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Descartes on Mathematical Essences

Raffaella De Rosa and Otávio Bueno

Abstract
Descartes seems to hold two inconsistent accounts of the ontological status of mathematical essences. Meditation Five apparently develops a platonist view about such essences, while the Principles seems to advocate some form of “conceptualism”. We argue that Descartes was neither a platonist nor a conceptualist. Crucial to our interpretation is Descartes’ dispositional nativism. We contend that his doctrine of innate ideas allows him to endorse a hybrid view which avoids the drawbacks of Gassendi’s conceptualism without facing the difficulties of platonism. We call this hybrid view “quasi-platonism.” Our interpretation explains Descartes’ account of the nature of mathematical essences, dissolves the tension between the two texts, and highlights the benefits of Descartes’ view.

Descartes seems to provide two prima facie inconsistent accounts of true and immutable mathematical essences. Meditation Five suggests that Descartes was a platonist about mathematical essences. The Principles suggests that he held some kind of “conceptualist” view about such essences. We argue that, despite recent defenses of either Descartes’ platonism or conceptualism, he was neither a platonist nor a conceptualist. Crucial to our interpretation of Descartes is his dispositional nativism. We contend that his doctrine of innate ideas allows him to endorse a hybrid view that we will call “quasi-platonism” which avoids the pitfalls of Gassendi’s conceptualism without falling into the troubles of platonism. Descartes’ account of the nature of mathematical essences is explained, the tension between the two texts dissolved, and the benefits of Descartes’ considered view are explored.

1. Ideas of Mathematics qua Ideas of True and Immutable Essences

What are ideas of mathematics according to Descartes? Or what do they rep-
resent? Descartes’ answer to these questions is very clear, although its implications aren’t. Ideas of mathematical objects, like the ideas of God and the mind, are ideas of true and immutable essences (T&IEs) and they are contrasted with ideas of fictitious essences (FEs). This contrast emerges, *inter alia*, in a letter to Mersenne, dated 16 June 1641, where Descartes writes that “the ideas of God, mind, body, triangle [...] represent true, immutable and eternal essences” (CSMK, 183), and that these ideas are to be distinguished from ideas that represent FEs (CSMK, 184). In *Meditation Five* and *First Set of Replies*, the fact that the idea of God, like the idea of a triangle, represents a T&IE rather than a FE is the bulwark of Descartes’ ontological proof.

Distinguishing between FEs and T&IEs becomes then crucial for Descartes. A FE, Descartes claims, is an “essence put together by the intellect” (CSM II, 83). To Caterus’ complaint that the ontological argument proves God’s existence only if we already assume it, Descartes replies that deriving the property of something from its essence is question-begging only in the case of FEs (CSM II, 83–4; 46 and 263). In the Letter to Mersenne just mentioned, he explains:

> [...] if from a constructed idea I were to infer what I explicitly put into it when I was constructing it, I would obviously be begging the question; but it is not the same if I *draw out* from an *innate* idea something which was *implicitly* contained in it but which I *did not* at first notice in it. (CSMK, 184, emphasis added.)

In *Meditation Five*, Descartes writes that the innate ideas of God and the triangle “[...] are *not my invention* but have their own *true and immutable natures*” (CSM II, 44–5, emphasis added). And as a way of further explicating the notion of T&IE, he adds: “When, for example, I imagine a triangle, [...] there is [...] a determinate [...] essence [...] of the triangle which is immutable and eternal, and *not invented by me or dependent on my mind*” (CSM II, 44–5, emphasis added). Ultimately, according to Descartes, an important feature of T&IEs (as opposed to FEs) is that they have properties “I clearly recognize whether I want or not” (CSM II, 45–6).³

² Examples are: winged horse, existing lion, triangle inscribed in a square.
³ It has been noticed in the literature that Descartes may have failed to give a successful criterion for distinguishing T&IEs from FEs. (Wilson 1978), for instance, argued that Descartes gives two different criteria for distinguishing T&IEs from FEs: (i) Ideas of T&IEs imply unforeseen and unalterable consequences (see CSM II, 45). (ii) Ideas of T&IEs cannot be analyzed into component ideas (see CSM II, 83–84). Neither criterion, according to Wilson, is adequate. (i) fails because we can easily conjure up an idea of an invented essence that has unalterable and unforeseen implications. (For example, we can conjure up the term “Onk”, and define
If ideas of mathematics are ideas of objects having T&IEs, and the truth of mathematical propositions depends on their conformity to the essence of things (CSM II, 262), it becomes crucial to understand Descartes’ conception of the ontological status of these essences. Are the latter abstract objects, distinct from both particular things and finite minds? Are they immanent in particular objects? Or are they modes of conceiving of particular things, which have no separate existence from either particular objects or finite minds?

2. Descartes on the Ontological Status of T&IEs: Two Opposing Accounts

Descartes offers two prima facie inconsistent accounts of the nature of T&IEs. Some passages suggest that he held a platonist view of mathematical essences, where “platonism” is defined as follows:

Platonism: T&IEs are abstract entities. They exist outside space and time and they are prior to, independent of, and distinct from both particular existing things and the human mind. They would exist (or “subsist”) even if there were no finite minds and no material things.

In Meditation Five, Descartes writes:

[…] when I imagine a triangle, even if no such figure exists or has ever existed anywhere outside my thought, there is still a determinate […] essence, or form of the triangle which is immutable and eternal, and not invented by me or dependent on my mind. (CSM II, 45, emphasis added.)

This passage suggests that Descartes held a platonist view, according to which the essence of a triangle is an extra-mental, abstract entity. Certainly Gassendi interpreted Descartes as holding this view. In criticizing the passage, Gassendi takes himself to be opposing the view that there is a “universal nature [of tri-
angle] before [any particular triangle existed] and before the intellect performed the abstraction” (CSM II, 222, emphasis added).

Anthony Kenny, over the years, has defended this platonist interpretation of Descartes. According to Kenny, Descartes is the founder of modern platonism because “[…] the geometer’s triangle is an eternal creature of God, with its own immutable nature and properties, a real thing lacking only the perfection of actual existence.”4 Kenny’s argument is that given Descartes’ claim that all eternal truths have been created by God (CSMK, 23 and CSM II, 261) by efficient causality (CSMK, 25); and given passages such as the one quoted above from Meditation Five, Cartesian essences are abstract entities independent of both particular existing things and the human mind.1 Hence, Descartes is a platonist about essences.6

Assuming that this is Descartes’ considered view, his “modern platonism” would have to answer the question that mars any kind of platonism, viz., how can a finite mind which is spatially located have knowledge of abstract objects that exist outside space? One could argue that since the Cartesian mind is a thinking un-extended substance that isn’t spatially located, in principle there would be no problem in explaining its access to these abstract objects. The un-located mind “sees” or “grasps” these objects with the “mind’s eyes” (whatever that is).

This may be right but the original problem is not so easily disposed of. The analogy with “seeing” does not help much, since it only goes so far. The mind can’t see these objects since it is in no causal connection with them. Moreover, no mechanism that explains how the mind is “connected” to these objects has been provided. And without some such mechanism, no account of the possibility of mathematical knowledge is on offer. Such mechanism had better be reliable as well; otherwise, the resulting account of mathematical knowledge wouldn’t even be minimally adequate. Interestingly, we can’t find a single place where Descartes tackled these issues. And maybe that’s a hint that his position on mathematical objects didn’t raise these problems.

Various other passages, however, suggest a rather different interpretation of Descartes’ views on mathematical essences. According to these passages,

5 For Descartes’ identification of essences with eternal truths see, for example, Letter to Mersenne, May 27, 1630 (CSMK 25–26) and (Schmaltz 1991).
6 (Kenny 1970, 693–7). For other platonist readings of Descartes’ view of eternal essences, see (Wilson 1978) and (Curley 1978). For interesting criticisms of Kenny’s interpretation, see (Chappell 1997) and (Nolan 1997). More recently, a neoplatonist reading of Cartesian essences has been offered by (Schmaltz 1991) and (Rozemond 2008).
Descartes held what could be called a conceptualist view of essences, where “conceptualism” is defined as follows:

*Conceptualism* (broadly construed): T&IEs are not distinct from existences. Numbers, for example, are nothing distinct from the things numbered. When considered in the abstract or in general, they are merely modes of thinking of things.

In his discussion of number, duration and order in the *Principles*, Descartes very carefully specifies:

> We shall have a very distinct understanding of *duration*, *order* and *number*, provided we do not mistakenly tack on to them any concept of substance. Instead we should regard the duration of a thing simply as a mode under which we conceive the thing in so far as it continues to exist. And similarly we should not regard order or number as anything separate from the things which are ordered and numbered but should think of them simply as modes under which we consider the things in question. (Principles I.55, CSM I, 211; emphasis added.)

Later in the *Principles*, Descartes insists that the distinction between quantity or number and the thing that has quantity or number is only conceptual (see *Principles* II.8, CSM I 226). Finally, in a letter to an unknown correspondent, Descartes writes about the essence of a triangle:

> […] when I think of the essence of a triangle, and of the existence of the same triangle, these two thoughts, as thoughts, even taken objectively differ modally in the strict sense of the term ‘mode’; but the case is not the same with the triangle existing outside thought, in which it seems to me manifest that essence and existence are in no way distinct. The same is the case with all universals. Thus, when I say Peter is a man, the thought by which I think of Peter differs modally from the thought by which I think of man, but in Peter himself being a man is nothing other than being Peter. (CSMK, 280–281, emphasis added)

All these passages suggest that the distinction between the existence and essence of a triangle is conceptual rather than real. Although the ideas of the essence and existence of a triangle are two different ideas capable of existing independently of one another (they differ “modally”, as Descartes puts it), being a triangle is nothing other than being this or that particular triangle. Essence and existence are not really distinct. Essences do not exist in a realm separate from existing things.7

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7 For Descartes’ definition of “real distinction”, “modal distinction” and “conceptual distinction”, see *Principles*, I.60–62 (CSM I, 213–215). Further evidence can be found in (Descartes 1975, 58).
The problem consists in assessing what brand of conceptualism we ought to attribute to Descartes based on the above texts. One may wonder whether, or to what extent, Descartes’ conceptualism is the same as Gassendi’s. According to Gassendi, essences are nothing but the way in which the finite mind classifies, or conceives of, things after having formed the idea based on the observed similarities among things. In particular, for Gassendi, a triangle is “a kind of mental rule which you use to find out whether something deserves to be called a triangle” (CSM II, 223), and whose nature is not distinct from the intellect “which, after seeing material triangles, has formed [it]” (CSM II, 223). Similarly, Descartes suggests that essences and universals are only “modes of thought” that we use “for thinking of all individual items which resemble each other” (CSM I, 212).

However, there are some fundamental differences between Gassendi and Descartes. First of all, by saying that the triangle, when considered in the abstract, is nothing but a mode of thinking of particular things, Descartes doesn’t mean to suggest that the essence of the triangle, for example, is abstracted – in the sense of “extracted” – from observation of particulars. Rather, he means that the triangle is conceived in abstraction from (i.e. independently of) any particular triangles.

Secondly, the essence of a triangle, for both Gassendi and Descartes, is whatever particular triangles have in common. But for Descartes, what these particulars have in common is a function of the idea of the triangle; and, therefore any property we attribute to triangles is grounded in the idea and belongs necessarily to them. Gassendi’s view is the opposite. The idea is based on the observed similarities among particular things and therefore any property we attribute to them doesn’t necessarily belong to them. Consequently, Gassendi’s conceptualism is best understood as the view that essences are ideas that neither designate abstract entities nor correspond exactly to the nature of physical objects.

It’s worth noting that conceptualism à la Gassendi faces at least two problems. First, if mathematical objects are nothing but modes of thinking, it is unclear why they describe so successfully the physical world. Secondly, given the empiricist view on the origin of mathematical ideas, it is unclear how a conceptualist can explain the necessity of mathematical statements.

Alan Gewirth has defended a different conceptualist interpretation of Descartes. He argues that Descartes’ conceptualism is a form of Aristotelianism since “on the Aristotelian interpretation, mathematical essences are quantitative ‘abstractions’ from natural substances; so, numbers are not really distinct
from the things numbered.” Gewirth means that, according to Aristotle, essences are in the objects; and in knowing essences, the mind abstracts from particular objects so that there is no real distinction between essences and things. Notice, however, that this view counts as “conceptualist” only to the extent that essences qua “abstractions” from finite things are not really distinct from them. The distinction between particular things and essences is conceptual because essences exist only where they are instantiated. However, essences aren’t mere ideas because they are literally present in things.

In conclusion, different passages in Descartes’ writings, and different interpretations of them, suggest that Descartes may have held any of the following three accounts of essences:

1. **Platonism**: Essences are abstract entities, distinct from particular things and finite minds.
2. **Aristotelianism**: Essences are in the objects. So they aren’t mere ideas. But given that there are no non-instantiated essences, the distinction between particular objects and essences is only conceptual.
3. **Conceptualism (à la Gassendi)**: essences are nothing but ideas that neither designate abstract entities nor correspond exactly to the nature of physical objects.

What is Descartes’ considered view? In what follows, we argue that Descartes held a theory of mathematical essences that (1) ought not to be identified with any of the three proposals above; (2) dissolves the difficulties raised for both platonism and conceptualism (à la Gassendi) and (3) dissolves the *prima facie* inconsistencies between the passages from *Meditation Five* and the *Principles.*

### 3. Descartes’ “Quasi-Platonism”

Tad Schmaltz, in his “Platonism and Descartes’ View of Immutable Essences”, pointed out that there is no overt effort in the literature to resolve the tension between the two seemingly different accounts of essences that Descartes

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8 Gewirth 1970, 678.
9 In the past (Gueroult 1984), and more recently (Chappell 1997) and (Nolan 1997), have defended a conceptualist reading of Descartes’ view on essences.
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offers in different texts. As he puts it, “Kenny did not confront the apparent implications of the *Principles* that immutable essences cannot be distinct from created material and mental substances, while Gewirth and Gueroult failed to explain the contention in *Meditation V* that immutable essences can be identified with properties neither of finite minds nor of particular bodies.”

Schmaltz’s view is that the two accounts above can be reconciled by attributing to eternal essences and truths the same ontological status that laws have, *viz.*, that of divine decrees or “moral entities”. Like laws of nature, eternal essences and truths are divine commands imprinted in the heart of man rather than being special entities created by God.

We are sympathetic with Schmaltz’s proposal to reconcile these two accounts but we believe that there is a more straightforward way to do so. Descartes was, as we will call it, a “quasi-platonist” about essences: his quasi-platonism consists precisely in his avoiding the pitfalls of Gassendi’s conceptualism without falling into the difficulties of platonism. This quasi-platonism can be more simply explained within the framework of Descartes’ dispositional nativism. Here’s our view.

Dispositional nativism, broadly construed, is the view that an idea is innate if, and only if, the mind has the innate disposition to form that idea under appropriate circumstances. The *locus classicus* of Descartes’ endorsement of dispositional nativism is a passage from the *Comments on a Certain Broadsheet* where Descartes claims that ideas are innate in the mind in the same way in which certain diseases are innate in certain families. As children of those families are not born with the disease but with the *disposition* to contract it later

10 (Schmaltz 1991, 134).
12 We don’t deny that there are sparse suggestions in (Schmaltz 1991) that Descartes’ doctrine of innate ideas may offer a solution to the problems of reconciling the two sets of texts. However, Schmaltz overall *underplays* the role of dispositional nativism in explaining the consistency of Descartes’ view. His aim is to avoid the platonistic interpretation of Descartes without thereby falling “into the Charybdis of the abstractionist interpretation of Gueroult and Gewirth” (Schmaltz 1991, 162–163). According to Schmaltz, the abstractionist interpretation “cannot accommodate the claim in *Meditation V* that the immutable essence of a triangle does not depend on human thought” (*ibid.*, p. 163). However, when Schmaltz does draw a connection between the innateness of ideas of essences and the claim that essences are divine decrees (see, for example, *ibid.*, p. 162), he doesn’t expand on this proposal.
in life, so we are not born with certain ideas but with the disposition to form them later in life.\textsuperscript{13}

Despite the problems one may raise against a dispositional form of nativism, the pressing issue at this point is: How does Descartes’ dispositional nativism (however spelled out) relate to his “quasi-platonism”?

We take Descartes’ considered view – at least with regard to mathematical essences – to be as follows. Essences, when considered in the abstract, are only \textit{modes of conceiving things} as opposed to being either immanent forms (\textit{contra} Aristotle) or forms subsisting in a “third realm” (\textit{contra} Plato). By claiming that essences are modes of thought, Descartes is distancing himself from (at least orthodox) Platonism and Aristotelianism.

However, in claiming that essences are modes of thought, Descartes is \textit{not} endorsing a conceptualism \textit{à la} Gassendi, according to which essences are ideas \textit{formed} by the finite mind \textit{after} having observed particular things. Rather, these essences are \textit{God-given} or innate ideas; they are God’s way of predisposing our minds to think of, and represent, things in certain ways.\textsuperscript{14}

So Descartes’ view that essences are nothing but universal \textit{ideas} implicitly encloses three criticisms: (a) it opposes platonism about mathematics, since it denies that numbers are prior to, independent of, and distinct from both material things and the human mind; (b) it opposes Aristotelianism for universals are modes of thinking that do not have a common foundation in things;\textsuperscript{15} and, (c) it opposes Gassendi’s conceptualism because, according to Descartes, essences are to be identified with innate ideas. It follows that Descartes’ view cannot be identical to any of (1)-(3) above.

But one could object that claiming that, according to Descartes, essences are to be identified with innate ideas doesn’t \textit{per se} rule out platonism because ideas can be abstract objects that the finite mind apprehends. Alternatively, one could inquire, are innate ideas \textit{abstracta}, according to Descartes?

Answers to this question may vary depending on one’s views on what Des-

\textsuperscript{13} See CSM I 303–304. For a detailed account of Descartes’ dispositional nativism, see (De Rosa 2000) and (De Rosa 2004).

\textsuperscript{14} (Chappell 1997) and (Nolan 1997) have defended a similar view. Despite apparent similarities between our readings of Descartes, our argumentative strategies are different. According to Nolan and Chappell, Descartes is a conceptualist. But, according to us, Descartes’ view is more nuanced since it contains elements of platonism. One of the authors (De Rosa) is currently writing a second paper on the topic that explains the theoretical reasons why Descartes cannot be regarded as either a conceptualist or a platonist.

\textsuperscript{15} See on this, for example, (Bolton 1998).
Descartes’ account of ideas is. If one is inclined to explain the intentionality of ideas by postulating an object of thought that mediates the mind-world relation, then it is easy to think of ideas as abstract objects that the finite mind apprehends. However, there are good grounds to believe that this was not Descartes’ considered view. According to Descartes, ideas of T&IEs are general ideas, and these ideas are mental representations (as opposed to abstracta) with an intentional content whose properties mislead us into thinking that Descartes is postulating abstract objects.

In particular, we contend that we make the mistake of inferring that Descartes is postulating abstract objects when he talks about ideas of T&IEs because of two features he attributes to the content of these ideas: (a) the mind cannot manipulate the intentional content of these ideas. And (b) these ideas are prior to, and independent of, the material things they represent. Let us consider features (a) and (b) in turn.

In several places, Descartes talks of ideas of mathematics as having a content that hasn’t been put together by the intellect and, hence, is “real” to the extent that it is mind independent (CSM II, 45 and CSM II, 83–86). These are the passages that provide the strongest support for the platonist interpretation of Descartes.

However, it is possible to read the text in an alternative way. By saying that ideas of mathematics are ideas of true and immutable essences that are not dependent on the mind, Descartes is saying that ideas of mathematics are ideas whose representational contents include properties such that if they were removed the idea would cease to be what it is. For example, the representational content of the idea of triangle implies “true and immutable” properties such as having three angles, having the sum of the interior angles equal to two right angles and so on.

It is easy to mistake the features of these ideas for the features of abstract objects that these ideas would stand for. It is the immutability of the properties of the representational content of ideas through which we conceptualize objects that suggests realism about essences and (given Descartes’ mechanism and anti-aristotelianism) a platonist kind of realism according to which there are abstract entities that the mind simply apprehends.

Certainly platonism would explain the mind independence of the content of these ideas, but inferring platonism from mind independence is hardly the only possible explanation. The mind independence and “realism” of the content of these ideas can also be explained by the mind’s inability to conceptualize objects in ways other than the ways in which it does. In conclusion, the mistake consists in passing off the immutable character of the represen-
tational content through which our mind conceptualizes things for abstract objects of which sensible things are mere copies and which the mind simply apprehends.\textsuperscript{16}

It is also undeniable that Descartes argues in several places that ideas of geometrical figures, for example, are in the mind prior to, and independently of, the actual existence of the objects they represent. Besides the passages from \textit{Meditation Five} quoted above, there are other places where Descartes maintains that we would have the idea of triangle even if no particular triangle ever existed. Gassendi raised the question as to whether Descartes thought that one could have the idea of triangle (CSM II, 223), of God and the self (CSM II, 216) if one never had any senses. In reply, Descartes writes:\textsuperscript{17}

\begin{quote}
I do not doubt that the mind [...] \textit{would have had exactly the same ideas of God and itself that it now has}, with the sole difference that they would have been much purer and clearer. \textit{The senses often impede the mind in many of its operations, and in no case do they help in the perception of ideas.} The only thing that prevents all of us noticing equally well that we have these ideas is that we are too occupied with perceiving the images of corporeal things. (CSM II, 258, emphasis added.)
\end{quote}

According to Descartes, the senses play either \textit{no} or, at best, an \textit{obstructive} role in our having the ideas of God, the self and the triangle. We would have these ideas even if we had never had any senses. This is established by the fact that we have clear and distinct ideas of things of which either no instances can be found in the material world (such as the idea of God and the self) or

\textsuperscript{16} For a similar reasoning see (Nolan 1997, 18 1–184). Nolan's argument is as follows. When Descartes talks about immutable essences that do not depend on the mind he only means to say that the ideas of geometrical objects – being innate, as opposed to invented, ideas – do not depend on the mind \textit{causally}. Rather, they causally depend on God. But denying that these ideas are causally dependent on our mind does not imply denial of their ontological dependence on the mind. Conceptualism is then vindicated. Despite some similarity, our argument is different. We agree with Nolan that the mind-independence of ideas of mathematical essences does not justify attributing to Descartes a platonist kind of realism according to which there is a realm of abstract entities that are distinct from God, finite minds and things. But we are not so sure that this reasoning proves conceptualism. We want to say that, according to Descartes, the content of these ideas is mind-independent because we cannot manipulate it. And we cannot manipulate it because these ideas are given to us by God. But if God gives us these ideas, they must also be in God's mind. Needless to say, this conclusion threatens Nolan's conceptualist interpretation.

\textsuperscript{17} Although Descartes' answer addresses only the ideas of God and the soul, what he says here can be easily extended to the idea of triangle too.
no instances need to be found in the material world (such as the ideas of the triangle and the chiliagon).

Moreover, in the same set of replies to Gassendi, Descartes makes the stronger point that the idea of triangle cannot depend on the existence of particular triangles because it is the precondition for recognizing particular shapes in space as triangles in the first place (see CSM II, 261–262).

This feature of geometrical ideas, viz., the fact that they exist in the mind innately as the precondition for recognizing shapes in space can be, again, easily conflated with the platonist view that there is a world of abstract entities that exist prior to, and independently of, particular and sensible things. Descartes’ claim that ideas of geometrical figures are prior to, and independent of, particular things together with Descartes’ talk of these ideas as ideas of essences engenders the conclusion that Cartesian essences are prior to, and independent of particular things (in the same way in which the platonist’s abstract entities are). However, this reasoning is sound only on pain of ignoring Descartes’ claim that essences are nothing but our ways of thinking of things in abstraction from them. And if essences are nothing but ways of conceiving of things, then their being prior to, and independent of, particular things are properties belonging to the ideas alone and cannot transitively be attributed to essences. The mistake consists in passing off the innate character of the ideas for the ontological status of the essences they would stand for.

This concludes the presentation of our interpretation of Descartes’ view on mathematical essences. But why should we call this view “quasi-platonism”? The label seems to be misleading since platonism suggests the postulation of abstract objects and we’ve argued that Descartes’ apparent belief in abstract entities is only the result of the features of general ideas. After all, one may argue, Descartes’ view on essences is conceptualist to the extent that he grants them a being of reason and the features that he attributes to universal ideas (nativism and realism) don’t suffice to make him a platonist of any sort. However, since platonism about mathematical essences is indeed associated with realism and nativism (more commonly than conceptualism maybe), we believe that “quasi-platonism” is an appropriate way to describe Descartes’ position on mathematical essences. The prefix “quasi” indicates the non-genuine character of his platonism; but the term “platonism” (better than conceptualism) brings about the associations to the properties of realism and “being prior to/independent of particular things” that Descartes attributed to innate ideas. Moreover, the term “quasi-platonism” better captures Descartes’ belief that
these innate ideas are God-given and, hence, must also be present, in some sense, in God’s mind.\(^\text{18}\)

Of course, how one refers to Descartes’ position is, ultimately, only a terminological issue. As long as it’s clear what position he held, no misunderstanding should emerge. Descartes was neither a platonist nor a conceptualist, but he developed an interesting alternative between these two extremes. And that’s what the term “quasi-platonism” is meant to convey.

4. Benefits of Descartes’ Quasi-Platonism and the Eternity of Mathematical Truths

In this section, we will discuss some of the benefits Descartes’ view on essences has over platonism and Gassendi’s version of conceptualism, and how Descartes’ quasi-platonism is compatible with the eternity of mathematical truths.

Descartes’ view fares better than platonism in explaining the possibility of mathematical knowledge for several reasons. First, the problem of explaining mathematical knowledge is simply dissolved, since the objects of mathematics are ideas, or ways of thinking of the physical world.\(^\text{19}\) As Descartes writes to Mersenne, there is no single truth that the mind cannot understand if it turns to consider it, because these truths “are inborn in our minds” (CSMK, 23).

Secondly, Descartes provides a method/mechanism (namely, the skeptical method of doubt) through which the mind can turn to consider the ideas and truths of mathematics inborn in our minds. Thirdly, assuming that the method of doubt can isolate the class of genuinely inborn, clear and distinct ideas, these ideas are reliable indicators of truth given the non-deceiving nature of God. So, for example, in Meditation Five and First Set of Replies, Descartes claims that every property we clearly and distinctly understand to belong to the true and immutable essence of a triangle “really does in fact belong to it” (CSM II, 45). This is obtained, in particular, by drawing conclusions from the content of mathematical ideas. Given the ideas of natural number, one cannot deny that \(2 + 2 = 4\) without facing a contradiction (CSM II, 25). Or we “can draw

\(^{18}\) This is precisely the reason why Marleen Rozemond, in (Rozemond 2008), calls Descartes’ view “neo-platonist” and argues, contra (Nolan 1997), that Cartesian essences must be something more than ideas in the minds of human beings.

\(^{19}\) This point is fleshed out, in a more contemporary context, in (Bueno 2005).
out from the idea of the triangle that its three angles equal two right angles” (CSMK, 184).

Also Descartes’ view fares better than Gassendi’s conceptualism in explaining the usefulness of mathematics for scientific theories. If geometrical objects, according to Gassendi, are nothing but modes of thinking of things that do not exactly correspond to them, it is unclear why they describe so successfully the physical world. But, according to Descartes, (i) what particular triangles (for example) have in common is a function of the idea of triangle; and therefore any property we attribute to triangles is grounded in the idea and belongs necessarily to them. And (ii) given the existence and non-deceiving nature of God, material things “possess all the properties which I clearly and distinctly understand, that is, all those which viewed in general terms are comprised within the subject of pure mathematics” (CSM II, 55). So, according to Descartes, the language of mathematics describes successfully the physical world because it captures its true nature.

Moreover, Descartes’ quasi-platonism explains the necessity of mathematical statements better than Gassendi’s conceptualism. Since, according to Gassendi, the truth of mathematical statements is grounded in the observation of things such statements are only empirical generalizations. According to Descartes, instead, mathematical truths are grounded on ideas. And since any property we attribute to mathematical objects is grounded on the idea of these objects and belongs necessarily to them, mathematical truths are necessary truths.20

However, one may object that even if Descartes can explain the necessity of mathematical truths better than Gassendi, he (like Gassendi) cannot explain the eternity and immutability of mathematical truths. After all, mathematical essences are mental entities and the latter are neither eternal nor immutable.

Descartes has at least two possible explanations of the eternity and immutability of mathematical truths. First, the eternity of mathematical truths may be read as a function of the immutability of the content of the innate ideas through which we conceptualize objects. Given that the content of these ideas contains the description of the essential properties of things, and these ideas are God-given and not subject to our manipulation, essences are said to be eternal or immutable.21

20 According to us, the claim that mathematical truth is a matter of conceptual entailment among ideas is compatible with the Cartesian view that eternal truths ultimately depend on God’s will. After all, God imprinted mathematical ideas, among others, in our minds.

21 This view has been defended by (Bennett 1994) and (Chappell 1997). See also (Wilson 1975, 120–131).
Secondly, if “eternity” is to be taken literally rather than as a synonym of “immutability”, we may say that mathematical essences \textit{qua} ideas are eternal \textit{because} they depend on the will and understanding of God (see CSM II, 261). This second alternative makes a virtue of what is generally taken to be a vice of Descartes’ account of the eternity of mathematical truths. It is a common objection that Descartes’ doctrine of the creation of eternal truths together with his voluntarism is inconsistent with their eternity.\footnote{See, for example, CSM II, 281 and CSM II, 294.} But if what grounds the truth of mathematical statements is God’s will and God’s will is unchangeable, there is no room for any change in the truth-values of mathematical statements. As a result, mathematical truths are indeed eternal.\footnote{See, for example, CSM I, 93, CSM I, 211, and CSM I, 240.}

Note that we shouldn’t interpret Descartes’ voluntarism as the view that it is possible for God to will that eternal truths be otherwise, for two reasons. First, the claim that it is possible for God to will that eternal truths be otherwise presupposes (at least under one reading of it) that there are possibilities prior to God’s willing them to be so, and that God decided to will one rather than the others. But Descartes claims that “it is self-contradictory to suppose that the will of God was not indifferent from eternity with respect to everything which has happened or will ever happen; for it is impossible to imagine that anything is thought of in the divine intellect as good or true […] prior to the decision of the divine will to make it so” (CSM II, 291). Descartes further explains that “if some reason for something’s being good has existed prior to its preordination, this would have determined God to prefer those things which it was best to do” (CSM II, 294).\footnote{For a detailed defense of this view, see (Kaufman 2002).} In conclusion, since divine indifference is the precondition of God’s freedom, the scope of what’s possible is determined by what God actually wills.

Still, one may insist, the freedom of God’s will is certainly compatible with a change in God’s will. This is certainly true – in principle. However, and this is our second reason, in a letter to Mersenne, Descartes replies to the objection that God could change the eternal truths: “Yes, he can \textit{if} his will can change” (CSMK, 23). However, in many places Descartes firmly denies that God’s will can change (see, e.g., CSM II, 281 and CSM II, 294). Thus, taking the “if” above as an “only if”, the eternal truths can’t change either.

Notice that the move above – namely our grounding the eternity and immutability of mathematical truths on God’s will and understanding – brings out another reason why we believe Descartes is a quasi-platonist rather than
a full-fledged conceptualist. Conceptualist readings, like (Nolan 1997) and (Chappell 1997), maintain that mathematical essences are primarily ideas in human minds. However, we believe that this reading doesn’t do full justice to Descartes’ view that these essences are created by God. If God created these essences as ideas in human minds, they must also exist in God, either as divine decrees, as (Schmaltz 1991) suggests, or as objective beings in God’s mind, as (Rozemond 2008) claims. So, ultimately, even if essences are ideas in human minds, they are also ontologically dependent on God, and in this respect, Descartes’ position is quasi-platonist.

5. The Textual Inconsistency Dissolved

Let us now show that Meditation Five is consistent with the Principles in light of Descartes’ quasi-platonism and dispositional nativism.

Undeniably, some passages in Meditation Five seem to indicate that T&IEs are platonic essences subsisting in an extra-mental and extra-physical realm, since Descartes suggests that they are prior to, and independent of, material things and human minds. However, in the Fifth Replies, Descartes emphasizes that the idea of the triangle and the like do not come from the senses. In light of this point, we can legitimately interpret Descartes’ claim in Meditation Five that T&IEs are independent of the existence of particular things and finite minds as simply making the negative point that the content of mathematical ideas is not a construct of the mind based on the observation of things. The innateness of the idea of triangle explains why Descartes says that this is the idea of an object that has a T&IE.

The innateness of these ideas explains, moreover, why we “have” the idea of the triangle even if no triangle ever existed or was ever observed by us. Again, the claim in Meditation Five that we have these ideas even if no particular object existed doesn’t necessarily commit Descartes to platonism. The claim that the idea of triangle is the precondition for perceiving things in space as triangles is mistaken for the claim that the idea of triangle stands for an abstract object existing prior to particular triangles.

Needless to say, the view that Cartesian “essences” are nothing but the innate ideas implicitly guiding our representation of things is compatible with

25 For a similar point, see (Schmaltz 1991).
the view of the *Principles* according to which triangularity is nothing but a mode of thought. But the emphasis on the innateness of the modes of thought explains the sense in which we should interpret the conceptualism suggested by the *Principles*. By claiming that essences are modes of thought, Descartes is making the *negative* point that they are neither platonic nor aristotelian forms, rather than the *positive* point that essences are constructs of the finite mind based on the observation of things. And the innateness of the modes of thoughts prevents the inference from the negative point to the positive point. That’s why Descartes’ brand of conceptualism is different from Gassendi’s.

In conclusion, the innateness of ideas of mathematics provides a coherent interpretation of both the *Principles* and *Meditation Five* by attributing to Descartes a hybrid view that isn’t identical with either platonism or conceptualism.

6. Conclusion

Our analysis of the ontological status of T&IEs established that they are *not*, contrary to what some passages seem to suggest, entities subsisting in an abstract “third realm”. Rather they are *innate* or God-given modes of thinking of things. T&IEs are “engraved” in the mind and, unknowingly to us, “guide” our thoughts rather than being the object of these thoughts.

As a result, Descartes is neither a platonist nor a conceptualist about mathematical essences. His dispositional nativism allows him to hold a hybrid view, quasi-platonism, that has the benefits of solving the textual inconsistency without falling into the troubles of either platonism or conceptualism.

References


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