

# Descartes on God and Duration, Revisited

*Jean-Luc Solère*

Boston College / CNRS—PSL, LEM (UMR 8584)

*Nicholas Westberg*

Boston University

**Abstract:** This article aims to establish that Descartes accepted the scholastic view that God’s duration in itself (“eternity”) is not successive but “all at once,” as opposed to temporal things’ durations. Though most scholars have assumed this to be Descartes’ view, Geoffrey Gorham recently called it into question with a number of strong arguments. We contest his interpretation on multiple grounds. First, we show that when Descartes asserts that a duration which is “all at once” is “inconceivable,” he is not making a metaphysical claim but, rather, is making an epistemological one, based on the limitations of the human intellect in understanding the attributes of God. Second, we object to a number of Gorham’s systematic reconstructions of Descartes’ views. He argues among other things that divine simplicity is consistent with temporal parts and that the laws of Cartesian physics require God to have temporal parts. We refute these claims based on Descartes’ fundamental metaphysical commitments. We thus conclude that Descartes does not think that, *per se*, God’s existence unfolds successively, moment after moment.

**Keywords:** Descartes, divine eternity, theories of duration, scholastic philosophy, Conversation with Burman, imaginary time

## 1. Introduction

Most scholastic philosophers maintained that God is eternal, that is to say, as according to an expression borrowed from Boethius, that God’s entire existence obtains “all at once” (*tota simul*)<sup>1</sup> and is therefore foreign to time: it does not unfold over successive moments or parts, but instead is given as a whole in one single permanent instant. Many scholars in the twentieth and twenty-first centuries have assumed that Descartes admits a distinction between successive and non-successive existence and adopts the

<sup>1</sup> See *Consolatio Philosophiae*, V, prosa 6, 4, l. 9–10, ed. Moreschini, 155: “Aeternitas igitur est interminabilis vitae tota simul et perfecta possessio” / “Eternity, then, is the whole, simultaneous possession of boundless life” (transl. Tester, 423).

scholastics' thesis that God's duration is eternal, that is, non-successive, established in an unchanging present. Recently, however, this interpretation has been called into question. Geoffrey Gorham has argued that Descartes offers apparently conflicting claims about God's duration (Gorham 2008, 415–17).<sup>2</sup> In the transcription of an April 1648 conversation with a theology student named Frans Burman, he seems to deny that this usual conception of eternity is even possible and insists that we cannot but conceive God's duration as being successive and divisible (AT V, 148).<sup>3</sup> However, just two months later, in a letter of June 1648 to Antoine Arnauld, he seems to endorse the thesis that God's duration is "tota simul," contrary to that of the human mind (AT V, 193; CSMK, 355). To solve the problem, Gorham has argued that, when writing to Arnauld, Descartes just pays lip service to the traditional formula, and instead does think that, as he says to Burman, God's duration is successive, temporal (even though endless), just like that of creatures. As a result, Descartes would be part of the emerging seventeenth-century trend that rejected the classical notion of eternity and acknowledged only everlastingness in God (Melamed 2016, 130–32).

One might simply reply that the *Conversation with Burman* is not a work by Descartes but is instead the transcription of an oral discussion (which transcription was not even penned by Burman himself, but by Clauberg, who was not present at the meeting with Descartes, and to whom Burman recounted the content of the discussion from notes he had taken). Without going as far as excluding it entirely from the Cartesian corpus as Ferdinand Alquie did, one should be cautious and follow Roger Ariew's recommendation (Ariew 1987, 141–42) that it may be used as evidence to determine Descartes' thinking only if what is said in it does not conflict with what Descartes elsewhere penned with his own quill—in which case, if there is a contradiction between them, the letter to Arnauld should take precedence over the pronouncement allegedly collected by Burman.

However, we will not follow this path. Rather than contest the authoritative status of the interview of Descartes by Burman (which remains an open question), we will challenge Gorham's novel interpretation by showing that in fact the statement made in the *Conversation* does not in fact imply that Descartes repudiates the traditional conception of God's eternity, while reflecting one aspect of Descartes' genuine thinking on the topic. We will proceed with the following order of exposition. Section 2 will outline Descartes' views on time and duration and the relevant scholastic context. Section 3 will consider the potentially contradictory texts, along with Gorham's recent interpretation of them. We'll propose an alternative explanation in section 4: while Descartes does believe that God's duration in itself obtains "all at once," his claim to Burman concerns limitations in the human intellect's ability to conceive God's attributes, which oblige us to represent to ourselves his eternity as an infinite succession, akin to the scholastic notion of "imaginary time." Thus, there is no contradiction between affirming that God's duration is *tota simul* and recognizing that we cannot comprehend what that sort of duration is like in itself.

<sup>2</sup> More recently, Melamed 2016, 130–31, 138–39, has echoed Gorham's observations.

<sup>3</sup> Passage only partially translated in CSMK, 335.

Finally, section 5 will refute Gorham's further argument that it is necessary for Descartes to ascribe successive duration to God in order to be able to derive, as he intends to, the fundamental laws of nature from his metaphysical principles. We conclude that Descartes does not think that, *per se*, God's existence unfolds successively, moment after moment.

## 2. Descartes' Ontology and Epistemology of Time and Duration, and Its Scholastic Context

### 2.1 Time as Measurement

Following scholastic-Aristotelian precedent, Descartes distinguishes duration from time (Solère 1997, 329–33; Gorham 2007, 34–35).<sup>4</sup> As for time itself, he adopts a deflationary account that had been defended by Ockham in the fourteenth century, based on Aristotle's famous definition of time as "the number of motion with respect to the before and after" (Aristotle *Phys.* IV, 11, 219b 1–2):<sup>5</sup> time has no *sui generis* being of any sort; the term "time" is simply a connotative term that refers to any mobile whatsoever (i.e., not necessarily the *primum mobile* or another heavenly body) insofar as its motion is used to measure the motion or rest of another mobile (Solère 1999, 302–304). For instance, to say that a person completed the Boston marathon in three hours and stayed in bed for eight hours is really to say that her running (the motion to be measured) or her resting (to be measured too) coincided with respectively three and eight complete revolutions (another motion) of the hour hand on a watch. Considered in terms of its nature, then, we can summarize that time is a relational, functional property. Even though the physical existence of motion, which is conception-independent, is a necessary condition for measurement, the reality of time is entirely mental, because the relation between the measuring motion and what is being measured exists only insofar as it is conceived. As Descartes says, "[time] is simply a way of thinking" (*Pr.* I.57 AT, VIII 27; CSM I, 212).<sup>6</sup>

<sup>4</sup> Sometimes, however, Descartes, speaking more loosely, does not distinguish one from the other, as Levy (2005, 659) notes. For instance, in *Med. III*: "For it is quite clear to anyone who attentively considers the nature of time that the same power and action that are needed to preserve anything at each individual moment of its duration would be required to create that thing anew if it were not yet in existence" (AT VII, 49; CSM II, 33). See also *Pr.* I.21: "(...) temporis sive rerum durationis naturam; quae talis est, ut ejus partes à se mutuò non pendeant, nec unquam simul existent" (AT VIII, 13).

<sup>5</sup> For historical scholarship on Aristotle's view of time, see Annas 1975 and Coope 2005. For medieval views of time, see Maier 1955; Suarez-Nani 1989; Jeck 1994; Porro 1996; and Porro 2008, as well as the various contributions in Porro (ed.) 2001b.

<sup>6</sup> "Ita cum tempus a duratione generaliter sumpta distinguimus, dicimusque esse numerum motus, est tantum modus cogitandi." For careful analysis, see Gorham 2007, 34–35. He rightly notes that many Anglo-American scholars, such as Clarence Bonnen and Daniel Flage, have overlooked the distinction between time and duration in Descartes.

## 2.2 Duration and Existence

Duration is something very different. “*Duratio*” was a scholastic term referring to the persistence of a thing’s existence.<sup>7</sup> For the schoolmen, it is a notion distinct from that of time because time is the quantity (“numbered number”) found in things inasmuch as they are changing along one of the three kinds of accidental motions (local motion, alteration, augmentation/diminution). It is not the measurement of the being of the things that are changing, but the measurement of their changing itself (or, indirectly, of their resting). Whereas time is inseparable from change and succession (no change, no time), many durations are not temporal because there is no succession in them, as we will see in the next section (2.3).

Descartes too understands that notion as related to existence.<sup>8</sup> He shares the scholastic relativistic conception of it: duration is not a universal, independent form, but the concrete duration of a given thing (only the measure is common to different durations), and there is no duration except insofar as things exist, which leads him to argue against Henry More that there would be no duration in the nothingness that would separate God’s annihilation of the world and its re-creation (Letter to More, April 15 1649, AT V, 343).<sup>9</sup>

Descartes’ identification of duration and existence shows that in one crucial way his conception is distinctly Suarezian. The question of whether duration is really distinct from existence was classically debated in Scholasticism, and Suárez decides in favor of a distinction of reason (*Disp. met.* L, sect. I, §5, 914b).<sup>10</sup> To exist is to endure, and so duration adds no feature to existence.<sup>11</sup> All we can do is distinguish existence and duration as two points of view on the same reality. It should be noted that these two points of view are that of production and conservation, and that the

<sup>7</sup> See for instance Suárez, *Disputationes metaphysicae*, L, sect. I, §1, 913a: “Dicitur enim durare res, quae in sua existentia perseverat.” It is a view circulated in popular textbooks by Descartes’ contemporaries. See Eustachius a Sancto Paulo, *Summa Philosophiae Quadrupartita*, Physica, pars 1, tract. 3, disp. 3, quaest. 1, 93: “Duratio quae potest dici permanentia seu mora rei in suo esse (. . .).” Abra de Raconis, *Physica*, tract. 3, sectio prima, 126, who refers to Suárez: “Duratio nihil aliud est quam permanentia rei in esse, seu existentia. Dicitur permanentia, ut intelligas res tantum proprie durare quae in suo esse perseverant, non autem illas quae momento tantum existunt, ut sunt generatio et corruptio, etc. Additur in esse, seu in existentia, quoniam, ut recte notat subtilis Suárez 2 tom. Metaph. Disp. 50 q. 1 num. 10, duratio rei tantum existenti proprie attribuitur, non autem rei secundum solam essentiam consideratae.”

<sup>8</sup> For further details on Descartes’ relation to scholastic understandings of duration, see Solère 1997, 329–331. For a useful overview of scholastic notions of duration and time which were available in Descartes’ context, see Daniel 1981.

<sup>9</sup> “Puto implicare contradictionem, ut concipiamus aliquam durationem intercedere inter destructionem prioris mundi et novi creationem.”

<sup>10</sup> Cf. §7, 915a–b: “(. . .) ex vi solius existentiae absque ulla alia re, vel modo distincto superaddito, res durat”; “(. . .) permanentia ipsius esse non est aliqua res, vel modus realis superadditus ipsi esse, ergo nec duratio”; “(. . .) rem permanere, nihil aliud est quam eademmet existentiam retinere.” This position was not commonplace. The Conimbricenses, for example, talked of a modal distinction “ex natura rei”: the notion of existence consists only in things being “outside their causes,” but duration signifies in addition an extension, or a certain interval of existence (*Commentariorum Collegii Conimbricensis in octo libros Physicorum Aristotelis*, prima pars, l. IV, q. II, a. 2, 137 C).

<sup>11</sup> Duration does not even add the idea of measurement to existence, Suarez specifies, for a measure does not measure what it is in but measures another entity. It is time (or rather, a reference movement for another movement) that is a measure.

question of duration is thus, as with Descartes, intimately linked to that of continuous creation.<sup>12</sup> A thing exists insofar as it is produced by God, and remains in existence insofar as it is preserved by God. And just as creation and preservation are one and the same action, existence and duration cannot be distinguished except by thought. Duration adds nothing to existence, but expresses the dependence of its persistence on the creative cause.

Even though his remarks on time and duration are sparse and scattered, Descartes is very careful to outline in his turn some important details about the ontology and epistemology of duration, clarifying what sort of attribute duration is and explaining how the human mind comes to apprehend it.

Duration, he says, is one of the “simple natures” (more precisely, one of those that are common to minds and bodies) whose knowledge is so clear and distinct that they cannot be broken down into more distinct forms of knowledge (*Regulae* XII, AT X, 418–19).<sup>13</sup> In a letter to the Palatine princess Elisabeth, he also presents it as one of the few “primitive notions” (i.e., on which all the rest of our knowledge is based), and one of the three most general (with being and number) that are applicable to all the things we can conceive of (AT III, 665).

Ontologically, duration is an intrinsic “attribute” of a thing, rather than a relational and extrinsic one (*Pr.* I.56, AT VIII, 26).<sup>14</sup> As opposed to “real modes” or “modes of a thing,” an attribute is a “mode of thinking” (*modus cogitandi*) about a substance, a way of looking at it, if you will, by focusing on one of its properties. The property thus singled out is distinct from the substance only by a formal distinction or distinction of “reasoned reason,” i.e., a distinction made by our reason, but on the basis of some “foundation” in the thing (Letter to Mesland [?] 1645 or 1646, AT IV, 349).<sup>15</sup> In other words, a substance cannot be without its attributes, contrary to any particular mode (such as, for a body, its figure). For instance, we can think of the essence of a substance without its existence or vice-versa, but they are not different *a parte rei*. Likewise, we can focus on the existence of a thing inasmuch as it endures, is stable (even within certain limits), without thinking of its other properties; but its duration is really identical with that thing (*Pr.* I.62, AT VIII, 30).<sup>16</sup> Thus, just like time, duration is “a way of thinking” about a thing. But, contrary to time (which is

<sup>12</sup> *Disp. met.*, L, sect. II, §11, 919a–b: “( . . . ) dicitur facile existentiam et durationem distingui ratione, sicut productionem et conservationem, nam existentia dicit actualitatem rei extra causas suas absolute, et non connotando praeexistentiam aliquam; duratio vero dicit perseverantiam aliquam in eadem existentia, quae perseverantia non est aliquid distinctum ab ipsa existentia, sed connotat secundum nostrum concipiendi modum praeexistentiam ejusdem existentiae, seu quod talis existentia concipi possit ut existens ante quodlibet instans, pro quo durare dicitur.”

<sup>13</sup> Cf. Suárez, *Disp. met.*, L, sect. I, § 1, 912b: “Quod duratio aliquid in rebus sit, per se notum est ( . . . )”

<sup>14</sup> “Et etiam in rebus creatis, ea quae nunquam in iis diverso modo se habent, ut existentia et duratio, in re existente et durante, non qualitates, aut modi, sed attributa dici debent.”

<sup>15</sup> Cf. *First Replies*, AT VII, 120–21, and *Pr.* I.62 (AT VIII, 30). For more on the numerical identity of attribute and substance, see Arthur 1988.

<sup>16</sup> “Ut quia substantia quaevis, si cesset durare, cessat etiam esse, ratione tantum à duratione suâ distinguitur ( . . . ).” A substance and one of its properties are merely conceptually distinct when “we are unable to form a clear and distinct idea of the substance if we exclude from it the attribute in question” (AT VIII, 30; CSM I, 214). However, the letter to Mesland referred to above specifies that it is more than a simple

an external measurement), it is an intrinsic, mind-independent property of the thing. Things endure regardless of any human thought about them.<sup>17</sup>

So, as Descartes puts it, “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” (*Pr.* 1.55, CSM I, 21).<sup>18</sup> This makes it an aspect of existence, rather than an aspect of any particular essential nature or property. As a consequence, anything which has real existence (as opposed to mere beings of reason) has duration, and in this respect there is no difference between material and non-material things.<sup>19</sup>

### 2.3 Successive Durations, Aevum, and Eternity

These connections with some scholastic views notwithstanding, Descartes parts ways with Suárez and other schoolmen with respect to the subdivisions of duration. Regarding creatures, he unequivocally abrogates the essential distinction between permanent and successive duration (to be explained momentarily). The question that concerns this paper is whether he does the same with God.

For the standard scholastic model,<sup>20</sup> duration being identified with existence, duration comes in diverse modes, according to the modes of existence, since things happen to exist in different ways. Different sorts of existence have different types of duration.<sup>21</sup>

---

distinction of reasoning reason without a foundation in the thing, a kind of distinction that Descartes does not admit.

<sup>17</sup> The source of the error pointed out by Gorham 2007, 31–36, is the confusion between “way of thinking” (*modus cogitandi*) on the one hand, and “mode of thought” on the other hand, that is, a mode of the thinking substance (*modus rei cogitantis*). Duration is for Descartes definitely a property or attribute of things, not of the mind. For the opposition between “real mode” or “mode of a thing,” and “mode of thinking,” see letter to Mesland (?) 1645 or 1646: “(. . .) je distingue *inter Modos propriè dictos, et Attributa sine quibus res quarum sunt attributa esse non possunt; sive inter modos rerum ipsarum, et modos cogitandi* (. . .) *existentia autem, duratio, magnitudo, numerus, et universalia omnia, non mihi videntur esse modi proprie dicti, ut neque in Deo justitia, misericordia, etc. Sed latiori vocabulo dicuntur Attributa, sive modi cogitandi, quia intelligimus quidem alio modo rei alicujus essentiam, abstrahendo ab hoc, quod existat, vel non existat, et alio, considerando ipsam ut existentem; sed res ipsa sine existentia sua esse non potest extra nostram cogitationem, ut neque etiam sine suae duratione, vel sua magnitudine, etc.*” (AT IV, 348–49).

<sup>18</sup> “(. . .) sed putemus durationem rei cujusque, esse tantum modum, sub quo concipimus rem istam, quatenus esse perseverat” (AT VIII, 26). It is a way (a mode) of thinking about substance. However, ontologically, duration is not a mere mode of the substances, but rather an attribute, because it is a property that does not vary but is always present in the same manner. *Pr.* 1.58: “Ideoque in Deo non proprie modos aut qualitates, sed attributa tantum esse dicimus, quia nulla in eo variatio est intelligenda. Et etiam in rebus creatis, ea quae nunquam in iis diverso modo se habent, ut existentia et duratio, in re existente et durante, non qualitates aut modi, sed attributa dici debent” (AT VIII, 26).

<sup>19</sup> See the letter to Arnauld of June 4, 1648 (AT V, 193), for Descartes’ insistence that all creatures have duration.

<sup>20</sup> As we cannot here consider all the nuances of the different scholastic positions, we will follow the classification given by four classic manuals at the dawn of the seventeenth century: Suárez, *Disp. met.*, L, sect. VI et VII; *Commentarii Collegii Conimbricensis in octo libros Physicorum*, L. IV, q. III, a.1, 140; Eustachius a Sancto Paulo, *Summa philosophiae quadripartita*, p. I, tract. III, sect. 7, and p. III, tract. III, disp. 3, q. 1, and Abra de Raconis, *Tertia Pars Philosophiae siue Physica*, tract. III, sect. I.

<sup>21</sup> “(. . .) quale est esse, talis est duratio” (Suárez, *Disp. met.*, L, sect. VII, §3, 946a). Cf. Abra de Raconis, *Physica*, 126–28 (we omit certain subdivisions): “Cum duratio nihil sit quam permanentia rei in esse,

A fundamental dichotomy separates permanent realities from successive realities. This is the distinction between things the entire being of which exists simultaneously, that is, which is given at once, as if achieved (“*factum*”), and things whose parts can only exist one after the other, and never together, which therefore exist only as a process (“*in fieri*”). This second category includes every kind of accidental change. Accidental changes alone have successive duration (generations and corruptions are by contrast instantaneous), because they essentially consist in parts or stages which necessarily succeed each other, much like the way that different stages of one and the same journey occur one after another.

Permanent realities, on the other hand, have a mode of being that does not unfold. God’s duration is the paradigmatic case of non-successive duration, because he is not only changeless but uncaused, beginningless, and incorruptible. However, there are other beings, such as immaterial substances like angels, whose existence does not unfold.<sup>22</sup> As created things, they are not ungenerated and eternal like God, but nonetheless their existence is not intrinsically successive.<sup>23</sup> Further, many scholastics included other things in this category: rational souls or human intellects considered in themselves, prime matter, which in its essence is immutable,<sup>24</sup> as well as corporeal substances considered in their subsistence and not insofar as they are subject to change.<sup>25</sup> Even if these things are contingent and perishable (as in

---

seu existentia, nec ab ipsa existentia realiter discrepet, secundum divisionem existentiae assignari potest durationis divisio. Quare cum duplex sit rerum existentia, altera permanens, seu rerum permanentium et quae totum suum esse simul habent, altera successiva, seu rerum successivarum, quae habent suum esse in fluxu et fieri positum, ut motus qui desinit esse cum absolvitur, duratio permanens in has species dividitur (. . .) [aeternitas] [d]icitur secundo tota simul, ut intelligamus divinam illam aeternitatem talem esse, ut nullam successionem nullamque mutationem subeat (. . .) [Aevum] tum ab aeternitate, tum a nostro tempore distinguitur: ab aeternitate, quod haec sit rei increatae intrinsece et extrinsece immutabilis, nec non tam substantialiter quam accidentario incorruptibilis, aevum vero sit rei alicuius creatae, et finitae, immutabilis quidem substantialiter ab intrinseco, quia natura sua desinere non potest, sed tantum ab extrinseco mutabilis, quia saltem per divinam potentiam potest annihilari, et praeterea ex natura sua accidentaliter variabilis, quia varia identidem mutat accidentia, cuiusmodi sunt angeli, animae rationales, materia prima quantitatis; quamvis enim haec omnia creata sint, nullum tamen habent internum corruptionis principium (. . .) Modus aevi seu aeviternitas, est duratio rerum permanentium quae totum esse simul habent, in eo que aliquandiu perseverant, attamen possunt etiam ab intrinseco interire, ut res quae constant materia et forma, et in fluxu et agitatione positae sunt. (. . .) Tempus continuum est duratio rerum successivarum, et quae habent suum esse in fluxu positum, ut sunt omnes motus omnesque successivae mutationes.”

<sup>22</sup> This is the majority’s view, but it should be noted that a particular school, issued from Bonaventure of Bagnoregio and mainly Franciscan, held that the duration of their being is successive too. See Solère 1997, 341–343. The main argument is the one we will see being used by Ockham below.

<sup>23</sup> This is not to say that they do not experience a succession of intellections and of volitions. But this is not a change of their very being, and it is a discrete or “atomic” succession, a series of instantaneous and indivisible acts, which is therefore distinct both from physical time (which is continuous) and from the duration of their being (which is non-successive). See Porro 2001a.

<sup>24</sup> See Suárez, *Disp.met.*, L, sect. VI, §12, 944a.

<sup>25</sup> This conclusion seems to have been drawn first by Henry of Ghent (see Porro 2008, 83). Cf. Eustachius, t. I, 145, chart: “esse in aevo,” “ad quod revocatur modus aevi quo sunt substantiae corruptibiles dum superstites manent, et etiam accidentia dum in suo esse permanent illaesa”; Suárez, *Disp. met.*, L, sect. VII, §4, 946b: “Habent ergo hae res durationem permanentem, et ex se totam simul, quamvis, quia corruptibiles et partes etiam extensionis habent, ex accidenti contingat quasdam partes corrumpi aliis

the case of created corporeal substances), insofar as they exist their very being or existence (in between the instants of their generation and of their corruption) is not changing. Rather, *qua* substances, they retain identically the same basic fact of existing and being essentially what they are, under all the accidental modifications that may affect them. All their essential parts obtain simultaneously, as soon as they come into existence. This unchanging state of affairs also is a non-successive duration. While the Creator's duration alone is called "eternity," the non-successive duration of these creatures is called "*aevum*."<sup>26</sup> It is similar to eternity in that, from the point of view of existence itself, it is permanent. It differs from eternity in that it is a dependent, caused, and defectible duration.

The late medieval universe, therefore, is not subjected to a single duration, but is instead divided between three hierarchical durations: eternity, *aevum*, and finally successive durations. The latter are found only in the smallest part of the cosmos, material beings, and even then only the accidental features of these things, not their essence. In fact, only change, which concerns merely accidental forms, has an intrinsically successive duration.

As a consequence, only such a reality that exists as a process, *in fieri*, pertains to time. Neither eternity nor *aevum* can be measured by time. Time is intrinsically linked to the quantity of a movement (be it alteration, local motion, or augmentation/diminution), which determines its essential characteristic of continuous succession of prior and posterior stages. Where there is no such succession, time cannot be applied.

Descartes, on the contrary, clearly denies that there is a difference in kind between durations within the creaturely world. He affirms in the *Principles*: "For the duration which we understand to be involved in movement is certainly no different from the duration involved in things which do not move" (*Pr.* 1.57, CSM I, 212). In fact, Descartes here again takes up a controversial late scholastic view championed by William of Ockham: all creatures have successive duration, whether they are subjected to change or not.<sup>27</sup> The main argument that leads Ockham to eliminate the *aevum* is closely connected to an important theme also found in Descartes's work. It rests on the radical dependence of all creatures on God as their efficient creating *and* conserving cause, which constantly maintains them into existence, and without which they would immediately return to nothingness (*Quaest. in II<sup>m</sup> Sent., Reportatio*, q. XI, 243). Immaterial creatures have no privilege in this respect. Their immateriality does not make them necessary and enduring by themselves (*Quaest. in II<sup>m</sup> Sent., Reportatio*, q. XI, 248).<sup>28</sup> Famously, Descartes will argue along the

---

manentibus, vel etiam novas aggenerari et addi praexistentibus (. . .)." Suárez (ibid., §5), however, adds that this duration, even though non-successive, is of a different species than the duration of incorruptible substances, because these creatures are intrinsically defectible, whereas incorruptible substances are so only extrinsically (i.e., only if God does not conserve them).

<sup>26</sup> On the history of the notion of *aevum*, see Porro 1996.

<sup>27</sup> See Solère 1999.

<sup>28</sup> "( . . . ) nulla creatura magis necessario habet esse quam alia nisi forte quia una potest corrumpi a pluribus causis, alia a paucioribus, quia una potest corrumpi ab agente creato et increato, et alia ab increato solum. Et illud non ponit maiorem vel minorem necessitatem."



same lines that it is not because I exist at a given moment that I must exist at the next moment (*Med. III*, AT VII, 48–49; *Second Replies*, AT VII, 165, axiom II).

But, according to Ockham, even if a thing is not changing at all, we cannot understand its persistence in being as anything other than a succession of anterior and posterior states, and thus as a temporal stretch.<sup>29</sup> Here again, a crucial notion is that of connotation. It is not necessary that a thing formally includes succession in its real definition (in which case it would be a successive phenomenon, namely, a motion). But its existence, insofar as it perseveres, connotes a successive duration (real or imaginary, we'll come back to this later), against which we measure it in order to convey the fact that it remains in being. The very idea of perseverance implies, if only obliquely, this comparison with a succession; and in this way, it comes under the heading of temporal measurement. Thus, the category of *aevum* turns out to be superfluous (Ockham, *Quaest. in II<sup>m</sup> Sent., Reportatio*, q. XI, 212).<sup>30</sup>

Likewise, for Descartes successive duration is basic for creatures and consequent upon them being preserved in existence by God. As a result, Descartes, like Ockham, eliminates the *aevum* and allows time to be applied to the duration of both material and immaterial things.<sup>31</sup>

The question that remains is whether Descartes makes the same move regarding God and considers eternity as being successive as well.

### 3. Does Descartes Claim that God's Duration Is Successive?

Since Descartes does away with *aevum* and treats all created durations as successive, it seems plausible that he might not stop there and could make the same move for eternity. Indeed, at first glance, this is what he says to Burman when he asserts that the notion of a duration that is given all at once is inconceivable, and that instead we must conceive of God's existence as extended and infinitely divisible into parts—that is, as successive:

<sup>29</sup> See Gabriel Biel, a fifteenth-century nominalist whose *Epitome et collectarium ex Occamo circa quatuor Sententiarum libros* conveniently summarized Ockham's views and seems to have been read as much as (or even instead of) Ockham himself: "tempus est mensura durationis cuiuscumque rei permanentis creatae. Probat: quia duratio includit successionem, et ita prius et posterius (. . .) si aliquid fit non per instans tantum durat. Duratio igitur significat rem durantem connotando successionem in ipsa re durante, vel in alia coexistente actu vel potentia. Omnis autem successio est realiter motus. Sic igitur omnis duratio includit motum qui primo tempore mensuratur. Et ideo duratio permanentis ratione connotati mensuratur tempore, et ita secundo" (I. II d. 2 q. 1, nota III, no page number).

<sup>30</sup> "(. . .) igitur aevum totaliter superfluit." See also Ockham, *Quaest. in II<sup>m</sup> Sent., Reportatio*, q. XI, 236: "sic dico quod angeli mensurantur per tempus et non per aevum, quia aevum nihil est"; 234: "tempus est mensura durationis angelorum, sicut est mensura motus."

<sup>31</sup> He states unequivocally that we can "measure the duration of all things" (CSM I, 212; AT VIII, 27: "ut rerum omnium durationem metiamur"). Its measurement must be based on some physical thing. Continuing the previous thought, Descartes adds: "Sed ut rerum omnium durationem metiamur, comparamus illam cum duratione motuum illorum maximorum, et maxime aequilibrium, a quibus fiunt anni et dies, hancque durationem tempus vocamus" (AT VIII, 27).

[Burman] But on that showing, our thought will be extended and divisible.

[Descartes] Not at all. Thought will indeed be extended and divisible with respect to its duration, since its duration can be divided into parts. But it is not extended and divisible with respect to its nature, since its nature remains unextended. It is just the same with God: we can divide his duration into an infinite number of parts, even though God himself is not therefore divisible. (CSMK, 335)

[Burman] But eternity is all at once and once for all [*simul et semel*].

[Descartes] *That is impossible to conceive of. It is assuredly all at once and once for all in so far as nothing is ever added to or taken away from the nature of God. But it is not all at once and once for all insofar as it coexists;<sup>32</sup> for, given that we can distinguish parts in it after the creation of the world, why couldn't we do the same before that creation, as it is the same duration? It has been stretching out alongside the creatures for, say, five thousand years and has endured with them, and it could have done just the same before creation if we had had some standard to measure it by.<sup>33</sup>*

However, as noted in our introduction, only two months later, in his 1648 correspondence with Arnauld, Descartes maintains the traditional view that God's eternal existence is all at once. Objecting to the thesis of the independence of the parts of our duration formulated in the *Third Meditation* (AT VII, 48–49), Arnauld had written to Descartes:

Generally, philosophers and theologians deny that the duration of a thing which is permanent and completely spiritual, such as the human mind, is successive, but [think that], rather, it is permanent and all at once (which indeed is absolutely certain in the case of God's duration). (Letter to Descartes, June 3, 1648, AT V, 188)<sup>34</sup>

<sup>32</sup> We follow here the lead of Beyssade's French translation, *L'Entretien avec Burman*, 24. The second *simul* (in "*simul existit*"), is not a repetition of the first *simul* (in "*simul et semel*"), for that would not make much sense. Rather, it refers implicitly to other things, namely, the world, as becomes clear in the rest of the paragraph. God's existence is not all at once insofar as it is put in relation with the existence of the world and endures along it, exists simultaneously with it; hence "coexists."

<sup>33</sup> "[0].—Sed sic cogitatio nostra erit extensa et divisibilis. R.—Nihil minus. Erit quidem extensa et divisibilis quoad durationem, quia ejus duratio potest dividi in partes; sed non tamen est extensa et divisibilis quoad suam naturam, quoniam ea manet inextensa; eodem modo ut durationem Dei possumus dividere in infinitas partes, cum tamen ideo Deus non sit divisibilis. [0].—Sed aeternitas est simul et semel. R.—Hoc concipi non potest. Est quidem simul et semel, quatenus Dei naturae nunquam quid additur aut ab eâ quid detrahitur. Sed non est simul et semel, quatenus simul existit; nam cum possimus in eâ distinguere partes jam post mundi creationem, quidni illud etiam possemus facere ante eam, cum eadem duratio sit? Ea autem jam creaturis, e.g., per quinque annorum millia coextensa fuit et cum iis duravit, et sic etiam potuisset fuisse, si ante mundi creationem mensuram habuissemus" (AT V, 148–49). CSMK, 335 translates only to the end of Descartes' first reply; the rest is our translation, which modifies substantially CB [6], 6–7. Emphasis ours too.

<sup>34</sup> "(. . .) negant vulgo Philosophi ac Theologi, rei permanentis et maxime spiritualis, qualis mens est, durationem esse successivam, sed permanentem et totam simul (quod quidem de Dei duratione certissimum est) (. . .)." Arnauld had already objected the same thing in the *Fourth Objections*, in 1641: "In ideâ enim entis infiniti continetur, quòd ejus duratio sit etiam infinita, scilicet nullis clausa limitibus, ac proinde indivisibilis, permanens, tota simul, in quâ non nisi per errorem et intellectûs nostri

In his answer to this remark on the duration of the human mind, Descartes contrasts the latter with God's duration:

What is said about duration and time rests on the scholastic opinion, with which I strongly disagree, that the duration of motion is of a different kind from that of things which are motionless. I have explained this in article 57 of Part One of the *Principles*. Even if no bodies existed, *it could still not be said that the duration of the human mind is all at once, as the duration of God is; for one evidently notices in our thoughts a successiveness which cannot be admitted in divine thoughts*. We clearly understand that it is possible for me to exist at this moment, while I am thinking of one thing, and yet not to exist at the very next moment, when, if I do exist, I may think of something quite different. (Letter of June 4, 1648, CSMK, 355)<sup>35</sup>

No doubt, the statements made to Burman and to Arnauld seem to be contradictory. Gorham has tried to resolve the issue in the following way. He thinks that Descartes' decided thesis is that God's duration is not all at once and that Descartes' comment to Arnauld—which was a rather passing remark—must not have reflected Descartes' genuine view. There are a number of circumstantial reasons to explain this. One can safely exclude forgetfulness and even change in mind, given the temporal proximity of the two statements. Prudence might be considered, however. Gorham thinks that it is plausible that Descartes is only telling Arnauld what the latter wants to hear.<sup>36</sup> Arnauld had invoked the authority of “the theologians” in claiming that God's existence is “*tota simul*.” This would make anyone who was already wary of contradicting the Roman Catholic Church to be especially hesitant to outright deny the theologians' claim.<sup>37</sup> Therefore, even though Gorham does not rest his case solely on the interview of Descartes by Burman but seeks to show the

---

imperfectionem concipi possit prius et posterius” (AT VII, 211). On this discussion between Arnauld and Descartes, see Solère 1998.

<sup>35</sup> “Quæ proponuntur de duratione et tempore, nituntur opinione scholarum, à qua valde dissentio: quod scilicet duratio motûs sit alterius naturæ, quàm duratio rerum non motarum ut in art. 57 primæ partis Principiorum explicui. Et quamvis nulla corpora existerent, *dici tamen non posset duratio mentis humanæ tota simul, quemadmodum duratio Dei; quia manifeste cognoscitur successio in cogitationibus nostris, qualis in cogitationibus divinis nulla potest admitti*; atqui perspicue intelligimus fieri posse ut existam hoc momento, quo unum quid cogito, et tamen ut non existam momento proxime sequenti, quo aliud quid potero cogitare, si me existere contingat” (AT V, 193). We modify the translation offered by CSMK, 355, and the emphasis is ours.

<sup>36</sup> Gorham 2008, 416: “[I]t is perhaps not surprising that he would decline to contradict the Sorbonne theologian on this standard doctrine, which Arnauld declares ‘certain’ (AT 5, 188), and for which he elsewhere invokes no less an authority than St Augustine (AT 7, 211; CSM 2, 148–49)”; Gorham 2008, 426: “he was forced to abandon another orthodox doctrine: divine timelessness. This is not something he was eager to expound at length since he knew well that divine temporality was, as Arnauld reminded him, ‘commonly denied by Theologians and Philosophers’ (AT 5, 188).”

<sup>37</sup> Though, one might object with Charles Adam (in AT XII, 483–84, quoted by Ariew 1987, 142–43) that Burman was an apprentice theologian, the son and future son-in-law of theologians, and that we do not know how straightforward Descartes thought he could be with him. As he had learned from his conflict with Voetius, Protestant theologians were no less a potential source of trouble than Catholic ones. So, it is not obvious that if there is a discrepancy between the two texts, it is because Descartes felt freer to reveal his thinking to Burman than to Arnauld. On Burman, see Verbeek 2015, 81–82.

consistency of his reading with Descartes' metaphysics as a whole, he maintains that priority should be given to Burman's report and that one should interpret the correspondence with Arnauld in its light.

However, Gorham does not believe that Descartes' statement to Arnauld is an outright lie. His proposal is that the two claims do not in fact contradict each other,<sup>38</sup> because when Descartes concedes to Arnauld that God's duration is "*tota simul*," he is in fact (by mental equivocation?) thinking of the conception of God's eternity that he has presented to Burman: God is said to be eternal because he is immutable (AT V, 149).<sup>39</sup> All that Descartes is admitting is that God's nature is unchanging. In other words, according to Gorham Descartes finds a way to conserve the time-honored formulation of eternity reasserted by Arnauld, but limits it to God's nature, and in fact thinks that God's existence or duration is successive. With application to the topic Descartes and Arnauld are discussing: God has a single act of thought by which he once for all knows everything, as opposed to our changing thoughts; nevertheless, this single act of thought endures moment after moment, just as our own thoughts do.

While we agree with Gorham that the conflict between Descartes' statements is only apparent, we find his interpretation to be difficult to accept. First, it is of God's duration that Descartes writes to Arnauld: it is "all at once" (AT V, 193);<sup>40</sup> and it is also of God's duration that he says to Burman: it is divisible, not "at once and once for all" (AT V, 148–49).<sup>41</sup> Second, when in the *Discourse* Descartes lists some of the divine perfections, he writes: "infinite, eternal, immutable, omniscient, omnipotent" (AT VI, 25; CSM I, 128). He juxtaposes eternity and immutability as two distinct attributes, just as omniscience, for instance, does not mean the same thing as omnipotence or infinity or immutability (he does not write: "eternal *or* immutable," or "eternal, that is, immutable"). Third, the outcome of Gorham's interpretation is that there would be two different attributes under consideration in God: his eternity (in the sense of the immutability of his nature) and his duration (his existence part after part). But what is eternity if not a category of duration? It would be odd for Descartes to twist the usual vocabulary to the point that "eternity" did not refer to the duration specific to God but rather referred to a different divine attribute altogether. One might perhaps say that eternity is God's existence as unchanging, and his duration is his existence as lasting through an infinity of successive moments. But, as we'll see, there are scholastic precedents for thinking of eternity as unchanging existence through an infinity of successive moments.<sup>42</sup> Thus, it would be strange and unnecessary to create two different concepts.

One other way of trying to lift the contradiction might be to focus on the nature of attributes. As we have seen, for Descartes an attribute is a certain "way of

<sup>38</sup> Gorham 2008, 417–18.

<sup>39</sup> "Est quidem simul et semel, quatenus Dei naturae nunquam quid additur aut ab ea quid detrahitur."

<sup>40</sup> "(...) dici tamen non posset duratio mentis humanae tota simul, quemadmodum duratio Dei (...)"

<sup>41</sup> "(...) eodem modo ut durationem Dei possumus dividere in infinitas partes (...) non est simul et semel, quatenus simul existit."

<sup>42</sup> See below p. 108–111.

thinking” (*modus cogitandi*) about a substance by seizing on one of its fundamental and inseparable properties, and there is a formal distinction between the substance and its attribute. So, what can be said of an attribute is not necessarily said of the substance itself. If we said that *a parte rei* God is not “*simul et semel*,” that would mean that God’s nature is composed of parts and is divisible.<sup>43</sup> But that’s what Descartes explicitly denies when responding to Burman. Therefore, *a parte rei* God is “*tota simul*.” On the other hand, God’s duration, inasmuch as duration is a way of thinking about existence, is divisible, just as our soul (*cogitatio*) is extended and divisible as for its duration, but not as for its nature.<sup>44</sup>

Unfortunately, this does not suffice to resolve the opposition between what was said to Burman and written to Arnauld, for, again, in the latter case Descartes does speak of God’s *duratio* when he says it is “*tota simul*”—which he denied, also speaking of *duratio*, with Burman.

#### 4. An Alternative Account

So, we are back to our problem: how are we to understand the discrepancy between the declarations to Burman and to Arnauld? The principle of charitable interpretation compels us to propose an alternative account in which Descartes is neither sustaining contradictory views, nor dissimulating his real thinking to Arnauld. Rather, we will show that one can accept both of Descartes’ statements at face value. We will rely on a distinction that Descartes expressly draws in the conversation with Burman about different manners of thinking. Based on this distinction, Descartes does not in fact deny that God’s duration really is non-successive. Rather, he is making a claim about the human mind’s ability to grasp such a property.

##### 4.1 Imaginary Time

Our first task is to explain the context of Descartes’ remark to Burman that God’s duration stretches out alongside (is “coextensive” to) the existence of the world, and, by extension, beyond the temporal limits of the world, and is therefore divisible. Our hypothesis is that Descartes is using a conceptual device provided by late scholastics (Suárez and the Conimbricenses among them), namely, the notion of “imaginary time,” that is, an infinite successive duration, by which any duration, even a non-successive one, can be measured. The basic idea is that if we, as finite minds, want to represent to ourselves a non-successive duration, our limitations require that we represent it against a succession that we imagine.

The scholastics defined imaginary succession by analogy with imaginary space. The latter notion was introduced in the Middle Ages as an empty (therefore non-

<sup>43</sup> Gorham, on the other hand, seems at times to go as far as that. See for instance Gorham 2008, 414: “In what follows I will argue, against the strong current of recent commentary, that Descartes’ God is fully temporal,” and Gorham 2008, 425: “He [God] cannot escape being divided into temporal parts.”

<sup>44</sup> It is a bit difficult, though, to understand how the substance and one of its attributes can have characteristics that are not just different, but opposite: all-at-once/indivisibility versus succession/divisibility. But that is what Descartes says.

physical) space, infinitely extending beyond the cosmos as it exists. The notion allowed theologians to account for two things: to uphold the omnipresence of God, independently of creatures (as it is possible to ask, where was he before creation?), and to explain his omnipotence, which enables him both to create beings outside the actual, finite cosmos, as well as to move our cosmos in a straight line to another place.<sup>45</sup> The 1277 censure in Paris had made clear that God's power could not be limited *a priori* by alleged physical impossibilities. Accordingly, imaginary space is the space where God would perform such actions. One should not be misled by the term "imaginary": it does not mean here "pure fiction" or fantasy.<sup>46</sup> This space is not a mere being of reason, for God is present in it and could actually create things there if he so wished.<sup>47</sup> Thus, the notion of imaginary space is a theoretical device that accounts for God being free to carry out certain actions that are not otherwise conceivable.

The same goes for the concept of imaginary time. Real time, in a pre-Newtonian framework, is dependent on the existence of motion, or at least of beings. If nothing happens or even exists, no time flows; time begins with the world. But one needs to be able to say that God could have created the world whenever else he wanted, that is, for instance, "earlier" than he really did. Hence the idea of an "imaginary time" that extends infinitely beyond the bounds of the actual universe and of real time. God could have created at any moment within this infinite successive duration, which, even though called "imaginary," is not fictional since God could have acted within it.

This theoretical construct was still part of the common philosophical parlance in Descartes' day. For instance, Eustachius a Sancto Paulo, a contemporary scholastic theologian, defines imaginary time, as opposed to real time, as "that time we imagine to have preceded the creation of the world" (*Summa philosophiae quadripartita*, p. III, tract. III, disp. III, q. II, 94–95).<sup>48</sup> Descartes himself, although he is an enemy of scholastic divagations, explains to Chanut in similar terms that "(. . .) there is no *imaginable time* before the creation of the world in which God could not have created it if he had so willed" (Letter to Pierre Chanut, June 6, 1647, AT V, 52; CSMK, 320).<sup>49</sup> It is important to note here the key word, "imaginable." Descartes is only

<sup>45</sup> Cf. S. Augustine, *De Civ. Dei* XVII.5: "ubi et Deum infinitis saeculis ante mundum durasse, et esse extra mundum in infinitis locis, ubi alios mundos creare poterat, docet clarissime." See Koyré 1949; Grant 1969; Grant 1974, 553 and 555.

<sup>46</sup> See Edwards 2013, 32.

<sup>47</sup> See Conimbricenses, *Physics*, l. VIII, c.10 q.2 art. IV. There still is an echo of this notion in Descartes, *Pr.* II.22: "(. . .) perspicue intelligimus illam materiam, cujus natura in eo solo consistit quod sit substantia extensa, omnia omnino spatia imaginabilia, in quibus alii isti mundi esse deberent, jam occupare (. . .)" (AT VIII, 52). See also, despite Descartes' trait of irony against the "philosophers," *Le Monde*, chap. VI (AT XI, 31–32).

<sup>48</sup> "Tempus vulgo duplex assignatur: aliud verum et reale: aliud imaginarium, quare illud est quod imaginamur praecessisse mundi creationem" Quoted by Edwards 2013, 56; see also Ariew 2015, 86. Cf. Thomas Aquinas, *Sum of Theology*, pars I, q. 46, a. 1, ad 8<sup>m</sup>, and *De potentia*, q. 3, a. 14, ad 6<sup>m</sup>, 81a: "Possumus tamen *imaginari* aliquod tempus ante mundum; sicut altitudinem vel dimensiones aliquas extra caelum" (our emphasis).

<sup>49</sup> Our emphasis. This does not mean, Descartes continues, that we can infer that the existence of the world extends indefinitely in the past, "[f]or the actual or real existence of the world during these last five or

saying that one can imagine an indefinite span of time before the actual beginning of the world, and that the world could have been created earlier, at any moment in this imaginary time. He is not talking about a real stretch of time, otherwise what he responds to Chanut would be in flagrant contradiction with what he will object Henry More two years later, namely that, as we saw above, there can be no duration if there is no world (in that letter to More, the discussion is about the possibility of a real duration).<sup>50</sup>

Moreover, the concept of imaginary time provides an idealized succession as a backdrop against which we can evaluate real durations. St Augustine had questioned the connection between time and celestial motion posited by the ancient philosophers on the basis of the biblical episode of the battle of Jericho, during which, at Josuah's request, God stopped the movement of the sun. Nevertheless, one must be able to tell for how long the sun was immobile.<sup>51</sup> According to Suárez, this can be done by projection of that period of rest, during which cosmological time was suspended, onto an imaginary succession (*Disp. met. L, sect. IX, §15, 955b*). Further, Suárez talks of imaginary succession as a theoretical all-encompassing time that includes the durations of all real movements.<sup>52</sup> Since we can conceive of a beginningless and endless motion, we must also be able to conceive of this imaginary, infinite time in which this motion would take place (*Disp. met. L, sect. IX, §15, 955a*).<sup>53</sup> Likewise, Pedro Fonseca explains that imaginary time is called "imaginary," "not because it depends on the imagination and is as if it were nothing except insofar as we imagine it, like a chimera or sphinx, but because it is nothing real, but only a container of all motions [*capedo . . . motuum omnium*], so to speak: just as place that is called imaginary is nothing other than the container of all bodies."<sup>54</sup> In the same vein, the Coimbra commentators speak of imaginary time as an all-encompassing, unidirectional, and irreversible flow (*In octo libros Phys. Arist., l. IV, q. I, a. 2, 130 F–131 A*). There is, they say, another time which is more universal than that which manifests the movement of the first celestial sphere, more ancient and more regular, but imaginary (without, however, being a mere fiction of the imagination, just as in an imaginary space we conceive dimensions that do correspond to true dimensions). It is more ancient, because whereas the time marked by the first mobile began with its movement, this imaginary time has no beginning; it is more regular, for the other times, considered in relation to the movement to which they correspond, flow faster

---

six thousand years is not necessarily connected with the possible or imaginary existence which it might have had before then (. . .)," given that every moment of its duration is independent of every other. In other words, its existing now is not a sufficient reason to say that it existed 7000 years ago, even though there is a conceivable time before its actual creation in which it could have existed 7000 years ago. Likewise, if in the future it exists without an end, this is no basis to say that it has always existed.

<sup>50</sup> See above, n. 9.

<sup>51</sup> According to Augustine's exegesis in *Conf. XI.xxiii.30*: "sol stabat sed tempus ibat."

<sup>52</sup> See Daniel 1981, 594–95.

<sup>53</sup> "Nam sicut in corporibus *concipimus* quoddam *spatium imaginarium*, cujus aliquam partem replet quodlibet corpus in loco existens, ita in successione temporum *concipimus* quoddam spatium fluens et successivum, cujus aliquam partem replet omnis motus realiter fluens; quod si fuisset motus ab aeterno, *intelligeretur* ut replens totum illud spatium, eique coexistens."

<sup>54</sup> Quoted by Edwards 2013, 31.

or slower, just like their movements, whereas the “*tempus imaginarium*” always flows at the same rate, because it does not depend on any movement; and it is more universal, because it measures the movement of the first mobile itself.

More relevant to our topic, imaginary time is also supposed to enable us to evaluate non-successive durations. For example, we can judge that the duration of an immaterial being is greater than another (if, for instance, an angel has been created before another) by projecting both onto an imagined succession. In case there is no real time to which we could compare a permanent duration (e.g., before the creation of the world), we can always imagine a successive duration as coexisting with it, and thereby spread this permanent duration within it, so to speak, and measure it.<sup>55</sup>

Finally, and above all, using imaginary time is the only way we have to really think of non-successive durations, that is, the duration of immaterial beings, including eternity—which takes us back to the problem of how to interpret Descartes’ statements on the topic. The strong influence of Scotism in the question of time, including on Descartes, is often presumed,<sup>56</sup> but without trying to explore all the links that led from the fourteenth century to the seventeenth century, we want to mention William of Ockham’s influence in this recognition of the limitations of the human mind.

In settling on his own definition of duration, Suárez discusses the definition of the nominalists, represented by Ockham and Biel, according to whom, as we saw earlier, duration refers to existence only by connoting some succession that coexists with or can coexist with the enduring thing.<sup>57</sup> Suárez disagrees to the extent that he thinks we should not include succession into the exact, technical meaning of the word “duration” (*Disp. met. L, sect. II §3, 916b*).<sup>58</sup> But he makes a major concession: we are not able to *conceive* of duration otherwise than in terms of extension and succession, or at least in terms of coexistence with true or imaginary succession (*Disp. met. L, sect. II, § 2, 916b*).<sup>59</sup> This is because successive duration is the type of duration that we are most acquainted with: our immediate experience is that of the changes that take place in and around us, and the most obvious feature of these changes is that they consist in a succession of phases. The very name of duration, which evokes the idea of enduring moment after moment, is in fact derived from this familiar experience. As a result, it is difficult for us, if not impossible, clearly to envision a duration that is not successive. In fact, when we think about the subsistence

<sup>55</sup> See Maier 1955, 135–36.

<sup>56</sup> See Ariew 2015, 93–97.

<sup>57</sup> See above, p. 99–100, and *Disp. met. L, sect. II, §2, 916a*: “( . . . ) duratio vero dicit existentiam connotando successionem, cui vel coexistat, vel possit coexistere res, quae durare dicitur; vel aliter, quod duratio dicat existentiam, quatenus apta est ad coexistendum successioni.”

<sup>58</sup> “( . . . ) aliud est a quo nomen imponitur ad significandum, aliud est ad quod significandum imponitur.”

<sup>59</sup> “( . . . ) licet verum sit durationis nomen sumptum esse ex permanentia in esse, quam nos non *concipimus*, nisi per modum cuiusdam extensionis, et successionis, vel saltem coexistentiae ad successionem veram, vel imaginariam, tamen non propterea necesse est ut totum hoc includatur in significatione vocis. Quia, licet nos *concipiamus* res simplices ad modum compositarum, et ita imponamus voces ad illas significandas, tamen non propterea in ipsa significatione vocis includitur aut connotatur *modus concipiendi noster*, aut concomitantia alterius rei” (our emphasis).



of any kind of existence, we view it in the form of a succession, according to an order of anteriority and posteriority.<sup>60</sup> This applies to *aevum* (which we will leave aside here), and to eternity as well. For Ockham and Biel, we cannot represent eternity to ourselves as anything other than an infinite successive duration (Ockham, *Quaest. in II<sup>m</sup> Sent., Reportatio*, q. XI, 246–47). Indeed, divine duration has the following particularity: it can be said to coexist with any potential successive duration we can imagine. However much we extend a successive duration beyond the limits of the world’s existence by our thought, we will find that divine duration coexists with it—which is not true of angelic durations. It is certainly conceivable that angels too would coexist with an infinite succession if the world had no beginning (Ockham, *Quaest. in II<sup>m</sup> Sent., Reportatio*, q. VIII, 156–57). But angels do have a beginning, and they will not necessarily be found to coexist with any duration whatsoever we can imagine, whereas divine duration does (Biel, *Epitome*, lib. II, dist. II, art. III, dubium 1<sup>m</sup>).<sup>61</sup> An angel cannot endure without coexisting with a succession in actuality or in potentiality (imaginary), but a succession can occur without an angel coexisting with it. On the other hand, God necessarily coexists with any imaginable interval of time; no extension of time can be conceived without God coexisting (Ockham, *Quaest. in II<sup>m</sup> Sent., Reportatio*, q. VIII, 157–58). Such, then, is Ockham’s conception of eternity. Divine duration (and it alone) is still aptly called “*tota simul*,” insofar as it necessarily coexists with the totality of all possible and imaginable successive durations. However, from another point of view, insofar as, like all durations, eternity connotes a relation to a succession that measures it, it is not “*tota simul*,” but can be projected and distended on a temporal axis (Ockham, *Quaest. in II<sup>m</sup> Sent., Reportatio*, q. VIII, 159).<sup>62</sup>

Other examples could be given of the diffuse influence of Ockham on late sixteenth-century scholasticism.<sup>63</sup> And in the generation after Suárez, it was widely

<sup>60</sup> Cf. Suarez, *Disp. met.* L, sect. II, §11, 919a–b: “(. . .) duratio vero dicit perseverantiam aliquam in eadem existentia, quae perseverantia non est aliquid distinctum ab ipsa existentia, sed *connotat secundum nostrum concipiendi modum praeexistentiam ejusdem existentiae*, seu quod talis existentia *concipi* possit ut existens ante quodlibet instans, pro quo durare dicitur”; and §13, 920a: “(. . .) hoc ipso quod nos *concipimus* permanentiam durationis secundum quamdam habitudinem prioris et posterioris, jam concipimus ad modum successionis verae vel imaginariae” (our emphases).

<sup>61</sup> “(. . .) angelus coexistit certe successioni et non omni in potentia”, “ita angelus coexistit quod potuit non coexistere”; “Deus autem coexistit ita quod non potest nec potuit non coexistere cuiuscunque successioni in potentia et in actu.” Cf. Ockham, *Quaest. in II<sup>m</sup> Sent., Reportatio*, q. XI, 237: “durationem Dei mensuramus toto tempore in actu et in potentia, quia scilicet cuilibet parti temporis coexistit necessario”; q. VIII, 158: “angelus potest fuisse, et nec esse nec fore. Potest esse, et nec fuisse nec fore, si in praesenti instanti crearetur, et in eodem annihilaretur. Potest fore et nec esse nec fuisse,” and 159–60: “angelus sic durat quod potest non durare, et sic coexistit uni parti successionis quod potest non coexistere alteri, et propter hoc non est sua duratio tota simul. Sed sic duratio Dei est tota simul, quia Deus sic durat quod non potest non durare, et sic coexistit uni parti successionis quod non potest non coexistere alteri parti, et ideo quantum ad hoc potest sua duratio dici tota simul.”

<sup>62</sup> “Dico quod accipiendo durationem Dei sive aeternitatem ut connotat vel dat intelligere aliquam successionem cui Deus coexistit, *sic duratio Dei non est tota simul*, sicut nec illa successio, sicut nec duratio angeli” (our emphasis).

<sup>63</sup> See, for example, G. Vázquez, *Commentariorum ac Disputationum in primam partem S. Thomae*, disp. XXXV, cap. II, 207b: “mihi placet sententia Okami, et Gabrielis [. . .] quam nemo inficiabitur, nempe, non solum aevum non esse mensuram Angelorum, ut probatum manet, sed etiam tempus nostrum vere

accepted not only that time, real or imaginary, could be a universal measure, but also that all duration must be thought of as successive. A seventeenth-century Jesuit, Oviedo, made this the dividing line between the “moderns” and the “ancients” (*Cursus philosophicus*, *Physica*, l. IV, contr. XVI, §3, 325a).<sup>64</sup> Rodrigo Arriaga, a Jesuit contemporary of Descartes and quite well known in his day, has no hesitation in asserting that if God is eternal, he exists in this imaginary time just as he really exists in imaginary space (*Cursus philosophicus*, *Physica*, disp. XIV, sectio XIV, subsectio II, 521a).<sup>65</sup> As a result, Arriaga believes that it must be maintained that God existed *before* creation (*ibid.*),<sup>66</sup> which implies that time is an infinite form that did not begin with creation.<sup>67</sup>

---

et proprie eorum esse mensuram (. . .) Nec obstat, quod Angeli duratio individua sit, et permanens, fuerint aut diluvio, aut cuiusvis animae creatione; nec aliunde id cognoscere possumus.” Like Suárez, Vázquez stresses that this measure of angels is only extrinsic, made from the point of view of our understanding, which cannot intuit things as they are in themselves: “cum omnis mensura referatur ad intellectum, tempus esse mensuram aevi Angelorum nostro intellectui, non Angelico, aut divino: solus enim noster indiget ad res definite cognoscendas mensura aliqua, et unitate. Deus autem, aut Angelus, quod intueantur res ipsas, sicut sunt nec ea indigent, nec ea ullo modo uti possunt” (*ibid.*, 207–8). Secondly, this measure is only possible because aeviternal things have a beginning: “id quod caret principio, non potest mensuram subire.” As Ockham and Biel themselves note, God, who is duration without principle, is not commensurable: “quia omnis mensura ad unitatem reducitur, ut per replicationem rem metiamur: quare postulat terminum fixum, unde repeti incipiat, quem tamen Deus non habet re ipsa, nec intellectu nostro in ipsius aeternitate designari potest” (*ibid.*, 208a).

<sup>64</sup> The “antiqui,” Oviedo explains, teach that the duration of permanent things is intrinsically permanent, the “recentiores” (including Arriaga and Oviedo himself) “putant durationem rerum permanentium esse secundum suam entitatem essentialiter successivam, ita ut distinctus sit modus durationis, ex vi cuius Angelus durat in hoc instanti a modo, ex vi cuius durabit in instanti immediate venturo, et sic in omnibus.” Cf. Oviedo, *Cursus philosophicus*, *Physica*, l. IV, contr. XVI, §1, 325a: “perseverantia et duratio connotant rei existentiam in tempore praecedenti,” “in primo autem instanti existentiae rei non potest dici perseverans, et itaque neque durans”; §4, 325a: “Itaque ait Lugo res omnes produci et conservari per actiones essentialiter successivas, ex vi quarum constituntur in diversis temporis instantibus, secundum diversas actiones (. . .) transacto hoc instanti necessario transit actio, ita ut non possit Deus de potentia absoluta actionem, quae in hoc instanti existit in instanti venturo existentem constituere”; §8, 326a: “Deus (. . .) per tempus extrinsecum dicitur modo durare in hoc tempore, et crastino die dicitur in alio tempore durare.”

<sup>65</sup> “Deus tamen vere et realiter durat in tempore imaginario, ergo et realiter existit in spatio imaginario (. . .) quia si Deus vere et realiter duravit ab aeterno, etiam antequam mundus esset, ergo durat in tempore imaginario.”

<sup>66</sup> “Haec autem propositio, *Deus non extitit vere et proprie ante mundum*, fortasse, et merito reputabitur erronea, aut haeretica: quid enim Scriptura, quid Patres, quid ratio naturalis clamat, nisi Deum ab aeterno, antequam quidquid faceret, vere et realiter proprie fuisse, nos amasse, praedestinasse, etc. nec incepisse cum tempore?” In the same way, Arriaga says, that, because God is immense, he can be said to exist outside the empyrean sky, in imaginary spaces, “similiter etiam in aeternitate, cum vere Deus fuerit sine principio et ante omnem creaturam, ut id clarius percipiamus, quasi concipimus tempus fluidum aliquod ab aeterno, in quo sensu dicimus Deum coexistisse ei tempori” (Arriaga, *Cursus philosophicus*, *Physica*, disp. XIV, sectio XIV, subsectio II, 521b). Cf. disp. XV sect. II, 550b: “Sicut ergo explicamus immensitatem Dei per ordinem ad spatia imaginaria, id est, quod nullum sit cui Deus non sit praesens, ita etiam durationem aeternam Dei explicamus per tempus imaginarium, id est, ut nullum fuerit, vel potuerit vel possit concipi instans, in quo non existat Deus” (formulation quite close to that of Ockham and Biel).

<sup>67</sup> This stands in contrast to Augustine’s well-known response to a pagan objection (what was God doing before he created?), which was that there was no “before” the event of creation because time began with it (*Conf. XI.x–xiii*).

## 4.2 Conceiving vs. Understanding

Descartes seems to follow suit, not only with respect to the extension of imaginary time before the creation of the world, as we saw in the letter to Chanut, but also with respect to the fact that any duration is necessarily viewed by us as a succession.<sup>68</sup> In particular, regarding God's duration, he adopts that late scholastic theory of the human representation of eternity. Suárez had made clear that it is seen as successive only "according to our mode of conception," and in this context he uses the verb "to conceive" on several occasions (*Disp. met.*, L, sect. V, §27, 937b).<sup>69</sup> In fact, none of the indivisible durations are conceivable by us as they are in themselves, and we think of them in relation to a successive duration (*Disp. met.*, L, sect. V, §28, 937b).<sup>70</sup> This is how, according to Suárez, we can, although very inaccurately, apprehend God's eternity, namely, as a successive duration that has neither beginning nor end (*Disp. met.*, L, sect. III, §12, 926a).<sup>71</sup> This hardly captures the real nature of eternity as "*tota simul*," which, to use an analogy, is akin to a point as opposed to a line. But, due to the limitations of our intellect, it is the best we can do when we want to intuit what the term signifies (or, to use Husserl's word, to give a measure of *Erfüllung*, fulfillment, to the meaning of an expression). We have to compare it to an extrinsic duration of another nature, the connection being established through the idea of coexistence or coextension: as we saw it with Ockham in the previous section, we extend time past the limits of the real duration of the world and make it an infinite, imaginary timeline entirely filled by God's existence. This leads us to say that God has always existed at any moment in the past and will always exist at any moment in the future, which is how most people think of eternity. But this way of talking results from our mode of representation and is in fact improper (it is an "extrinsic denomination"), as there is in reality no past or future in eternity, but only an ever non-flowing present, which cannot be quantified (*Disp. met.* L, sect. III, §12, 926a).<sup>72</sup>

<sup>68</sup> See Solère 1997, 346–48.

<sup>69</sup> "(...) secundum nostrum autem *modum concipiendi* mensurari per ordinem ad aliquam successionem veram vel imaginariam" (our emphasis). In the other quotations of Suárez given above and below this footnote, we also italicize the verb.

<sup>70</sup> "Quia vero nos non *concipimus* haec indivisibilia prout in se sunt, illa mensuramus per coexistentiam ad nostrum tempus, ideoque illam rem dicimus magis vel minus durare, quae majori vel minore tempore coexistit."

<sup>71</sup> "Atque hoc modo apprehendimus totam aeternitatem, quae extitit usque ad hoc instans, tanquam spatium quoddam seu latitudinem fluentem sine principio, et in tota illa *concipimus* extitisse Deum, et idem proportionaliter est in futuro."

<sup>72</sup> "(...) quantum pertinet ad nos, id est, ad modum quo nos rem aeternam *concipere* et de illa loqui possumus, etiam Deo attribui solent hujusmodi locutiones praeteriti et futuri. (...) quia nos non *concipimus* rem aeternam prout in se est, sed nostro modo, per comparisonem ad aliquam successionem veram vel imaginariam (...) Sic ergo dicimus Deum fuisse, quia *concipimus* eum ut *coexistentem* tempori praeterito; imo et ante hoc tempus reale, quod est in motu coeli, et ante quamlibet durationem apprehensam ut temporalem et finitam, *concipimus* fuisse Deum. (...) Re tamen vera, in ipsa aeternitate Dei nullus est fluxus, et consequenter nec praeteritum aut futurum, sed *per denominationem extrinsecam ex coexistentia* nostri temporis *juxta modum concipiendi nostrum*." See also sect. III, §3, 923a–b, and §11, 925b; sect. IV, §9, 932b; sect. XI, §15, 965b. Cf. Thomas Aquinas, *Summa theologiae*, I<sup>a</sup> p., q. 10, a. 1, ad 4<sup>m</sup>, 95a: "sicut Deus, cum sit incorporeus, nominibus rerum corporalium metaphorice in Scripturis nominatur, sic

Consequently, contrary to Gorham's assertion that Descartes diverges from scholastic views, he is, in fact, substantially aligned with them when he declares to Burman that (1) divine eternity, insofar as it is considered as coexisting with the world, is successive and divisible into distinguishable parts, e.g. as many years as the world has lasted so far, and that (2) since it is one and the same duration, the same division could be repeated for the divine duration before the creation of the world if there was a measuring unit.<sup>73</sup> None of this is revolutionary when put back in the late scholastic context.<sup>74</sup>

The comparison does not end there, as Descartes introduces an identical caveat to that posited by Suárez. As we have just seen, Suárez emphasizes that the projection of God's eternity onto an infinite timeline does not capture the intrinsic nature of eternity and corresponds only to our human way of understanding it. In this context, Suárez repeatedly employs the verb "to conceive," a usage that we have highlighted. It is noteworthy that Descartes uses the same verb when he immediately responds to Burman's objection that God's duration is "*simul et semel*": "Hoc *concipi* non potest / That is impossible to conceive of" (AT V, 149).<sup>75</sup>

Later in the conversation, Descartes draws a distinction—"of great utility," he specifies—between *concipere* (to conceive of) and *intelligere* (to understand)<sup>76</sup> when he explains to Burman that we can *intelligere* God's perfections but not *concipere* them, or that we can *intelligere*, but not *concipere*, that God knows all things by a single act of his intellect and that there is no distinction between himself and his volitions or decrees (AT V, 154).<sup>77</sup> Similarly, in yet another subsequent passage of the *Conversation*, when discussing a thesis expressed in *Principles* I.23 (AT VIII, 14),<sup>78</sup> Descartes specifies that we can *intelligere* that God does not, like us, know, will, and operate by different actions, but we are not able to *concipere* it (AT V, 165).

---

aeternitas, simul existens, nominibus temporalibus successivis," and a. 2, ad 4m, 96b: "verba diversorum temporum attribuuntur Deo, in quantum eius aeternitas omnia tempora includit, non quod ipse varietur per praesens, praeteritum et futurum." Cf. Descartes, *Med. V* (AT VII, 68): "posito quod jam unus [Deus] existat, plane videam esse necessarium ut et *ante* ab aeterno *extiterit*, et in aeternum *sit mansurus*."

<sup>73</sup> For the text, see above at n. 34. As we saw earlier, in the letter to Chanut Descartes states that one can imagine an indefinite span of time, akin to the scholastic imaginary time, before the actual beginning of the world, but there wouldn't be any celestial motion to define a year.

<sup>74</sup> Consequently, contrary to Schmalz 2002, 200, we see no contradiction between these statements made to Burman and the passage of the letter to More quoted above, n. 9. In the letter, Descartes talks about real, concrete duration; the statements to Burman involve a mental operation of projection, as the notion of imaginary time makes clear.

<sup>75</sup> Omitted in CSMK, 335 (see instead CB [6], 6). See above, at n. 34.

<sup>76</sup> See below, n. 83, our remarks about that translation.

<sup>77</sup> "Nam hic accurate distingui debet inter intellectionem, conceptionem et imaginationem, quae distinctio est magni usus. E.g., Dei perfectiones non imaginamur, nec concipimus, sed intelligimus: quo modo Deus unico actu omnia intelligat, quo modo ejus decreta sint idem cum ipso, non concipimus, sed intelligimus, quoniam hoc nobis, ut ita loquar, non repraesentare possumus."

<sup>78</sup> "(...) nullo modo Deum sentire putandum est, sed tantummodo intelligere et velle: neque hoc ipsum ut nos, per operationes quodammodo distinctas, sed ita ut, per unicam semperque eandem et simplicissimam actionem, omnia simul intelligat, velit et operetur." See also letter to Mersenne, May 27, 1630: "Car c'est en Dieu une même chose de vouloir, d'entendre, et de créer, sans que l'un précède l'autre, *ne quidem ratione*" (AT I, 153).

Descartes had pointed out a similar distinction at the beginning of his career. In *Rules*, XII, he explains that our cognitive power (*vis*) takes different forms:

when applying itself along with imagination to the ‘common sense,’ it is said to see, touch etc.; when addressing itself to the imagination alone in so far as the latter is invested with various figures it is said to remember; when applying itself to the imagination in order to form new figures, it is said to imagine or conceive (*imaginari vel concipere*); and lastly, when it acts on its own, it is said to understand (*intelligere*). (AT X, 415–16; CSM II, 42)<sup>79</sup>

Clearly then, at the time of the *Regulae*, *concupere*, in the technical sense of the term, means for Descartes picturing something, forming a mental representation of the cognized object, as opposed to *intelligere*. Likewise, when in the *Conversation*, he tells Burman that we cannot conceive (but only *intelligere*) how God knows everything by a single act of cognition or is identical with his decrees, the reason he gives is that we are unable to represent (*repraesentare*) this to ourselves.<sup>80</sup> To conceive of a feature of a thing, then, requires to be able to generate a representation of what is being conceived, that is, to make it present to our mind, to lay it out under the eyes of the mind, so to speak (cf. again Husserl’s notion of *Erfüllung*).<sup>81</sup> On the other hand, *intelligere* does not require this. It only consists in capturing the signification of what is said, which is to have an idea of it.<sup>82</sup> This is why Descartes says to Burman, about God knowing everything, willing, and operating by a single and supremely simple action: “We cannot conceive (*concupere*) of how this happens, only understand (*intelligimus*) that it is the case” (AT V, 165; CSMK, 347 modified).<sup>83</sup>

<sup>79</sup> “[S]i applicet se cum imaginatione ad sensum communem, dicitur videre, tangere, etc.; si ad imaginationem solam ut diversis figuris indutam, dicitur reminisci; si ad eandem ut novas fingat, dicitur imaginari vel concipere; si denique sola agat, dicitur intelligere; quod ultimum quomodo fiât, fusius exponam suo loco.” Cf. AT X, 413: “Atque haec omnia ita concipere multum juvat, cum nihil facilius sub sensum cadat quam figura: tangitur enim et videtur (. . .),” and *Med. VI* (AT VII, 72): “tanquam praesentia intueor.” On imagining as a “special mode of thinking” that requires the possibility of depicting and an interaction with the body, see also *Med. VI*, AT VII, 72–73, and *Conversation*, AT V, 162–163, CSMK, 344–45.

<sup>80</sup> See Latin text above, n. 78.

<sup>81</sup> Cf. the case of imagining, *Med. VI* (AT VII, 72): “(. . .) tres lineas tanquam praesentes acie mentis intueor (. . .) sed non eodem modo illa mille latera imaginor, sive tanquam praesentia intueor.” This is not to say that *concupere* something is just forming a sensible image of that thing. See Cottingham’s comments in CB, 76: rather, it is grasping an idea or a concept in a “more vivid” way than “the pure and simple understanding of what is meant.”

<sup>82</sup> Cf. the July 1641 letter to Mersenne (AT III, 392–93).

<sup>83</sup> “Quomodo id fiat concipere non possumus, sed id solum intelligimus.” *Intelligere* may also mean: to discern, to realize, to notice, to recognize. For instance, when in *De Finibus* I.13 Cicero tells his interlocutor that, without being a disciple of Epicurus, he will explain objectively his doctrine, “quam a nobis sic intelleges expositam, ut ab ipsis qui eam disciplinam probant non soleat accuratius explicari,” he means: “I will present it in such a way that you will recognize that those who profess this system usually do not expound it more accurately.” Thus, it is better, in the present context, to translate Descartes’ *intelligere* otherwise than by just “to understand,” as CSMK does (“we only understand it”), as this might be confusing and might blur the difference between *concupere* and *intelligere*. We realize that God has these properties, we do not “understand” them in the sense of “comprehend” them. Although not literal, Beysade’s translation of this passage renders the sense very well: “Nous ne pouvons pas

In other words, we have reasons, such as the doctrine of divine simplicity (as we shall see further down), to assert this claim; we know *that* God does exist all at once because of his nature. However, we are not able to figure out *how* this is done; we have no insight into what it would be like to think about everything instantaneously, or for our volitions to be identical with our cognitions and actions.<sup>84</sup>

Descartes may have not consistently adhered to this distinction between the two verbs throughout his entire corpus.<sup>85</sup> However, it is a fact that, in the same conversation with Burman in which he discusses the concept of eternity in terms of conception, he repeatedly draws attention to the specific sense of *concipere*.<sup>86</sup> Thus, what Descartes asserts to Burman, when he denies that we can conceive of eternity as “at once and once for all,” is actually that, just as Ockham, Suárez, and many others had said before him, we have no way of representing eternity to ourselves other than viewing it as an infinite succession. This does not preclude that in reality God’s duration is non-successive, nor does it preclude that we are able to affirm that it is non-successive (as Descartes does to Arnauld) simply by understanding *that* it is the case. Descartes’ denial only means that we cannot represent what being “once and once for all” is like in itself. But *intelligere* something is nonetheless compatible with having a clear and distinct idea of it. That is the case for God’s infinity: we cannot comprehend it, but we clearly and distinctly understand that he is infinite because we cannot find in him any limitations (*First Replies*, AT VII, 112).<sup>87</sup> Granted, we cannot exhaustively know all that is intelligible in him (*First Replies*, AT VII,

---

nous représenter le comment, nous entendons seulement le fait” (Descartes, *L’Entretien avec Burman*, 96). Indeed, Descartes denies that we can comprehend God’s infinity and his attributes, even though we *know that* he has these properties. See the next paragraph, below, as well as letter to Mersenne, April 15, 1630: “(. . .) nous ne pouvons comprendre la grandeur de Dieu, encore que nous la connaissions” (AT I 145), and letter to Mersenne, May 27, 1630: “Je dis que je le sais, et non pas que je le *conçois* ni que je le comprends; car on peut *savoir* que Dieu est infini et tout-puissant, encore que notre âme étant finie ne le puisse comprendre ni *concevoir* (. . .) car comprendre, c’est embrasser de la pensée; mais pour savoir une chose; il suffit de la toucher de sa pensée,” “de même que nous pouvons bien toucher avec les mains une montagne, mais non pas l’embrasser comme nous ferions un arbre” (AT I, 152; our emphasis). See also *Pr.* I.22 (AT VIII, 13), letter to Silhon of March or April 1648 (AT V, 137), and *Med. III*: “Deus, inquam, ille idem cujus idea in me est, hoc est, habens omnes illas perfectiones, quas ego non comprehendere, sed quocunque modo attingere cogitatione possum (. . .)” (AT VII, 52).

<sup>84</sup> Along the same lines, Descartes says that, because our mind is finite, we normally think of the divine perfections separately and “hence may not immediately notice the necessity of their being joined together” (*First Replies*, AT VII, 119; CSM II, 85).

<sup>85</sup> However, this distinction often is in the background, as for instance in his response to Gassendi, who was contending that we do not have an idea of the infinite: “Non distinguis *intellectionem* modulo ingenii nostri conformem, qualem de infinito nos habere unusquisque apud se satis experitur, a *conceptu* rerum adaequato, qualem nemo habet (. . .)” (*Fifth Replies*, AT VII, 365). *Intellectio* and *conceptus* are respectively related to *intelligere* and *concipere*.

<sup>86</sup> In addition to this lexical precision, it is worth noting that for Descartes the same idea can be “conceived” in different manners, with greater or lesser accuracy, by the same person or by different persons. See Schechtman 2014, 497–99.

<sup>87</sup> “(. . .) infinitum, qua infinitum est, nullo quidem modo comprehendendi, sed nihilominus tamen *intelligi*, quatenus scilicet clare et distincte *intelligere* aliquam rem talem esse, ut nulli plane in ea limites possint reperiri, est clare *intelligere* illam esse infinitam” (our emphasis). See also *Fifth Replies*: “(. . .) sufficit *intelligere* rem nullis limitibus comprehensam, ut vera et intégra idea totius infiniti habeatur” (AT VII, 368; our emphasis), and the other references given above, in n. 83.

113–114).<sup>88</sup> That would in fact be contradictory, for it is the nature of the infinite not to be completely grasped (*Fifth Replies*, AT VII, 368).<sup>89</sup> However, if we do not try to grasp the totality of his being, but instead focus on certain properties, we are able to know about them very clearly, even though we cannot comprehend them totally either (*Med. III*, AT VII, 52).<sup>90</sup> Likewise, even though we cannot conceive of a non-successive duration and comprehend it, we are able to understand what it implies, and so we can say intelligibly that being eternal is to be “all at once.”<sup>91</sup>

#### 4.3 Impossibility and Inconceivability

Keeping in mind this distinction between understanding and conceiving, we can exonerate Descartes from contradiction or duplicity, when, at about the same time, he affirms to Burman that we cannot conceive of divine duration as simultaneous and indivisible, and writes to Arnauld that God’s duration is “*tota simul*” (letter to Arnauld, June 4, 1648, AT V, 193).<sup>92</sup> Gorham argues that because Descartes says, “we cannot conceive” of God’s existence as being *simul et semel*, he is committed to the claim that God’s existence cannot actually be that way.<sup>93</sup> But for Descartes, the inconceivability (for us) of some property does not entail that it is impossible for God to possess it. Famously, he often invokes God’s infinite power and the limitations inherent to the human mind to explain why we are unable to conceive of something that is possible for God.<sup>94</sup>

For an example of this, consider the following line of reasoning about God’s power. Descartes tells Henry More:

I know that my intellect is finite and God’s power is infinite, and so I set no limits to it; I consider only what I am capable of perceiving, and what [I am] not, and I take great pains that my judgment should accord with my perception. And so I boldly assert that God can do everything which I perceive to be possible, but I am not so bold as to assert the converse, namely that he cannot do what conflicts

<sup>88</sup> “. . . ipsam vero rem, quae est infinita, positive quidem *intelligimus*, sed non adaequate, hoc est non totum id, quod in ea intelligibile est, comprehendimus. (. . .) Deum ab humana mente capi non posse, cum omnibus Theologis concedo; et nequidem etiam distincte posse cognosci ab iis, qui totum simul conantur animo complecti (. . .).” See also letter to Clerselier, April 23, 1649: “Nempe sufficit me *intelligere* ‘hoc ipsum quod Deus à me non comprehendatur’ ut Deum iuxta rei veritatem et qualis est *intelligam*, modo praeterea iudicem omnes in eo esse perfectiones quas clarè *intelligo*, et insuper multo plures, quas comprehendere non possum” (AT V, 356; our emphasis).

<sup>89</sup> God has many perfections we don’t even know about (*Med. III*, AT VII, 46).

<sup>90</sup> See also *First Replies*, AT VII, 114: “Qui autem ad singulas ejus perfectiones attendere, illasque non tam capere quam ab ipsis capi, et intellectus sui vires omnes in iis contemplandis occupare conantur, illi profecto multo ampliorem facilioremque materiam clarae et distinctae cognitionis in eo inveniunt, quàm in ullis rebus creatis.”

<sup>91</sup> In other words, inconceivability should not be confused with unintelligibility, as Melamed 2016, 130–32 and 139 does.

<sup>92</sup> “Et quamvis nulla corpora existerent, dici tamen non posset duratio mentis humanae tota simul, *quemadmodum duratio Dei*” (our emphasis).

<sup>93</sup> As he explains his inference: “But God’s duration is not ‘all at once’ in the sense of ‘existing all at once’ since, as Descartes says, *that is inconceivable*” (Gorham 2008, 417; emphasis ours).

<sup>94</sup> See for instance *First Replies*, AT VII, 113.

with my conception [*conceptui meo*] of things—I merely say that it involves a contradiction. (AT V, 272; CSMK, 363)<sup>95</sup>

The same is true, not only of God’s actions, but of God’s nature and his attributes, which we cannot comprehend. As we have just seen, we do have a certain knowledge of God, but only in a way that is suitable to a finite mind. Crucially, Descartes underscores that

of all the individual attributes which, by a defect of our intellect, we assign to God in a piecemeal fashion, corresponding to the way in which we perceive them in ourselves, none belong to God and to ourselves in the same sense [*univoce*]. (*Second Replies*, AT VII, 137; CSM II, 98)<sup>96</sup>

This remark must apply to duration, which is an attribute of all substances, as we know. We infer the successive nature of duration from what we discover in our soul, namely, the succession of our thoughts, Descartes claims, and we transfer this notion to other things.<sup>97</sup> However, given that no attribute is applicable univocally to us and to God, one should not expect that our concept of duration remains unmodified when we apply it to God. In fact, that is exactly what Descartes adds just after the passage on divine eternity in the June 4, 1648 letter to Arnauld that appears to contradict the declaration to Burman. After stating that

dici tamen non potest duratio mentis humanae tota simul, quemadmodum duratio Dei / it cannot be said that the duration of the human mind is whole at once like God’s duration,

Descartes specifies:

manifeste cognoscitur successio in cogitationibus nostris, qualis in cogitationibus divinis nulla potest admitti / we manifestly know our thoughts to occur in a *succession, which cannot be admitted in God’s thoughts*. (AT V, 193)

In other words, the notion of duration may arise from the intuition of a succession, but it cannot retain this aspect when it is transferred to God’s actual duration (i.e., not to God’s duration insofar as we try to represent it). That much we can know, even though such a successionless duration is inconceivable to us—inconceivable, but not impossible. Our unavoidable successive mode of representation of eternity does not affect its nature. Indeed, as we have seen in section 2, time as a relationship adds

<sup>95</sup> Cf. Letter to Mersenne, May 6, 1630, AT I, 150.

<sup>96</sup> “(. . .) ratione cujus agnoscimus nihil eorum quae particulatim, ut in nobis ea percipimus, ita etiam in Deo propter defectum intellectus nostri consideramus, univoce illi et nobis convenire.”

<sup>97</sup> *Med. III*, AT VII, 44–45: “cum percipio me nunc esse, et prius etiam aliquamdiu fuisse recordor, cumque varias habeo cogitationes quarum numerum intelligo, acquirō ideas durationis et numeri, quas deinde ad quascunque alias res possum transferre.” Cf. letter to Arnauld, July 29, 1648, AT V, 223: “prius enim et posterius durationis cuiuscunque mihi innotescit per prius et posterius durationis successivae, quam in cogitatione mea, cui res aliae coexistunt, deprehendo.”



nothing real to duration. Consequently, there is no harm in expressing a duration in temporal terms; this does not say something about the duration in itself. Since time is only a “*modus cogitandi*,” it can be applied to any substance, the same thought considering in the same way both material and immaterial substances. Therefore, any duration whatsoever, even God’s, is always comparable to a coexisting regular motion, and as a result can be expressed in temporal terms, even if it is not intrinsically successive.

#### 4.4 *Immutability and Non-successiveness*

However, our point is not simply that for Descartes God’s duration being *tota simul* is possible although it is not conceivable by us. We aim at showing that Descartes does maintain that it is non-successive. Just as one can assert that the doctrine of divine simplicity entails that God’s knowledge, will, and action are identical, even though that is inconceivable for us, so too if we have cause to think that God’s existence obtains all at once, we can (as we saw in section 4.2) *meaningfully* posit that it is “*tota simul*.”

Now, Descartes does provide a reason to think so when he concedes to Burman that God’s nature is unmodifiable (nothing can be added to or subtracted from it) and that, as a consequence, God’s nature is “*simul et semel*,” “at once and once for all” (AT V, 148–49).<sup>98</sup> This is not a claim limited to God’s nature being immutable; it is also a claim that it does not endure through time. Gorham argues that Descartes only means that God’s nature does not change but keeps the same features (including the same ideas) in each temporal part, which would be compatible with this nature’s existence unfolding along successive moments (Gorham 2008, 416–17). As God will be exactly identical in each of these moments, there will be no change, since change is defined in terms of different properties obtaining at different times. But, for one, it would stretch the meaning of “*simul et semel*” to say that God’s nature could be given “at once and once for all” in multiple—in fact, an infinite number—of different instances because it retains the same properties in each successive moment.<sup>99</sup> Second, everything that is in God is identical to God himself, as Descartes elsewhere tells Burman (AT V, 166).<sup>100</sup> Therefore, God’s existence could not be intrinsically and really divisible without his nature being so, and vice-versa. One should note that Descartes says to Burman, in the passage we are examining, that *we can* divide God’s duration (i.e., by projecting it on an imaginary time, when we try to represent it), not that it *is* in effect composed of successive moments.

Third, Descartes’ letter to More of April 15, 1649 precludes the succession reading. In the course of a discussion on the possibility of a vacuum, More argued

<sup>98</sup> See text above, at n. 34. Descartes keeps repeating for Burman that God is immutable in a passage (AT V, 166) that addresses the difficulty of reconciling the consequence of his immutability, namely, the eternity of his decrees, with human temporality.

<sup>99</sup> It is worth noting that, in another context too, Descartes opposes “*tota simul*” to “*successive*,” not to “changing” or “mutable.” In an intuition, he explains, it is required that the intuited proposition “ut tota simul et non successive intelligatur” (*Regulae* XI, AT X, 407).

<sup>100</sup> “Quicquid in Deo est non est realiter diversum a Deo ipso, imo est ipse Deus.”

that an empty space could have dimensions on the basis of an analogy with the duration of non-being. If God created and destroyed a first world, and later created a second one, the intermediary period during which there are no creatures would still have a duration that we could measure in terms of days, years, and centuries, More contends (letter to Descartes of March 5, 1649, AT V, 302).<sup>101</sup> As noted earlier,<sup>102</sup> in his answer Descartes denies that this interlude would have any duration. This would involve a contradiction because duration is an attribute of substances. In the absence of any substance, there would therefore be no duration. However, we shall add, in between the destruction of the world and the creation of a new one, God (and only him) would still exist. If God's duration was intrinsically extended and divisible (i.e., temporal), then it would be theoretically possible to say how many millennia, centuries, years, etc. this interlude had lasted because there would be this reference of God's duration. But Descartes affirms that this is not the case. He even specifies that it would be an "intellectual error" to "relate this duration to a succession of divine thoughts or something similar" (AT V, 343; CSMK, 373).<sup>103</sup> Thus, Descartes is quite clear that in the absence of any other being besides God, there would be no temporal stretch at all. Therefore, one cannot ascribe a successive duration to God's being. Admittedly, in the same passage of the *Conversation* we are examining, Descartes next argues that we may distinguish temporal parts *before* there was any creation (AT V, 149), that is, in a situation identical to More's hypothesis insofar as in it only God exists. But, as we showed, he makes this claim because he thinks that humans necessarily have to project God's intrinsic non-successive duration on an imaginary timeline to represent it. Descartes' argument cannot be interpreted otherwise, since the letter to More explicitly denies that there would be any successive duration if God were the sole existing being. Consequently, when, just before offering this argument in the *Conversation*, Descartes distinguishes, like for our thought, God's nature, immutable and obtaining "*simul et semel*," and his existence (AT V, 148), he cannot mean that God's duration is really extended and divisible temporally. The statement that God's duration "can be divided into parts" must be interpreted as an epistemological claim, not a metaphysical one. And, consequently, we can conclude not only that God's duration being non-successive is intelligible and possible (even if not conceivable by us), but also that, as matter of fact, for Descartes it *is* non-successive.

#### 4.5 Temporal Parts and God's Simplicity

We can even take our case one step further and show that it is in fact impossible that, for Descartes, divine duration be successive. There is a strong reason for this: God's simplicity.

<sup>101</sup> "Nam, si Deus hanc mundi universitatem annihilaret et multo post aliam crearet de nihilo, intermundium illud, seu absentia mundi, suam haberet durationem, quam tot dies, anni, vel saecula mensurassent."

<sup>102</sup> Above, at n. 9.

<sup>103</sup> Thus, Descartes holds that God's thoughts (or volitions for that matter) do not occur successively, just as he had written to Arnauld on June 4, 1648 (see above, at n. 35).

Indeed, simplicity is according to Descartes a major characteristic of God.<sup>104</sup> Succession—of thoughts and volitions but also just of moments in his duration—would introduce multiplicity in God. This seems to preclude that his existence, and therefore his duration, is intrinsically made of divisible moments.

However, Gorham thinks one may attribute temporal parts to Descartes' God (Gorham 2008, 424–25).<sup>105</sup> And he seems to take the expression “temporal parts” in the strict sense ascribed to it by contemporary temporal-parts theories.<sup>106</sup> Temporal parts, then, are by definition and by Gorham's own admission really distinct things (Gorham 2008, 424).<sup>107</sup> Gorham, though, denies that his thesis threatens God's simplicity. Appealing to the distinction between essence and duration (the latter being an attribute of existence), he maintains that distinctions on the side of duration do not undermine the simplicity on the side of essence (Gorham 2008, 425).<sup>108</sup> There can be temporal distinctions pertaining to duration without there being any distinctions in God's essence (Gorham 2008, 425).<sup>109</sup> The rationale he provides is this: in God's case, no temporal part is distinct in kind from any other; moreover, in each temporal part, God's willing, knowing, and accomplishing are identical (Gorham 2008, 425).<sup>110</sup> Thus, each part is formally (“essentially,” Gorham 2008, 425) simple and exactly similar to all the other parts. And so, in the final analysis, the real identity of God's properties among themselves and along the successive temporal parts is sufficient for God being simple.

We believe that this argument is problematic in three ways. In the first place, it is questionable to affirm that the successive parts that Descartes admits in the duration

<sup>104</sup> See for instance *Med. III*, AT VII 50: “(. . .) unitas, simplicitas, sive inseparabilitas eorum omnium quae in Deo sunt, una est ex praecipuis perfectionibus quas in eo esse intelligo.” Consider also, *Second Replies*, AT VII 137: “Sed praeterea in Deo intelligimus absolutam immensitatem, simplicitatem, unitatem omnia alia attributa complectentem, quae nullum plane exemplum habet (. . .).” The unique character of God's simplicity is the reason why, in the next sentence, which has been quoted above, Descartes concludes that divine and created attributes are not univocal.

<sup>105</sup> “(. . .) if God's duration is successive then His life is divided into countless distinct temporal parts (. . .) Nevertheless, despite God's essential indivisibility and immutable duration, He cannot escape being divided into temporal parts.”

<sup>106</sup> He does so in a 2010 article which ascribes temporal parts to minds: “(. . .) Cartesian minds do have parts, albeit temporal parts rather than spatial parts. We will see that Descartes is a perdurantist in roughly the manner of David Lewis or Ted Sider” (Gorham 2010, 166).

<sup>107</sup> “(. . .) it follows further that each of these parts are really distinct things.” See also Gorham 2010, 166: “In fact each of these temporal parts qualifies as a distinct substance.” For a classic statement of the view which he is attributing to Descartes, see Lewis 1986, 202ff. Gorham (2010) recognizes that a persisting thing which consists of temporal parts (i.e., a “perduring thing” in contemporary literature, language adopted by Gorham [2010, 170]) is a collection of substances. He tries to argue that a collection of substances can also be a substance in its own right. But see below.

<sup>108</sup> “First duration does not constitute the nature or essence of anything in the sense of distinguishing it from other kinds of things . . . Rather duration is what Chappell calls an ‘omni-generic attribute of everything’ (. . .).”

<sup>109</sup> “[T]o be divisible in duration is not to be divisible in nature or essence (. . .).”

<sup>110</sup> “(. . .) temporal parts do not affect the unity of God's understanding, willing and accomplishing. For not only are these operations identical at any given time, furthermore since they correspond to attributes which are not really distinct from one another or from God Himself (AT 8–A, 30; CSM 1, 214), they are not subject to change in the ways modes are.”

of created substances are akin to temporal parts in the contemporary sense, that is, really distinct things. This would lead to interpretations of Cartesian temporality that have been widely refuted, such as temporal atomism, or even mere contiguism, which does not fare better.<sup>111</sup> The continuity of time, and therefore of durations, is an essential tenet for Descartes. He does say, as is well known, that our duration can be divided into innumerable parts that do not depend on each other (*Med. III*, AT VII, 48–49);<sup>112</sup> but this does not imply they are really distinct.<sup>113</sup> They just *can* be separated, because one does not entail another, and so each is contingent, as created existences can cease at any instant (*First Replies*, AT VII, 109).<sup>114</sup> The distinct instants of a substance’s duration are not really distinct *res*.<sup>115</sup>

Second, Gorham’s response cannot account for God being a *single* substance, that is, for all of God’s temporal parts counting as one genuine thing (in the sense of a substance), rather than an aggregation of substances. As Gorham 2010, 171 notes, Descartes is committed to the view that only particulars exist (AT VIII, 27 and AT III, 66). And so, if all particulars exist temporally, then every temporal part of a given duration, which is supposed to be a particular really distinct from any other in the same series, is indexed to some specific time. Thus, there is quite literally no existing entity distinct from the successive particular instantiations, which, like a thread connecting beads, could account for the whole collection of temporal parts being one thing. Any actual entity would be associated with a specific moment in time.

A possible response (similar to the one we discussed in the previous section) to this argument would be to say that temporal parts do count as one substance because they all have the same (formally or essentially) nature, due to God’s immutability.<sup>116</sup> But this raises the third, and to our mind, most troubling difficulty with Gorham’s response outlined above. For his solution to work, it would need something like an essence or common nature shared by all the particulars in a series. But, again, Descartes thinks that only particulars exist. On his understanding of this thesis, universals or common natures depend on mental abstraction and exist only in the

<sup>111</sup> See Arthur 1988, 363–71.

<sup>112</sup> “(. . .) omne tempus vitae in partes innumeras dividi potest, quarum singulae a reliquis nullo modo dependent (. . .).”

<sup>113</sup> See Beyssade 1979, 17. Cf. Gorham 2008, 424.

<sup>114</sup> “(. . .) considero temporis partes a se mutuo sejungi posse, atque ita ex eo quo jam sim non sequi me mox futurum (. . .).” And as he says in the *Fifth Replies*, AT VII, 370: “(. . .) de tempore, seu durationis rei durantis, cujus non negas singula momenta posse a vicinis separari, hoc est rem durantem singulis momentis desinere esse.” We do not think it is legitimate to apply the real distinction criterion, which Descartes formulated for substances, to the parts of duration (one can exist without the other, therefore they are really distinct, like mind and body are), as Gorham (2010, 168) does. And to conclude that these parts are therefore substances is just begging the question (one finds in the result the principle that one has applied).

<sup>115</sup> To put this point in contemporary language, Cartesian substances seem to endure rather than perish. Each substance is wholly present in each instant during which it exists. In this sense, when a substance persists from one moment to the next, what exists at the first instant is not numerically distinct from what exists in the second.

<sup>116</sup> This is what Gorham seems to suggest, given that he denies that there is any “change over time” from one of God’s temporal parts to the next. See Gorham 2008, 425.

mind (*Pr.* I.59, AT VIII, 27; letter to Regius, May 24, 1640, AT III, 66). Even if we assume that any single temporal part is formally simple and that its attributes are not really or modally distinct either from each other or from the attributes of other temporal parts in the same duration, it would still be the case that each temporal part is really distinct from all the other temporal parts, and there would be nothing to ground the continuity of one and the same being. If each of God's temporal parts is a distinct substance, then each would be its own individual essence, all the more so as in God, essence and existence are not distinct (*Fourth Replies*, AT VII, 243). Thus, on Gorham's view, God turns out to be formally complex as well. He would even be an aggregate of substances. Gorham also readily accepts this interpretation for Cartesian minds (Gorham 2010, 168–69).<sup>117</sup> But we do not, neither for the mind nor for God.

Thus, returning to Descartes' reported claims, it appears once again that when he declares to Burman that God's duration is divisible into parts (AT V, 149),<sup>118</sup> he must have in view, not God's duration as it truly is in itself, but God's duration as it is when we project it on an imaginary timeline. We *understand* that, because of his simplicity, God's duration, like his existence, must obtain all at once. However, because the content of our concept of duration is born from our inner acquaintance with succession, we cannot represent God's duration otherwise than as an infinite successive duration. If we cannot conceive of eternal duration as being *simul et semel*, this however does not entail that we can deny that God's eternal duration is in itself and in truth *simul et semel*.

## 5. God's Duration and the Laws of Physics

The above sections have undercut the initial motivation for Gorham's interpretation (explaining away the apparent contradiction between the statements made to Burman and to Arnauld). Our argument cannot rest here, however, as Gorham provides an independent justification of his interpretation, which he describes as "the strongest evidence for the temporality of Descartes' God" (Gorham 2008, 418). He claims that Descartes' account of God's action in the world commits him to the view that divine action—not its effects, but the activity itself, often called the "power" of the action—is successive. There are two components of Gorham's demonstration, which we will consider in turn. The first is a reconstructive argument, which maintains that Descartes' justification of the central law of his physics, i.e., the conservation principle, presupposes that God's action is successive. The second component is the textual claim that Descartes' descriptions of God's action suggest that God's action is successive.

First, then, Gorham argues on systematic grounds that Descartes must have maintained that God's duration is successive, as this assumption is necessary for

<sup>117</sup> Cf. Gorham 2008, 424: "So a Cartesian soul is nothing but the duration of a thinking substance comprising countless temporal stages each of which qualifies as a substance in its own right. By the same token, if God's duration is successive then His life is divided into countless distinct temporal parts."

<sup>118</sup> "( . . . ) durationem Dei possumus dividere in infinitas partes, cum tamen ideo Deus non sit divisibilis."

grounding Cartesian physics, a central principle of which is that the total quantity of motion is conserved in the universe—it is often referred to as Descartes’ “conservation principle.”<sup>119</sup> Descartes claims to derive this physical principle from the more basic metaphysical principle that God is immutable (*Pr.* II.36–37, AT VIII, 61–62).<sup>120</sup> His proof runs as follows. Because God is immutable, his action must be unchanging. As a consequence, the effects of God’s action remain constant. Descartes then applies this reasoning to physics. Because God initially created some total quantity of motion and rest in matter, it follows that he continuously sustains this same total quantity in all later instants of the universe’s existence.<sup>121</sup>

Gorham argues that, if God’s duration is non-successive, these inferences are not conclusive (Gorham 2008, 420–21). Contrary to what other interpreters have assumed, he thinks that it would be possible for the non-successive action of an immutable power to produce motion without abiding by the conservation principle. As a consequence, he says, the standard interpretation fails to validate Descartes’ demonstration of the conservation principle.

To understand Gorham’s claim, it is first necessary to examine how God’s action is supposed to work according to the view which he is criticizing. On the non-successive understanding of God and his action, it is standardly maintained that, because of his immutability, God wills “once and for all” for there to exist one total quantity of motion and rest in matter. Hence the conservation principle is supposed to be entailed by God’s unchangeable volition. Gorham objects, however, that even if God’s volition is timeless and immutable, he could have willed “once and for all” to produce varying total quantities of motion and rest at different times in the material world’s history. For instance, God could *ab aeterno* decide to instantiate a given total quantity at time  $t_0$  of the universe, and then to instantiate a different total quantity at  $t_1$ , and so forth (Gorham 2008, 420–21). It is thus consistent with an immutable and non-successive nature that it can produce a changing effect—contrary to the conservation principle.

Such, then, is the challenge Gorham poses to those who think that Descartes’ God is non-successive: the conservation principle would not derive necessarily from God’s immutability. Thus, Descartes would not succeed in what he claims that he accomplishes. Gorham concludes from this that Descartes’ proof works

<sup>119</sup> See *Pr.* II.36: God “preserves the same amount of motion and rest in the material universe as he put there in the beginning” (AT VIII, 61; CSM I, 240). There is a broad literature on the conservation principle. For a general overview, see Garber 1992, 204–10.

<sup>120</sup> See also his correspondences with Debeaune, AT II, 543, More, AT V, 404–5, and Mersenne, AT III, 451 for further elaboration, as well as his initial treatment of it in his aborted *Le Monde*, AT XI, 43. Descartes similarly derives the other laws of nature from God’s immutability. See for instance AT VIII, 63–64 and 66; and AT XI, 38–43.

<sup>121</sup> The crux of the argument is this: “In the beginning [God] created matter, along with its motion and rest; and now, merely by his regular concurrence, he preserves the same amount of motion and rest in the material universe as he put there in the beginning. (. . .) [This motion] has a certain determinate quantity; and this, we easily understand, may be constant in the universe as a whole while varying in any given part” (*Pr.* II.36, AT VIII, 61, CSM I, 240).

only under the assumption that God's actions are successive.<sup>122</sup> All three of the following premises are needed to jointly entail the conservation principle: God is unchanging, God decides to produce one total quantity of motion, and those same divine attributes and volition are again and again instantiated in every instant of God's successive duration.

Gorham's argument may seem plausible. But the problem is that his view does not escape the objection he poses. If we accept the claim (stated in his objection) that God could consistently decide *ab aeterno* to produce different effects at different times, then what rules out the possibility that at the creation of the world, God willed to will different total quantities of motion in each of the next instants in which he preserves matter? Gorham grants the possibility that a volition can have other volitions as its objects. So, it seems that these other volitions could also be indexed to later points in God's own temporal existence (assuming for the sake of the argument that his duration is successive). Thus, the problem would remain.

In short, Gorham's reconstructive argument misses its goal. He motivates his reading by claiming that on the standard interpretation of God's timelessness, the conservation principle does not necessarily follow from God's immutability. But given his own objection, his interpretation is not able to guarantee this result, either. Thus, his interpretation does not have an edge with regard to grounding Descartes' physics.

We must now address the second part of Gorham's demonstration. He provides more straightforward textual evidence to support his view, maintaining that Descartes' descriptions and explanations of how God sustains created things imply or suggest that God's actions are temporally located. The main passage he relies on is the argument for the second law of nature, which is the law according to which motion is rectilinear:

The second law is that every piece of matter, considered in itself, always tends to continue moving, not in any oblique path but only in a straight line. . . . The reason for this second rule is the same as the reason for the first rule, namely the immutability and simplicity of the operation by which God preserves motion in matter. For he always preserves the motion in the precise form in which it is occurring at the very moment when he preserves it, without taking any account of the motion which was occurring a little while earlier. It is true that no motion takes place in a single instant of time; but clearly whatever is in motion is determined, at the individual instants which can be specified as long as the motion lasts, to continue moving in a given direction along a straight line, and never in a curve. (*Pr*. II.39, AT VIII, 63–64; CSM I, 241–42)

<sup>122</sup> This at any rate seems to be his reasoning: "The successiveness of God's operation is even more apparent in His conservation of matter and motion. As the primary and immutable cause of motion God continues to do now what He did at the start. And this explains why the total quantity of motion is conserved (. . .) Descartes emphasizes that the relevant sense of immutability is not merely in God's nature but in His action over time (. . .)" (Gorham 2008, 419).

According to the second law, then, motion's tendency is always to continue in a straight line. The crux of the argument is the account of God's manner of preserving things in existence, namely, that he preserves every body in any instant  $t_n$  with whatever properties it has in that instant  $t_n$ . This sounds like a truism: of course, God preserves a thing just as it is, rather than how it is not! But Descartes' clever point is that at any instant of its existence, a mode of motion has one and only one direction of travel, which is rectilinear. Importantly, if God's action is unchanging and simple, then—on the condition that no other body interferes with that direction of travel—God's continued preservation of a mode of motion entails the continued preservation of that motion's direction of travel. Thus, in any instant of time, a body with motion will have the tendency to continue to exist with that same direction of travel.

Gorham maintains that this passage conveys specific details about the “temporalization” of God's action, that is, it describes God's action as having a before and after. Focusing on the claim that God “always preserves the motion in the precise form in which it is occurring at the very moment when he preserves it,” he argues that

it is clear that the proof assumes that God's action is localized at different times and ordered as the times are. This amounts to saying that God acts successively—it makes no sense to distinguish between God's conservation of motion now versus the motion He conserved “a little while earlier” if his act of conservation is “all at once.” (Gorham 2008, 420)<sup>123</sup>

Thus, on Gorham's interpretation, the plain meaning of Descartes' text would indicate that God's action is successive. And to have these successive applications of God's action, Gorham thinks that God's duration must itself be successive. We beg to differ.

First of all, this reading might improperly suggest that God acts repeatedly, in each instant. This multiplicity of actions would be incompatible with Descartes' insistence on, again, the simplicity of God. In *Pr.* II.39, to justify the second law he talks about the “simplicity of the operation by which God conserves motion in matter.” Now, Descartes elsewhere uses this idea of simplicity to argue that there is a single divine action. For instance, in *Pr.* I.23, he writes that in God, “there is always a single identical and perfectly *simple* act by means of which he simultaneously understands, wills and accomplishes everything” (AT VIII, 14; CSM I, 201).<sup>124</sup> Gorham tries to defuse preemptively the threat this sentence poses to the successive reading (even if a multiplicity of divine actions is actually not his hypothesis, as we will see) by claiming that “when Descartes asserts this, he is emphasizing the

<sup>123</sup> Gorham glosses in the same way the proof for the conservation principle, “Descartes emphasizes that the relevant sense of immutability is not merely in God's nature but in His action over time: ‘God's perfection involves not only his being immutable in himself, but also in his operating in a manner that is always utterly constant and immutable’ (AT 8A, 61; CSM 1, 240)” (Gorham 2008, 420).

<sup>124</sup> “(. . .) per unicam, semperque eandem et *simplicissimam* actionem, omnia simul intelligat, velit et operetur” (our emphasis).



unity and simultaneity of will and intellect in God's operation, not the unity and simultaneity of everything God does" (Gorham 2008, 421).<sup>125</sup> While it is true that Descartes is arguing for the identity of willing and knowing in God, he adds the verb "*operetur*," the sense of which is plain: to work, operate, perform, carry into effect, accomplish (as CSM rightly translates). Moreover, Descartes immediately comments on the "*omnia*" of this sentence by adding: "*Omnia, inquam, hoc est, res omnes* / When I say everything, I mean all *things*" (as opposed to the non-being of evil). It is obvious, therefore, that "*operetur*" refers to God's causal action.<sup>126</sup> Clearly, a *succession* of distinct volitions and actions, instant after instant, would lead to a complexification in God that would not be acceptable for Descartes.

Now, Gorham clarifies that, actually, his claim "is not that God's operation involves multiple actions but that His operation has a successive duration": just as we can sustain through a short time the single act of raising our arm, he explains, "God can sustain through all successive duration the single act of conserving a fixed quantity of motion" (Gorham 2008, 421).

However, Descartes is very clear throughout his corpus that a distinction must be drawn between a power and its effect (as Gorham 2008, 421 rightly notes). For instance, he tells Henry More that God can create an extended thing without himself (i.e., his power) being extended (AT V, 403–05). Bearing this in mind, as far as we can tell, the claim in the proof of the second law is that God preserves things in a certain way in each instant of *their* duration. Descartes makes no claim about the power of God's action and whether it is "temporalized," and invoking the example of raising our arm as a single action through time would just beg the question of whether the case is the same for God.<sup>127</sup>

<sup>125</sup> Cf. letter to Mesland, May 2, 1644, AT IV, 119: "l'idée que nous avons de Dieu nous apprend qu'il n'y a en lui qu'une seule action toute simple et toute pure (. . .)."

<sup>126</sup> Descartes is even more explicit when he comments for Burman on this very passage of the *Principles*: "Sed si bene advertamus ad naturam Dei, videbimus nos eum aliter intelligere non posse, quam ut per unicam actionem omnia efficiat / If we attend closely to the nature of God we shall see that we can only understand him as accomplishing all things by means of a single act" (AT V, 165; CSMK, 347). As noted above, at n. 78, it is the verb *intelligere*, as opposed to *concupere*, that Descartes uses in this passage.

<sup>127</sup> Further, one should not overlook the fact that the philosophical foundations of Descartes' physics do not stop at the second law but include the third law, which pertains to collisions (*Pr.* II.40–42). In that light, the comparison with raising one's arm may be oversimplifying the situation. The problem is not just to conserve one global quantity of motion as if the task was only to carry one load from point *X* to point *Y*, but to regulate an infinite number of collisions in a universe that is full of bodies, and to redistribute accordingly the global quantity of motion (for example, to take away some quantity of motion from body *B* and give it instead to body *C*, which was at rest), which seems to entail a multitude of divine interventions. (Otherwise, why would Descartes say that it is God who conserves the global quantity of motion? This is more specific than only saying that God conserves all the bodies and other beings into existence. In other words, the quantity of motion does not self-conserve due to collision rules but has to be conserved by God in accordance with these rules.) A multiplicity of such interventions is not an issue for our interpretation: this does not compromise the simplicity of his action if they are in fact all simultaneous in God's point-like eternal present. God's single action, "*simul et semel*," would simply have a multiplicity of end points, all at once (see more below). We think that it is more of an issue if God's duration and action are intrinsically successive and these interventions are consequently successive. In that case, it is hard not to imagine that a multitude of temporally different actions by God is required. But

To see this, consider what Descartes conveys when saying that God “always preserves the motion in the precise form in which it is occurring at the very moment when he preserves it, without taking any account of the motion which was occurring a little while earlier.” Descartes thinks that God’s action is specified in terms of what happens or what exists in some instant. But this is not because God’s power is located at some instant which is simultaneous with a body’s instant of existence. Rather, it is because the nature of preservation is by definition the action of preserving what exists. Because what exists is what is present, this entails that God’s preservative action is specified by something temporalized. But it is a body’s temporalization, not God’s. From a strictly textual point of view, then, nothing is implied about God’s power (i.e., his action in itself) except that he always preserves things in a certain way. And the aspect of his manner of acting which is highlighted is its effect and that effect’s properties.

In the quote above, Gorham alleges that it makes no sense to specify the second law of nature in terms of successive instants of time if God’s action is not temporalized. But this is far from true. There is a good reason to distinguish between the motion which a body possesses “now” and motion which it possessed “a little while earlier.” Namely, creatures have successive durations. Because their existence is not all at once, they must be preserved at each instant of their existence. Likewise, the total quantity of motion which is redistributed among all bodies in each instant must be preserved. So, Descartes has to specify in the second law of nature that, with respect to their successive duration, bodies must be the objects of God’s action in each instant of their duration. Again, nothing is being stated or implied about God’s power and whether it itself is successive.

We shall strengthen our case by adding that Gorham’s assumption that God’s activity can give rise to successive effects only if it is also successive by nature begs the question against the traditional understandings of eternal action. In the medieval view of God’s eternity since Boethius, which Descartes likely maintains, everything that is temporally ordered *for us* is seen as *present* by God.<sup>128</sup> Everything that was, is, and will be is simultaneously present to him.<sup>129</sup> But that does not mean

---

we will not pursue that line of criticism here, for it would involve the thorny issue of the exact causal role of bodies in collisions, an issue which is outside the bounds of this paper. See Westberg 2024.

<sup>128</sup> See Boethius, *Consolatio*, V, prosa 6, 15–16, ed. Moreschini, 157: “Since (. . .) God has an always eternal and present nature, then his knowledge too, surpassing all movement of time, is permanent, in the simplicity of his present, and embracing all the infinite spaces of the future and the past, considers them in his simple act of knowledge as though they were now going on. So if you should wish to consider his foreknowledge (. . .) you will more rightly judge it to be not foreknowledge as it were of the future but knowledge of a never passing instant” (transl. Tester, 427). Thomas Aquinas, *Summa contra Gentiles*, I.66, 61: “Whatever is in whichever part of time, coexists with eternity as if it was present to it, even though it is past or future with respect to another part of time. However, something cannot coexist as present to what is eternal if it is not present to the whole of it, since the latter does not have a successive duration. Therefore, everything that occurs through the whole course of time is intuited as present by God’s intellect in the whole of its eternity” (our translation).

<sup>129</sup> Cf. Abra de Raconis, *Physica*, 127, who refers to Aquinas’ image (*Summa contra Gentiles* I.66) of the center of a circle, which corresponds simultaneously to every single point of the circumference, even though these points are spatially ordered. Similarly, eternity is like a point that coexists with every

that everything is conflated for him. God is supposed to see the different states of a body as logical connections, all present to him but causally ordered. Is it not the condition for God's foreknowledge of contingent futures, which Descartes endorses,<sup>130</sup> that every future (for us) event is already present to him? How could he know it and will it if it was not already present to him as a sequence of events? That is why Descartes can say that God's operation is simple: he simultaneously sees and wills all events. There is no need to multiply God's operations because they all are present to *him*. Consequently, the idea that an infinity of successive divine actions conserving motion is mapped on the succession of the states of bodies seems to us misguided and infringing on God's simplicity.

In short, it does not seem accurate to say that the meanings of these texts themselves imply anything—let alone that they “clearly” communicate anything—about God's temporality or his action's temporality. The proofs of the conservation principle and the laws of nature focus on what God does in each instant of a thing's existence. They only expressly make claims about how God's productive and preservative action relate to creaturely duration; they are on their surface silent about God's duration. Especially given Descartes' historical context, it is thus our contention that Gorham's textual analysis is inaccurate.

## 6. Conclusion

Gorham has done a great service to scholars in highlighting the importance of the problem of God's manner of duration in Descartes' philosophy. This is a topic which has received relatively little sustained attention. He is absolutely correct in perceiving that a great deal is at stake on the matter and that Descartes has not sufficiently clarified or systematized his views about it. However, we disagree with some of Gorham's conclusions in trying to reconstruct the Frenchman's commitments. Descartes provides enough breadcrumbs, as it were, to allow scholars to reach his decided views. And contrary to Gorham's claims, this bread crumb trail leads directly to well-established scholastic theses.

To take stock, we have shown that Descartes has not in fact contradicted himself. He can consistently on the one hand deny our ability to represent a property to ourselves, and on the other hand affirm that God's duration has that property. The key detail is Descartes' express use of the epistemological distinction between conceiving (*concipere*), which requires the possibility to capture something thoroughly in a representation, and understanding (*intelligere*), which does not. When, speaking with Burman, Descartes denies that the indivisibility of God's eternity can be “conceived,”

---

successive part of temporality: “ita etiam divina aeternitas est aliquod punctum indivisibile omni tempore et singulis eius partibus totum correspondens, ac, si vultis, coexistens (. . .).” And a bit further down, after a comparison with a tree standing on the bank of a river: “(. . .) sicut divina aeternitas omnino immota remanens variis mutationibus creaturarum correspondent, et ad illas novas tantum relationes rationis acquirit.” That is, only new relations of reason with respect to the changes in the creatures appear, without affecting the simplicity of divine eternity.

<sup>130</sup> He claims both that God possesses absolute foreknowledge of all things, including of human volition, and also that human will is free and undetermined. See *Pr*: I.39–41, AT VIII, 19–20.

his claim is about how the human mind is able to apprehend an existence which is simultaneous and all at once. He is talking from the point of view of our finite intellect, which cannot grasp eternity otherwise than by making it coextensive with the only type of duration we are directly acquainted with, successive duration.<sup>131</sup> Since physical time is finite (the world having a beginning), we do this, in the case of God's eternal duration, by projecting it on an indefinite "imaginary time." Several late scholastics (including Suárez, Eustachius a Sancto Paulo, Abra de Raconis) had used this notion to account for claims such as the possibility for God to create the world earlier than he did. While talking about eternity in temporal terms, they still thought that God's duration is in fact *simul et semel*. Given that Descartes was working in this context and was clearly influenced by it, it is more than likely that he did use the same tool.

This human way of viewing eternity does not imply that in itself God's existence is not actually "all at once," which is what Descartes affirms when writing to Arnauld. And although we cannot comprehend how this occurs, we can *know*, by virtue of God's simplicity, that it is the case—in other words, the latter claim is intelligible. The fact that a property is inconceivable by us does not entail that it cannot obtain for God. In God's case, who is incomprehensible, Descartes often insists that we cannot deny him certain features which may be inconsistent with our thinking. Consequently, there is no inconsistency between the claim that we cannot conceive of God's duration as existing all at once, and the claim that nonetheless God does have that inconceivable property. We see therefore no need to reject the literal meaning of Descartes' words to Arnauld.

Finally, we have called into question Gorham's further contention that Descartes' account of God's action in the world, through the conservation principle, requires him to maintain that God's duration is successive or "temporalized." We have shown that Gorham's interpretation falls under the same objection that he raises for the reading based on the traditional conception of God's action and eternity, namely, that it is unable to justify Descartes' deduction of the conservation principle. Moreover, we have also argued that Gorham's readings of other key passages are not compelling. He alleges that "God's action is always characterized [in Descartes' corpus] as an ongoing and temporally extended process rather than a 'once and for all' decree" (Gorham 2008, 419). We have established to the contrary that the passages in question do no such thing. What is expressly said to be temporalized is always and only the effects of God's action, not his power itself.

There is therefore no reason for thinking that Descartes was not expressing his own view about God to Arnauld while maintaining the traditional conception of eternity. Many seventeenth-century thinkers (Hobbes, Gassendi, Locke, Newton, etc.) may have abandoned the a-temporal notion of eternity for that of everlastingness (endless successive duration); but Descartes did not, just as his major rationalist successors: Spinoza, Malebranche, and Leibniz.<sup>132</sup>

<sup>131</sup> Cf. *Conversation*, AT V, 169: "(...) nec tum sumi debet creatio tanquam sex diebus distincta, sed tantum hoc ob nostrum concipiendi modum ita distingui dici debet (...)" (our emphasis).

<sup>132</sup> See Melamed 2016, 132.

## References

## Primary Sources

- ABRA de Raconis, Charles. 1641. *Tertia Pars Philosophiae sive Physica*. 6<sup>th</sup> ed. Avignon: I. Piot.
- ARRIAGA, Rodrigo. 1669. *Cursus philosophicus*. Lyon: Jean-Antoine Huguetan and Guillaume Barbier.
- AUGUSTINE of Hippo. 1981. *Confessionum Libri XIII*. Ed. L. Verheijen. Corpus Christianorum, Series Latina, vol. 27. Turnhout: Brepols.
- BIEL, Gabriel. (1501) 1965. *Epitome et collectorium ex Occamo circa quatuor sententiarum libros*. Reprint. Frankfurt am Main: Minerva.
- BOETHIUS. 1973. *The Consolation of Philosophy*. Trans. S. J. Tester. Cambridge: Harvard University Press.
- BOETHIUS. 2005. *De Consolatione Philosophiae. Opuscula Theologica*, 2<sup>nd</sup> ed. Ed. C. Moreschini. Munich: K. G. Saur.
- DESCARTES, René. 1964–74. *Œuvres de Descartes*. Ed. Charles Adam and Paul Tannery. New Presentation by Bernard Rochot and Paul Costabel. 11 vols. Paris: Librairie Philosophique J. Vrin. Cited as (AT).
- DESCARTES, René. 1976. *Descartes' Conversation with Burman*. Trans. with introduction and commentary by John Cottingham. Oxford: Clarendon Press. Cited as (CB).
- DESCARTES, René. 1981. *L'Entretien avec Burman*. Édition, traduction et annotation par Jean-Marie Beyssade. Paris: Presses Universitaires de France.
- DESCARTES, René. 1984. *The Philosophical Writings of Descartes, Vol. 1–2*. Trans. John G. Cottingham, Robert Stoothof, and Dugald Murdoch. Cambridge: Cambridge University Press. Cited as (CSM).
- DESCARTES, René. 1991. *The Philosophical Writings of Descartes, Vol. 3: Correspondence*. Trans. John G. Cottingham, Robert Stoothof, Dugald Murdoch, and Anthony Kenny. Cambridge: Cambridge University Press. Cited as (CSMK).
- EUSTACHIUS a Sancto Paulo. 1609. *Summa Philosophiae Quadripartita*. Paris: Charles Chastellain.
- MANUEL DE Góis. 1616. *Commentariorum Collegii Conimbricensis Societatis Iesu, in octo libros Physicorum Aristotelis*. Köln: L. Zetzner.
- OCKHAM, William of. 1981. *Quaestiones in librum secundum Sententiarum (Reportatio)*. Ed. G. Gal and R. Wood. Guillelmi de Ockham, *Opera theologica*, t. V. St. Bonaventure, NY: St. Bonaventure University.
- OVIEDO, Francisco. 1651. *Cursus philosophicus ad unum corpus redactus, tomus primus secunda editio*. Lyon: Philippe Borde, Laurent Arnaud, and Claude Rigaud.
- SUÁREZ, Francisco. 1866. *Disputationes metaphysicae, XXVIII–XLIV*. Ed. Ch. Berton. *Opera omnia*, t. XXVI. Paris: Vivès.
- THOMAS Aquinas. 1888–89. *Summa theologiae, Pars prima a quaestione I ad quaestionem XLIX. Opera omnia iussu Leonis XIII P. M. edita*, t. IV. Rome: Typographia poliglotta.
- THOMAS Aquinas. 1961. *Summa contra Gentiles*. Ed. P. Marc, C. Pera, and P. Caramello. Turin-Rome: Marietti.

- THOMAS Aquinas. 1965. *Quaestiones disputatae de potentia*, 10<sup>th</sup> ed. Ed. P. M. Pession. Turin-Rome: Marietti.
- VÁZQUEZ, Gabriel. 1609. *Commentariorum ac Disputationum in primam partem S. Thomae tomus primus*. Ingolstadt: Andreas Angeremar.

## Secondary Literature

- ANNAS, Julia. 1975. "Aristotle, Number and Time." *Philosophical Quarterly* 25, no. 99: 97–113. <https://doi.org/10.2307/2217626>
- ARIEW, Roger. 1987. "The Infinite in Descartes' Conversation with Burman." *Archiv für Geschichte der Philosophie* 69, no. 2: 140–63. <https://doi.org/10.1515/agph.1987.69.2.140>
- ARIEW, Roger. 2011. *Descartes among the Scholastics*. Leiden-Boston: Brill.
- ARIEW, Roger. 2015. *Descartes and the First Cartesians*. New York: Oxford University Press.
- ARTHUR, Richard. 1988. "Continuous Creation, Continuous Time: A Refutation of the Alleged Discontinuity of Cartesian Time." *Journal of the History of Philosophy* 26, no. 3: 349–75. <https://dx.doi.org/10.1353/hph.1988.0061>
- BEYSSADE, Jean-Marie. 1979. *La Philosophie Première de Descartes*. Paris: Flammarion.
- COOPE, Ursula. 2005. *Time for Aristotle*. Oxford: Oxford University Press.
- DANIEL, Stephen. 1981. "Seventeenth Century Scholastic Treatments of Time." *The Journal of the History of Ideas* 42, no. 4: 587–606. <https://doi.org/10.2307/2709120>
- EDWARDS, Michael. 2013. *Time and the Science of the Soul in Early Modern Philosophy*. Leiden: Brill.
- GARBER, Daniel. 1992. *Descartes' Metaphysical Physics*. Chicago: University of Chicago Press.
- GORHAM, Geoffrey. 2007. "Descartes on Time and Duration." *Early Science and Medicine* 12, no. 1: 28–54. <https://doi.org/10.1163/157338207X166380>
- GORHAM, Geoffrey. 2008. "Descartes on God's Relation to Time." *Religious Studies* 44, no. 4: 413–31. <https://doi.org/10.1017/S003441250800961X>
- GORHAM, Geoffrey. 2010. "Descartes on Persistence and Temporal Parts." In *Time and Identity*. Ed. Joseph Keim Campbell, Michael O'Rourke, and Harry S. Silverstein. Cambridge: The MIT Press.
- GRANT, Edward. 1969. "Medieval and Seventeenth-Century Conceptions of an Infinite Void Space beyond the Cosmos." *Isis* 60, no. 1: 39–60. <https://doi.org/10.1086/350448>
- GRANT, Edward. 1974. *A Source Book in Medieval Science*. Cambridge: Harvard University Press.
- JECK, Udo Reinhold. 1994. *Aristoteles Contra Augustinum*. Philadelphia: John Benjamins Publishing.
- KOYRÉ, Alexandre. 1949. "Le vide et l'espace infini au XIV<sup>e</sup> siècle." *Archives d'Histoire Doctrinale et Littéraire du Moyen Age* 17: 45–91.

- LEVY, Ken. 2005. "Is Descartes a Temporal Atomist?" *British Journal for the History of Philosophy* 13, no. 4: 627–74. <https://doi.org/10.1080/09608780500293026>
- LEWIS, David. 1986. *On the Plurality of Worlds*. Oxford: Blackwell.
- LOWE, E. J. 1998. *The Possibility of Metaphysics*. Oxford: Oxford University Press.
- MAIER, Anneliese. 1955. "Das Zeitproblem." In *Metaphysische Hintergründe der Spätscholastischen Naturphilosophie*, 47–137. Roma: Edizioni di Storia e Letteratura.
- MELAMED, Yitzhak. 2016. "Eternity in Early Modern Philosophy." In *Eternity: A History*. Ed. Yitzhak Melamed. New York: Oxford University Press.
- MERRICKS, Trenton. 1995. "On the Incompatibility of Enduring and Perduring Entities." *Mind* 104, no. 415: 523–31. <https://doi.org/10.1093/mind/104.415.521>
- PORRO, Pasquale. 1996. *Forme e Modelli di Durata nel Pensiero Medievale: l'Aevum, il Tempo Discreto, la Categoria "Quando."* Leuven: Leuven University Press.
- PORRO, Pasquale (ed.). 2001a. "Angelic Measures: Aevum and Discrete Time." In *The Medieval Concept of Time. Studies on the Scholastic Debate and Its Influence on Early Modern Philosophy*, 131–60. Leiden: E.J. Brill.
- PORRO, Pasquale (ed.). 2001b. *The Medieval Concept of Time: Studies on the Scholastic Debate and Its Reception in Early Modern Philosophy*. Leiden: Brill.
- PORRO, Pasquale. 2008. "The Duration of Being. A Scholastic Debate (and Its Own Duration)." In *Das Sein Der Dauer*. Ed. Andreas Speer and David Wirmser, 75–88. Berlin: Walter De Gruyter.
- SCHECHTMAN, Anat. 2014. "Descartes's Argument for the Existence of the Idea of an Infinite Being." *Journal of the History of Philosophy* 52, no. 3: 487–518. <https://doi.org/10.1353/hph.2014.0061>
- SCHMALTZ, Tad. 2002. *Radical Cartesianism: The French Reception of Descartes*. Cambridge: Cambridge University Press.
- SOLÈRE, Jean-Luc. 1997. "Descartes et les discussions médiévales sur le temps." In *Descartes et le Moyen-Âge*. Eds. Joel Biard and Roshdi Rashed, 329–48. Paris: Vrin.
- SOLÈRE, Jean-Luc. 1998. "Puissance, temps, éternité: les objections d'Arnauld à Descartes." In *Meeting of the Minds. The Relations between Medieval and Classical Modern European Philosophy*. ed. Stephen F. Brown. Turnhout: Brepols.
- SOLÈRE, Jean-Luc. 1999. "Postérité d'Ockham. Temps cartésien et temps newtonien au regard de l'apport nominaliste." In *Metamorphosen der Zeit*. Ed. Eric Alliez. Munich: Wilhelm Fink Verlag.
- SUAREZ-NANI, Tiziana. 1989. *Tempo ed Essere nell'Autunno del Medioevo. Il De tempore di Nicola di Strasburgo e il Dibattito sulla Natura ed il Senso del Tempo agli Inizi del XIV Secolo*. Amsterdam: B. R. Grüner.
- VERBEEK, Theo. 2015. "Burman, Frans (Franciscus) (1628–1679)." In *The Cambridge Descartes Lexicon*. ed. Lawrence Nolan. Cambridge: Cambridge University Press.
- WESTBERG, Nicholas. 2024. "Descartes and the Scholastic Theory of Concursus." *Res Philosophica* 101, no. 4: 777–810. <https://doi.org/10.5840/resphilosophica20241122131>