Distinguishing Leibniz's system of pre-established harmony from the system of occasional causes

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Abstract

One of the more persistent interpretations of Leibniz's system of pre-established harmony is as a temporal dislocation of occasionalism: whatever God is always doing on the occasionalist account he need only have done once – at creation – on Leibniz's. In accordance with this interpretation, the difference between the systems of La Forge, Cordemoy, and Malebranche, on the one hand, and of Leibniz, on the other, is one of how involved God is in the world.

I show that Leibniz himself never intended to distinguish the systems in this way. Rather, the basic difference between the systems should be found in their accounts of the nature of substance. Recognizing this allows us to better appreciate the character of Leibnizian and occasionalist systems *as* systems; to turn the page on discussions of occasionalism centered on Leibniz's interpretation; and to lay the groundwork for an improved taxonomy of the place of these systems in early modernity.

Keywords: Gottfried Wilhelm Leibniz; Nicolas Malebranche; Louis de La Forge; Geraud de Cordemoy; occasionalism; pre-established harmony; early modern theories of substance; causation in early modern physics; mind-body problem.

1 Introduction

One of the more persistent interpretations of Leibniz's system of pre-established harmony is as a temporal dislocation of occasionalism: whatever God is always doing on the occasionalist account he need only have done once – at creation – on Leibniz's.[1] In accordance with this, the difference between occasionalism and Leibniz's pre-established harmony is one of how involved God is in the world. Call this the *traditional interpretation* of the difference between the systems.[2]

[1]The problem of distinguishing Leibniz's system from occasionalism was first raised by Arnauld; see [24, vol. II, 84–90]

[2]The interpretation of Leibnizian and occasionalist systems is closely connected to questions surrounding *divine concurrence and conservation*, i.e. whether and how God preserves created beings in existence, and concurs with their actions. Whipple shows that Leibniz re-

The claim that occasionalism and the pre-established harmony differ foremost in degree of divine activity has been assumed both as an account of the genuine difference between occasionalism and the pre-established harmony, and as one of what Leibniz himself took the difference to be. Russell, Nadler, and Detlefsen attribute this interpretation to Leibniz and broadly agree with it. Clarke, Jolley, Scott, and Lee take the pre-established harmony to be closer to occasionalism than Leibniz himself realized or cared to admit.[3] Though there is lively debate on what the occasionalist position was and how/whether it differed from Leibniz's, it is generally not contested that Leibniz characterized the difference between his and occasionalist systems in the above way. The effects of this assumption have been striking.

In scholarship on occasionalism, the assumption has abetted a dispute between 'generalist' and 'particularist' interpretations of Malebranche's claim that God only acts by general volitions.[4] The *generalist* interpretation holds that, with the exception of miracles, God only acts by willing general laws of nature; the *particularist* interpretation, by contrast, takes the immediate object of God's volitions to be particular events, albeit events in accord with general laws. Nadler, whose work is most prominently associated with the particularist interpretation, first introduced it as a defense of a 'traditional' reading he attributes to Leibniz,[5] and maintains the alternative description 'more closely resembles Leibniz's preestablished harmony.'[6] Many of his opponents have agreed.[7]

In scholarship on Leibniz, the assumption has encouraged assimilating Leibniz's disagreements with occasionalism to those over methodological naturalism in the history and philosophy of science, culminating in the charge that Leibniz was secretly a *metaphysical* naturalist besides being a methodological one. This reading of Leibniz's critique has been used to distinguish between an 'esoteric' and 'exoteric' Leibniz;[8] and more mundanely, to promote a more disjoint view

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jects an account of moment-to-moment conservation of creatures, not because he rejects the absolute dependence of creatures on God, but because he rejects the division of time into instants suggested by the traditional understanding of the doctrine:

> 'a literal commitment to an instantaneous account of continual creation would severely compromise the coherence of Leibniz's theory of finite substance .... If Leibniz's considered view on the ontological status of instantaneous states is the one suggested earlier, then it is not surprising to see him claiming that the continual creation doctrine seems to imply that creatures *never exist*' [47, p. 870].

[3] [42]; [40, pp. 31–32]; [16, p. 449]; [14, p. 121]; [13]; [44]; [32, p. 246]; [33, pp. 106–107]; [8, p. 39]; [39, p. 230].

[4] For two superb treatments of the general will in Malebranche, see [43] and [46].

[5] 'Leibniz accuses Malebranche of introducing 'continuous miracles' into the course of nature at every moment, and of having God 'intervene' with the laws of bodies and of thought. ... I shall argue that we ought to keep to this traditional reading of Malebranche's occasionalism.' [40, p. 32].

[6] [40, p. 31].

[7] See esp. [13] and [44].

[8] [42]; cf. [45]; [48, pp. 277–281]. More recent work has largely rejected Russell's distinction. See Mercer 2001, 4-9; Rateau 2008, 420-426; [2]. For a more measured account of Leibniz's use of exoteric writing, see Whipple 2015.

of Leibniz's development than plausible, one on which Leibniz makes a series of concessions to occasionalism before dropping the contrast altogether.[9]

In the following, I show the basic difference between occasionalism and the pre-established harmony should be found not in their degree of divine activity, but in their accounts of substance.[10] Furthermore, *Leibniz himself never intended to distinguish his own system from occasionalism in the traditional way.* In untying this small knot, three larger goals may be attained:

1. We undercut the historical roots of the current paradigm of scholarship on occasionalism, thereby resetting the terms of discussion around which that scholarship has revolved.

2. We arrive at an integral account of occasionalist and Leibnizian systems *as systems*, thereby reinstating the status of both Malebranche and Leibniz as systematic philosophers. In the latter case, this prepares the ground for a deeper and more unified appreciation of Leibniz's development.

3. We achieve a deeper understanding of the *differences* between Leibniz and Malebranche's systems, and thereby lay the groundwork for an improved taxonomy of the places of these systems within early modernity.

The paper has two tasks: the first, negative, to provide a diagnosis of why the traditional interpretation is tempting and show where it is flawed; the second, to show that Leibniz fundamentally distinguishes his system from occasionalism by contrasting their accounts of substance, and that the various other distinctions between the systems are, in Leibniz's view, consequent upon this.

Since the task is that of distinguishing two *systems,* it is necessary that such an account be general in nature; since the number of disagreements over Leibniz's corpus in particular are enormous, I shall not address those disagreements

[9] [44]. This has been part of a broader trend away from holistic accounts of Leibniz's philosophy and towards views emphasizing its development. See Wilson 1999, 373; [23, p. 78]; [20, p. 388]; [22, pp. 223–232]. Though Leibniz's views on various topics certainly developed, and though the exoteric/esoteric distinction of Russell and others is cruder than more recent developmentalist work, the *function* of developmentalist hypotheses in Leibniz scholarship has been much the same as the earlier distinction: fragmentation at the service of manageability. While paying verbal respects to the complexity of Leibniz's thought, such readings, in failing to respect the *integrity* of that thought, reduce that complexity to confusion. For more positive assessments of Leibniz's systematicity, see Rescher 1981, [25].

[10] That Leibniz critiques Malebranche's view of substance, albeit as one critique among others, has been recognized by Rutherford 1993, 140; [21, pp. 299–301]; [20, pp. 193–194]; [11, 280–281, fn. 16]. The clearest statement of the centrality of this difference for Leibniz comes from [46]:

> Leibniz's real problem with Malebranche's view should not have been expressed in terms of miracles or the role of secondary causes at all. His real problem is with Malebranche's concept of substance. (237; see also [47])

Wahl, however, does not purse the issue in its own right. Wahl's phrasing also has the unfortunate effect of contrasting disagreements over substance with those over miracles and secondary causes, rather than recognizing that the disagreements over the first form the basis for Leibniz's disagreements over the second and third.

directly, but indicate those relevant in passing; and since interpretive assumptions like those of duplicity aren't directly refutable, it becomes necessary to simply offer a better account. The proof of my interpretation of both systems shall be, so to speak, in the pudding: in the resulting coherence of the systems themselves, and the exegetical utility of the interpretation for situating these accounts in the dialectic of early modernity.

I begin by reviewing current thinking on the defining marks of occasionalism, and advance a more restricted account better supported by canonical occasionalist texts. I then locate Leibniz's two-clocks analogy, used to distinguish the occasionalist system from his own, among a broader array of clock metaphors in early modernity. I show that the traditional interpretation of Leibniz's pre-established harmony is closely bound up with a failure to identify the salient features of Leibniz's use of the analogy, albeit an understandable one given alternative uses of the image from the period. I then show how Leibniz's different uses of the analogy clarify both the systematic character of Leibniz's pre-established harmony, as well as its differences from occasionalism, directly addressing the issues Leibniz sought to contrast the two systems on: the nature of substance, the communication of substances, and mind-body union.

2 The Defining Marks of the System of Occasional Causes

While occasionalism is often associated with the problems of individuation and the mind-body relation, these provide it with neither its most characteristic doctrines nor its essential motivation. Rather, one better understands occasionalism as a gradual expansion of the doctrine of continuous creation. According to this doctrine, creatures depend on God not merely in that God must have created them, but also in that God must conserve them at each instant.[11] The earliest occasionalist accounts insist that God not only conserves material creatures in being, but also, since it is impossible to preserve a material object in existence without preserving it somewhere, must conserve them in a specific *place* in doing so.[12] Given that motion is simply change of place on the Cartesian account, it follows that God, being immediately and solely responsible for the successive positioning of material objects, is likewise responsible for their motion. Material objects therefore do not move themselves. And given the only way material objects could act on each other would be by contact, itself a function of relative position, it follows, the occasionalist maintains, that material objects are causally inert.

Though the above argument establishes nothing about whether *minds* are active or causal, recent scholarship holds occasionalist minds, like occasionalist

[11] See Thomas Aquinas, *ST* Ia, q. 104, art. 1, res; cf. Descartes, AT VII. 369.

[12] See La Forge, *Traité de l'esprit de l'homme*, in *Oevres philosophiques*, ed. Pierre Clair (Paris: Presses Universitaires de France, 1974), 240-41. Cf. Malebranche, *Entretiens* VII, par. 10 = OC XII. 160; Nadler 1998.

bodies, are purely passive. Nadler defines occasionalism as the joint acceptance of the following theses:

1. Natural objects, both minds and bodies, have no causal efficacy
2. God alone is a true efficient cause.[13]

That the second of these is constitutive of occasionalism is uncontroversial. Whether the first should be so regarded depends on what is meant by 'causal efficacy'. The occasionalist admits both minds and bodies are causes in a loose sense: both mental volition and bodily contact serve as occasions whereupon God must exercise his causal efficacy. On the other hand, the second above thesis entails that minds other than God are not efficient causes. Since efficient causation is traditionally associated with production, a restricted reading of this entailment implies that creatures are not *productive*. A stronger reading, drawn from a similarly traditional association of efficient causation with agency, holds neither minds nor bodies are *active*.[14] The stronger reading is cemented in a terminological distinction between full and partial occasionalists, the latter being those who ascribe activity to the mind.[15] But while the assumption that activity presupposes productivity plays an important role in Leibniz's polemic against occasionalism,[16] all major occasionalist figures reject the assumption. For the occasionalists generally, minds may be active without being causal; they may even be the producers of their own ideas without producing anything real. We should thus understand occasionalism more restrictedly in terms of the claims that i) God is the only efficient cause, and ii) consequently, neither human minds nor extended bodies are efficient causes.[17]

In *On Nature Itself*, Leibniz describes occasionalism as follows:

> But now let us consider a little more closely the opinion of those ... who judge not things to act, but God at the presence of things and according to the aptness of things; and thus [judge] things to be occasions, not causes, and to receive, not to effect or elicit. When Cordemoy, La Forge, and other Cartesians set forth this doctrine, Malebranche especially adorned [it] with certain rhetorical lights on account of his acumen; but brought forth ... no solid reasons. Surely, if this doctrine leads to the point of even taking the *immanent actions* of substances away ..., then it appears foreign to reason like nothing else.[18]

[13]Nadler 2005, 39. Similar conceptions have been assumed by Pyle 2003, 45-46; Battail 1973, 174; Winkler 2011, 288. A different conception, on which minds need not be wholly passive, is assumed in Radner 1993, 358.

[14]Cf. Aquinas, *in Metaph.* Bk. 5, lec. 2-3. In connection with Malebranche, see [4, pp. 255–256].

[15]This broader reading is accepted by Nadler 2005; cf. Winkler 2011, 288. Nadler accepts that La Forge views the mind as active, but for this reason regards him as only a partial occasionalist (Nadler 1998, 227). The distinction between partial and full occasionalism is also found in Radner 1993, [19], [12], [6], and [37].

[16]See GP IV. 586-87; Rutherford 1993.

[17]Cf. Platt 2011, 625-626; [27, p. 101].

[18]GP IV. 509-510.

Here, Leibniz names Cordemoy, La Forge, and Malebranche as leading occasionalists, and describes occasionalists as being led to the conclusion that not even minds are active. But if they are so led, it will be against their own explicit commitments. La Forge, for instance, holds

> the essence of this faculty [i.e. the will] consists firstly in the fact that it is the active principle of all the mind's actions which chooses from itself and by itself, and determines itself to accept or reject what the understanding perceives or remain suspended when something is not yet perceived clearly enough.[19]

Like La Forge, Cordemoy describes willing as the mind's activity: '[God] made minds . . . capable of action; they will.'[20] We also find this commitment to the active character of mind in Malebranche, who calls the mind's consent to the good an act, albeit 'an immanent act that produces nothing material in our substance.'[21]

Elsewhere, La Forge assumes the mind is the cause of its own ideas:

> Although our thoughts follow one another and although it is the external objects or the first thoughts which provide an occasion for the will to determine itself and form the idea of subsequent thoughts, that does not imply that one should not say that it is the will which is the principal and proximate cause of the idea. Otherwise one would have to say that it is the external objects which produce the ideas that we have of them *and not the mind* [..].[22]

In spite of this, La Forge is clear the mind produces nothing *material*.

> [T]here is no creature, spiritual or corporeal, which can cause change in [matter] or in any of its parts, in the second moment of their creation, if the Creator does not do so himself.[23]

[19] *Treatise* ch. XI, 97.

[20] *Traité de métaphysique,* CG 283, trans. from Nadler 2005, 52. Cf. *Discours physique,* CG 255:

> Just as the body is a substance to which extension naturally belongs, so much so that, as for physical effects, it would cease to be a body if it ceased to be extended; in the same way the mind is a substance to which the power of determining itself belongs so naturally, that it would cease to be a mind if it ceased to will. (trans. from Nadler 2005, 47)

Nadler argues Cordemoy is a 'full-blown' occasionalist from his remarks that 'it is just as impossible for souls to have new perceptions without God as it is for bodies to acquire new motions without him.' (*Discours physique*, CG 255. Trans. from Nadler 2005, 50). But these remarks and others to the same effect establish neither that the mind is inactive nor that it does not cause its ideas. Rather, such passages can be harmonized with those above on the assumptions i) that Cordemoy, like many of his contemporaries, was a compatibilist about divine and human willing, and ii) that because ideas are not real beings, but beings of reason, eidetic production does not provide an instance of real causation.

[21] *Éclaircissement* 1 to *De la recherché de la vérité* OC III, 25. Trans. from Nadler 2005, 52.

[22] *Treatise* ch. X, 94. Emphasis mine.

[23] *Treatise*, 147. Cf. [36].

In his earlier works, Malebranche, too, does not rule out the mind being the productive cause of its own ideas: the mind's act 'produces nothing *material* in our substance';[24] minds 'do not ... produce in themselves a reality, or a modification that *physically* changes their substance.'[25] Here, both La Forge and Malebranche assume the production of ideas, though an activity, is not production in the proper sense, since the will's production of an idea is not the production of 'a reality', i.e. a real substance or quality.

But while the *Search after Truth* and its *Elucidations* offer no rejection of the mind's productive power with respect to its own ideas, this sort of production *is* ruled out in the later *Dialogues on Metaphysics and on Religion*.[26] In the person of Theodore, Malebranche states:

> If [ideas] are eternal, immutable, necessary, in a word, divine ... surely they will be more considerable than that matter which is inefficacious .... Be careful. If it is you who give being to your ideas, it is by willing to think of them. Now, pray tell, how can you will to think of a circle, if you do not already have some idea of it, from which to form and complete it? Can something be willed without being known?[27]

Here, though, Malebranche's argument does not proceed from anything about *occasionalism*: the denial of the mind's productivity with respect to its ideas follows from i) the dependence of willing on knowledge; and ii) the eternity of the ideas themselves – the human mind cannot produce them because *nothing* produces them. Hence, leaving aside whether the passivity of minds might be an untoward consequence of occasionalist tenets, this assumption was not itself among those tenets.

3 The Uses of Clock Metaphors in the Early Modern Philosophical Imaginary

Clocks hold an important place in the early modern philosophical imaginary. Like computers today, clocks were put to a wide variety of uses by early modern authors with often disparate philosophical views. Descartes compares a well-made and badly-made clock in that both equally follow the laws of nature.[28] Geulincx, prefiguring Leibniz, uses clock imagery to express the harmony of creation.[29] Malebranche compares a God who wills by particular volitions rather

[24] *Éclaircissement* 1 to *De la recherché de la vérité* OC III, 25. Trans. from Nadler 2005, 52. Emphasis mine.

[25] *Réponse à la Dissertation* = OC 7, 568, Trans. from Nadler 2005, 52. Emphasis mine. Cf. OC IX, 1129.

[26] The *Search* was first published in 1674-5; the *Elucidations*, in 1678 as a supplement to the third edition of the *Search*; the *Dialogues*, in 1688.

[27] *Dialogue* I. VII. = JS 12-13.

[28] *Med.* VI. 17 = AT VII. 84 = CSM II. 58.

[29] [15, p. 168].

than by general laws to 'a watchmaker with a watch which would stop at each moment without his aid.'[30] Fontenelle uses the analogy of a watchmaker in a design argument for the existence of God.[31] Employed to the same purpose, the analogy is later contested in Hume's *Dialogues*. Berkeley mentions the analogy in connection with the Dominican scholastic Durandus of St. Pourçain, 'who held the world to be a machine like a clock, put in motion by God, but afterwards continuing to go of itself.'[32] Criticizing Descartes' association of truth with clarity and distinctness, Abraham Gaultier held human matter spontaneously takes on higher functions in a broader cultural context, as the parts of a clock give rise to an instrument used to tell time. This same theme was later picked up by La Mettrie and Diderot.[33]

3.1 The Two-clocks Analogy in the Traditional Interpretation

Leibniz, too, makes prominent use of clock imagery to describe his system, famously in the two-clocks analogy distinguishing his system from both occasionalism, and scholasticism. The earliest use of the analogy comes not from Leibniz himself, but from Simon Foucher, in a letter recording objections to Leibniz's *New System of Nature*.[34] Leibniz's first use occurs in a letter to Basnage de Beauval:

> Consider two clocks or watches in perfect agreement. Now this can happen in *three ways*: the *first* is that of a natural influence. This is what Huygens experienced, to his great surprise. He had suspended two pendula from the same piece of wood, and the constant swinging of the pendula transmitted similar vibrations to the particles of wood. But these vibrations could not continue in an orderly way without interfering with each other, at least while the two pendula were not in accord with one another, it happened in a marvelous way that even when the swings of the pendula had been intentionally disturbed, they came to swing together again, almost as if they were two strings in unison. *The second way* to make two faulty clocks always agree would be to have them watched over by a competent workman, who would adjust them and get them to agree at every moment. *The third way* is to construct these two clocks from the start with so much skill and accuracy that one can be certain of their subsequent agreement.[35]

[30] *Med. chr.*, OC X, 78. Trans. from [46, p. 235].
[31] [17, p. 618].
[32] Letter to Johnson, Nov. 25, 1729. In Winkler 2011, 291. Cf. Vailati 2002, 230: 'In the end, one can hardly escape the impression that Leibniz's position was closer to Durandus's than he cared to admit.'
[33] Gaultier, *Reponse*, 85-86; see [35].
[34] GP IV. 488-489.
[35] GP IV. 498 = AG 147-148.

At the center of the traditional interpretation is a particular understanding of the two-clocks analogy. On this interpretation, the salient features of the analogy are two: 1) the image of the first clockmaker, i.e. the God of the occasionalist system, as a busybody; and 2) the image of the second clockmaker, i.e. the Leibnizian God, as ensuring the agreement 'in advance', i.e. at a chronologically prior point in time.

For Russell, Malebranche 'held that ... the changes in matter corresponding to those in mind must be effected by the direct operation of God in each case. In Leibniz, on the contrary, only one original miracle was required to start all the clocks ...—the rest was all effected naturally.'[36] Nadler contrasts his reading of Malebranche, where 'Malebranche's God is personally, directly, and immediately responsible'[37] for changes in nature, with a Leibnizian one where 'God originally [establishes] such a correspondence once and for all by means of a few general volitions.'[38] For Clarke, no difference is to be found between the systems concerning God's activity, and so Malebranche and Leibniz's disagreements reduce to a verbal dispute.[39] Scott, contrasting the 'force of independence' given to Leibnizian monads at creation with a Malebranchian view on which 'creatures are entirely dependent on God from moment to moment,'[40] construes Leibniz's variant applications of the example[41] as a series of implicit concessions ending with Leibniz abandoning the metaphor altogether.[42] Additional variations on this reading have been advanced by Jolley,[43] Detlefsen,[44] Stuart Brown,[45] and others.[46]

Given the widespread association of clock metaphors with limitations on God's activity – with Malebranche, to hold God doesn't act by particular volitions; with Fontenelle, Berkeley, and Hume, in association with Deism; and in Gaultier, La Mettrie, and Diderot, with materialism – it is perhaps unavoidable that Leibniz's employment of the metaphor would be located along this trajectory. But taken on their own terms, Leibniz's uses don't suggest this.

To see this, we should reflect on what this traditional interpretation of the

[36] [42, p. 137].

[37] [40, p. 32].

[38] Ibid., 31

[39] [14, p. 121]; [13, passim]; cf. [8, p. 39]. Likewise, for Sukjae Lee, 'the key difference [between Leibniz and Malebranche's systems] is that Leibniz accepts the force of reasons as a genuine type of causation while Malebranche does not.' [39, p. 230]. Lee goes on to claim the difference 'is not merely terminological,' but his argument is unconvincing.

[40] [44, p. 452]. In Leibniz's time, Des Bosses argued that Leibniz's account of active force undermined the need for divine concurrence. See GP II. 293.

[41] GP IV. 498; 520, 522; VI. 540-41.

[42] [44, p. 462]. For criticism, see [9, pp. 321–322].

[43] Jolley 2002 takes Leibniz to describe Malebranche's system as one on which 'the occasionalist God is a busybody God.' [32, p. 246]; cf. [33, pp. 106–107].

[44] 'Leibniz ... makes clear that occasionalism is miraculous because it posits God's constant activity in the so-called natural world.' [16, p. 443].

[45] 'Leibniz took [Malebranche's thought] a step closer to what is commonly referred to as 'deism,' in which miracles and particular providence is denied outright.' [11, p. 273].

[46] McCracken 1983, 101; [10] suggests Leibniz could have accounted for Newtonian gravitation—described by Leibniz as a 'perpetual miracle'—by rolling it 'into that initial, mega-miracle of creation.' (147).

clock analogy actually requires. Since the Leibnizian God is portrayed as fixing the clocks 'from the start', it must be possible to contrast acts of creation temporally. Since the Leibnizian clock working on its own is contrasted with the occasionalist clockmaker's tampering, there should be a roughly inverse correlation between creaturely and divine activity. And since Leibniz admits the occasionalist hypothesis as a metaphysical possible one, it must be possible for God to be more or less active.

Leibniz rejects these presuppositions. With Malebranche and Spinoza – but against Descartes, Hobbes, Locke and Newton – Leibniz accepts that God is in eternity, outside time.[47] Though Malebranche held that God's continuous creation crowds out creaturely activity,[48] Leibniz rejected this inverse relationship, even linking its acceptance to Spinozism.[49] Lastly, Leibniz had rejected the quantitative understanding of the contrast prior to his earliest explication of the clock analogy. Arnauld, himself no friend of occasionalism, provides perhaps the earliest ascription of the traditional interpretation to Leibniz, accusing Leibniz of misrepresenting the occasionalists:

> Those who maintain that my will is the occasional cause of the movement of my arm and that God is its real cause do not claim that God does this in time by a new act of will each time that I wish to raise my arm, but by that single act of the eternal will by which he has willed to do everything which he has foreseen it will be necessary to do, in order that the universe might be such as he has decided it ought to be.[50]

Leibniz replies:

> The authors of occasional causes [...] introduce a miracle that is not less so for being continual. For it seems to me that the notion of a miracle does not consist in rarity [...]. It seems to me that following [common] usage, a miracle differs internally and by the substance of the act of a common action, and not by an external accident of frequent repetition; and that properly speaking, God performs a miracle when he does a thing that surpasses the forces he has given to creatures *and that he conserves* in them.[51]

In his reply, Leibniz's complaint against occasionalism is not that God would be supposed to act frequently rather than in the beginning, or irregularly rather than according to a general law, but in place of creaturely power rather than in accord with it.[52] Without prompting, Leibniz explicitly confirms God's action

[47] See the references in [26, p. 414]. Cf. [32, p. 250]. A growing scholarly literature reads Leibniz as refusing to characterize even the *objects* of creation as temporal, strictly speaking. See [47], Whipple 2011; Uchii (preprint). Cf. Arthur 1985; Lloyd 2008.

[48] JS VII, 104-126.

[49] GP IV, 567-68; cf. GP IV, 509, 515; [9, pp. 318–320].

[50] GP II. 84. Translation from [32, p. 246].

[51] GP II. 92-93.

[52] Leibniz both ascribes to Malebranche and endorses the view that God wills evils only by general acts of the will at GP VI. 238. Cf. Schmaltz 2010.

on the creature at all times via divine concurrence, and does not seem to regard his system and occasionalism as in conflict on this point.[53]

3.2 Leibniz's Clocks and the Unity of the Pre-established harmony as a System

The difficulties with the traditional interpretation are not only theoretical. The mutual compatibility of Leibniz's different uses of the analogy is already implied in the title of the *New System* — the *Système nouveau de la nature et de la communication des substances, aussi bien que de l'union qu'il y a entre l'âme et le corps.*[54] Leibniz is proposing a new system, the pre-established harmony, to replace an old system, occasionalism, which Leibniz calls 'the Cartesian system,'[55] or more frequently, the 'system of occasional causes.'[56] Each, while being one system, attempts a unified solution to three different problems: the nature of substance, their communication, and the union of soul and body. Leibniz's use of the two-clocks example on these topics confirms the essential unity of his thinking about them.

In Foucher's use of the clock image, Foucher sees Leibnizian forces as principles of unity and activity, but then asks what the point of according these to creatures would be, if not to affirm that creatures act *on each other*? 'After all, what is this whole grand artifice in substances to the service of, if not to establish the belief that the ones act on the others?'[57]

Leibniz's earliest use of the analogy is written with this charge in mind. This is why he goes into the detail he does in describing Huygens' experiments, which have not been given the attention they deserve for understanding Leibniz's analogy. Huygens found that the pendula of the two clocks, representing the realist system, disturbed each other. But ultimately, they came into harmony with each other, reaching equilibrium while retaining their own proper movement. The realist system is thus represented as disharmonious, disorderly. In contrast to this, Leibniz's system establishes the harmony eventually reached in Huygen's experiment 'from the start'. Thus, this language contrasts Leibniz's system not with occasionalism, but with the scholastic approach. This phrase is notably absent in later uses of the analogy, e.g. the remarks on Bayle's dictionary, where the point of contrast shifts from scholasticism to occasionalism.

Unlike in the occasionalist system – and, for that matter, the Newtonian one – the motion Leibniz attributes to an object is not merely its passive movement along a straight line, which would have to be constantly adjusted to account for non-linear motion. Like Huygens' swinging pendula, the harmonious motions Leibniz's beings follow may be complex.

> When it is said that a simple being will always act uniformly, a

[53] See also GP II. 91-92; IV. 588; VI. 295-296; VII. 564.
[54] GP IV. 677.
[55] GP IV. 520.
[56] GP IV. 483, 520.
[57] GP I. 425.

> distinction needs to be made. If to act uniformly is to follow perpetually the same law of order or of succession [...] I agree that in this sense every simple being and even every composite being acts uniformly. But if uniformly means similarly, I do not agree.[58]

While the analogy does not receive sustained treatment after 1705, Leibniz continues to allude to it up to his death.[59] In the Leibniz-Clarke correspondence in particular, Leibniz pursues a strategy of assimilating the errors of the Newtonians to occasionalism, a sensible one given the popularity of his *Theodicy* with Princess Caroline of Wales, who initiated and mediated the correspondence.[60] The polemical point of the analogy would thus not have been lost on Leibniz's contemporary readers: *Occasionalist substances don't work.* Leibniz's bodies and minds, by contrast, intrinsically follow the laws of efficient and final causes.[61]

4 Reintegrating Leibniz's Pre-established Harmony

4.1 The Nature of Leibnizian Substances

In explicating the difference between occasionalism and the pre-established harmony, we follow the order Leibniz himself marks out for us. According to the full title of the *New System*, the problem that receives top billing is the nature of substance.

Malebranche and other occasionalists respond to this problem by adopting the Cartesian division of substance into *res extensa* and *res cogitans*.[62] It is on account of this ontological thesis that the problems of the communication of mind and body and the interaction of substances arise. Occasionalism accepts the ontological thesis and appeals to God to solve the other two problems. Leibniz calls for a modification of the ontological thesis itself.

Leibniz begins the *New System* critiquing the Cartesian concept of body, *res extensa*, as incapable of designating *what* is extended. This concept, says Leibniz, can neither distinguish one body from another, nor individuate any body as *one*. 'It is impossible to find the principles of a true unity in matter alone or in what is only passive; since the whole here is nothing but a collection or mass of parts to infinity.'[63] For Leibniz, *res extensa* cannot be the ultimate building block for everything else, but must itself be subordinated to a principle of unity.'[64]

[58] GP IV. 522 = L 495.
[59] See GP VII. 352 = AG 320-21; GP VII. 417-418 = AG. 345-46.
[60] See [reference omitted]. On Caroline's role in the correspondence, see [7].
[61] Cf. GP VII. 417-418 = AG. 345-46.
[62] See JS I. ii, 6; III. x-xi, 39-40. Cf. [5]; Pessin 2004, 247-249.
[63] GP IV. 478; A 2.1, 511; L 274.
[64] GP IV. 478-79.

But Leibniz does not critique the second half of the Cartesian dichotomy – *res cogitans*, which Descartes explicitly identifies with soul.[65] Rather, Leibniz follows Descartes in this identification: 'Moreover, by means of the soul or form, there is a true unity which answers to what we call *I* in us.'[66] Drawing on Spinoza,[67] Leibniz holds 'their nature consists in *force* and [...] from this follows something analogous to sentiment or appetite; and also that it would be necessary to conceive of them on the pattern of the notion we have of souls.'[68] Elsewhere, he writes metaphysical points 'have something of the vital and a kind of perception.'[69] In spite of his far-ranging differences with Descartes, Leibniz thus follows him in granting a privileged status to the *cogito* as the *terminus a quo* of his metaphysics.[70]

For Leibniz, the soul is thus a kind of substantial form, the most prominent characteristic of which is indivisibility.[71] It is a 'true unity,' a 'real unity,' a 'substantial unity'; a 'real and living point,' a 'metaphysical point'; an 'atom of substance.'[72] These descriptions contrast Leibnizian forms with two different kinds of points: a) mathematical points, which are exact but not real, and b) physical points, which are real but not strictly points at all, since they are always in principle divisible.[73]

Capitalizing on the occasionalist depiction of the soul's perceptual activity as God's pushing the soul towards the highest good, [74] Leibniz portrays perception as an act of striving forward, a desire tending towards its fulfillment.[75] Leibniz thus highlights the temporal structure of consciousness by seeing each new perception as unfolding from the last. Each impression leads to the next, in the same way a masterful painting – one might, for instance, think of Van Gogh's *Starry Night* – leads the eye across the canvass, so that it might be taken in fully, and yet is taken in as a unity in spite of the mind's inability to encompass it in a single perception.[76] The unity of Leibnizian substances is a

[65]Cf. *Med.* II. 6

[66]GP IV. 482.

[67]Cf. E III. *propositiones* 6-9.

[68]GP IV. 479.

[69]Ibid. 483. Cf. GP II. 282 = L 539: It is 'essential to substance that its present state involves its future states and vice versa. And there is nowhere else that force is to be found or a basis for the transition to new perceptions.'

[70]Cf. GP VI. 502 = AG 188: 'Since I conceive that other beings can also have the right to say 'I', or that it can be said for them, it is through this that I conceive what is called substance.' GP II. 270: 'It can be further suggested that this principle of activity [force] is intelligible to us in the highest degree because it forms to some extent an analogue to what is intrinsic to ourselves, namely, representing and striving.' Quoted from Lodge 2015, 1177. See also [30, pp. 329–331]; Adams 1993, 327-328, 338, 347-349; Stevenson 1997; [28, pp. 63–81]; Lodge 2015.

[71]See GP IV. 479

[72]GP IV. 478, 482.

[73]GP IV. 478, 483.

[74]Cf. Malebranche, *NG* III. VII, 172; Cordemoy, *Traité de Metaphysique*, CG 284.

[75]Cf. LDV 318. [34]; This insight has been put to especially good use in McDonough's studies of the role of teleology in Leibniz's physics. See McDonough 2009, 2016.

[76]The analogy of the temporal unity of a beautiful piece of music – suggested by Leibniz's very decision to call his system a harmony, serves the same point. See esp. GP II. 95.

unity of duration: 'We give to our forms only duration, which the Gassendists grant to their atoms'[77] – a unity through time, experienced in the case of the soul as the unity of consciousness.[78]

The exact characteristics of Leibnizian force may change from creature to creature , but the analogy of force or activity remains constant even in the lowest beings. Thus, if Cartesian occasionalism constitutes being as the disjunction of thinking or extension, Leibniz constitutes thinking as appetition, and appetition as force.

4.2 Their Communication

By using the term 'atom', Leibniz indicates not only that these forms are unities in themselves, but also that they serve as building blocks in a larger structure: without true unities, there would be no multitude; the continuum is unable to be composed of mathematical points; metaphysical points express the universe.[79] These unities, as unities, constitute the unity-in-multiplicity that is the universe. Leibnizian souls must be the kinds of things that can belong together, not like atoms in a heap, but intrinsically; thus, the communication of substances becomes a problem for Leibniz akin with that of their nature.

In Leibniz's thinking, the problem of the interaction of substances cannot be separated from that of the constitution of the world: first, because the latter problem does not admit a more materialistic solution, since material unity is derivative; second, because partitioning off the objective world as something separate and distinct from conscious subjects only raises anew all of the problems of mind-matter interaction where it should solve them.[80]

Leibniz believes the problem of the interaction of substances can be solved by the idea of substance as force, conceived as analogous to perception. But there is another aspect of perception as force, apart from its already-mentioned 'forward-looking' character, to which we have yet to give due attention: namely, its character as 'expression.'[81] Leibniz means this literally: the world, as stream

[77] GP IV. 479; cf. GP IV. 508 = AG 159-160; GP II. 251 = AG 176; [47, p. 870]: 'the notion of a *substance* that does *not endure* is a contradiction in Leibnizian terms.'

[78] Cf. T. 384. By 'consciousness', I mean the habitual state of an entity capable of perception, within which more or less confused and distinct perceptions may occur: what the phenomenological tradition calls a 'stream of *cogitationes*' ([31, pp. 31–33]). Consciousness in this sense is not to be identified with conscious perception in Leibniz's sense, which Leibniz identifies with distinct perception, or apperception (McRae 1976, 36; Simmons 2001, 53; NE 162; GLW 32).

[79] GP IV. 478, 483. Cf. [3]:

> Of course, if the composition of the continuum is understood as a purely mathematical problem, one may well wonder what bearing physical considerations could have on it. But for Leibniz and his contemporaries, the problem was not restricted to the composition of purely mathematical entities--such as whether a line is composed out of points or infinitesimals or neither--but was understood as applying to all existing quantities and their composition.

[80] GP IV. 478.

[81] GP IV. 483, 485.

of *cogitationes*, is the expression of thought. Leibniz makes the same point by referring to perception as a kind of production.[82] What is expressed or produced by the substance is the universe: the phenomenal world shared by the different substances, each expressing it from their own 'point of view.'[83] In expressing this same universe from its own standpoint, each creature thus also expresses every other. Leibniz denies that creatures strictly act on each other not mainly to dismiss the entry of an occult 'influx' into the realm of physics, but because the preceding point ensures substances are already radically interconnected, and no influx could make them more so. This is the source of Leibniz's famous designation of substances as 'mirrors of the universe.'[84]

4.3 The Union of Mind and Body

4.3.1 The Relation of Mind to Body Generally

Each Leibnizian nature, as force, expresses every other nature from its own viewpoint. It does this by producing phenomena, which through the harmonious laws by which they follow each other, are perceived as a universe, a continuum, a manifold. From this standpoint, the problem of mind-body interaction cannot be one of finding a medium by which ontologically distinct kinds interact, since the dualist ontology giving rise to the problem has been undercut. But the problem *can* manifest itself in a somewhat surprising way, directly related to that of the communication of substances, and posed thus: the entire universe is expressed through my perceptual activity; given this, the whole perceived world is, properly speaking, mine, no more and no less than that portion referred to as *my* body. The purported interconnectivity of substances may thus transform itself into Spinozism.[85]

As Russell already recognized, Leibniz's solution to the mind-body problem will have more in common with Spinoza than with Malebranche.[86] In this connection, we return to Leibniz's remark that 'it is impossible to find the principles of a true unity in matter, or in that which is only passive.'[87] Here, Leibniz identifies matter with passivity in contrast with form, which has the character of activity, specifically of an activity analogous to appetition or perception, conceived as the production of the stream of *cogitationes*. It is as these *cogitationes* – i.e. as the product of the activity of perception – that the passivity of matter must be conceived; as the complement of the activity of form, which results in a complete substance.[88] Hence Leibniz's classifies body as *phenomenon*.[89]

[82]GP IV 485.
[83]GP IV. 483
[84]Cf. GP IV. 434. The account here offered of perception as force is thus not in conflict with that, in Simmons 2001 and Puryear 2006, of perception as isomorphism, but provides a basis for it.
[85]From Leibniz's time to ours, the persistence of the charge of covert Spinozism evinces this concern. On whether Leibniz ever embraced a form of Spinozism, cf. Mercer 1999, [38].
[86]Cf. [42, p. 139].
[87]GP IV. 478; cf. GP III. 552; IV. 395; VI. 237; [29, pp. 30–31].
[88]Cf. [18]; Rutherford 1990, 1995; [1].
[89]The identification of matter and phenomenon is already in Geulincx. See [15, p. 179].

Immediately after the *New System*'s rejection of the occasionalist hypothesis on mind-body interaction, Leibniz states:

> And our interior sentiments ... being nothing besides phenomena consequent on external things, or better, true appearances, like well-ordered dreams – it is necessary that these internal perceptions in the soul itself come to it by its own original constitution – that is, by its representative nature ... which was given to it from its creation, and which give it its individual character.[90]

Here, the antecedent remarks clarify the communication of substances, from which are derived (beginning at 'it is necessary') insights into the solution to the mind-body problem. Other beings are encountered in and through 'phenomena,' 'appearances,' or more provocatively, 'dreams.' What distinguishes these from mere dreams is twofold: first, they are consequent on external beings; second, they are 'well-regulated.' The first restates Leibniz's claim that substances express each other; the second emphasizes their ontological separateness: substances are solitary dreamers, and only by the contingent master plan of God do they express the same dream. Against Spinozistic monism, the contingency of beings is secured simultaneously with their individuation via the morally certain claim[91] that these phenomena are, by analogy with one's own *cogito*, the expressions of other vital beings from their own respective viewpoints.[92]

From the separateness and intersubjectivity of substances, Leibniz concludes the perceptions of the soul come to it via its own constitution, and 'give it its individual character.'[93] This is obscure at first sight. But given Leibniz's identification of matter with passivity, appearances, phenomena, it is nothing other than an old scholastic adage drastically reworked from a Cartesian viewpoint: that matter is the principle of individuation.[94]

4.3.2 The Union of Particular Minds and Bodies

The above considerations show how the concrete substance, as a union of the active and passive, form and matter, *cogito* and *cogitatum*, is formed; they do not explain the connection of the substance to what it recognizes as its *own* body within perception. But given the impossibility of an influx of the soul into the body, one cannot hope for some *tertium quid* securing their union. The union of soul and body cannot be something other than the harmony of their mutual laws.[95] Leibniz will agree with the occasionalists that, when considered closely, the experience of moving one's hand is nothing other than the conjunction of one's volition with the datum of the moving hand, which, for Leibniz, is nothing other than the harmony of the laws of my mind with those of the infinitely many substances that make up my body. Leibniz remarks:

[90] GP IV. 484.
[91] See GP VII. 320.
[92] GP IV. 483.
[93] GP IV. 484.
[94] Cf. GP II. 118-120.
[95] Cf. Leibniz's remarks on the problem of skepticism at GP VII. 319-320.

> It would have been very wrong of me to object to the Cartesians that the agreement God immediately maintains, between soul and body, according to them, does not bring about a true union, since, to be sure, my pre-established harmony would do no better than it does. But since the metaphysical union one adds is not a phenomenon, and since no one has ever given an intelligible notion of it, I did not take it upon myself to seek a reason for it.[96]

For Leibniz, the *phenomenal* union of mind and body cannot be something added to the aforementioned harmony of laws; Leibniz's system was never meant to explain anything more than this.

5 Conclusion

Having unfolded the pre-established harmony in its proper order, we can now summarily distinguish it from the system of occasional causes.

The primary difference between the two systems lies in their accounts of the nature of substance. While Malebranche accepts Cartesian ontology, Leibniz reforms this ontology from within through his designation of perception as force. Leibniz's substances have natures able to account for their action; Malebranche's, like clocks in need of a perpetual supervisor, do not. Leibniz presses the point of occasionalism entailing a perpetual miracle in connection with this complaint: 'It does not suffice to say God has enacted a general law, for besides the decree, there also must be a natural means of executing it.'[97]

On the interaction of substances, occasionalists have direct recourse to God when they should have instead ascribed to Him the creation of and concurrence with natures able to account for this interaction.[98] Leibnizian substances do this by being 'mirrors of the universe,' harmoniously expressing the universe and each other from their own points of view.

On the mind-body problem, occasionalists reject mind-body interaction and require God to move bodies in accord with our volitions. Leibniz instead reads the mind-body relation as one between activity and passivity, à la Spinoza;[99] and rejects the terms of the debate on which the communication of mind and body could be some *tertium quid* other than the harmonious concordance of their laws.

In brief, Leibniz avoids the harrowed natures of the occasionalists via a Cartesian adaptation of Spinoza's distinction between mind and body as one between activity and passivity, adding his own designation of perception as force. Leibniz avoids Spinozistic monism by agreeing with the occasionalists that the causal interaction of substances is only inferred from conjunction, and not proven in metaphysical rigor. This effectively secures Leibniz a space in

[96] GP VI. 595-96 = AG 197.
[97] GP IV 520.
[98] GP I. 391.
[99] Cf. E I. Prop. 14, Scholium; II. Prop. 5, demonstratio.

which he can postulate a multitude of substances acting in harmonious accord with each other by following their proper laws – that is, it secures a space in which to reach toward one of the main goals of his philosophy: the reconciliation of knowledge with piety.

6 Abbreviations

A = Gottfried Wilhelm Leibniz. *Sämtliche Schriften und Briefe.* Ed. Deutsche Akademier der Wissenschaften zu Berlin. Berlin: Akademie, 1923.

AG = Gottfried Wilhelm Leibniz. *Philosophical Writings.* Ed. R. Ariew and D. Garber. Indianapolis: Hackett, 1989.

AT = René Descartes, *Oeuvres de Descartes*, vols. 1-12, ed. Adam and Tannery, revised edition. Paris: Vrin/CNRS, 1964-76.

C = *Opuscules et fragments inédits de Leibniz.* Ed. by L. Couturat. Paris: Alcan 1903. Reprinted Hildesheim: Georg Olms 1961.

CSMK = *The Philosophical Writings of Descartes*, vols. 1-3, trans. J. Cottingham,, R. Stoothoff, D. Murdoch, and A. Kenny. Cambridge: Cambridge University Press, 1985-1991. Vols. 1 and 2 cited as CSM.

E = Benedictus de Spinoza, *Ethica.* In Opera quotquot reperta sunt. Ed. J. Van Vloten and J. P. N. Land. The Hague: Martinus Nijhoff. Tomus Primus. pp. 35-273.

GP = Die Philosophischen Schriften von Gottfried Wilhelm Leibniz. Ed. C. I. Gerhardt. 7 vols. Berlin: Weidmann, 1875-90. Reprinted Hildesheim: Georg Olms, 1960.

In Metaph. = Thomas Aquinas, *Commentary on Aristotle's Metaphysics.* Trans. John P. Rowan. Html-edited by Joseph Kenny, O. P. with addition of Aquinas's Latin and and Aristotle's Greek text. `http://dhspriory.org/thomas/metaphysics5.htm`

JS = *Nicolas Malebranche: Dialogues on Metaphysics and on Religion.* Ed. Nicholas Jolley and David Scott. Cambridge: Cambridge University Press, 1997.

L = Gottfried Wilhelm Leibniz. *Philosophical Papers and Letters.* Ed. and trans. Leroy E. Loemker. Dordrecht: Kluwer, 1989.

LDV = Gottfried Wilhelm Leibniz. *The Leibniz-De Volder Correspondence.* Ed. and trans. Paul Lodge. New Haven: Yale University Press, 2013. Reference is to original language page.

GLW = *Briefwechsel zwischen Leibniz und Christian Wolff.* Ed. C. I. Gerhardt. Hildesheim: Georg Olms, 1963.

Med. = René Descartes. *Meditationes de Prima Philosophia.* Cited by book and paragraph.

Med. chr. = Nicolas Malebranche. *Méditations Chrétiennes.*

NE = Gottfried Wilhelm Leibniz *New Essays on Human Understanding.* Ed. P. Remnant and J. Bennett. Cambridge: Cambridge University Press, 1982.

NG = Nicolas Malebranche. *Treatise on Nature and Grace.* Translated with an introduction and notes by Patrick Riley. Oxford: Clarendon Press.

OC = *Oeuvres Complètes de Malebranche.* Directeur A. Robinet. 20 volumes. Paris: J. Vrin, 1958-1967.

Réponse = Abraham Gaultier. *Réponse en forme de dissertation à un théologien, Qui demande ce que veulent dire les sceptiques, qui cherchent la verité par tout dans la Nature, comme dans les écrits des philosophes; lors qu'ils pensent que la Vie et la Mort sont la même chose.* Ed. Olivier Bloch. Paris: Les Belles Lettres, coll. Encre Marine, 2004.

ST = Thomas Aquinas. *Summa Theologiae.* Fathers of the English Dominican Province, trans. Allen, TX: Christian Classics, 1948/1981.

T = Gottfried Wilhelm Leibniz, *Theodicy.* Trans. E. M. Huggard. La Salle, IL: Open Court, 1985.

Treatise = Louis de La Forge, *Treatise on the Human Mind (1664).* Translation with an introduction and notes by D. M. Clarke. Dordrecht: Kluwer, 1997.

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