FUNDAMENTAL TO SCHOLASTIC PHILOSOPHY, thus in the historical context of Descartes, is the question of how causation is divided or shared between God and creatures. Tad Schmaltz’s *Descartes on Causation* provides an extensive account of Descartes’s answer to this question, specifically, what is “the precise nature of the creaturely contribution to causality in nature”?\(^1\) The moderate and consensus position among scholastics is that, while God is the universal and primary cause of being and change in the universe, the natures of created things provide a realm of secondary causes—Aristotelian forms, for example—open to study by unaided reason. Natural substances are ultimately instruments of divine providence (Aquinas) and are able to possess their own causal efficacy only as subject to the divine *concursus* (Suárez), but they are genuine efficient causes of change in another.\(^2\) A less moderate, potentially theologically radical position is occasionalism, originally Islamic but most notably proclaimed in the early modern period by the Christian Cartesian, Malebranche: “[N]atural causes are not true causes; they are only occasional causes that act only through the [immediate] force

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1 Tad M. Schmaltz, *Descartes on Causation* (Oxford: Oxford University Press, 2008), 51; hereafter *DC*.
and efficacy of the will of God.” As Dan Garber describes it in reference to the world of bodies, occasionalism is the doctrine that:

the changes that one body appears to cause in another upon impact, the changes that a body can cause in a mind in producing a sensation or a mind can cause in a body in producing a voluntary action, are all due directly to God, moving bodies or producing sensations in minds on the occasion of other appropriate events.

Was Descartes an occasionalist in one or more of these three senses (namely, body-to-body, body-to-mind, mind-to-body)? The controversy continues. For Garber, Descartes is an occasionalist at the level of inanimate bodies:

[I]t seems to me as clear as anything that, for Descartes, God is the only cause in the inanimate world of bodies, that bodies cannot themselves be genuine causes of change in the physical world of extended substance.

I confess I find occasionalism hard to believe. Volitional motion aside (and Garber’s Descartes is not a mind-to-body occasionalist), think of a game of billiards or, for that matter, a football game (focus on what the players’ bodies undergo). To require God to cause immediately all the changes of speed and direction of the colliding billiard balls and football players would make of God an intrusive busybody (metaphorically speaking) of colossal proportions. Given Descartes’s great interest in mathematical physics and human autonomy, I find it

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3 Malebranche, *De la recherche de la vérité*, Bk. 6, part 2, chap. 3, trans. Thomas M. Lennon and Paul J. Olscamp, *The Search after Truth* (Cambridge: Cambridge University Press, 1997), 449; hereafter Search. The theologically radical position is that there is no reason for anything other than the simple will of God; rational physics is thereby excluded, whether Aristotelian or mathematical. Malebranche rejected the former but not the latter; see, for example, Lennon and Olscamp, *Search*, 687–753.


even harder to take him in particular as an occasionalist. For anyone interested in Descartes, but especially for those who share my doubts, *Descartes on Causation* is an essential work.

Schmaltz mounts an argument at the opposite end of the interpretive spectrum, namely, for causal realism in Descartes’s physics and causally restricted “mere conservationism” (as opposed to occasionalism and concurrentism) on the part of Descartes’s God. Analysis of Descartes’s imprecise account of force leads Schmaltz to propose that:

> for Descartes the bodies in motion that God continuously conserves have as modes of their duration various forces that determine the outcomes of collisions . . . These forces and inclinations are therefore true causes . . . that produce the particular changes due to contact among bodies.”

Seminal for this conclusion is Gueroult’s claim that, for Descartes, “force, duration, and existence are one and the same [extramathematical] thing (conatus) under three different aspects.” Causation in physics, however, is the subject of only one chapter (the third) in five, in addition to the introduction and conclusion of *Descartes on Causation*. Let me back up and attempt to give a broader view of an unusually broad-ranging book.

Schmaltz begins from the Scholastic context (Chapter 1) with special emphasis on Suárez (1548–1617) whose *Metaphysical Disputations* is shown to be a (if not the) most important source of metaphysical notions adopted and adapted by Descartes. Of those notions two causal axioms are central: first, the containment axiom

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*Writings of Descartes* will be abbreviated AT and CSM, respectively. See also *Meditations on First Philosophy* 5; AT, 7:71; CSM, 2:49. See also *Meditations* 6; AT, 7:71 and 80; CSM, 2:50 and 55. See also *Principles of Philosophy* (F) 3.44; AT, 9–2:123; CSM, 1:255. See also *The Passions of the Soul*, articles 152–9, in *René Descartes: The Passions of the Soul*, trans. Stephen H. Voss (Indianapolis: Hackett, 1989), 103–7. Hereafter, *René Descartes: The Passions of the Soul* will be abbreviated *Passions*.

7 Schmaltz, *DC*, 6 and 126.
8 Schmaltz, *DC*, 121.
that “causes cannot give what they in no way contain”; second, the conservation axiom that “no less a cause is required to conserve a thing than to produce it at first.” These two axioms are explicated (Chapter 2) in terms of their derivation from Suárez and their modification by Descartes. The containment axiom most prominently appears in Meditations 3 as “there must be as much in the efficient and total cause as in the effect of that cause,” in which cause “there is formally or eminently all that is found” in the effect, the relevant effect being Descartes’s idea (the objective reality) of God. The distinctions between total and partial efficient causes, and between formal and eminent containment, are found in Suárez. The application to effects that are ideas is distinctively Cartesian. Most fundamentally, the formal/eminent distinction must be adapted to Descartes’s rejection of scholastic (thus Suárezian) substantial forms and real qualities, and to his corresponding reduction of secondary qualities to intramental effects of extramental matter in motion. These issues are well covered by Schmaltz. The conservation axiom does duty in Descartes’s doctrines of the nature of time, of divine creation as conservation, and ultimately of the absolute unicity of God’s creative-conserving act: As Descartes first describes it to Mersenne, “[i]n God, willing, understanding and creating are all the same thing without one being prior to the other even conceptually.” There results (Chapter 3) a distinctively Cartesian doctrine of divine immutability that grounds the derivation of the laws of nature in World, Chapter 7, and Principles

10 Schmaltz, DC, 52, quoting Suárez in Metaphysical Disputations 26.1, paragraph 2.
11 Schmaltz, DC, 72, quoting Descartes in Second Replies; AT, 7:165; CSM, 2:116. See also Discourse 5; AT, 6:45; CSM, 1:133, and Principles 2.42; AT, 8–1:66; CSM, 1:243.
12 Meditations 3; AT, 7:40–41; CSM, 2:28 with explanatory notes 1 and 2.
13 Schmaltz, DC, 51–71.
Schmaltz covers as well the notoriously problematic collision rules of *Principles* 2.46–52: how, to wit, could a resting body be understood to contain formally or eminently the instantaneous reversal of direction that it causes in the moving body that hits it? As noted, force is proposed as the answer. To accept this as plausible we must be sympathetic (as I am) to the view that Descartes’s semi-coherent talk about forces in his physics is not “a mere façon de parler” but rather the sign of his unfulfilled aspiration to do what Huyghens did in 1668: identify vector momentum as the quantity conserved in collision—even though this would have exacerbated the problem of human mind-to-body causation in relation to the conservation of motion, as noted by Leibniz in *Monadology*, §80. We are thus led beyond *res extensa* to the *res cogitans* and to their union in the mind-body composite, whose components must somehow interact, body-to-mind and mind-to-body.

The containment axiom appears to present the clearest problem not in physics but for body-to-mind action, for how can a “thought,” for example, a sensation of color, in the soul exist formally or eminently in the unthinking body that apparently causes it? Moreover, as noted, would not conservation of motion pose a problem for mind (without size, without speed) inducing motion in a body, specifically, the pineal gland? More generally (and famously), how can two things having nothing in common be related as cause and effect? Chapter 4, entitled “Causation in Psychology,” is on mind-body interaction and is, accordingly, the longest in the book (49 pages). I comment here on Schmaltz’s position on the body-to-mind problem. Concerning the mind-to-body problem, it must suffice to quote his concluding assessment:

> Descartes never quite got around to thinking his account of mind-to-body action through to its foundations. Had he done so, he could have discovered the need to reconcile such action with the

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16 Schmaltz, *DC*, 114; *Principles* 2.45–52; AT, 8–1:67–70.
17 Schmaltz, *DC*, 115.
sufficiency of the divine concursus that his conservationist physics requires.\textsuperscript{19}

On body-to-mind action, we get a preview of Schmaltz’s position in his opening presentation of the causal axioms: “this [containment] axiom does not create the sort of difficulties for mind-body interaction [specifically the body-to-mind direction] that critics have tended to emphasize.”\textsuperscript{20} Descartes’s account of sensation in the second half of \textit{Meditations 6} describes an important instance of body-to-mind action. There, “the mind has sensory ideas that direct it to certain bodily features rather than others,” specifically, it is directed away from what is harmful and towards what is beneficial to the composite, for that is “the proper purpose of the sensory perceptions given me by nature.”\textsuperscript{21} What is improper is to judge that our sense perceptions resemble their causes—for example, to believe that the real world is colored, hot and cold, wet and dry. The unreliability of ordinary sense perception for gaining scientific knowledge is a basic Cartesian tenet, and is the source of the “\textit{ninth} and most worrying difficulty” of the Sixth Objections, namely, “that we ought to mistrust the operations of the senses.”\textsuperscript{22} In his reply, Descartes provides an emblematic statement of his denial of the extramental reality of secondary qualities:

If we are to get a clear view of what sort of certainty attaches to the senses, we must distinguish three grades of sensory response. The first is limited to the immediate stimulation of the bodily organs by external objects; this can consist in nothing but the motion of the particles of the organs, and any change of shape and position proceeding from this motion. The second grade comprises all that immediately results in the mind as a result of its being united with a bodily organ which is affected in this way, such as the perceptions of pain, pleasure, thirst, hunger, colors, sound, taste, smell, heat, cold and the like, which arise from the union and as it were intermingling of mind and body, as explained in the Sixth Meditation. The third grade includes all the judgments about things outside us which we have been accustomed to make from our

\textsuperscript{19} Schmaltz, \textit{DC}, 177; see 176: “God’s ordinary concursus consists simply in the continuation of his initial act of creation.”

\textsuperscript{20} Schmaltz, \textit{DC}, 50.

\textsuperscript{21} Schmaltz, \textit{DC}, 153; \textit{Meditations 6}; AT, 7:83; CSM, 2:57.

\textsuperscript{22} Sixth Objections; AT, 7:418; CSM, 2:281.
earliest years—judgments which are occasioned by the movements of these bodily organs.  

These words entail that, whereas figure, extension (thus “shape”), and local motion—the mathematical features of bodies—are faithfully reported to the mind by the senses (otherwise neither this statement nor mathematical physics would be possible), the rest are not. But then what power or faculty in the mind-body union causes our intramental perceptions of, say, a color, when the extramental objects that conjointly cause (or possibly just occasion) them are colorless? Why does it do so in a way that strongly inclines us (and not just in childhood) to mistakenly judge that bodies are colored? Schmaltz brings this very good question clearly into view. From a key passage in Descartes’s Comments on a Certain Broadsheet, we get part of an answer: “on the occasion of certain corporeal motions” our mind forms the idea, for example, of red, “by means of the faculty innate to it.” This innate mental faculty is posited in order to remove the need for scholastic intentional forms somehow transmitted from sense objects to our souls as well as “the view that the mind senses objects by viewing resembling images of them in the brain” as if, absurdly, it had a second set of eyes. This is, however, only part of an answer to the question, which remains a good one even though the old scholastic answer (intentional forms) seems unacceptably naïve. Schmaltz’s extensive analysis pursues a fine-grained inquiry into alternative interpretations of the role of the innate mental faculty in relation to God’s activity, the institution of nature, brain alterations and psychophysical laws: where and how does causal efficacy reside? His target is Steven Nadler’s account of occasional causation in sense perception, which is not theologically radical but which nevertheless denies anything but occasional causality to bodies. In contrast, Schmaltz defends a notion of genuine but shared efficient causality:

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24 Schmaltz, DC, 150; Comments on a Certain Broadsheet; AT, 8–2:359; CSM 1:304.
25 Schmaltz, DC, 156–7.
26 Schmaltz, DC, 145–62.
“The total and efficient cause of these ideas, consisting of motions in the brain and the innate mental faculty, could be said to formally contain all of the effects produced, and thus the containment axiom would be satisfied.”

What makes *Descartes on Causation* an unusually wide-ranging book is the fifth and last chapter, “Causation and Freedom.” Its subject is the relation between human free will and “what is perhaps the most idiosyncratic feature of Descartes’s theory of causation, namely, his famous (and notorious) doctrine of the creation of the eternal truths.” Indeed, in Question 46, “On the Ideas”—a text of fundamental importance for medieval philosophy—Augustine asks, “Who would dare to say that God has created all things without reason (*irrationabiliter*)?” Descartes says it plainly in Point 6 of his Sixth Replies: “no good or truth, nothing worthy of belief or action or omission, can be feigned [fingi potest] the idea of which is in the divine intellect before his will determines to bring it about that it be such.” To be sure, Descartes’s doctrine counters an assertion in

28 Schmaltz, DC, 155.

For the importance of Question 46 in medieval philosophy, see Christopher Cullen, *The Semiotic Metaphysics of Saint Bonaventure* (Ph.D. dissertation, The Catholic University of America, 2000), chapter 3.
31 Schmaltz, DC, 188; AT, 7:432 and CSM, 2:291. See also Sixth Replies, Point 8; AT, 7:435–6; CSM, 2:293–4. See also To Mersenne, 27 May 1630; AT,
Suárez that truths like those of mathematics “have eternal truth not only as they are in the divine intellect but also in themselves and prescinding from it,” but the doctrine cuts deeper: It denies any priority of divine intellect to divine will, which are simply identical, thereby making it impossible to predicate “wise” of God in any humanly meaningful sense. To appreciate this, consider the contrasting position of Aquinas:

[I]n us the will is really distinct from the intellect . . . In God, however, the will is really identical with the intellect, and for this reason the correctness of His will is really the same as His will itself. Consequently the first thing upon which the essential character of all justice depends is the wisdom of the divine intellect . . . To say that justice depends simply upon the will [of God] is to say that the divine will does not proceed according to the order of wisdom, and that is blasphemous.

For Aquinas, “by means of one act God wills His goodness and all other things, since His action is His essence,” nevertheless “a certain reason of the divine will can be assigned,” that is, the identity of will and intellect in God is qualified such that there can be a certain priority of divine intellect to divine will. Therefore, the set of things known by God is greater than the set of things willed by God. For this reason, it remains possible to predicate “wise choice” of God with respect to his unitary act of creation:

God produces His effects according to His wisdom. For the will is moved to act as the result of some sort of apprehension; the apprehended good is indeed the object of will . . . in Him there exists intellectual apprehension . . . Excluded hereby is the error of

1:153; CSMK, 25–6. See also Principles 1.23; AT, 8–1:14; CSM, 1:201. See also Conversation with Burman; AT, 5:159–60 and 165–6; CSMK, 343 and 347–8.

32 “ . . . habent perpetuam veritatem, non solum ut sunt in divino intellectu, sed etiam secundum se ac praescindendo ab ill.o” Suárez, Metaphysical Disputations 31.12, paragraph 40.

33 Texts cited in note 31, above, and also To Mesland, 2 May 1644; AT, 4:119; CSMK, 235.


those who said that all things depend on the simple will of God, without any reason.\textsuperscript{36}

Thus the Thomistic teaching; in Descartes, there is no Thomistic qualification of the identity of divine intellect and will, thus no priority whatsoever of the former to the latter.

Finally, Descartes’s created-truths doctrine places the power of God beyond the principle of noncontradiction.\textsuperscript{37} Schmaltz’s formulation is stunning: “[T]here can be no preexisting ideas that provide reasons for God’s creation of the eternal truths. Not only is there no reason for this creation that we can comprehend; there is no reason God can comprehend either.”\textsuperscript{38}

Is the truth that God exists created in this way? We hope not, and Schmaltz provides reassurance based on text and literature that Descartes’s God is not the efficient cause of himself, absurdly.\textsuperscript{39} Truths about creatures and their actions, however, are created in this way, and that exacerbates the traditional (hard) problem of divine foreknowledge and human freedom because, since Descartes’s God—in contrast to Aquinas’s—cannot know a thing without willing it, it is impossible to maintain, as Molina and the Jesuits did, that God can have foreknowledge of all our actions yet leave a subset of them (the free ones) undetermined.\textsuperscript{40}

In light of Descartes’s created truth doctrine, we have two large questions: 1) Why is there an intelligible world at all? 2) How is human freedom possible? Schmaltz’s main, although not sole, concern is with the second question. Regarding the first, briefly, the answer seems to be that the one unique, efficient, and total divine decree did in fact create for all time the principle of noncontradiction, the axioms of mathematics, the eternally conserved total quantity of matter and motion (about which, below), and the laws of nature. These products


\textsuperscript{37} Schmaltz, \textit{DC}, 187; \textit{Meditations} 3; AT, 7:36; CSM, 2:25. See also Sixth Replies; AT, 7:432; CSM, 2:291. See also To Mesland, 2 May 1644; AT, 4:118; CSMK, 235. See also To Arnauld, 29 July 1648; AT, 5:224; CSMK, 358–9.

\textsuperscript{38} Schmaltz, \textit{DC}, 190.

\textsuperscript{39} Schmaltz, \textit{DC}, 189.

\textsuperscript{40} Schmaltz, \textit{DC}, 184–7.
of God’s creative act of incomprehensible omnipotence are, nevertheless, unchangeable by the immutability of the divine will, which Descartes asserts, and which can be derived, following Gilson, from the unqualified identity of divine will and intellect.\footnote{To Mersenne, 15 April 1630; AT, 1:146; CSMK, 23. Gilson, La liberté, 51–77.}

What about the second question? “One easy way out would be to claim that since the created truth doctrine allows that God can do the impossible, it raises no additional problems for the view that God brings about the impossibility of determining undetermined action.”\footnote{Schmaltz, DC, 187.} This would seem to be in keeping with \textit{Principles} 1.40–41, and I would be tempted to take it, but Schmaltz aims to show that it is possible to do better. Preparatory to this, we have a thorough review of Cartesian texts on “Indifference and Human Freedom” (from Rule 3, through \textit{Meditations} 4, \textit{Principles} 1, letters to Mesland and an unnamed Jesuit, to \textit{The Passions of the Soul}), always with comparison to Suárez.\footnote{Schmaltz, DC, 192–208.} A compact summary of this—\textit{multum in parvo}—would be impossible. Sufficient to say that the achievement of certain (that is, clear and distinct) reasoning—the theoretical pursuit of scientific truth—is featured as an excellence in much of Descartes’s writing. Here the assent of the will to the truth is forced by the logical necessity of the conclusions. The effort of will in paying attention is needed, however, and this is something we are free not to do, and we are praiseworthy when we do it; so there is a type of freedom of indifference in the will even in theoretical matters. Yet there remains a basic question: In Rule 1, the human mind is compared to the sun in illuminating the subjects of science. \textit{But why shine?} For Descartes, theory is not an end in itself.\footnote{\textit{Regulae ad directionem ingenii}, Rule 1; AT, 10:360; CSM, 1:9. See also \textit{Discourse} 1; AT, 6:4; CSM, 1:113. See also \textit{Discourse} 6; AT, 6:61–2; CSM, 1:142–3. See also \textit{Principles}, French Preface; AT, 9–2:14; CSM, 1:186. See also \textit{Passions}, article 212; AT, 11:488; V, 135.} As Schmaltz makes clear, the fullest answer to this question is to be found in Descartes’s final publication, \textit{The Passions of the Soul}, in the account of generosity, the right (and autonomous) use of free will in the face of distorting and heteronomous passions. “Here, then, the search for truth is subordinated to the pursuit of the
good.” Indeed, “to do good things that depend on us is to follow virtue.” But how can these words be reconciled with the divine creation of the eternal truths—a doctrine of apparently universal preordination? According to the latter, all that God knows, God wills. As Descartes tells Elizabeth, God “would not be supremely perfect if anything could happen in the world without coming entirely (entirement) from him.” If this is so, what things could possibly depend on us? Let us turn to the final section of Chapter 5, “Human Freedom and Divine Providence.”

How could God know in advance that, under given conditions, a particular person will perform a certain act without undermining that person’s free will in favor of a determinism of divine preordination? This is a traditional problem and Schmaltz sets the stage for Descartes by recounting two conflicting attempts to solve it by the Jesuit Molina, and the Dominican Bañez. Molina opts for a notion of divine “middle knowledge,” whereby God foreknows our actions but in no way determines them. Bañez objects that this threatens divine providence and proposes that God “is able to know in advance how human agents would freely act in certain circumstances because his ‘efficacious concursus’ determines those free actions that are good, whereas his failure to offer such a concursus results in those free actions that are evil.” Furthermore, according to Bañez, Molina must explain the ground of such foreknowledge; “simply seeing” or divine “supercomprehension” is inadequate. Molina and Suárez object in turn that Bañez’s doctrine of the granting and withholding of divine concursus is incompatible with the indifference of human will that is required for our freedom. Thus (as each sees the other), one side threatens divine providence, the other side, human free will. It is significant that “Pope Paul V issued a decree in 1607 that forbids the two sides from labeling the views of their opponents heretical . . . This decree promised an official resolution of the dispute at ‘an opportune

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45 Schmaltz, DC, 207.
46 Passions, article 144; AT, 11:347; V, 97.
47 Schmaltz, DC, 210; To Elizabeth, 6 Oct. 1645; AT, 4:314; CSMK, 272.
48 Schmaltz, DC, 184–7.
49 Ibid.
50 Schmaltz, DC, 184.
51 Schmaltz, DC, 185.
time,’ which time we still await.” Schmaltz refers repeatedly to the irreducibly mysterious in all attempts, traditional or Cartesian, to comprehend this issue.

In Descartes, the problem “would appear to be more intractable insofar as it seems contradictory to say that the divine will determines truths concerning free actions that are themselves undetermined,” for “[a]ll truths concerning creatures are subject to God’s will,” due to the unqualified identity of divine will and intellect. Thus, in Descartes’s theology, there can be no divine prevolitional foreknowledge of creatures that might, like the Jesuits’ middle knowledge, leave our actions free. Nor can there be a Dominican granting and withdrawing of concursus, because in withdrawing it, God would cease to know that he had ever granted it. The reason being that, if he wills one state of affairs after another, then he ceases to know (thus forgets) the former and, before willing it, was ignorant of the latter. In other words, a change in the objects that God wills entails a change in his mind, which is impossible—this is Gilson’s derivation, cited above, of the immutability of divine will based on unqualified will-intellect identity and the immutability of God’s knowledge. At this point, Schmaltz notes that “easy way out,” but does not himself take it; rather: “My ultimate conclusion is that an understanding of the dependence of our free action on God in terms of the divine creation of eternal truths provides support for a conservationist account of God’s production of that action.” Accordingly, as Schmaltz interprets Descartes’s remark above to Elizabeth, the words “without coming entirely from [God]” mean,

not that there are no other causes, but merely that there are no such causes that are not subordinated to God’s universal causality. . . Given this reading . . . our causation of our own free actions must be subordinate to God’s universal causation of everything in the created world.

The ensuing argument, which I cannot claim adequately to understand, draws on correspondence with Elizabeth, in particular on

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52 Schmaltz, DC, 184.
53 Schmaltz, DC, 187, 209, 211, 212, 216.
54 Schmaltz, DC, 187; emphasis mine.
55 Schmaltz, DC, 187, 209.
56 Schmaltz, DC, 210; see also Schmaltz, DC, 76.
the example of the two duelers who are not forced to duel, but whose dispositions (inclinations of their wills) lead them to do it predictably for the king who sent them to that place.\textsuperscript{57} The example is supposed to illustrate the consistency of the independence of our free actions with their dependence on God,” but there remains “something fundamentally mysterious” in the notion that God is the \textit{efficient} cause—unlike the king in the example—of the truth of the relevant conditional proposition that, upon meeting, these two persons will duel. “Having created these truths, however, there is nothing that God needs to do to produce the free actions beyond creating and conserving a world in which agents with the relevant inclinations exist in the appropriate circumstances.”\textsuperscript{58}

We end up in article 146 of \textit{The Passions of the Soul}, which presents a clear statement on divine providence and human freedom, although we have now learned that reconciling it with the created-truths doctrine is problematic: “everything is directed by divine Providence, whose eternal decree is infallible and immutable . . . [everything, that is] except for the things which this same decree has willed to depend on our free will.”\textsuperscript{59} Is this the optimal answer to both of the two large questions, namely, one and the same divine creative decree, for reasons neither we nor God can understand, decreed both an intelligible world and a realm of things that depend on our free will? Thus in the divinely determined stream of the universe there are islands to be determined by us. Moreover, according to \textit{Passions}, article 145, our free will can even enlarge those islands by the discovery of causes.\textsuperscript{60}

I conclude with a question: If, as Descartes says, “the act whereby God now conserves [the world] is just the same as that by which he created it,”\textsuperscript{61} and if the total quantity of motion now has a determinate numerical value (a positive number resulting from a vast sum over all corpuscles of the product of the size and speed of each corpuscle at the present time), do we ever come to a time, past or future, at which

\textsuperscript{57} Schmaltz, \textit{DC}, 209–216. The two duelers are described in the letter to Elizabeth of Jan. 1646; AT, 4:353–4; CSMK, 282.

\textsuperscript{58} Schmaltz, \textit{DC}, 210–11, 215.

\textsuperscript{59} Schmaltz, \textit{DC}, 216; \textit{Passions}, article 146; AT, 11:439; V, 99.

\textsuperscript{60} AT, 11:438; V, 99.

\textsuperscript{61} \textit{Discourse} 5; AT, 6:45; CSM, 1:133.
the quantity of motion is zero? If to create it is to conserve it, that is, to make the total quantity of motion at any instant equal to that at a tiny increment of time earlier or later,\textsuperscript{62} then does not Descartes’s distinctive theology imply that the universe is eternal? Schmaltz touches on this but does not develop it.\textsuperscript{63} In considering the question, the Thomistic background on divine immutability is useful:

Nor, if the action of the first agent is eternal, does it follow that His effect is eternal . . . Now, an effect follows from the intellect and the will according to the determination of the intellect and the command of the will. Moreover, just as the intellect determines every other condition of the thing made, so does it prescribe the time of its making . . . Nothing, therefore, prevents our saying that God’s action existed from all eternity, whereas its effect was not present from eternity, but existed at that time when, from all eternity, He ordained it.\textsuperscript{64}

Similarly, “the divine effect must necessarily follow not whenever the divine nature existed, but at the time disposed for its existence by the divine will.”\textsuperscript{65} Finally,

as the production of a thing into existence depends on the will of God, so likewise it depends on his will that things should be preserved; for He does not preserve them otherwise than by ever giving them existence; hence if He took away His action from them, all things would be reduced to nothing, as appears from Augustine (\textit{Gen. ad lit. iv.12}) . . . In this way, therefore, by the power of another—namely, of God—they are mutable, inasmuch as they are producible from nothing by Him, and are by Him reducible from existence to non-existence . . . Hence since God is in none of these ways [of creatures] mutable, it belongs to Him alone to be altogether immutable.\textsuperscript{66}

In the Thomistic teaching, immutability belongs to God alone and is thus not coextensive in duration with God’s creation. On this

\textsuperscript{62} In mathematical language, $Q(t) = Q(t \pm \Delta t)$, for any time, $t$, and small increment, $\Delta t$.


\textsuperscript{64} \textit{ScG} 2.35; Anderson, \textit{Summa Contra Gentiles, Book Two}, 102–3.


account, the creation and annihilation of the universe (thus the total quantity of motion going from zero in the mind of God to a positive value, and thereafter returning to zero) at the times ordained for it is not incompatible with the immutability of God’s will. But isn’t this what is ruled out by Descartes’s doctrine of God?

Again, for Descartes, unlike Aquinas, there cannot be a range of possible numerical values of the total quantity of motion in the divine mind, from which God then actualizes one value at a given time according to the order of God’s providential wisdom. Rather, if God wills the total quantity of motion to be zero after having had a positive value (so the universe existed), then God no longer knows that the total quantity of motion was once positive—this by the unqualified identity of divine will and intellect. The same holds for the quantity of motion having a positive value after having been zero in the mind of God prior to creation: either way, Descartes’s God would forget that he created. Would not the inference then have to be that God’s creation—of the principle of noncontradiction, the axioms of mathematics, the constant total quantity of matter and motion in the universe, and the laws of nature—is necessarily eternal?

Descartes offers an answer to this question in *Principles* 2.36:

> For we understand that it is a perfection in God not only that he is immutable in himself, but also that he acts in a manner that is most constant and immutable. Therefore, except for those changes, which evident experience or divine revelation render certain, and which we perceive or believe to happen without any change in the creator; we ought to suppose no others in his works, lest in this way an inconstancy be declared in him. Thus, God imparted various motions to the parts of matter when he first created them, and he now conserves all this matter in the same way, and by the same process by which he originally created it; and it follows from what we have said that this fact alone makes it most reasonable to think that God likewise always conserves the same quantity of motion in matter.  

That the world was created after having not existed is divinely revealed. But if, accordingly, we grant to God’s immutable creative act a distinct beginning of the total quantity of matter in motion, is it “most reasonable to think that God likewise always conserves [it]”? Is it not

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67 *Principles* 2.36; AT, 8–1:61; CSM, 1:240, emphasis mine. See also *Principles* (F), AT, 9–2:84.
just as reasonable, as Schmaltz well notes, that God’s creative act could “also produce changing quantities of motion and rest”?\(^6\)

In any case, *Principles* 2.36 raises the question, did Descartes change his mind between the 1641 *Meditations, Objections and Replies*, and the 1644 *Principles*, about the relation of will and intellect in God? His striking restatement to Burman, 16 April 1648, seems to say no:

BURMAN: . . . [T]here are some of God’s decrees which we can conceive of as not having been enacted and as alterable. These decrees, then, do not come about by means of the single act which is identical with God, since they can be separated from him, or at least could have been. One example of this, among others, is the decree concerning the creation of the world, with respect to which God was quite indifferent.

DESCARTES: Whatever is in God is not in reality separate from God himself; rather it is identical with God himself. Concerning the decrees of God which have already been enacted, it is clear that God is unalterable with regard to these, and, from the metaphysical point of view, it is impossible to conceive of the matter otherwise . . .

From the metaphysical point of view, however, it is quite unintelligible that God should be anything but completely unalterable. It is irrelevant that the decrees could have been separated from God; indeed, this should not really be asserted . . . [A]gain, although we may conceive that the decrees could have been separated from God, this is merely a token procedure of our own reasoning: the distinction thus introduced between God himself and his decrees is a mental not a real one. In reality the decrees could not have been separated from God: he is not prior to them or distinct from them, nor could he have existed without them. So it is clear enough how God accomplishes all things in a single act. But these matters are not to be grasped by our powers of reasoning, and we must never allow ourselves the indulgence of trying to subject the nature and operations of God to our reasoning.\(^6\)

It remains unusually difficult to render consistent all of Descartes’s statements on God and creatures. This in no way detracts from Tad Schmaltz’s achievement. *Descartes on Causation* is among

\(^6\) Schmaltz, *DC*, 91.

the most important contributions to Descartes scholarship in recent times.

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