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Cartesianism and Body-Body Occasionalism

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Abstract
This article criticize an assumption at the heart of recent discussions about Cartesians and causation within the physical world, the assumption that if a Cartesian believes that only God can cause motion (or perhaps that only God and finite spirits can do this) then that Cartesian believes that bodies cannot causally affect one another. Daniel Garber, Steven Nadler, Tad Schmaltz, and Michael Della Rocca all make this assumption in arguing that Descartes, Antoine Arnauld, Louis de la Forge, Géraud de Cordemoy, or Robert Desgabets were or were not occasionalists about the apparent interaction of bodies.

Résumé
Cet article critique une hypothèse au cœur de discussions récentes à propos des cartésiens et de la causalité dans le monde physique. Selon cette hypothèse, si un cartésien croit que Dieu seul peut causer le mouvement (ou que Dieu seul et les esprits finis le peuvent), alors ce cartésien croit que les corps ne peuvent s’affecter causalement les uns les autres. En soutenant que Descartes, Antoine Arnauld, Louis de la Forge, Géraud de Cordemoy ou Robert Desgabets sont, ou ne sont pas, occasionalistes lorsqu’ils abordent l’interaction apparente entre les corps, Daniel Garber, Steven Nadler, Tad Schmaltz et Michael Della Rocca tombent tous dans ce présupposé, dont cet article vise à montrer la fausseté.
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Time was when most Cartesians were thought to be occasionalists – one finite object could not causally affect another; it could only provide the occasion for God to cause a change in the other finite object (see Prost, 1907 and Garber, 2001a). Now most Cartesians, whatever their views about other sorts of interactions, are still thought at least to be body-body occasionalists: one body cannot causally affect another; it can only provide the occasion for God to cause a change in the other body.

I want to criticize an assumption at the heart of recent discussions of Cartesianism and body-body occasionalism, the assumption that if a Cartesian believes that God alone can cause motion (or perhaps that only God and finite spirits can do this), then that Cartesian believes that bodies cannot causally affect one another. Daniel Garber, Steven Nadler, Tad Schmaltz, and Michael Della Rocca all assume this in arguing about whether René Descartes, Antoine Arnauld, Louis de la Forge, Géraud de Cordemoy, or Robert Desgabets are body-body occasionalists. It is natural to assume this, since Descartes seems clearly to say that any change in bodies is a change in motion. Hence, if God alone can cause motion, then one body cannot cause a change in another. Still, this assumption is wrong, because for the Cartesians some changes in the material world are not changes in motion itself but changes in a feature of motion, its direction. Hence, even if one body cannot change the motion of another, that is, even if it cannot increase or decrease the other’s motion, it can still affect the other by changing its direction.

I need to stress immediately (as Nadler has pointed out to me!) that I am not primarily arguing for a position on whether Descartes and the others are

1 Prost (1907: 156) says that occasionalism was accepted by almost all the Cartesians.

Quoting this article
body-body occasionalists. Rather, I am arguing that a faulty assumption permeates the discussion of whether they are and that any argument that a given Cartesian is a body-body occasionalist that rests on this assumption is defective. I do believe, but won’t argue here, that Cordemoy is an occasionalist and that Nadler, because he fails to appreciate the importance for Cordemoy of the distinction between the quantity of motion in the universe and the direction of that motion, misses a subtle distinction in Cordemoy’s occasionalism. Cordemoy subscribes to the principle of the conservation of motion. But he does not try to use his occasionalism to avoid conflict with this principle. Like Leibniz, he thinks that an occasional cause of motion in the universe would be just as problematic as a real cause of motion. Instead, he seeks to avoid conflict with the principle of the conservation of motion by saying that occasional causes affect only the direction of motion. I also believe, as will become clear, that Desgabets is not a body-body occasionalist, and that Schmaltz, in failing to appreciate the importance for Desgabets of the distinction between quantity of motion and direction of motion, misses how Desgabets thinks that one body can causally affect another without adding to or subtracting from its motion. Still, my primary aim is not to decide who are and who are not body-body occasionalists.

In what follows I first show that Garber and the others make the assumption that I attribute to them. I then explain the importance of the distinction between causing motion and causally affecting the direction of motion by discussing how various Cartesians use this distinction to explain how their understanding of mind to body causation is consistent with a principle of the conservation of motion in the physical world. According to this principle, the total quantity of motion in the physical world remains constant. Leibniz was right, if not about Descartes then at least about many of Descartes’s followers, that they believed that the mind does not in any way affect the quantity of motion in the physical world, only its direction. I then show how the Cartesians make this same distinction for body-body causation. Indeed, Desgabets, who like all the Cartesians draws on Descartes’s discussion of motion in Part II of the Principles, explicitly treats mind to body causation and body-body causation on a par: in both cases there is causation, but in neither case is there causation of motion. Arguing that for the Cartesians bodies cannot cause motion, then, is insufficient to establish that they believe that bodies cannot causally affect one another.
I spoke of the assumption that if a Cartesian believes that God alone can cause motion (or perhaps that only God and finite spirits can do this) then that Cartesian believes that bodies cannot causally affect one another. And I said that Daniel Garber, Steven Nadler, Tad Schmaltz, and Michael Della Rocca all assume this in arguing about whether René Descartes, Antoine Arnauld, Louis de la Forge, Géraud de Cordemoy, or Robert Desgabets are body-body occasionalists. Daniel Garber assumes this in “Descartes and Occasionalism,” when he says: “[I]t seems to me as clear as anything that, for Descartes, God is the only cause of motion in the inanimate world of bodies, that bodies cannot themselves be genuine causes of change in the physical world of extended substance” (2001a: 205). Here he clearly means that for Descartes, since bodies cannot cause motion, they cannot be genuine causes of change in the physical world. Steven Nadler makes the same assumption in “Cordemoy and Occasionalism,” and in general in various articles discussing occasionalism among the Cartesians. In discussing Géraud de Cordemoy, Nadler sounds a lot like Garber on Descartes: “When we consider, first, the problem of body-body interaction, there is no mistaking Cordemoy’s view in the Discernement. Bodies are not the causes of the motions of other bodies. […] Only God is the genuine cause of motions of bodies” (2011: 148). Nadler then argues that Cordemoy is a body-body occasionalist by discussing Cordemoy’s argument that bodies cannot cause motions in other bodies. Nadler’s discussion in “The Occasionalism of Louis De La Forge” of La Forge’s body-body occasionalism is similarly cast in terms of La Forge’s denial that one body can move another (1993: 109-111).²

Like Garber and Nadler, Tad Schmaltz also makes the assumption. He denies that Descartes is a body-body occasionalist and assumes that denying this requires that he argue that bodies can be genuine causes of motion. He even states body-body occasionalism as a view about the cause of motion. In fact, in Descartes on Causation, Schmaltz misquotes Garber as saying “for Descartes, God is the only cause in the inanimate world of bodies” rather than “for Descartes, God is the only cause of motion in the animate world of bodies,” a natural mistake for Schmaltz to make given that he equates the two (2008: 121; 2011: 36). And he argues that Robert Desgabets is a body-body occasionalist because

² Nadler’s discussion in “Dualism and Occasionalism: Arnauld and the Development of Cartesian Metaphysics” of Arnauld’s rejection of body-body occasionalism is cast in terms of Arnauld’s assertion that one body can move another (1994: 91-92).
he says that God causes motion and denies that motions can cause other motions (2002: 109-110 and 255-256). Finally, Michael Della Rocca, who like Schmaltz denies that Descartes is a body-body occasionalist, begins his essay “‘If a Body Meet a Body’: Descartes on Body-Body Causation” with the following question: “Do bodies cause changes in motion in other bodies, according to Descartes?” Though in the first paragraph of his essay Della Rocca does show awareness of the distinction between being a genuine cause of changes in motion and being a genuine cause of changes, throughout the essay he casts his discussion in terms of whether bodies can cause changes in motion (1999: 48).

Taking the Cartesians to equate one body cannot affect another with one body cannot move another is natural. Descartes seems clearly to say that any change in bodies is a change in motion. His crucial discussion of motion in Part II of the Principles begins with his stressing the central role of motion in any difference or change in the matter that makes up the world:

_All the variety in matter, all the diversity of its forms, depends on motion. […] All the properties which we clearly perceive in it [matter] are reducible to its divisibility and consequent mobility in respect of its parts, and its resulting capacity to be affected in all the ways which we perceive as being derivable from the movement of the parts. […] any variation in matter or diversity in its many forms depends on motion_ (AT: VIIIA, II, 52–53; CSM: I, 232-233).³

Nevertheless, while motion is at the heart of any difference or change in matter, some changes in the material world are not changes in motion itself but changes in a feature of motion, its direction. Hence, even if one body cannot change the motion of another, that is, even if it cannot increase or decrease the other’s motion, it can still affect it by changing its direction. In arguing for the importance of distinguishing between moving a body and causally affecting it by changing the direction of its motion, I shall first consider a well-known reason for distinguishing these that arises in discussing the mind’s affecting the body. I shall then explain why we should distinguish them in discussing one body’s affecting another.

³ Garber cites this passage to support the view that for Descartes all the properties of bodies have to be explained in terms of motion (see Garber, 1992: 156). Malebranche and Cordemoy are more forceful in stressing that any change in bodies is a change in motion. In his Elucidation XV, Malebranche says that “all the changes that occur in bodies have no other principle than the different communications of motion that take place in both visible and invisible bodies” and that “locomotion is the principle of generation, corruption, alteration, and generally of all the changes that occur in bodies” (1980: 660; see also 449). And in the subtitle of the Second Discourse of the Discourse, Cordemoy says that “no change occurs in matter that cannot be explained by local motion” (1968: 106).


Causing Motion and Causally Affecting the Direction of Motion

Descartes and his followers believed that God caused the world as a whole to have a certain quantity of motion and rest. Further, as is well-known, they subscribed to a Principle of the Conservation of Motion (hereafter PCM), according to which the total quantity of motion in the physical world remained constant. As Descartes says in the *Principles*, 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. Thus if one part of matter moves twice as fast as another which is twice as large, we must consider that there is the same quantity of motion in each part; and if one part slows down, we must suppose that some other part of equal size speeds up by the same amount (AT: VIIIA, II, 61; CSM: I, 240).

Following Descartes, the Cartesians justified this principle by appealing to the immutability of God and his manner of operating. This led Cartesians to say that God was the sole and unique cause of motion.

Most philosophers have heard of the problem that PCM allegedly creates for the mind’s affecting the body. Leibniz made famous both the problem and Descartes’s supposed solution to it. In the *Theodicy* 60, Leibniz says that Descartes wished […] to make a part of the body’s action dependent on the soul. He believed in the existence of a rule of Nature to the effect, according to him, that the same quantity of motion is conserved in bodies. He deemed it not possible that the influence of the soul should violate this law of bodies, but he believed that the soul notwithstanding might have the power to change the direction of the motions that are made in the body: much as a rider, though giving no force to the horse he mounts, nevertheless controls it by guiding that force in any direction it pleases.4 The problem Descartes was supposed to face, often taken – I think misleadingly – to be a traditional part of his mind-body problem, was how to harmonize the mind’s affecting the body with PCM. How can the mind affect the body without increasing or decreasing the quantity of motion in the body and thereby in the world? And Descartes’s supposed solution was to distinguish between the quantity of motion and its direction. The mind does not affect the quantity of motion in the body: it affects the direction of that motion.5

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5 Recent interpreters have disagreed on whether Descartes faced a problem of harmonizing the mind’s affecting the body with PCM, and if he did, whether he gave this solution. Some say, like
According to Leibniz, Descartes did not know that the correct principle of conservation was not PCM, but one that incorporated the conservation of the total direction of motion. Had Descartes realized this, he would have hit upon the system of pre-established harmony:

Descartes recognized that souls cannot impart a force to bodies because there is always the same quantity of force in matter. However, he thought that the soul could change the direction of bodies. But that is because the law of nature, which also affirms the conservation of the same total direction in matter, was not known at the time. If he had known it, he would have hit upon my system of pre-established harmony (Monadology, § 80; Leibniz, 1989: 223).

So long as the Cartesians subscribed to PCM and not to Leibniz’s principle of conservation there was room for them to use the distinction between motion and its direction to distinguish between the mind’s causing motions in the body and its affecting the body by changing the direction of motions in the body. And even Garber, who denies that Descartes ever uses this distinction to harmonize the mind’s affecting the body with PCM, admits that many later Cartesians did (Garber, 2001a: 212-213). He mentions that Claude Clerselier appeals to the distinction in a letter to La Forge concerning the action of the soul on the body. Stressing that there is very little difference between his position on the action of the soul on the body and that of La Forge, Clerselier says that only God can cause a new motion in a body, but that a finite soul can direct [“déterminer”] movement that is already present (Clerselier, letter to Louis de la Forge, 4 December 1660, in Descartes, 1657-1667: III, 641-642).

La Forge does indeed hold a very similar position. In the Traité de l’Esprit de l’Homme, he stresses the distinction between the mind’s causing motions in the body and its affecting the body by changing the direction of motions in the body:

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6 Here Leibniz speaks of the same quantity of force, but elsewhere, as in the passage from the Theodicy quoted above, he speaks of the same quantity of motion.

7 Contrary to what Garber and Schmaltz imply, Clerselier does not explicitly introduce the distinction between quantity of motion and direction of motion to harmonize mind-body causation with PCM. Rather, Clerselier wants to harmonize mind-body causation with the view that God causes all motion. Besides mentioning Clerselier, Garber and Schmaltz mention the Cartesian Johann Clauberg. See Garber, 2001b: 149-150, and Schmaltz, 2008: 172-173.
The soul has the power neither to augment nor to diminish the movement of the spirits that come from the [pineal] gland, but only to direct ["déterminer"] them, that is to say, to bend them towards the side that it is necessary for them to go to execute its will. That is clearly seen from what we have already said, that God conserves the same quantity of movement that he has put in nature without augmenting or diminishing it (La Forge, 1725: 248).

Interestingly, in “The Occasionalism of Louis de la Forge,” while Nadler believes that La Forge takes the mind to affect the body, he does not mention La Forge’s distinction between the mind’s causing motion and its changing the direction of motion. As a result, he spends a couple of pages worrying about a passage in which La Forge “lapse(s) into the language of occasionalism” (2001: 116-120). The passage does indeed sound very occasionalistic. It is noteworthy, however, that the passage concerns only motion, not the direction of motion. La Forge can adopt an occasionalist position about the causes of motion while still maintaining that the mind can causally affect the direction of motion.

Like La Forge, Desgabets also saves PCM by saying that the mind causally affects the direction of motion. In Critique de la Critique de la Recherche de la Vérité, he says that

bodies do not properly speaking move each other and that God is no less the sole mover than he is the Creator. All that bodies and even angels and souls do is determine and change the course of movements that are already in the world and that never either increase or diminish in the totality of matter (1675: 211).

Later we will discuss this passage further, but here we notice that Desgabets draws on the distinction between motion and its direction to explain how the

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8 See also 84 and 246, as well as La Forge, 1677: 275-276. At one point in the Traité, La Forge stresses that “we must distinguish movement from its determination and the cause of movement from the cause that determines it because one is often different from the other just as are movement and the force that moves” (1725: 233).

9 Nadler does say that, for La Forge, the pineal gland “controls the direction or course (but not the speed) of the animal spirits,” but he does not say that the mind does this. See Nadler, 2001: 117.

10 The passage is from the Traité (I quote here from Nadler): “While God is the universal cause of all the motions that occur in the world, I do not hesitate, nonetheless, to recognize bodies and minds as particular causes of these same motions, not to be sure by producing any impressed quality, as the Schools explain it, but by determining and obliging the first cause to apply his force and motive virtue on those bodies upon which he would not have exercised it without them, following the manner according to which he resolved to govern himself regarding bodies and minds, that is to say, for bodies following the laws of motion […] and for minds following the extension of the power that he desired to give to the will. The virtue that bodies and minds have to move consists in this alone” (118; La Forge, 1997: 148).
mind can affect the physical world by changing the direction of motions in it.\(^{11}\) In the *Supplément à la philosophie de Monsieur Descartes*, Desgabets says that souls can only direct ["biaiser et déterminer"] the course of movements that are already in the world (1983: 247 and 259).

Finally, in his *Cours entier de Philosophie, ou Système général selon les Principes de M. Descartes*, Pierre Sylvain Régis says that “God is the first and total cause of all the movement in the world,” and that “the moving force is no other thing than the will that God has to move matter, whence it follows moreover that as the will of God is immutable, the quantity of moving force must also remain always the same;” as a result, he believes that the soul “cannot bring any change to the movements of our own members […] it can at most only direct ["determiner"] them” (1691: I, 305-306).\(^{12}\) As he says in the Preface to this work, movements of the body “do not come from the soul because experience shows that the soul has only at most the power to determine the movements of the body” (1691: I, n.p.).

In general, then, we cannot for the Cartesians equate something’s affecting a body with its moving a body. Various Cartesians believed that the mind could affect the body while denying that the mind could move the body. Still, we have to be careful here. Just as taking God to be the only cause of motion does not commit a Cartesian to occasionalism, distinguishing between motion and the direction of motion does not commit a Cartesian to denying occasionalism.

So far I have been concentrating on Cartesians who use the distinction between motion and its direction to explain how, consistently with PCM, the mind can affect the body by changing the direction of motions in the body. Clerselier, La Forge, Desgabets, and Régis all explain in this way how the mind can affect the body. But Cordemoy gives us a different sort of case. Cordemoy is an occasionalist about the influence of the mind on the body.\(^{11}\) And while Clerselier did not explicitly refer to PCM, Desgabets, like La Forge, does. Indeed, chap. XVII of Desgabets’ *Traité de l’indéfectibilité des créatures* has the heading *De l’indéfectibilité du mouvement, où l’on fait voir qu’il est impossible que la quantité de mouvement et de repos qui est dans le total des parties du monde cesse entièrement ni qu’elle augmente ou diminue* (“Of the indefectibility of movement, where it is shown that it is impossible that the quantity of movement and rest that is in the totality of the parts of the world cease entirely or that it increase or diminish”). See Desgabets, 1983: 91.

\(^{11}\) For the understanding of “determining” as directing, see Régis’ discussion of moving with the same force but with a different “détermination” (1691: 350ff). See also Régis, 1704: 94, where he asserts PCM, and 181, where he speaks of souls as directing the motion that God produces.
Discernement du corps et de l’âme, he is quite explicit that just as the impact of one body on another is the occasion, not the cause, of the second body’s moving, the mind’s will for the body united to it to move in a certain direction is the occasion, not the cause, of the body’s moving in that direction. Like the other Cartesians, he wants to explain how, consistently with PCM, the mind can affect the body by changing the direction of motions in the body. Only in his case, to say that the mind can affect the body is really a way of talking about occasional causes. The mind can be an occasional cause, not of motion in the body – that would violate PCM – but of the direction of motions in the body (see Cordemoy, 1968: 140-142 and 151).13

In general, then, we cannot for the Cartesians equate something’s affecting a body with its moving a body. Various Cartesians believed that the mind could affect the body while denying that the mind could move the body. And even Cordemoy, who denied that the mind could do either one, saw an important difference between the two.

Causally Affecting the Direction of Motion in Body-Body Causation

Appealing to change of direction to solve the mind-body problem created by PCM might seem a desperate, ad hoc move. Indeed, the standard practice of discussing change of direction only in the context of the mind-body problem encourages such a view. Nevertheless, the Cartesians discussed change of direction not only while discussing mind-body causation but also while discussing body-body causation.

Descartes himself says in The World that “it must be said that God alone is the author of all the motions in the world in so far as they exist and in so far as they are rectilinear; but it is the various dispositions of matter which render them irregular and curved” (AT: XI, 46; CSM: I, 97). And at least one Cartesian, Desgabets, appeals to change of direction in the same sentence for both mind-body causation and body-body causation. In the passage from Critique de la Critique quoted above Desgabets first indicates that the view he is giving has

13 It is worth mentioning that when Leibniz attacks Cartesian attempts to save PCM by distinguishing between motion and the direction of motion, he explicitly attacks occasionalists as well as non-occasionalists. See Leibniz’s letter to Arnauld of April 30, 1687, in Leibniz, 1989: 83; Theodicy 61; and “Considerations on Vital Principles and Plastic Notions,” in Leibniz, 1969: 587.
been very well explained by Cordemoy, so that he need not say much about it. He then says, to repeat, that
  bodies do not properly speaking move each other [...] God is no less the sole mover than he is the Creator. All that bodies and even angels and souls do is determine and change the course of movements that are already in the world and that never either increase or diminish in the totality of matter.

Here Desgabets asserts PCM and appeals to change of direction to explain the effect of bodies as well as angels and souls. The first part of the passage admittedly sounds very much like body-body occasionalism, especially when coupled with Desgabets’ statement elsewhere that “it is the encounter of bodies that determines God to move what wasn’t moving and to put at rest what was moving” (Desgabets, 1983: 88). This sounds like for Desgabets the encounter with bodies is the occasional cause of different movements of bodies. Even if this is true, however, the second part of the above passage tells us that bodies, angels, and souls do cause the direction of movements. Moreover, Desgabets says “bodies and even angels and souls,” suggesting that the primary application of change of direction is not to mind-body causation but to body-body causation.

In the *Traité de l’indéfectibilité des créatures* and the *Supplément*, Desgabets says similar things. In the *Traité* he not only talks of both bodies and minds changing the direction of bodies without causing their motions; he uses a prior understanding of how things work with body-body causation to explain how they work with mind-body causation. After telling us how the wall in a game of tennis can cause the ball to go one way rather than another without adding any movement to the ball, he says:

  [E]xperience teaches us that this directing force [that determines and limits the course of movement that is already there] is not only in bodies; our souls immediately exercise this same power on the animal spirits that they determine to go here and there in our bodies and by their means our souls make several voluntary movements (89).

In the *Supplément*, after asserting PCM and citing Descartes, Desgabets says that “God is the sole mover and [...] bodies and spirits can do nothing other than direct [“biaiser et déterminer”] the course of the movements that are already in the world” (247; see also 89 and 259).14

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14 In contrast, Clerselier limits the change-of-direction approach to mind-body causation. He says that neither the force that moves nor the force that directs [déterminer] movement can be physical, only a spiritual substance can move or direct something. He then says that only an infinite spiritual substance can move a body but that a finite spiritual substance can direct movement that is already there. Note also that Clerselier sees no clash between saying that the soul can direct the
When Cartesians like Desgabets distinguish between a body’s motion and the direction of its motion, they are not drawing on places where Descartes uses this distinction to harmonize mind-body causation with PCM. It is not even clear that Descartes does this.\textsuperscript{15} They are drawing on Descartes’s discussion of motion in Part II of the \textit{Principles}, “The Principles of Material Things.”

In the \textit{Principles} II, 36, Descartes distinguishes between the universal and primary cause of motion and particular causes of motion. There is the general cause of all the motions in the world, which Descartes will tell us is God, and the particular cause in some matter of a motion that it lacked – that is, of a change in its quantity of motion. After expressing PCM and grounding it in God’s nature, Descartes lays down three “rules or laws of nature, which are the secondary and particular causes of the various motions we see in particular bodies” (AT: VIII A, 62; CSM: I, 240).

For our purposes, the crucial law is the third one, since Descartes tells us that “all the particular causes of the changes which bodies undergo are covered by this third law” (AT: VIII A, 65; CSM: I, 242).\textsuperscript{16} Descartes says causes of the \textit{changes}, not causes of the \textit{motions} – there are causes of changes that are not causes of motions. When in \textit{Principles} II, 40, he states the third law he introduces the notion of \textit{direction}:

When a moving body collides with another, if its power of continuing in a straight line is less than the resistance of the other body, it is deflected so that, while the quantity of motion is retained, the direction is altered; but if its power of continuing is greater than the resistance of the other body, it carries that body

\textsuperscript{15} See footnote 5 above.

\textsuperscript{16} Descartes qualifies this statement by saying: “[O]r at least the law covers all changes which are themselves corporeal. I am not here inquiring into the existence or nature of any power to move bodies which may be possessed by human minds, or the minds of angels”. This qualification is relevant to whether Descartes allows exceptions to PCM. It is also relevant to whether Descartes is a body-body occasionalist. Della Rocca argues persuasively that the first part of this qualification is a mistranslation, and that it should read “at least those that are themselves corporeal” (1999: 52). On Della Rocca’s reading (1999: 52-54), Descartes is not limiting discussion to \textit{changes} that are corporeal (wouldn’t \textit{all} changes that bodies undergo be corporeal?); he is limiting discussion to \textit{causes} that are corporeal. On Della Rocca’s reading, then, Descartes is treating changes in bodies as having corporeal, non-occasionalist, causes.
along with it, and loses a quantity of motion equal to that which it imparts to the other body (AT: VIII A, 65; CSM: I, 242).

The law has two parts, one involving change of direction but not of motion and one involving change of motion but not of direction. Descartes is trying to explain how what happens when two bodies collide is consistent with PCM. Here he assumes that PCM is satisfied in a collision between two bodies – the total quantity of motion in the two bodies is the same before and after the impact. In the first part of the law, the first body does not lose any of its motion, it changes its direction. The sort of case Descartes has in mind is where a body, without losing any motion, reflects off a wall. In the second part of the law, the first body does lose some of its motion, but this motion is imparted to the second body. As Descartes says in *Principles* (II, 42) in justifying of this part of the rule, “the motion which he [God] preserves is not something permanently fixed in given pieces of matter, but something which is mutually transferred when collisions occur” (AT: VIII A, 66; CSM: I, 243). The sort of case Descartes has in mind is where a body loses motion in a fluid: the body continues but slows down as it loses motion to the fluid.

When Desgabets says that “all that bodies and even angels and souls do is determine and change the course of movements that are already in the world” he is rejecting a natural understanding of the second part of this law and concentrating on the first part. On a natural understanding of the second part of the law, when one body transfers part of its motion to a second body it causes the second body to move. Desgabets rejects this understanding (“bodies do not properly speaking move one another”). Indeed, if bodies, angels, and souls affect bodies in the same way, this can’t be a matter of motion’s being transferred: angels and souls obviously have no motion to transfer. Moreover, the idea behind the change-of-direction account of mind-body causation is that the mind can affect the body without adding to the body’s motion. Instead of drawing on the second part of the law, Desgabets draws on the first part: bodies, angels, and souls affect bodies by changing the direction of their motions.

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17 The word translated here as “direction” is *determinatio* (“détermination”). Alan Gabbey argues that *determinatio* is not equivalent to direction. Still, he believes that it has a directional component: “[T]he most comprehensive (and also the most concise) definition of Descartes’ *determinatio* (détermination) is that it is *the directional mode of motive force*” (1980: 258). See also Garber, 1992: 188-93.

18 For discussions of the third law, see Des Chene, 1996: 286ff, and ch. 8 of Garber, 1992.
Suppose, then, that God alone causes all motion. One body can still affect another by affecting the direction of its motion. The first part of Descartes’s third law describes how a body’s impact with a second body can affect a change of direction without a change in the quantity of motion. The point is not that an occasionalist cannot account for this sort of change of direction. The occasionalist can obviously say that the third law describes ways in which God acts: on the occasion of the events described in the third law, God causes the relevant changes. Indeed, Cordemoy says precisely this. The point is that arguing that God alone causes motion is not enough to establish that one body cannot affect another. To argue that Cordemoy was an occasionalist about body-body interaction, for example, one needs to argue more than that Cordemoy thought that God alone caused motion; one needs also to argue that Cordemoy thought that God caused the direction of motion. In general, arguing that various Cartesians were body-body occasionalists requires more than simply arguing that they believed that God alone causes motion.19

Bibliography


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