverted nature. The *Cogito* thus establishes that clear and distinctly perceived propositions are justifiably taken to be true and hence are possible, while only the proof of the existence of God assures us that what we justifiably take to be true is indeed true. The *Cogito* thus shows that total scepticism about one’s own epistemic instincts is incoherent; that such a scepticism is not only incoherent but unnecessary, is another thing for which a proof of God’s existence is required.

So Descartes’ point is just that it is – not only epistemically, but also metaphysically – more difficult to rule out possibilities than to rule them in. So, after all, he would perfectly agree with Horatio that there indeed are more things between heaven and earth than is dreamt of in his – and our – philosophy.

47. He repeats e.g. in the *Seventh Replies* that the existence of the *res cogitans* is necessary: “...quod initio, cùm supponerem mentis naturam nondum mihi esse satis perspectam, illam inter res dubias enumerarim; postea verò, advertens rem quae cogitat non posse non existere, illamque rem cogitantem nomine mentis appellans, dixerim mentem existere...” (AT VII 473^{7–12})

48. Cf. the following passage from his conversation with Burman: “Ideae pendent quidem a rebus, quatenus eas repraesentant; sed interim non est in rebus contradictio, sed in solis ideis nostris, quia ideas solas ita conjungimus ut sibi repugnent. Non autem repugnant sibi invicem res, quia omnes existere possunt, et sic una non repugnat alii; in ideis autem contra sit, quia in iis res diversas, et quae sibi non repugnant seorsim, conjungimus, et ex iis unam efficimus, et sic contradictio oritur.” (AT V 161) He reiterates the point in the replies: “Omnis enim implicancia sive impossibilitas in solo nostro conceptu [“seulement dans notre concept ou pensée”], ideas sibi mutuo adversantes [“qui se contrarient les unes les autres”] male conjungente, consistit, nec in ullâ re extra intellectum positâ esse potest, quia hoc ipso quòd aliquid sit extra intellectum, manifestum est non implicare, sed esse possibile. Oritur autem in nostris conceptibus implicancia ex eo tanùm quòd sint obscuri & confusi, nec ulla unquam in claris & distinctis esse potest.” (AT VII 152^{12–20}) This has been noted by Bouveresse (1983: 301): “De façon générale, pour Descartes, la non-contradiction formelle n’est pas un principe de possibilité. Le seul critère de l’existence possible est la présence d’une idée claire et distincte. Si nous avons une telle idée, nous n’avons pas besoin d’une démonstration de non-contradiction. Et si nous n’avons pas d’idée claire et distincte, une démonstration formelle de compatibilité entre les constituants de l’idée ne prouve rien quant à l’existence possible.” Like Frege in his exchange with Hilbert, Descartes is simply unable to see the value of proving to be coherent that which we claim or see to be true. As with Frege, this does not mean that Descartes’ notion of truth has to be coherentist, contrary to what Frankfurt (1970: 49) asserted: “The substance of his [Descartes’] “metaphysical doubt” concerning clear and distinct perception [...] is the fear that judgements based on clear and distinct perceptions may be mutually inconsistent.” Frankfurt has later changed his mind, cf. Frankfurt (1978: 37).

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