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CHAPTER 10

Occasionalism

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The seventeenth-century doctrine known as occasionalism arose in response to a perceived problem. Cartesian philosophy generated the problem and provided the context for the answer. In the Cartesian ontology, mind and matter are substances totally different in nature. Souls or minds have modes of thought but not modes of extension; bodies have modes of extension but not of thought. Modes are properties that affect or modify substances. A substance with a particular mode can be conceived as not having this mode, but the mode cannot be conceived apart from the particular substance of which it is the mode. The modes of each substance belong to that substance alone and cannot belong to any other substance.[1] Each mind has its own thoughts, that is, its own perceptions and volitions, and they are numerically distinct from the thoughts of every other mind. Likewise, each body has its own figure, and each moving body has its own motion. Even when two bodies are said to have the same shape, the mode which is the figure of one body is numerically distinct from the mode which is the figure of the other.

In the 1640s, the following question was put to Descartes by Pierre Gassendi and again by Princess Elizabeth of Bohemia: how can the human mind act on the human body, and the body on the mind, if they are two substances totally different in nature? Descartes responds to Gassendi by dismissing the question:

> The whole problem contained in such questions arises simply from a supposition that is false and cannot in any way be proved, namely that, if the soul and the body are two substances whose nature is different, this prevents them from being able to act on each other.[2]

To Elizabeth, he acknowledges that the question is a fair one. He appeals to the notion of the union of soul and body, 'on which depends

our notion of the soul's power to move the body, and the body's power to act on the soul and cause sensations and passions'.[3] He considers the notion of the union of soul and body to be a primitive notion and does not attempt to analyse it.

> What belongs to the union of the soul and the body can be known only obscurely by pure intellect or by intellect aided by imagination, but it can be known very clearly by the senses. That is why people who never philosophize and use only their senses have no doubt that the soul moves the body and that the body acts on the soul.[4]

The problem of mind–body interaction stems not from the Cartesian dualism *per se*, but from the dualism together with a certain view of efficient causation. Statements of this view are found in Descartes's *Third Meditation* and *Second Replies*. 'There is nothing in the effect which was not previously present in the cause, either in a similar or in a higher form.'[5] The reason why what is in the effect must pre-exist in the cause is that the cause communicates reality to the effect. 'For where, I ask, could the effect get its reality from, if not from the cause? And how could the cause give it to the effect unless it possessed it?'[6] How can the body cause sensations and passions in the soul, when it contains no such modes either in a similar or in a higher form? How can the soul move the body? Even if the soul is considered to contain motion in a higher form in so far as it has the idea of motion, how does the soul give reality to the body's motion?

The causation of motion is no less problematic in the action of one body upon another. Consider the instance in which a moving body B comes into contact with a smaller body C, which is at rest. According to Descartes's fifth rule of impact, body B 'transfers' part of its motion to C, as much of it as would permit the two bodies to move at the same speed.[7] In a letter to Henry More, Descartes admits that 'motion, being a mode of a body, cannot pass from one body to another'.[8] If no literal transference of motion occurs, then how does the moving body produce motion in the body moved?

Descartes never explicated the concept of communication of reality. To the philosophers we are about to consider, there seemed to be only two ways in which a cause could give to an effect something that it possessed in itself: either the cause transfers something from itself to the effect, or else it creates something in the effect comparable with what it has in itself. A created substance cannot transfer anything from itself to another substance, since everything in it is a mode of it, and the modes of one substance cannot be modes of another. The only way in which one substance can cause a change in another is by creating a new mode in the other substance. If a mode comes into existence

and no created substance has the power to create it, then it must have been produced by God.

Occasionalism may be characterized in general as the view that causal efficacy belongs to God instead of to creatures. A being with causal efficacy is one having the power to produce a substance or a mode of substance. Occasionalism may be either partial or complete in the extent to which causal efficacy is denied to creatures. In partial occasionalism, at least some created substances have the power to modify themselves or other things. Some modes are produced by creatures; the rest are produced directly by God on the occasion of certain creatures being in certain states. A complete occasionalist denies that created substances have any causal efficacy whatever. In complete occasionalism, no creature has the power to bring any mode into existence, either in itself or in another thing. All modes are produced directly by God on the occasion of certain creatures being in certain states.

Who was the first Cartesian philosopher to advocate occasionalism? Descartes himself sometimes uses the word 'occasion' to describe the body's action on the soul. For example, he writes in the *Treatise on Man* that, when the nerve fibres are pulled with a force great enough to separate them from the parts to which they are attached, they 'cause a movement in the brain which gives occasion for the soul . . . to have the sensation of *pain*'.[9] Descartes ought not on this account to be taken for an occasionalist, however. He does not assert that God produces the sensation on the occasion of the body's motion, but only that the motion gives occasion for the soul to have the sensation. There is no textual evidence that he tied the notion of giving occasion to a denial of causal efficacy. As Gouhier observes, for Descartes 'occasion' is a word of ordinary language rather than a substitute for the word 'cause'.[10]

There are hints of occasionalism in the work of the German Cartesian philosopher Johannes Clauberg (1622–65). In *De corporis et animae in homine conjunctione*, published in 1664, Clauberg argues that since the effect cannot be nobler than the cause the movements of the body are only *procatarctic* causes, which give occasion to the mind as principal cause to elicit ideas that are potentially in it. He also claims that the soul does not produce movement in the body but only directs it as a coachman directs a carriage. Nevertheless, the key element of occasionalism, the assignment of causal efficacy to God in specific instances, is missing in his writings.[11]

Occasionalism has three originators: Louis de La Forge (1632–66); Géraud de Cordemoy (1626–84); and Arnold Geulincx (1624–69). La Forge was the first Cartesian to use the term 'occasional cause'.[12] His *Traitté de l'esprit de l'homme* appeared at the end of 1665, although it

carries the publication date of 1666. According to a contemporary, Jacques Gousset, La Forge disclosed his occasionalist opinion about 1658.[13] Cordemoy's *Discernement du corps et de l'âme* was published in 1666. At the beginning of the Fifth Discourse, on the union of the mind and the body and how they act on each other, he remarks that he told some friends about his ideas seven or eight years earlier. Battail takes this as evidence that Cordemoy's occasionalism was already mature in 1658 or 1659.[14] Thus La Forge and Cordemoy developed and published their occasionalist views at the same time. It is possible that there was communication between these two philosophers.[15] But there is no evidence of any actual meeting.[16] Neither author refers to the other. According to the editor of Clauberg's *Opera*, Clauberg corresponded with La Forge.[17] La Forge refers to Clauberg in the *Traitté*, but not in reference to occasionalism.

Geulincx's occasionalism is in the *Ethica*, the first part of which was published in 1665, and in the *Metaphysica vera*, published posthumously in 1691. There is no evidence of influence in either direction between Geulincx on the one hand and La Forge and Cordemoy on the other. According to Vleeschauwer, occasionalism was present in Geulincx's work in 1652, and his system was fixed by 1664. Although it is possible that Clauberg could have influenced him in the consolidation of his system, Geulincx could not have known about the ideas of La Forge and Cordemoy before he published his own.[18] Influence in the other direction, from Geulincx to La Forge and Cordemoy, is equally untenable: there is no evidence that either of them was familiar with his work.[19]

While there is some question about the influence of the early occasionalists on one another, it is undeniable that at least some of them were sources for the occasionalist system of Nicolas Malebranche (1638–1715). Malebranche cites Cordemoy's *Discernement* in his own *Search after Truth*.[20] He had a copy of La Forge's *Traitté* in his library.[21] Although his occasionalism has affinities to that of Geulincx, there is no evidence that Malebranche read Geulincx's *Ethica* or *Metaphysica vera*. He never refers to Geulincx, and these books were not in his library, although he did have a copy of Geulincx's *Saturnalia seu questiones quodlibeticae*.

When Malebranche devised his theory of causation, he was very much in tune with the times. His achievement is best understood when viewed against a historical background. Thus, before I turn to Malebranche's occasionalism, I shall sketch the occasionalist positions of La Forge, Cordemoy and Geulincx.

LA FORGE

Louis de La Forge was born in La Flèche and lived in Saumur, where he practised medicine. He collaborated with Clerselier on the 1664 edition of Descartes's *Treatise on Man*, adding his own *Remarques*. He has been called the physiologist of Cartesianism.[22] The full title of his treatise reveals his main concern: *Traitté de l'esprit de l'homme, de ses facultez et fonctions, et de son union avec le corps, suivant les principes de René Descartes*. La Forge saw himself as a disciple of Descartes, but he was dissatisfied with Descartes's cursory treatment of the mind–body problem. He sought to complete Descartes's system by providing an account of the nature of the mind–body union. A union, he says, is a relation by which two things are considered as constituting one in a certain manner. The union of mind and body is a relation of mutual dependence between the actions and passions of one substance and the actions and passions of the other. Motions in the body make the mind perceive, and the mind's volitions make the body move.[23]

How do the passions of the mind depend on the actions of the body and vice versa? La Forge says that it is 'as equivocal cause that the mind by its thought constrains the body to move, and that the body in moving gives occasion to the mind to produce some thought'.[24] The term 'equivocal cause' is not a synonym for 'occasional cause'. Equivocal causes are contrasted with univocal causes: a cause is univocal when its effect resembles it, equivocal when its effect does not resemble it. Unlike the term 'occasional cause', the term 'equivocal cause' is applicable to God as well as to creatures. 'For God is no less the creator of all things, and artisans creators of their works, though all these things are only the equivocal causes of these effects.'[25]

Occasional causes are contrasted with real (i.e. efficacious) causes. La Forge uses the term 'occasional cause' in discussing the causation of ideas. There are, he says, two causes of ideas, 'the one principal and real, the other remote and merely occasional'.[26] He goes on to say that bodies

> can be at most only the remote and occasional cause of them, which by means of the union of mind and body constrains the faculty we have of thinking, and determines it to the production of those ideas of which it is the principal and real cause.[27]

An occasional cause, then, is something that determines the real cause to produce the effect. From the passage just quoted, it is evident that La Forge is not a complete occasionalist, for he grants that the mind has causal efficacy with respect to its own ideas. A few pages later, he identifies the mind's causal power with its will: 'Thus we must not

doubt that there exists in the mind an active power that produces and forms ideas which it perceives voluntarily, and we must be certain that this power is its will.'[28]

The problem of causation extends beyond the interaction of mind and body. It also includes the action of one body upon another.

> If I said that it is no more difficult to conceive how the mind of man, without being extended, can move the body, and how the body, without being a spiritual thing, can act on the mind, than to conceive how a body has the power to move itself and to communicate its motion to another body, I do not think I would find credence in the minds of many people; yet there is nothing more true.[29]

It is evident that bodies communicate motion to one another, but not so evident how this is accomplished.

> Do our senses teach us how motion can pass from one body into another? Why does only part of it pass, and why cannot a body communicate its motion in the same way as a master communicates his knowledge, without losing anything of what he gives?[30]

For his causal analysis of the communication of motion, La Forge follows Descartes in distinguishing motion, or the transport of a body from one vicinity to another, from the force that transports the body. Motion is 'a mode, which is not distinct from the body to which it belongs, and which can no more pass from one subject into another than the other modes of matter, nor befit a spiritual substance'.[31] Moving force is not in moving bodies. 'If a body cannot move itself, then in my opinion it is evident that it cannot move another. And thus every body in motion must be impelled by a thing entirely distinct from it, which is not body.'[32] Moving force is not in bodies, because the idea of extension is not involved in its concept. 'Thus we have reason to believe that the force which moves is no less really distinct from matter than thought is, and that it pertains as well as it to an incorporeal substance.'[33]

Human minds lack the force to move matter, not because minds are incorporeal, but because matter is already moved by its creator. In creating bodies, God produces them at rest or in motion. No creature, whether spiritual or corporeal, can make a body change its place 'if the creator does not do it himself, for it is he who produces this part of matter in place A'.[34] Not only must God continue to create a body if it is to persevere in being; he must also 'put it himself in place B if he wills that it should be there; for if he put it anywhere else, no force would be capable of dislodging it'.[35]

God is thus 'the first, universal, and total cause' of all motions in the world.[36] Bodies and minds function as 'particular causes of these same motions . . . by determining and obliging the first cause to apply his moving force upon bodies upon which he would not have exercised it without them'.[37] God's moving force is determined by bodies in accordance with the laws of motion, and by minds according to the extent to which bodily movement is subject to the will; 'the force that bodies and minds have of moving consists in that alone.'[38]

Some commentators claim that La Forge was reluctant to embrace occasionalism.[39] Their main textual evidence is the following statement: 'Nevertheless, you ought not to say that God does everything, and that the body and the mind do not really act upon each other.'[40] This statement need not be taken to mean that the mind and the body are causally efficacious with regard to each other, however. La Forge goes on to explain why it is incorrect to say these things: 'For if the body had not had such a motion, the mind would never have had such a thought, and if the mind had not had such a thought, perhaps also the body would never have had such a motion.'[41] This reason is quite compatible with an occasionalist account of the mind–body relation. In occasionalism, God's productive activity is determined by certain creatures being in certain states. The mind would not have a certain thought if the body did not have a certain motion, because God would not have produced that thought were it not for the body's motion. Likewise, the body would not move in a certain way if the mind lacked a certain thought, because God does not give the body that motion unless the mind has that thought. The mind and the body 'really act upon each other' in the sense that each plays a decisive role in what happens to the other.

CORDEMOY

Géraud de Cordemoy was born in Paris in 1626. Originally a lawyer, he served as *lecteur* to the Grand Dauphin. His philosophical works include *Le Discernement du corps et de l'âme* (1666); *Lettre écrite à un sçavant religieux de la Compagnie de Jésus*, dated 5 November 1667 and published in 1668; *Discours physique de la parole* (1668); and two small *Traités de métaphysique*, published in 1691, seven years after his death.

Cordemoy had close ties with the Cartesian school. His *Discours de l'action des corps*, which appears as the second discourse in the *Discernement*, was first published in the 1664 edition of Descartes's *Le Monde*. Cordemoy explicitly defends Descartes in the *Lettre écrite à un sçavant religieux*, the aim of which is 'to show that all that Monsieur

Descartes has written concerning the system of the world, and concerning the soul of beasts, seems to be drawn from the first chapter of Genesis'.[42]

Although he is generally in agreement with Cartesian principles, Cordemoy diverges from Descartes's teaching on atoms and the void. According to Cordemoy, matter is an aggregate of indivisible extended substances. He bases his atomism on the metaphysical principle that substances, as unities, are indivisible. 'I say that each body is an extended substance, and consequently indivisible; and that matter is an assemblage of bodies, and consequently divisible into as many parts as there are bodies.'[43] By his terms, the human body is not really a body but matter. Nevertheless, he follows common usage in referring to it. We call it a *body*, he explains, because the arrangement of its parts leads us to regard it as a single thing.[44]

Like La Forge, Cordemoy sees the problem of mind–body interaction as part of a larger problem of causation, which also includes the action of one body upon another. The following statement in the *Discernement* echoes La Forge's in the *Traitté*: 'Unquestionably, it is no more difficult to conceive the action of minds upon bodies, or that of bodies upon minds, than to conceive the action of bodies upon bodies.'[45] A moving body collides with a body at rest. The first body stops moving; the second one starts. That, says Cordemoy, is all we see. The belief that the first body gives motion to the second is a prejudice, which comes from judging things solely by what we see. A moving body cannot communicate its motion to another body, 'for the state of one body does not pass into another'.[46] 'It is evident that the motion of each is only a manner of being of it, which, not being separable from it, cannot in any way whatsoever pass into the other.'[47]

To cause motion is an action. An action can be continued only by the agent that began it. Thus the cause of motion in bodies is the agent that began to move them. This first mover of bodies is not a body; for if it were, it would have motion of itself. But no body has motion of itself, because a body would still be a body if it lost all its motion, and a thing does not have of itself what it can lose without ceasing to be what it is. Since there are just two sorts of substances, mind and body, and the first mover of bodies is not a body, it must be a mind. This mind continues to move bodies.[48] Thus, when body B, in motion, collides with body C, which is at rest, C is moved after the collision by the same cause that moved B before, namely, by the mind that first set bodies in motion. The collision is 'an occasion for the mind that moved the first to move the second'.[49] The true cause of motion is insensible, and we are often content to stop at what we see. In such cases, we say that the motion of bodies is explained by

the fact that other bodies collided with them, 'thus alleging the occasion for the cause'.[50]

The human body is moved by the same mind that moves all other bodies. We observe that when we will to move our body in a certain way, it moves accordingly. But we also know that motions occur in our body in the absence of volitions, and that motions sometimes fail to occur even though we will them. Hence our will is neither necessary nor sufficient for bodily movement. Our weakness shows us that we do not cause motion simply by willing it. This impotence of our will is due to our being dependent on something else for our existence.

> But if we consider that this permanent defect of our mind comes only from its not being through itself, and that if it were through itself, it would lack nothing, so that all that it willed would exist; we would readily apprehend that there is a first Mind, who, being through himself, needs only his will in order to do everything; and that, nothing being lacking to him, as soon as he wills that what is capable of being moved should be in motion, that must necessarily happen.[51]

God exercises his power according to laws he has laid down: laws of collision between bodies; and, between minds and bodies, laws by which certain motions in the body are followed by certain perceptions in the mind, and volitions of the mind are followed by bodily movements.[52] Although bodies do not really cause motion, one body can be said to act upon another, 'when on its occasion, this other body begins to be arranged or moved otherwise than it was previously'.[53] A body can be said to act upon a mind if this body, or a mode of it, is perceived by the mind, 'so that on its occasion, this mind has thoughts that it did not have previously'.[54] A mind can be said to act on a body if, as soon as the mind wills that the body should be moved in a certain direction, the body is so moved. One can say that our mind acts on our body, even though

> it is not really our mind that causes the movement . . . . And, as one is obliged to acknowledge that the collision of two bodies is an occasion for the power that moves the first to move the second, one should have no difficulty in conceiving that our will is an occasion for the power that already moves a body to direct its movement in a certain direction corresponding to this thought.[55]

In the *Discernement*, Cordemoy deprives bodies of all causal efficacy, and human minds of the power to move bodies. In the *Discours physique de la parole*, he adds that minds do not cause any of their own perceptions: 'It is as impossible for our souls to have new percep-

tions without God, as it is impossible for bodies to have new motions without him.'[56] Thus Cordemoy is a more complete occasionalist than La Forge, who allowed the mind the power to produce its own ideas.

Does the mind have any causal efficacy with respect to its volitions? Cordemoy takes up this question in the second *Traité de métaphysique*, 'That God does everything real in our actions, without depriving us of our liberty'. Bodies, he says, are capable of being acted upon, but not of acting. Minds are capable of both passions and actions. Their perceptions are their passions; their volitions are their actions. God causes the actions of minds, just as he causes their passions.

> And, as it cannot be said that the passions of minds are his passions, but only that they are the passions of minds, it cannot be said that the actions of minds are his actions, but only that they are the actions of minds.[57]

When the mind wills, God causes the volition, but it is still the mind that wills.

God has made all things for himself. Bodies do not know this end, but minds do and thus need action to pursue it. God gives minds an unceasing desire for this end, and an inclination to choose a means to it. When presented with several alternatives, minds can resolve not to choose, or they can deliberate and then decide on one. This resolution or this decision 'is an action, which in truth would not be in them without God, but which is their action, and not God's'.[58] Because it is theirs, they can be held responsible for it. God produces all that is real in the willing situation, but 'if the minds have chosen badly, it is a fault of which they alone are guilty. God has made . . . what suffices to act well, and the minds have not used the power that he put into them.'[59]

GEULINCX

Arnold Geulincx was born in Antwerp. He was a professor of philosophy at the University of Louvain from 1646 until 1658, when he was dismissed for unspecified reasons.[60] He moved from Belgium to the Netherlands and converted to Calvinism. With some difficulty, he obtained a position at the university in Leyden, first as reader, then as *professor extraordinarius*. He died of the plague in 1669, at the age of 45. The first complete edition of the *Ethica* appeared in 1675. Geulincx's occasionalist views are found in this work, as well as in the *Metaphysica vera*, published in 1691.

Geulincx's philosophy is a synthesis of Cartesianism and Jansenism. Cartesian elements include the *cogito*, the dualism and the inertness

of matter. From Jansenism comes the theme of human impotence. Occasionalism provides an analysis of human impotence in terms compatible with Cartesian metaphysics. Geulincx's treatment of occasionalism is less systematic than that of either La Forge or Cordemoy. In particular, he pays little attention to the problem of interaction between bodies. As a moral philosopher, he is concerned more with the ethical implications of occasionalism than with the elaboration of it as a causal theory.

Geulincx argues against the causal efficacy of created things, using a principle which he says is evident in itself: *Quod nescis quomodo fiat, id non facis* – if you do not know how it is done, you do not do it. He applies this principle to bodies as well as to minds. Material objects cannot cause sentiments in minds, because they are *res brutae*, brute things, with no thought of any kind. Lacking knowledge, they cannot know how sentiments are produced. Minds do not cause sentiments in themselves, since they, too, are ignorant of how it is done. Sentiments are produced in the mind by a thinking being, one that has the knowledge needed to make them. This being acts through the mediation of the human body, giving the mind a diversity of sentiments as the body is diversely affected.[61]

The mind cannot cause movement in the body, not even so-called voluntary movement, for the mind does not know how it is accomplished. Most people are entirely ignorant of the nerves and pathways through which motions are communicated from the brain to the limbs. Those who learn anatomy and physiology were able to move their limbs before they gained such knowledge, and they move them no better afterwards. This shows that it is not by one's own knowledge that one's limbs are moved. The author of my bodily movement, then, is a being other than myself.[62] I want my body to move in a certain manner, as in talking or walking; 'thereupon certain parts of my body are moved, not in fact by me, but by the mover'.[63] 'Certainly, it is never done, strictly speaking, because I will, but because the mover wills.'[64]

In the Annotations to the *Ethica*, Geulincx compares the mind and the body to two clocks:

> My will does not move the mover to move my limbs; but the one who has imparted motion to matter and has laid down the laws to it, the same one has formed my will and thus has closely united these very dissimilar things (the motion of matter and the determination of my will), so that, when my will wishes, motion of the desired kind is present, and, on the contrary, when the motion is present, the will has willed it, without any causality or influx from one to the other. Just as with two

> clocks that agree with each other and with the daily course of the sun: when one sounds and indicates the hours to us, the other sounds in the same way and indicates the same number of hours to us; not because there is any causality from one to the other, but because of the mere dependence, in which both are constructed by the same art and by similar activity.[65]

The analogy of two clocks has an obvious affinity to the analogy later used by Leibniz.[66] Leibniz uses the analogy to differentiate three systems: interactionism, occasionalism and his own system of pre-established harmony. Geulincx, by contrast, has only two alternatives in mind: interactionism and occasionalism. In Leibniz's version of occasionalism, the craftsman continually adjusts the clocks to keep them in agreement. In Geulincx's version, the clockmaker ensures agreement by the way in which he constructs the clocks. In this respect, the occasionalism of Geulincx is like the pre-established harmony of Leibniz.

Geulincx's occasionalism is unlike Leibniz's system in that God acts directly on the mind and the body, producing changes in one corresponding to the changes he produces in the other. This aspect is not brought out in the analogy of the two clocks. It is illustrated by another analogy, which Geulincx presents just before his clock analogy. A baby in a cradle wants to be rocked. If the cradle rocks, it does so not because the baby wills it, but because his mother or nurse rocks it. Just as the cradle rocks in accordance with the baby's wish, though it is rocked by someone else, so, too, our limbs move in accordance with our will, but the movement is caused by a will other than our own.

Having made the point that God is the one who produces voluntary motion, Geulincx introduces the analogy of the clocks to illustrate a further aspect of occasionalism, namely, the regularity of God's action. The two clocks stay in agreement, even though there is no causal connection between them, because their maker acts according to general laws. Geulincx says in the *Ethica* that God produces his effects 'according to laws most freely established by him and depending solely on his decision'.[67] He adds that if my tongue moves at the command of my will, but the earth does not tremble at my command, the sole difference is that God decided that the first movement should occur when I will it, but not the second. In the annotation to this passage, he evokes the clock metaphor: God has willed and arranged that when the clock of my will sounds, the clock of my tongue sounds also, whereas he has not arranged a similar agreement between the clock of my will and the clock of the earth.[68]

The human condition consists in being an embodied mind, that

is, a mind united to a body in such a way that it seems to act on and to be acted on by it.[69] Nevertheless, we have no more causal efficacy with respect to our own bodily movements than we have with respect to the rising and setting of the stars or the ebb and flow of the sea. 'Thus, I am a mere spectator of this machinery. I make nothing in it, I amend nothing in it; I neither construct nor destroy anything. All that is the work of a certain other.'[70] 'I can, in this world, do nothing outside myself. . . . I merely look on this world.'[71] I am not, however, a mere spectator of my own volitions. To will or not to will is my deed. I have the power to conform my will to Reason or to refuse to do so. The greatest freedom is achieved by willing what Reason prescribes and not willing what it prohibits.[72]

MALEBRANCHE

The occasionalist movement culminates in the work of Nicolas Malebranche, a priest of the congregation of the Oratory. Although he accepted the Cartesian ontology of substance and mode, mind and matter, Malebranche did not hesitate to depart from Descartes's teaching when reason or experience demanded it. His disagreement with Descartes is most explicit on the questions of the nature of ideas and the laws of motion.

Like La Forge, Malebranche was dissatisfied with Descartes's refusal to explicate the union of mind and body. One cannot dismiss the question simply by saying that experience plainly shows that the body and the mind act on each other. Experience teaches that the mind feels pain when the body is injured, but not that the body has any power to act upon the mind.[73] It is not enough to say that the body and the mind interact by virtue of their union. 'The word "union" explains nothing. It is itself in need of explanation.'[74] Moreover, it cannot be part of the explanation that the mind and the body become capable of the same sorts of modifications.

> Each substance remains what it is, and as the soul is incapable of extension and movement, so the body is incapable of sensation and inclinations. The only alliance of mind and body known to us consists in a natural and mutual correspondence of the soul's thoughts with the brain traces, and of the soul's emotions with the movements of the animal spirits.[75]

Malebranche's arguments for occasionalism are found in a number of his writings, especially *The Search after Truth*, first published in 1674–5 (the Elucidations were added in the third edition of 1677–8); *Méditations chrétiennes et métaphysiques* (1683); and *Dialogues on*

Metaphysics and on Religion (1688). He considers all cases of alleged causal action by created things: bodies acting on bodies; bodies acting on minds; minds acting on bodies; minds acting on themselves to produce sentiments, ideas and volitions. He rejects each of them in turn.

Malebranche gives two types of argument against the causal efficacy of bodies. The first proceeds from the premise that material substance is passive by nature. The only kinds of properties that pertain to extension are figure and motion. As extended things, bodies have the passive faculty of receiving such modes, but they lack the active faculty of producing them. 'A mountain, a house, a rock, a grain of sand, in short, the tiniest or largest body conceivable does not have the power to move itself.'[76] Moreover, no body has the power to produce ideas or sentiments in a mind. 'Do you think that a figure can produce an idea, and a local movement an agreeable or disagreeable sentiment?'[77]

The second type of argument has the form of *reductio ad absurdum*. Suppose that bodies had a power to act or to bring about change. The exercise of this power would involve some state of affairs that is incompatible with the Cartesian ontology. Malebranche uses this form of argument against the human body as cause of sensations in the mind, and also against one body as cause of another body's motion. Suppose that the human body acquired a power to act on the mind by virtue of its union with the mind. This power would have to be either a substance or a mode. If it is a substance, then the mind is acted on by this substance and not by the body. If the power is a mode, then there is a mode of extension which is neither figure nor motion. But this is impossible. Consequently, the body can have no power of acting on the mind.[78] Similarly, suppose that bodies in motion have moving force in themselves and that they communicate this force to bodies they encounter. This would involve the transference of a mode from one substance to another, which is impossible. 'If the moving force belonged to the bodies in motion, it would be a *mode* of their substance; and it is a contradiction that *modes* go from substance to substance.'[79] 'If it is a mode, it is a contradiction that it passes from one body into another, since the mode is only the substance in such and such a manner.'[80]

Malebranche gives a further reason why bodies could not communicate moving force even if they had it: 'For the bodies that collide communicate their motion with a regularity, a promptitude, a proportion worthy of an infinite wisdom.'[81] In some passages, he suggests that bodies would need knowledge in order to exercise their alleged power in a manner appropriate to the circumstances:

> For it is evident that a wisdom, and an infinite wisdom, is necessary in order to regulate the communication of motions with the precision, the proportion, and the uniformity that we see. Since a body cannot know the infinite bodies that it meets at every turn, it is obvious that even if one supposes some knowledge in it, it could not itself have brought about, in the instant of collision, the distribution of the moving force that transports it.[82]
>
> But suppose that this body really had the force to move itself. In what direction will it go? At what degree of speed will it move itself? . . . I even grant that this body has enough freedom and knowledge to determine its movement and the degree of its speed: I grant that it is master of itself. But take care, . . . for, supposing that this body finds itself surrounded by an infinity of others, what will become of it when it encounters one of which it knows neither the solidity nor the size?[83]

Any similarity here between Malebranche and Geulincx is only superficial. For Geulincx, the mere fact that bodies lack knowledge is sufficient to deprive them of causal efficacy. Malebranche's point is not that bodies need knowledge in order to produce motion *per se*, but that they need it in order to produce motion with the regularity that it actually exhibits. No explanation of this regularity can be found in the nature of bodies, even if one supposes them to have moving force.

Moving force, the power to move bodies, lies not in bodies but in their creator. Like La Forge, Malebranche defends this position by appeal to the Cartesian doctrine of continuous creation and the principle that to create a body is to create it at rest or in motion.

> Creation does not pass: the conservation of creatures is on the part of God simply a continued creation, simply the same volition which subsists and operates unceasingly. Now, God cannot conceive, nor consequently will, that a body be nowhere or that it not have certain relations of distance with other bodies. Hence, God cannot will that this chair exist and, by his volition, create or conserve it without His placing it here or there or elsewhere. Hence, it is a contradiction that one body be able to move another.[84]

When God creates individual substances, he wills that they exist in certain manners, that is, he wills that they have certain modes. Rest consists in an unchanging relation of distance to other bodies; motion, in a changing relation of distance. A body must have one or the other of these modes. So long as God creates a body in motion, nothing can

bring that body to rest; so long as he creates it at rest, nothing can set it in motion.

> No power can transport it where God does not transport it, nor fix or stop it where God does not stop it, unless it is because God accommodates the efficacy of His action to the inefficacious action of his creatures.[85]

Finite minds do not have the power to move bodies. Like Cordemoy, Malebranche denies causal efficacy to created minds on the ground that there is no necessary connection between their volitions and the occurrence of what is willed. A true (i.e. efficacious) cause is 'one such that the mind perceives a necessary connection between it and its effect'.[86] There is such a relation between God's will and its effects, for it follows from the idea of God as an omnipotent being that whatever he wills necessarily takes place. It is a contradiction that God wills my arm to be moved and it remains motionless. There is no necessary connection, however, between my will and the movement of my arm; no contradiction is involved in the statement that I will to move my arm but it does not move. Thus I am not the true cause of the movement.[87]

Minds are equally impotent with regard to their own sentiments, and for the same reason: there is no necessary connection between the mind's volition to have a certain sentiment and its having that sentiment. This is shown by the fact that we often feel otherwise than we wish to feel. 'But it is not my soul either that produces in itself the sensation of pain that afflicts it, for it feels the pain in spite of itself.'[88]

Malebranche also denies causal efficacy to minds on the ground that they lack the knowledge required to produce their alleged effects. He argues in this way against the mind as cause of ideas and of bodily movements. In both contexts, the argument is based on the Cartesian principle that the mind can will only what it knows, or, as Descartes puts it, 'we cannot will anything without understanding what we will'.[89] The structure of the argument is as follows. If the mind produces X, then it does so by willing that X exist. In order to will that X exist, the mind must know what X is. But the mind does not know what X is. Hence the mind cannot produce X. With regard to ideas, Malebranche writes: 'I deny that my will produces my ideas in me, for I do not see even how it could produce them, because my will, which is unable to act or will without knowledge, presupposes my ideas and does not produce them.'[90] This argument figures in the case for the vision in God. When we wish to think of some object, the idea of that object becomes present to the mind. The mind cannot have produced the idea, for in order to form the idea of an object, one must already have an idea of it, an idea which does not depend on the will.[91]

When the knowledge argument is applied against the mind as cause of bodily movement, the premise needs more elaboration. I will to move my arm and my arm moves. I know what I will in the sense that I have the idea of my arm moving. But this idea does not contain sufficient information to enable me to will the movement into existence. My arm moves by a complex physiological process. Animal spirits pass through certain nerve ducts toward muscles in the arm, distending and contracting them, thereby moving the arm in a particular way. In order to produce the motion by an act of will, it is not enough for me to will that the end result occur. I must will the physiological process in all its detail. And in order to will the process, I must know what it is. Yet people who do not know that they have animal spirits, nerves and muscles move their limbs perfectly well, often better than those most learned in anatomy. This observation appears in *The Search after Truth* and in the *Méditations chrétiennes et métaphysiques*. In the latter, the Word goes on to ask: 'Can one do, can one even will, what one does not know how to do?'[92] In the *Search*, Malebranche goes on to conclude:

> Therefore, men will to move their arms, and only God is able and knows how to move them. If a man cannot turn a tower upside down, at least he knows what must be done to do so; but there is no man who knows what must be done to move one of his fingers by means of animal spirits.[93]

Here Malebranche is close to Geulincx. Geulincx's axiom was: 'If you do not know how it is done, you do not do it.' Malebranche, too, speaks of knowing how something is done, and he equates this with knowing how to do it. In Malebranche, however, the principle clearly hinges on the Cartesian principle that knowing is a necessary condition of willing, and as such it applies exclusively to beings having a faculty of will. To be sure, Malebranche applies the principle to bodies, as we saw earlier; but he does so only on the supposition that bodies are endowed with something akin to will.

Does the mind have causal efficacy with respect to its volitions? Like Cordemoy, Malebranche insists that God produces all that is real in the willing situation. Will is the natural impression that carries us toward the good in general.[94] Malebranche compares the mind's inclinations to the motions of bodies. Like corporeal motion, an inclination of the mind requires a force to produce it; and like the moving force of bodies, the 'willing force' of souls is the action of God's will.[95] God creates us with an inclination toward whatever appears good to us, or with an invincible desire to be happy. He also gives us all our agreeable and disagreeable perceptions. When we perceive a real or apparent good, we have a natural inclination toward it, and God pro-

duces this particular inclination in us. As the creator of minds, God is the true cause of all their modes, both perceptions and inclinations. The mind's only power is that of giving or suspending consent to its inclinations. In doing so, it produces no new mode in itself. 'I have always maintained that the soul was active; but that its acts produce nothing material, or bring about by themselves, by their own efficacy, no new modalities, no material change, either in the body or in itself.'[96] In suspending consent, we judge that a particular good will not make us truly happy. Herein lies our freedom.

> The principle of our freedom is that as we are made for God and are joined to Him, we can always think of the true good or of goods other than those of which we are actually thinking – we can always withhold our consent and seriously examine whether the good we are enjoying is or is not the true good.[97]

GENERAL LAWS

Occasionalism has both a positive and a negative side. The negative side is the denial of causal efficacy to created things. The positive side is the attribution of causal efficacy to God. It is tempting to dismiss the positive side as philosophically uninteresting. As true cause, God produces effects by willing them into existence, a process that is at bottom incomprehensible, as Malebranche himself admits:

> The saints, who see the divine essence, apparently know this relation, the efficacious omnipotence of the creator's volitions. For our part, although we believe it by faith, although we are persuaded of it by reason, the necessary connection of the act with its effect is beyond our comprehension; and in this sense we have no clear idea of his power.[98]

The positive side of occasionalism has more to it, however. God produces effects, but he does so according to general laws, on the occasion of certain creatures being in certain states. All of the occasionalists refer to general laws of divine causation, but Malebranche's exposition of the lawlike manner of God's action is by far the most thorough.

God is a general cause as well as a true cause. He is a true cause, in that his will is efficacious by itself: there is a necessary connection between a divine volition and its object. God is a general cause, in that he produces effects by general volitions rather than by particular volitions. Malebranche distinguishes between general and particular volitions as follows:

> I say that God acts by general volitions, when he acts according

> to the general laws that he has established. . . . I say, on the contrary, that God acts by particular volitions, when the efficacy of his will is not determined by some general law to produce some effect.[99]

A general volition is a volition that effects of type E occur whenever conditions of type C are present. Examples of general volitions are the volition that minds feel pain whenever the bodies to which they are joined are disturbed in certain ways, and the volition that whenever bodies collide, motion is distributed in certain proportions according to their mass, speed and direction. A particular volition, by contrast, is simply a volition that a particular effect occur, for instance that a certain mind feel pain, or that a body move in a certain way, irrespective of the circumstances.

A true cause can act either by general volitions or by particular volitions. That God is a true cause follows from his omnipotence. That he is a general cause follows from his wisdom and immutability. It shows more wisdom to achieve a variety of effects by following a set of laws selected in advance than to achieve the same variety by introducing a separate volition for each effect. Moreover, the former way of acting bears the character of immutability, since it is uniform and constant, whereas the latter requires changes of conduct at every turn.[100] Aside from the initial creation of the world, God acts by particular volitions only when such conduct expresses his goodness or justice better than action by general volitions expresses his wisdom and immutability. This happens 'only on certain occasions that are entirely unknown to us'.[101]

God's general laws are in principle discoverable, at least in rough outline. They fall into two main categories: laws of nature and laws of grace. The laws of nature are known through reason and experience. They include (1) laws of the communication of motion, according to which motions are produced in animate and inanimate bodies; (2) laws of the union of soul and body, for the production of voluntary movements in human bodies and of sentiments in human minds; and (3) laws of the union of soul with God or universal Reason, by which we perceive ideas in God. The laws of grace are learned from Scripture. They include (4) laws giving angels power over bodies, for the distribution of temporal goods and ills; and (5) laws giving Jesus Christ power over minds and bodies, for the distribution of temporal and eternal goods.[102]

Each of the five sets of laws has a specific type of occasional cause associated with it. An occasional cause is a state of affairs that determines what particular effect will be brought about in a given case. The desires of Jesus and the angels are occasional causes in the realm

of grace: God moves bodies as the angels wish, and he gives sentiments of grace to people as Jesus wishes. In the realm of nature, occasional causes are discoverable by examining the circumstances under which the effects take place and noting the regularities.

> God never moves bodies unless they are struck; and when they are struck, he always moves them. The soul never feels the pain of a prick unless the body is pricked, or unless there occurs in the brain the same disturbance as if the body were pricked; and God always makes the soul feel the pain of a prick when the body is pricked, or when there occurs in the brain the same disturbance as if the body were pricked. God never moves my arm, except when I have the volition to move it; and God never fails to move it, when I have the volition that it move.[103]

The impact of bodies is the occasional cause that determines the efficacy of the laws of motion. Motions in the human body and volitions in the mind are the occasional causes determining the efficacy of the laws of the union of soul and body. As for the laws of the union of soul with God, the occasional cause is the soul's desire or attention. 'The soul's desire is a natural prayer that is always fulfilled, for it is a natural law that ideas are all the more present to the mind as the will more fervently desires them.'[104]

There is some overlap in the scope of application of the three sets of natural laws. The mind has both pure and sensible perceptions of ideas in God. It has pure perceptions on the occasion of its attention, according to the laws of the union of soul with God. It has sensible perceptions on the occasion of brain traces of sensible objects, according to the laws of soul–body union.[105] In some situations one set of laws takes precedence; in other situations, another set. For example, when we are distracted from our study of geometry by a loud noise, our minds are modified according to the laws of soul–body union. Were the distraction not present, the desired perceptions would be given to us according to the laws of the union of soul with universal Reason.

Similarly, our bodies have both voluntary and involuntary motions. The former are produced according to the laws of soul–body union; the latter, according to the laws of the communication of motion. God moves my arm when and only when I wish it to move, provided that there is not some countervailing circumstance that determines him to act otherwise according to the laws of motion. For instance, the sight of an impending fall may set off a chain of physiological events leading to the involuntary raising of an arm. Such mechanical actions often cannot be prevented by an act of will, but sometimes they can. Indeed, for Malebranche, one of the strongest indications of the absence

of soul in animals is their inability to halt the mechanical operations of their bodies. Dogs cry out when they are injured. This shows, Malebranche says, not that they have souls but that they lack them;

> for a cry is a necessary effect of their machine's construction. When a man in full health fails to cry out when he is injured, it is a sign that his soul is resisting the operation of its machine. If he had no soul and if his body were in the right state, certainly he would always cry when injured. When our arm is to be bled, we all feel it withdraw mechanically when it is pricked – unless the soul is there to resist.[106]

Malebranche admits, then, that sometimes my arm moves without my willing it to move. Yet elsewhere he says that God moves my arm whenever I will it, and only when I will it. There is no contradiction between these two claims. One is a statement of observation; the other is a simplified description of a general volition of God. We do not actually observe that our arms move when and only when we will them to move. We do, however, observe that there is an association between our volitions and the movement of our limbs; and on the basis of this association, we infer that this is one of the laws according to which motion is produced in human beings. The fact that my arm sometimes moves in the absence of any volition on my part shows that this law is not the only one by which such motion is produced. Sometimes another type of occasional cause determines the efficacy of another of God's general volitions to produce the same sort of effect.

In addition to the laws of nature, God must also have higher-order general volitions for determining which set of laws is operative when two sets overlap in scope. Malebranche does not explicitly assert that God has such higher-order volitions, but it is implicit in his discussion of the interrelations among the different sets of natural laws. 'Thus,' he writes in the Second Elucidation of the *Search*,

> provided that our capacity for thought or our understanding is not taken up by the confused sensations we receive upon occasion of some bodily event, whenever we desire to think about some object the idea of that object is present to us; and as experience teaches us, this idea is clearer and more immediate as our desire is stronger or our attention more vivid and as the confused sensations we receive through the body are weaker and less perceptible.[107]

When attention and bodily sensations compete as occasions for the production of perceptions in the mind, the winner is the one with greater relative strength. If attention is strong and sensation is weak, then the perceptions are produced according to the laws of the union

of soul with universal Reason. If attention is weak and sensation is strong, then God gives the mind perceptions according to the laws of the union of soul and body.

One of the laws of soul–body union is 'that all the soul's inclinations, even those it has for goods that are unrelated to the body, are accompanied by disturbances in the animal spirits that make these inclinations sensible'.[108] The soul can alter the operation of the body 'only when it has the power of vividly imagining another object whose open traces in the brain make the animal spirits take another course'.[109] Thus, when there is competition between physiological conditions and the soul's inclinations as possible occasional causes of certain classes of bodily motions, the strength of the soul's sentiment of the desired good determines whether the effect happens according to the laws of motion or according to those of soul–body union.

Does occasionalism have any merit as a philosophy of science? So long as one focuses exclusively on the assignment of causal power to God, it seems that occasionalism cuts off any serious attempt at causal explanation. For any particular effect E, the answer to the question 'What produced E?' is always the same, namely God. But there is more to causal explanation than citing the productive cause – even for an occasionalist. A causal explanation of a particular effect must show why this effect occurred rather than some other. Such an explanation has not been provided if the explanans works equally well for anything else that might have happened instead. Suppose one wants to know why linen dries when it is placed near the fire.

> I shall not be a philosopher [Malebranche says] if I answer that God wills it; for one knows well enough that all that happens, happens because God wills it. One does not ask for the general cause, but for the particular cause of a particular effect. I ought therefore to say that the small parts of the fire or of the agitated wood, hitting against the linen, communicate their motion to the parts of water on it, and detach them from the linen; and then I shall have given the particular cause of a particular effect.[110]

Instead of closing the door to scientific investigation of the causes of natural events, occasionalism clarifies the topic of inquiry; one is looking not for causal powers, but for conditions that determine the efficacy of natural laws.

Since all natural effects are produced by general volitions of God, and since the general volitions that constitute the laws of nature are discoverable by reason and experience, every part of the natural world is in principle amenable to scientific inquiry. Malebranche offers little hope for a science of mind; for he insists that we know our own minds

only through our inner feeling of what takes place in us, and other minds only by analogy with our own.[111] He does, however, lay the foundation for an empirical science of human behaviour. According to Cartesian doctrine, animal behaviour is ultimately explainable by the laws of motion alone, whereas human behaviour is not. For Malebranche, human behaviour is explainable by a judicious combination of the laws of motion with those of soul–body union.

There are affinities between the mechanisms of animal and human behaviour. In both animals and humans, there is a natural connection between brain traces and the motion of the animal spirits. Different patterns of behaviour are associated with different brain traces. There are two kinds of brain traces: natural and acquired. Natural traces are common to all members of a species and can never be completely destroyed. Acquired traces are gradually lost unless they are reinforced by continual application of the conditions that originally gave rise to them. When acquired traces incline an individual toward behaviour contrary to that which is characteristic of its species, the individual tends to revert to its natural behaviour. The natural traces

> have, so to speak, secret alliances with other parts of the body, for all the organs of our machine help maintain themselves in their natural state. All parts of our bodies mutually contribute to all the things necessary for this conservation, or for the restoration of natural traces. And so they cannot be completely erased, and they begin to revive just when one believes they have been destroyed.[112]

In addition to the natural connection between brain traces and motions of animal spirits, there are also, in human beings, natural connections between these bodily occurrences and mental states. Malebranche gives the following example. When we see a wounded person, animal spirits flow into the part of our body corresponding to the injured part in the other person. This bodily sympathy is the occasional cause of a feeling of compassion, which excites us to help the other person. The same sort of process gives rise to feelings of compassion towards animals.[113] Although Malebranche wholeheartedly accepts the Cartesian beast–machine doctrine, he considers the human tendency to socialize with animals as part of the institution of nature, and he seeks to explain it in terms of the same laws as other human behaviours. Brain traces in the master, when he sees his dog wagging its tail, lead him to feel that his dog knows and loves him. On the occasion of these traces, animal spirits take their course into his arm to pat his dog and to share food with it.

Man would not be precisely as he is, the doleful looks and

> pleasing movements of the dog would not naturally produce any sentiment in the soul of man, or any motion in the course of his animal spirits, if God had not willed to establish a liaison between man and dog.[114]

According to Malebranche, all human behaviour is motivated by pleasure.

> One can love only that which pleases. . . . It is thus certain that all men, righteous or unrighteous, love pleasure taken in general, or will to be happy; and that it is the sole motive that determines them to do generally all that they do.[115]

All passions, including those springing from the perception of some evil, are accompanied by 'a certain sensation of joy, or rather of inner delight, that fixes the soul in its passion'.[116] Malebranche defines the passions of the soul as 'impressions from the Author of nature that incline us toward loving our body and all that might be of use in its preservation'.[117] They are interconnected, by the institution of nature, with bodily states. 'The passions are movements of the soul that accompany those of the spirits and the blood, and that produce in the body, by the construction of the machine, all the dispositions necessary to sustain the cause that gave birth to them.'[118] One cannot rise above one's passions simply by resolving not to be affected by the things that occasion them, as the Stoics advise. It is ridiculous to tell people not to be upset at the death of a family member or delighted at success in business, 'for we are tied to our country, our goods, our parents, and so on, by a natural union that does not now depend on our will'.[119] Given the way the mind–body union is set up, the only effective way to counter the passions is to substitute other pleasures for theirs. 'The false delight of our passions, which makes us slaves to sensible goods, must be overcome by joy of mind and the delight of grace.'[120] No love is disinterested, not even the love of God. We love God because he makes us solidly happy. Grace enables us not merely to know but to feel that God is our good. 'For the grace of Jesus Christ, by which one resists disorderly pleasures, is itself a holy pleasure; it is the hope and foretaste of supreme pleasure.'[121]

LEIBNIZ'S OBJECTION

Seventeenth-century works against occasionalism include *Doutes sur le système physique des causes occasionnelles* (1686) by Bernard le Bovier de Fontenelle; and Antoine Arnauld's *Dissertation sur les miracles de l'ancienne loi*, and his *Réflexions philosophiques et théologiques sur le*

nouveau système de la nature et de la grace, both published in 1685. The main objections in these works are that the manner of acting ascribed to God is unworthy of him; that causal efficacy is no less intelligible in created things than in God; and that creatures need causal power in order to determine the efficacy of God's general volitions. The most well-known, though not necessarily the most devastating, objection to occasionalism is that it involves a perpetual miracle. This is Leibniz's objection. I shall pass over the objections of Fontenelle and Arnauld here and consider only Leibniz's.[122]

Leibniz agrees with the occasionalists that interactionism involves the transference of modes from one substance to another and consequently must be rejected as inconceivable. 'Speaking with metaphysical rigor, *no created substance exerts a metaphysical action or influence upon another*. For . . . it cannot be explained how anything can pass over from one thing into the substance of another.'[123] Occasionalism, too, he finds unsatisfactory.

> But problems are not solved merely by making use of a general cause and calling in what is called the *deus ex machina*. To do this without offering any other explanation drawn from the order of secondary causes is, properly speaking, to have recourse to miracle.[124]

When reminded that the God of the occasionalists produces his effects according to general laws, Leibniz responds that, even so, 'they would not cease being miracles, if we take this term, not in the popular sense of a rare and wonderful thing, but in the philosophical sense of that which exceeds the powers of created beings'.[125]

> I admit that the authors of occasional causes may be able to give another definition of the term, but it seems that according to usage a miracle differs intrinsically and through the substance of the act from a common action, and not by an external accident of frequent repetition, and that strictly speaking God performs a miracle whenever he does something that exceeds the forces which he has given to creatures and maintains in them.[126]

Leibniz presents occasionalism as though its proponents believed that miracles were rare events, and as though their only defence against the charge of invoking miracles is that the effects occur frequently. This is an oversimplification of the occasionalist position. In the *Réponse aux Réflexions philosophiques et théologiques de Mr. Arnauld sur le Traité de la nature et de la grace* (1686), Malebranche observes that the term 'miracle' is equivocal. In its most common usage, it means 'a *marvel* which surprises us, and which we admire because of its novelty'. In its precise philosophical sense, it means 'all effects which are not

natural, or which are not results of natural laws'.[127] Natural laws are God's general volitions. 'Thus, whether an effect is common or rare, if God does not produce it according to his general laws, which are the natural laws, it is a true miracle.'[128] In other words, a miracle in the second sense is something produced by a particular rather than a general volition of God. Occasionalism does not invoke miracles in either of these senses to explain ordinary events. God could, Malebranche says, produce the most common effects by particular volitions, in which case they would be miracles in the second sense. But God does not do so. Instead, he produces them according to general laws. Even marvels are produced in this manner, according to laws giving angels power over bodies; they are miracles in the first sense but not in the second.[129]

In Malebranche's second or philosophical sense, the miraculous is opposed to the natural. The same is true of Leibniz's philosophical sense. The two philosophers disagree, however, on what counts as being natural. According to Malebranche, natural effects are those that are produced in accordance with natural laws. Leibniz finds this characterization inadequate: 'It is not enough to say that God has made a general law, for besides the decree there is also necessary a natural means of carrying it out.'[130] Malebranche could reply that there is indeed a natural means of carrying it out: the efficacy of the natural laws is determined by occasional causes. The latter can and should be cited as the natural and particular causes of the effects in question. This answer will not satisfy Leibniz. When he says that there must be a natural means of executing the decree, he means that 'all that happens must also be explained through the nature which God gives to things'.[131] For Leibniz, the natural is that which pertains to the nature of created things, and the nature of created things is identified with their power to act.[132] For Malebranche, by contrast, natural laws are simply laws according to which events are regularly produced. They can be specified without ascribing natures to individual things and without attributing metaphysical powers to them. In this respect, Malebranche's view of natural laws is closer to the modern conception than Leibniz's is.

Does Leibniz misrepresent the occasionalist hypothesis? In some passages, he characterizes God's action in occasionalism as interference or meddling in the natural course of events. In the Postscript of a Letter to Basnage de Beauval (3/13 January 1696), where he introduces the analogy of two clocks to differentiate interactionism, occasionalism and pre-established harmony, he says that the system of occasional causes is like 'making two clocks, even poor ones, agree' by turning them over to a skilled artisan 'who adjusts them and constantly sets them in agreement'.[133] Similarly, in his response to Bayle's criticisms

of the New System (1698), he says that the occasionalists explain the correspondence between soul and body 'as if a man were charged with constantly synchronizing two bad clocks which are in themselves incapable of agreeing'.[134] It seems that the workman's action is needed, not to make the clocks run *per se*, but to keep them running in agreement. Without constant adjustments, the clocks would still run, albeit badly. Analogously, were it not for God's continual meddling, the mind and the body would each follow a different course. In the correspondence with Arnauld, Leibniz presents the system of occasional causes 'as though God on the occasion of occurrences in the body aroused thoughts in the soul, which might change the course that the soul would have taken of itself without that'.[135]

> For it introduces a sort of continual miracle, as though God were constantly changing the laws of bodies, on the occasion of the thoughts of minds, or changing the regular course of the thoughts of the soul by arousing in it other thoughts, on the occasion of the movements of bodies.[136]

In so far as he suggests that creatures would act on their own if God did not intervene, Leibniz misrepresents occasionalism. True, Malebranche does say that the human body would behave in certain ways – for instance, it would cry out whenever it was injured – if the soul did not resist. If the body behaves in one way when the soul resists and in another way when such resistance is absent, this is not because the body moves itself by one set of laws whereas God moves it by another set. God moves the body in both cases: in the one case, according to the laws of motion alone; in the other, by the laws of the union of soul and body.

Leibniz claims that in occasionalism God changes the laws of bodies on the occasion of the thoughts of minds. A more accurate statement of the occasionalist position is this: God acts on the body solely according to the laws of motion, except when the mind has certain kinds of thoughts, in which case he acts by the laws of soul–body union. To Leibniz, the suspension of one set of laws in favour of another set is a miracle. Thus, in addition to the perpetual miracle of God's direct action on creatures, there is a further perpetual miracle, having to do with the manner of God's action. The decision to act according to one set of laws rather than another set is not grounded in the nature of individual things; therefore, by Leibniz's definition, it is miraculous. By Malebranche's definition, however, it is not miraculous but natural, since there are laws for which set of laws applies in a given situation, and these higher-order laws are in principle discoverable, just as are the laws of motion and those of soul–body union.

NOTES

The following abbreviations are used in the notes:

AT C. Adam and P. Tannery (eds) *Oeuvres de Descartes* [10.1]
CSM J. Cottingham, R. Stoothoff and D. Murdoch (trans.) *The Philosophical Writings of Descartes* [10.2]
GP C. I. Gerhardt (ed.) *Die philosophischen Schriften von Gottfried Wilhelm Leibniz* [10.55]
LO T. M. Lennon and P. J. Olscamp (trans.) *The Search after Truth and Elucidations of the Search after Truth* [10.36]
OC A. Robinet (ed.) *Oeuvres complètes de Malebranche* [10.35]

1 Descartes, *Principles of Philosophy*, Pt I, 56, 61. AT 8A: 26, 29–30; CSM 1: 211, 213–14. Descartes to ***, 1645 or 1646. AT 4: 348–9; *Philosophical Letters* [10.3], 186–7.
2 Appendix to Fifth Objections and Replies, AT 9A: 213; CSM 2: 275.
3 Descartes to Elizabeth, 21 May 1643, AT 3: 665; *Philosophical Letters* [10.3], 138.
4 Descartes to Elizabeth, 28 June 1643, AT 3: 691–2; *Philosophical Letters* [10.3], 141.
5 Second Replies, AT 7: 135; CSM 2: 97.
6 Third Meditation, AT 7: 40; CSM 2: 28.
7 *Principles*, Pt 2, 50, AT 8A: 69.
8 Descartes to More, August 1649, AT 5: 404; *Philosophical Letters* [10.3], 258.
9 AT 11: 144; CSM 1: 103. See also *The World*, AT 11: 5–6; CSM 1: 82; *Optics*, AT 6: 114; CSM 1: 166; *Notae in Programma*, AT 8B: 360.
10 Gouhier, [10.42], 83–7.
11 Hermann Müller argues for this position in Müller [10.11].
12 Gouhier [10.42], 89.
13 Quoted in Prost [10.7], 103n.
14 Battail [10.23], 8.
15 Prost [10.7], 103.
16 Battail [10.23], 145.
17 Quoted in Clair [10.15], 64. In the nineteenth century, it was conjectured that La Forge and Clauberg met during the latter's visit to Saumur (Damiron [10.6], 127; Bouillier, *Histoire de la philosophie cartésienne* [10.5], 1: 294). This conjecture was plausible only because of the uncertainty about La Forge's date of birth. Both Damiron (p. 24) and Bouillier (p. 511) put it at the beginning of the seventeenth century. Clauberg visited Saumur in 1646, when La Forge was 14 years old and living in La Flèche (Clair [10.13], 40).
18 Vleeschauwer [10.34], 396–401.
19 Battail [10.23], 143; cf. Prost [10.7], 154.
20 Malebranche, *The Search after Truth*, Book 1, ch. 10, OC 1: 123; LO, 49.
21 Item number 139 in Lelong's catalogue (OC 20: 237).
22 Damiron [10.6], 3, 23, 60; Bouillier [10.5], 1: 511.
23 La Forge, *Traitté de l'esprit de l'homme* [10.12], ch. 13; *Oeuvres philosophiques* [10.13], 212–13.

24 ibid., p. 213.
25 ibid.
26 *Traitté* [10.12], ch. 10; *Oeuvres philosophiques* [10.13], 175.
27 ibid., p. 176.
28 ibid., p. 179.
29 *Traitté* [10.12], ch. 16; *Oeuvres philosophiques* [10.13], 235.
30 ibid.
31 ibid., p. 238.
32 ibid.
33 ibid.
34 ibid., p. 240.
35 ibid.
36 ibid., p. 241.
37 ibid., p. 242.
38 ibid.
39 Damiron [10.6], 56–7; Gouhier [10.42], 101; Watson [10.18], 174.
40 *Traitté* [10.12], ch. 16; *Oeuvres philosophiques* [10.13], 245.
41 ibid.
42 Cordemoy, *Oeuvres philosophiques* [10.20], 257.
43 Cordemoy, First Discourse, *Le Discernement du corps et de l'âme, Oeuvres philosophiques* [10.20], 99.
44 ibid., p. 101.
45 Fifth Discourse, *Discernement, Oeuvres philosophiques* [10.20], 149.
46 Fourth Discourse, *Discernement, Oeuvres philosophiques* [10.20], 138.
47 Fifth Discourse, *Discernement, Oeuvres philosophiques* [10.20], 150.
48 Fourth Discourse, *Discernement, Oeuvres philosophiques* [10.20], 135–7.
49 ibid., p. 139.
50 ibid.; cf. p. 142.
51 ibid., p. 143.
52 ibid., p. 144.
53 Fifth Discourse, *Discernement, Oeuvres philosophiques* [10.20], 148.
54 ibid., p. 149.
55 ibid., p. 151.
56 Cordemoy, *Discours physique de la parole, Oeuvres philosophiques* [10.20], 255.
57 Cordemoy, *Traité de métaphysique II, Oeuvres philosophiques* [10.20], 283–4.
58 ibid., p. 284.
59 ibid., p. 285.
60 For discussion of possible reasons for the dismissal, see Land [10.30], 227–8; Lattre [10.31], 10–11; Vleeschauwer [10.34], 401.
61 Geulincx, *Metaphysica vera*, Pars 1, sc. 5 and 6, *Sämtliche Schriften* [10.24], 2: 150–2.
62 Geulincx, *Ethica*, Tract. 1, cap. 2, s. 2, *Sämtliche Schriften* [10.24], 3: 32.
63 *Metaphysica vera*, Pars 1, sc. 9, *Sämtliche Schriften* [10.24], 2: 154.
64 *Metaphysica vera*, Pars 1, sc. 11, *Sämtliche Schriften* [10.24], 2: 155.
65 *Annotata ad Ethicam*, 19, *Sämtliche Schriften* [10.24], 3: 211–12; cf. *Annotata ad Metaphysicam, Sämtliche Schriften* [10.24], 2: 307.
66 The analogy appears in Leibniz's 'Second Explanation of the New System' (Postscript of a Letter to Basnage de Beauval, 3/13 January 1696). The first

complete edition of Geulincx's *Ethica*, with all the Annotations, was published twenty-one years earlier. Leibniz did not necessarily get the analogy from Geulincx, however. For discussion of this issue, see Haeghen [10.28], 161–3.

67 *Ethica*, Tract. 1, cap. 2, s. 2, *Sämtliche Schriften* [10.24], 3: 36.
68 *Annotata ad Ethicam*, 48, *Sämtliche Schriften* [10.24], 3: 220.
69 *Metaphysica vera*, Pars 1, sc. 11, *Sämtliche Schriften* [10.24], 2: 155; *Annotata ad Metaphysicam*, *Sämtliche Schriften* [10.24], 2: 307.
70 *Ethica*, Tract. 1, cap. 2, s. 2, *Sämtliche Schriften* [10.24], 3: 33.
71 ibid., p. 36.
72 *Ethica*, Tract. 1, cap. 2, s. 1, *Sämtliche Schriften* [10.24], 3: 23.
73 Malebranche, *Dialogues on Metaphysics and on Religion*, Dialogue 7, sec. 2, OC 12: 151; [10.38], 149.
74 *Dialogues* 7, sec. 4; OC 12: 153; [10.38], 151. See also *The Search after Truth*, Elucidation 15, OC 3: 226; LO, 669–70.
75 *Search*, Book 2, Pt 1, ch. 5, OC 1: 215; LO, 102.
76 *Search*, Book 6, Pt 2, ch. 3, OC 2: 312–13; LO, 448.
77 *Méditations chrétiennes et métaphysiques*, Med. 1, sec. 8, OC 10: 13. See also *Dialogues* 7, sec. 2, OC 12: 150; [10.38], 147.
78 *Dialogues* 7, sec. 2, OC 12: 150–1; [10.38], 147.
79 *Réponse à une Dissertation de Mr. Arnauld*, ch. 7, OC 7: 515.
80 *Réflexions sur les Doutes sur le système des causes occasionnelles*, OC 17–1: 584.
81 *Réponse à une Dissertation*, ch. 7, OC 7: 515; *Méditations* 5, sec. 8, OC 10: 50.
82 *Search*, Elucidation 15, 1678 edition. This passage is omitted from the 1712 edition. OC 3: 209n.
83 *Méditations* 5, sec. 4, OC 10: 47–8; cf. *Dialogues* 7, sec. 5, OC 12: 155; [10.38], 151.
84 *Dialogues* 7, sec. 10, OC 12: 160; [10.38], 157.
85 ibid. See also *Méditations* 5, sec. 8, OC 10: 50.
86 *Search*, Book 6, Pt 2, ch. 3, OC 2: 316; LO, 450.
87 ibid., OC 2: 313–16; LO, 448–50. See also *Méditations* 6, sec. 12, OC 10: 64.
88 *Dialogues* 7, sec. 3, OC 12: 151–2; [10.38], 149; cf. *Search*, Elucidation 17, OC 3: 326; LO, 733.
89 Descartes to Regius, May 1641, AT 3: 372; *Philosophical Letters* [10.3], 102.
90 *Search*, Elucidation 15, OC 3: 226; LO, 669.
91 *Search*, Book 3, Pt 2, ch. 3, OC 1: 424–5; LO, 223. See also *Méditations* 1, sec. 7, OC 10: 13.
92 *Méditations* 6, sec. 11, OC 10: 62.
93 *Search*, Book 6, Pt 2, ch. 3, OC 2: 315; LO, 450; cf. Elucidation 15, OC 3: 228; LO, 670–1.
94 *Search*, Book 1, ch. 1, OC 1: 46; LO, 5. *Méditations* 6, sec. 16, OC 10: 65.
95 *Réflexions sur la prémotion physique* 12, OC 16: 46–7.
96 *Prémotion physique* 10, OC 16: 41.
97 *Search*, Elucidation 1, OC 3: 20; LO, 548–9. For critical discussion of Malebranche's notion of freedom, see Radner [10.46], 119–33.
98 *Prémotion physique* 23, OC 16: 132. See also *Entretien d'un philosophe chrétien et d'un philosophe chinois*, OC 15: 33.

99 *Traité de la nature et de la grace*, Elucidation 1, OC 5: 147–8; *Réponse au Livre des Vraies et des fausses idées*, ch. 4, OC 6: 36–7.
100 *Réponse aux VFI*, ch. 4, OC 6: 37–8; *Entretien d'un philosophe chrétien et d'un philosophe chinois*, OC 15: 28.
101 *Search*, Elucidation 15, OC 3: 219–20; LO, 666.
102 *Traité de la nature et de la grace*, Last Elucidation, OC 5: 204–5; *Réponse aux Réflexions philosophiques et théologiques de Mr. Arnauld sur le Traité de la nature et de la grace*, Letter 2, ch. 2, OC 8: 705–6; *Dialogues* 13, sec. 9, OC 12: 319–20; [10.38], 321.
103 *Réponse aux VFI*, ch. 4, OC 6: 38.
104 *Search*, Elucidation 2, OC 3: 39; LO, 559. See also *Traité de la nature et de la grace*, Second Discourse, sec. 37, OC 5: 102; *Méditations* 13, sec. 11, OC 10: 144.
105 *Réponse à la troisième lettre de M. Arnauld*, OC 9: 959.
106 *Search*, Book 5, ch. 3, OC 2: 150; LO, 352.
107 *Search*, Elucidation 2, OC 3: 39–40; LO, 559.
108 *Search*, Book 5, ch. 2, OC 2: 139; LO, 345.
109 *Search*, Book 5, ch. 3, OC 2: 150; LO, 351.
110 *Conversations chrétiennes* 3, OC 4: 77. See also *Search*, Elucidation 15, OC 3: 213–14; LO, 662.
111 *Search*, Book 3, Pt 2, ch. 7, OC 1: 451–5; LO, 237–40.
112 *Search*, Book 2, Pt 1, ch. 7, OC 1: 250; LO, 121.
113 ibid., OC 1: 236–7; LO, 114.
114 *Prémotion physique* 25, OC 16: 146. See also *Search*, Book 5, ch. 3, OC 2: 151–2; LO, 352–3.
115 *Traité de l'amour de Dieu*, OC 14: 9–10.
116 *Search*, Book 5, ch. 3, OC 2: 145; LO, 349.
117 *Search*, Book 5, ch. 1, OC 2: 128; LO, 338.
118 *Traité de morale*, Pt 1, ch. 13, sec. 3, OC 11: 147.
119 *Search*, Book 5, ch. 2, OC 2: 133–4; LO, 342.
120 *Search*, Book 5, ch. 3, OC 2: 146; LO, 349.
121 *Traité de l'amour de Dieu*, OC 14: 10.
122 For discussion of the other objections, see Radner [10.46], 36–46.
123 Leibniz, 'First Truths', *Opuscules et fragments inédits de Leibniz* [10.56], 521; *Philosophical Papers and Letters* [10.57], 269.
124 'A New System of the Nature and the Communication of Substances, as well as the Union between the Soul and the Body', *Journal des savants*, 27 June 1695, GP 4: 483; *Philosophical Papers* [10.57], 457. See also 'Discourse on Metaphysics', sec. 33, GP 4: 458; *Philosophical Papers* [10.57], 324.
125 'Clarification of the Difficulties which Mr. Bayle has found in the New System of the Union of Soul and Body', *Histoire des ouvrages des savants*, July 1698, GP 4: 520; *Philosophical Papers* [10.57], 494.
126 Leibniz to Arnauld, 30 April 1687, GP 2: 93; *The Leibniz-Arnauld Correspondence* [10.58], 116.
127 *Réponse aux Réflexions*, Letter 2, ch. 1, OC 8: 695–6. 'Natural laws' here is synonymous with 'general laws', and includes both the so-called laws of nature and those of grace.
128 ibid., OC 8: 696.

129 ibid., OC 8: 697; *Méditations* 8, sec. 25–8, OC 10: 91–3.
130 'Clarification of the Difficulties', GP 4: 520; *Philosophical Papers* [10.57], 494.
131 ibid. See also Leibniz's critique of François Lamy's *Connoissance de soy-même*, GP 4: 587.
132 'On Nature Itself, or on the Inherent Force and Actions of Created Things', sec. 5, GP 4: 506–7; *Philosophical Papers* [10.57], 500. Leibniz's Fifth Paper to Clarke, sec. 112, GP 7: 417; *Philosophical Papers* [10.57], 715.
133 Postscript of a Letter to Basnage de Beauval, 3/13 January 1696, GP 4: 498; *Philosophical Papers* [10.57], 459–60.
134 'Clarification of the Difficulties', GP 4: 520; *Philosophical Papers* [10.57], 494.
135 'Remarks upon M. Arnauld's letter', May 1686, GP 2: 47; *The Leibniz-Arnauld Correspondence* [10.58], 51–2.
136 Leibniz to Arnauld, 4/14 July 1686, GP 2: 57–8; *The Leibniz-Arnauld Correspondence* [10.58], 65.

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natural, or which are not results of natural laws'.[127] Natural laws are God's general volitions. 'Thus, whether an effect is common or rare, if God does not produce it according to his general laws, which are the natural laws, it is a true miracle.'[128] In other words, a miracle in the second sense is something produced by a particular rather than a general volition of God. Occasionalism does not invoke miracles in either of these senses to explain ordinary events. God could, Malebranche says, produce the most common effects by particular volitions, in which case they would be miracles in the second sense. But God does not do so. Instead, he produces them according to general laws. Even marvels are produced in this manner, according to laws giving angels power over bodies; they are miracles in the first sense but not in the second.[129]

In Malebranche's second or philosophical sense, the miraculous is opposed to the natural. The same is true of Leibniz's philosophical sense. The two philosophers disagree, however, on what counts as being natural. According to Malebranche, natural effects are those that are produced in accordance with natural laws. Leibniz finds this characterization inadequate: 'It is not enough to say that God has made a general law, for besides the decree there is also necessary a natural means of carrying it out.'[130] Malebranche could reply that there is indeed a natural means of carrying it out: the efficacy of the natural laws is determined by occasional causes. The latter can and should be cited as the natural and particular causes of the effects in question. This answer will not satisfy Leibniz. When he says that there must be a natural means of executing the decree, he means that 'all that happens must also be explained through the nature which God gives to things'.[131] For Leibniz, the natural is that which pertains to the nature of created things, and the nature of created things is identified with their power to act.[132] For Malebranche, by contrast, natural laws are simply laws according to which events are regularly produced. They can be specified without ascribing natures to individual things and without attributing metaphysical powers to them. In this respect, Malebranche's view of natural laws is closer to the modern conception than Leibniz's is.

Does Leibniz misrepresent the occasionalist hypothesis? In some passages, he characterizes God's action in occasionalism as interference or meddling in the natural course of events. In the Postscript of a Letter to Basnage de Beauval (3/13 January 1696), where he introduces the analogy of two clocks to differentiate interactionism, occasionalism and pre-established harmony, he says that the system of occasional causes is like 'making two clocks, even poor ones, agree' by turning them over to a skilled artisan 'who adjusts them and constantly sets them in agreement'.[133] Similarly, in his response to Bayle's criticisms

of the New System (1698), he says that the occasionalists explain the correspondence between soul and body 'as if a man were charged with constantly synchronizing two bad clocks which are in themselves incapable of agreeing'.[134] It seems that the workman's action is needed, not to make the clocks run *per se*, but to keep them running in agreement. Without constant adjustments, the clocks would still run, albeit badly. Analogously, were it not for God's continual meddling, the mind and the body would each follow a different course. In the correspondence with Arnauld, Leibniz presents the system of occasional causes 'as though God on the occasion of occurrences in the body aroused thoughts in the soul, which might change the course that the soul would have taken of itself without that'.[135]

> For it introduces a sort of continual miracle, as though God were constantly changing the laws of bodies, on the occasion of the thoughts of minds, or changing the regular course of the thoughts of the soul by arousing in it other thoughts, on the occasion of the movements of bodies.[136]

In so far as he suggests that creatures would act on their own if God did not intervene, Leibniz misrepresents occasionalism. True, Malebranche does say that the human body would behave in certain ways – for instance, it would cry out whenever it was injured – if the soul did not resist. If the body behaves in one way when the soul resists and in another way when such resistance is absent, this is not because the body moves itself by one set of laws whereas God moves it by another set. God moves the body in both cases: in the one case, according to the laws of motion alone; in the other, by the laws of the union of soul and body.

Leibniz claims that in occasionalism God changes the laws of bodies on the occasion of the thoughts of minds. A more accurate statement of the occasionalist position is this: God acts on the body solely according to the laws of motion, except when the mind has certain kinds of thoughts, in which case he acts by the laws of soul–body union. To Leibniz, the suspension of one set of laws in favour of another set is a miracle. Thus, in addition to the perpetual miracle of God's direct action on creatures, there is a further perpetual miracle, having to do with the manner of God's action. The decision to act according to one set of laws rather than another set is not grounded in the nature of individual things; therefore, by Leibniz's definition, it is miraculous. By Malebranche's definition, however, it is not miraculous but natural, since there are laws for which set of laws applies in a given situation, and these higher-order laws are in principle discoverable, just as are the laws of motion and those of soul–body union.

NOTES

The following abbreviations are used in the notes:

AT C. Adam and P. Tannery (eds) *Oeuvres de Descartes* [10.1]
CSM J. Cottingham, R. Stoothoff and D. Murdoch (trans.) *The Philosophical Writings of Descartes* [10.2]
GP C. I. Gerhardt (ed.) *Die philosophischen Schriften von Gottfried Wilhelm Leibniz* [10.55]
LO T. M. Lennon and P. J. Olscamp (trans.) *The Search after Truth and Elucidations of the Search after Truth* [10.36]
OC A. Robinet (ed.) *Oeuvres complètes de Malebranche* [10.35]

1 Descartes, *Principles of Philosophy*, Pt I, 56, 61. AT 8A: 26, 29–30; CSM 1: 211, 213–14. Descartes to ***, 1645 or 1646. AT 4: 348–9; *Philosophical Letters* [10.3], 186–7.
2 Appendix to Fifth Objections and Replies, AT 9A: 213; CSM 2: 275.
3 Descartes to Elizabeth, 21 May 1643, AT 3: 665; *Philosophical Letters* [10.3], 138.
4 Descartes to Elizabeth, 28 June 1643, AT 3: 691–2; *Philosophical Letters* [10.3], 141.
5 Second Replies, AT 7: 135; CSM 2: 97.
6 Third Meditation, AT 7: 40; CSM 2: 28.
7 *Principles*, Pt 2, 50, AT 8A: 69.
8 Descartes to More, August 1649, AT 5: 404; *Philosophical Letters* [10.3], 258.
9 AT 11: 144; CSM 1: 103. See also *The World*, AT 11: 5–6; CSM 1: 82; *Optics*, AT 6: 114; CSM 1: 166; *Notae in Programma*, AT 8B: 360.
10 Gouhier, [10.42], 83–7.
11 Hermann Müller argues for this position in Müller [10.11].
12 Gouhier [10.42], 89.
13 Quoted in Prost [10.7], 103n.
14 Battail [10.23], 8.
15 Prost [10.7], 103.
16 Battail [10.23], 145.
17 Quoted in Clair [10.15], 64. In the nineteenth century, it was conjectured that La Forge and Clauberg met during the latter's visit to Saumur (Damiron [10.6], 127; Bouillier, *Histoire de la philosophie cartésienne* [10.5], 1: 294). This conjecture was plausible only because of the uncertainty about La Forge's date of birth. Both Damiron (p. 24) and Bouillier (p. 511) put it at the beginning of the seventeenth century. Clauberg visited Saumur in 1646, when La Forge was 14 years old and living in La Flèche (Clair [10.13], 40).
18 Vleeschauwer [10.34], 396–401.
19 Battail [10.23], 143; cf. Prost [10.7], 154.
20 Malebranche, *The Search after Truth*, Book 1, ch. 10, OC 1: 123; LO, 49.
21 Item number 139 in Lelong's catalogue (OC 20: 237).
22 Damiron [10.6], 3, 23, 60; Bouillier [10.5], 1: 511.
23 La Forge, *Traitté de l'esprit de l'homme* [10.12], ch. 13; *Oeuvres philosophiques* [10.13], 212–13.

24 ibid., p. 213.
25 ibid.
26 *Traitté* [10.12], ch. 10; *Oeuvres philosophiques* [10.13], 175.
27 ibid., p. 176.
28 ibid., p. 179.
29 *Traitté* [10.12], ch. 16; *Oeuvres philosophiques* [10.13], 235.
30 ibid.
31 ibid., p. 238.
32 ibid.
33 ibid.
34 ibid., p. 240.
35 ibid.
36 ibid., p. 241.
37 ibid., p. 242.
38 ibid.
39 Damiron [10.6], 56–7; Gouhier [10.42], 101; Watson [10.18], 174.
40 *Traitté* [10.12], ch. 16; *Oeuvres philosophiques* [10.13], 245.
41 ibid.
42 Cordemoy, *Oeuvres philosophiques* [10.20], 257.
43 Cordemoy, First Discourse, *Le Discernement du corps et de l'âme, Oeuvres philosophiques* [10.20], 99.
44 ibid., p. 101.
45 Fifth Discourse, *Discernement, Oeuvres philosophiques* [10.20], 149.
46 Fourth Discourse, *Discernement, Oeuvres philosophiques* [10.20], 138.
47 Fifth Discourse, *Discernement, Oeuvres philosophiques* [10.20], 150.
48 Fourth Discourse, *Discernement, Oeuvres philosophiques* [10.20], 135–7.
49 ibid., p. 139.
50 ibid.; cf. p. 142.
51 ibid., p. 143.
52 ibid., p. 144.
53 Fifth Discourse, *Discernement, Oeuvres philosophiques* [10.20], 148.
54 ibid., p. 149.
55 ibid., p. 151.
56 Cordemoy, *Discours physique de la parole, Oeuvres philosophiques* [10.20], 255.
57 Cordemoy, *Traité de métaphysique II, Oeuvres philosophiques* [10.20], 283–4.
58 ibid., p. 284.
59 ibid., p. 285.
60 For discussion of possible reasons for the dismissal, see Land [10.30], 227–8; Lattre [10.31], 10–11; Vleeschauwer [10.34], 401.
61 Geulincx, *Metaphysica vera*, Pars 1, sc. 5 and 6, *Sämtliche Schriften* [10.24], 2: 150–2.
62 Geulincx, *Ethica*, Tract. 1, cap. 2, s. 2, *Sämtliche Schriften* [10.24], 3: 32.
63 *Metaphysica vera*, Pars 1, sc. 9, *Sämtliche Schriften* [10.24], 2: 154.
64 *Metaphysica vera*, Pars 1, sc. 11, *Sämtliche Schriften* [10.24], 2: 155.
65 *Annotata ad Ethicam*, 19, *Sämtliche Schriften* [10.24], 3: 211–12; cf. *Annotata ad Metaphysicam, Sämtliche Schriften* [10.24], 2: 307.
66 The analogy appears in Leibniz's 'Second Explanation of the New System' (Postscript of a Letter to Basnage de Beauval, 3/13 January 1696). The first

complete edition of Geulincx's *Ethica*, with all the Annotations, was published twenty-one years earlier. Leibniz did not necessarily get the analogy from Geulincx, however. For discussion of this issue, see Haeghen [10.28], 161–3.

67 *Ethica*, Tract. 1, cap. 2, s. 2, *Sämtliche Schriften* [10.24], 3: 36.
68 *Annotata ad Ethicam*, 48, *Sämtliche Schriften* [10.24], 3: 220.
69 *Metaphysica vera*, Pars 1, sc. 11, *Sämtliche Schriften* [10.24], 2: 155; *Annotata ad Metaphysicam*, *Sämtliche Schriften* [10.24], 2: 307.
70 *Ethica*, Tract. 1, cap. 2, s. 2, *Sämtliche Schriften* [10.24], 3: 33.
71 ibid., p. 36.
72 *Ethica*, Tract. 1, cap. 2, s. 1, *Sämtliche Schriften* [10.24], 3: 23.
73 Malebranche, *Dialogues on Metaphysics and on Religion*, Dialogue 7, sec. 2, OC 12: 151; [10.38], 149.
74 *Dialogues* 7, sec. 4; OC 12: 153; [10.38], 151. See also *The Search after Truth*, Elucidation 15, OC 3: 226; LO, 669–70.
75 *Search*, Book 2, Pt 1, ch. 5, OC 1: 215; LO, 102.
76 *Search*, Book 6, Pt 2, ch. 3, OC 2: 312–13; LO, 448.
77 *Méditations chrétiennes et métaphysiques*, Med. 1, sec. 8, OC 10: 13. See also *Dialogues* 7, sec. 2, OC 12: 150; [10.38], 147.
78 *Dialogues* 7, sec. 2, OC 12: 150–1; [10.38], 147.
79 *Réponse à une Dissertation de Mr. Arnauld*, ch. 7, OC 7: 515.
80 *Réflexions sur les Doutes sur le système des causes occasionnelles*, OC 17–1: 584.
81 *Réponse à une Dissertation*, ch. 7, OC 7: 515; *Méditations* 5, sec. 8, OC 10: 50.
82 *Search*, Elucidation 15, 1678 edition. This passage is omitted from the 1712 edition. OC 3: 209n.
83 *Méditations* 5, sec. 4, OC 10: 47–8; cf. *Dialogues* 7, sec. 5, OC 12: 155; [10.38], 151.
84 *Dialogues* 7, sec. 10, OC 12: 160; [10.38], 157.
85 ibid. See also *Méditations* 5, sec. 8, OC 10: 50.
86 *Search*, Book 6, Pt 2, ch. 3, OC 2: 316; LO, 450.
87 ibid., OC 2: 313–16; LO, 448–50. See also *Méditations* 6, sec. 12, OC 10: 64.
88 *Dialogues* 7, sec. 3, OC 12: 151–2; [10.38], 149; cf. *Search*, Elucidation 17, OC 3: 326; LO, 733.
89 Descartes to Regius, May 1641, AT 3: 372; *Philosophical Letters* [10.3], 102.
90 *Search*, Elucidation 15, OC 3: 226; LO, 669.
91 *Search*, Book 3, Pt 2, ch. 3, OC 1: 424–5; LO, 223. See also *Méditations* 1, sec. 7, OC 10: 13.
92 *Méditations* 6, sec. 11, OC 10: 62.
93 *Search*, Book 6, Pt 2, ch. 3, OC 2: 315; LO, 450; cf. Elucidation 15, OC 3: 228; LO, 670–1.
94 *Search*, Book 1, ch. 1, OC 1: 46; LO, 5. *Méditations* 6, sec. 16, OC 10: 65.
95 *Réflexions sur la prémotion physique* 12, OC 16: 46–7.
96 *Prémotion physique* 10, OC 16: 41.
97 *Search*, Elucidation 1, OC 3: 20; LO, 548–9. For critical discussion of Malebranche's notion of freedom, see Radner [10.46], 119–33.
98 *Prémotion physique* 23, OC 16: 132. See also *Entretien d'un philosophe chrétien et d'un philosophe chinois*, OC 15: 33.

99 *Traité de la nature et de la grace*, Elucidation 1, OC 5: 147–8; *Réponse au Livre des Vraies et des fausses idées*, ch. 4, OC 6: 36–7.
100 *Réponse aux VFI*, ch. 4, OC 6: 37–8; *Entretien d'un philosophe chrétien et d'un philosophe chinois*, OC 15: 28.
101 *Search*, Elucidation 15, OC 3: 219–20; LO, 666.
102 *Traité de la nature et de la grace*, Last Elucidation, OC 5: 204–5; *Réponse aux Réflexions philosophiques et théologiques de Mr. Arnauld sur le Traité de la nature et de la grace*, Letter 2, ch. 2, OC 8: 705–6; *Dialogues* 13, sec. 9, OC 12: 319–20; [10.38], 321.
103 *Réponse aux VFI*, ch. 4, OC 6: 38.
104 *Search*, Elucidation 2, OC 3: 39; LO, 559. See also *Traité de la nature et de la grace*, Second Discourse, sec. 37, OC 5: 102; *Méditations* 13, sec. 11, OC 10: 144.
105 *Réponse à la troisième lettre de M. Arnauld*, OC 9: 959.
106 *Search*, Book 5, ch. 3, OC 2: 150; LO, 352.
107 *Search*, Elucidation 2, OC 3: 39–40; LO, 559.
108 *Search*, Book 5, ch. 2, OC 2: 139; LO, 345.
109 *Search*, Book 5, ch. 3, OC 2: 150; LO, 351.
110 *Conversations chrétiennes* 3, OC 4: 77. See also *Search*, Elucidation 15, OC 3: 213–14; LO, 662.
111 *Search*, Book 3, Pt 2, ch. 7, OC 1: 451–5; LO, 237–40.
112 *Search*, Book 2, Pt 1, ch. 7, OC 1: 250; LO, 121.
113 ibid., OC 1: 236–7; LO, 114.
114 *Prémotion physique* 25, OC 16: 146. See also *Search*, Book 5, ch. 3, OC 2: 151–2; LO, 352–3.
115 *Traité de l'amour de Dieu*, OC 14: 9–10.
116 *Search*, Book 5, ch. 3, OC 2: 145; LO, 349.
117 *Search*, Book 5, ch. 1, OC 2: 128; LO, 338.
118 *Traité de morale*, Pt 1, ch. 13, sec. 3, OC 11: 147.
119 *Search*, Book 5, ch. 2, OC 2: 133–4; LO, 342.
120 *Search*, Book 5, ch. 3, OC 2: 146; LO, 349.
121 *Traité de l'amour de Dieu*, OC 14: 10.
122 For discussion of the other objections, see Radner [10.46], 36–46.
123 Leibniz, 'First Truths', *Opuscules et fragments inédits de Leibniz* [10.56], 521; *Philosophical Papers and Letters* [10.57], 269.
124 'A New System of the Nature and the Communication of Substances, as well as the Union between the Soul and the Body', *Journal des savants*, 27 June 1695, GP 4: 483; *Philosophical Papers* [10.57], 457. See also 'Discourse on Metaphysics', sec. 33, GP 4: 458; *Philosophical Papers* [10.57], 324.
125 'Clarification of the Difficulties which Mr. Bayle has found in the New System of the Union of Soul and Body', *Histoire des ouvrages des savants*, July 1698, GP 4: 520; *Philosophical Papers* [10.57], 494.
126 Leibniz to Arnauld, 30 April 1687, GP 2: 93; *The Leibniz-Arnauld Correspondence* [10.58], 116.
127 *Réponse aux Réflexions*, Letter 2, ch. 1, OC 8: 695–6. 'Natural laws' here is synonymous with 'general laws', and includes both the so-called laws of nature and those of grace.
128 ibid., OC 8: 696.

129 ibid., OC 8: 697; *Méditations* 8, sec. 25–8, OC 10: 91–3.
130 'Clarification of the Difficulties', GP 4: 520; *Philosophical Papers* [10.57], 494.
131 ibid. See also Leibniz's critique of François Lamy's *Connoissance de soy-même*, GP 4: 587.
132 'On Nature Itself, or on the Inherent Force and Actions of Created Things', sec. 5, GP 4: 506–7; *Philosophical Papers* [10.57], 500. Leibniz's Fifth Paper to Clarke, sec. 112, GP 7: 417; *Philosophical Papers* [10.57], 715.
133 Postscript of a Letter to Basnage de Beauval, 3/13 January 1696, GP 4: 498; *Philosophical Papers* [10.57], 459–60.
134 'Clarification of the Difficulties', GP 4: 520; *Philosophical Papers* [10.57], 494.
135 'Remarks upon M. Arnauld's letter', May 1686, GP 2: 47; *The Leibniz-Arnauld Correspondence* [10.58], 51–2.
136 Leibniz to Arnauld, 4/14 July 1686, GP 2: 57–8; *The Leibniz-Arnauld Correspondence* [10.58], 65.

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