

Leibniz's Body Realism: Two Interpretations

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Abstract

In this paper we argue for the robustness of Leibniz's commitment to the reality (but not substantiality) of body. We claim that a number of his most important metaphysical doctrines — among them, psycho-physical parallelism, the harmony between efficient and final causes, the connection of all things, and the argument for the plurality of substances stemming from his solution to the continuum problem— make no sense if he is interpreted as giving an eliminative reduction of bodies to perceptions. We see his metaphysics as much closer to Spinoza's, although our interpretations differ: PL reads Leibniz as a sort of epiphenomenalist for whom the monadic and the physical are wholly separate realms, monadic perceptions being internal representations of bodies existing independently in a spatio-temporal causal order; RTWA reads Leibniz as asserting that bodies are real because they contain substances (principles of activity) situated in a real space, grounding their activity.

1. Introduction

In previously published work,¹ we have each independently argued that there is something problematic, if not simply wrong, with the now prevailing understanding of Leibniz's mature metaphysics as idealist.² According to this orthodox view, most recently eloquently defended by Robert Adams³, Leibniz was consistently throughout his career an out-and-out idealist, construing the whole world as composed of mind-like simple substances, reducing space and time to mere ideal relations and matter and motion to a harmony among the perceptions of souls and "forms" analogous to souls. On this view, our perceptions of what we take to be material bodies are in fact misperceptions (or merely apparent perceptions) of other immaterial monads, monads whose perceptions nevertheless correspond to ours. Even though every monad may be said to have a body, these bodies are mere phenomena; or else they are aggregates of monads which are not in themselves

material or extended, but which simply appear so to other percipients (or correspond to perceptions-of-bodies those other percipients have). In the latter case, as argued in particular by Donald Rutherford, a monad with its body is therefore simply an aggregation of immaterial monads; an apparent physical order is in fact constituted out of a harmony in the perceptions of different coexisting monads.⁴ A rival view, first put forward by C. D. Broad, denies that Leibniz was always an idealist, and depicts him as an Aristotelian realist about corporeal substance in his “middle period”, but concedes that by about 1704 he had gone over to a kind of idealism about material things that is reminiscent of Berkeley. In recent years Daniel Garber has been the main proponent of this position.⁵ Whether an idealist only in the final stage of his work, or consistently from the 1680s on, Leibniz, so the prevailing view has it, was a metaphysical idealist.

Orthodoxies typically obtain not entirely without reason, and there is certainly a body of Leibnizian texts which has very plausibly contributed to the idealist interpretation of Leibniz’s later metaphysics. What is troubling to us and many other interpreters is the presence of a seemingly straightforward realism about bodies — what one of us has dubbed *body realism*⁶ — in passages in virtually all of Leibniz’s late philosophical writing, including his correspondence, right up to the end of his life. The *Monadology* provides a good case in point, both because it is a late work (1714), and because it is the paradigm statement of his monadological philosophy usually appealed to by proponents of the idealist interpretation. Thus, for example, at *Monadology* §10,⁷ we are told that “every created thing is subject to change, and therefore the created monad as well”, which certainly seems to imply that the category of created *things* is wider than the category of created *monads*. At §17 we are told that monadic perceptions are “*inexplicable by mechanical principles*, that is, by shapes and motions”. This might seem to suggest that *something*, at least, really is explicable by mechanical principles, involving figure and motion. At §62 we are informed that “although each created monad represents the whole universe, it represents more distinctly the body which is particularly assigned to it, and of which it forms the entelechy”. This states that a monad is the entelechy of a particular body, and also indicates that it is the material universe of bodies that is represented. This impression of a really existing physical universe is reinforced by the continuation: “And as that body expresses the whole universe through the interconnection of all matter in the plenum, the soul also represents the entire universe by representing the body which particularly belongs to it”. Moreover, in

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the previous paragraph, the interconnection of all things is described in ostensibly realist fashion:

Everything is full, which means that all matter is interconnected. In such a plenum, every motion has some effect on distant bodies, in proportion to their distance. For each body is affected by the bodies that are in contact with it, and in some way feels the effects of everything that happens to them, but in addition, through those bodies with which it is in direct contact it also feels the effects of all the bodies with which they are in contact, so that this communication extends indefinitely. As a result, every body is affected by everything that happens in the universe... (§61)

Apparently, then, there is matter and motion, there are bodies, existing at various spatial distances from one another, and genuine efficient causation takes place among these bodies (even though it is explicitly denied to do so among created monads⁸). Indeed there seems to run through the *Monadology* a contrast and analogy between the internal actions of simple substances (§11, 17, 18), which is the transition from perception to perception (§23), and the external actions of bodies upon one another, transitions which are governed by the laws of motion.

This picture of bodies as acting on one another in an external, spatiotemporal realm, and of the changes in these bodies and external phenomena arising from one another by the laws of efficient causation, is echoed in another Leibnizian text from the same year (1714), the *Principles of Nature and Grace, Based on Reason*:

Every simple substance or individual monad, which forms the centre of a composite substance (an animal, for example) and is the principle of its unity, is surrounded by a *mass* made up of an infinity of other monads which constitute the body of that central monad; and in accordance with the ways in which that body is affected, the central monad represents, as in a kind of *centre*, things which are outside it. This *body* is *organic* when it forms a kind of natural automaton or machine, which is a machine not only in its entirety, but in its smallest distinguishable parts. Because of the plenitude of the world everything is connected, and every body acts to a greater or lesser extent on every other body in proportion to distance, and is affected by it in return... changes in bodies or in external phenomena arise from one another by the laws of *efficient causes*, that is, the laws governing motions. (PNG §3, WFPT 259-60)

The passages just quoted are, it is to be noted, a small sample of texts evidencing an apparent commitment to body realism written during the last decade of Leibniz's life. They are a mild embarrassment not only to those upholding the idealist interpre-

tation, but also to those who, like Daniel Garber, see Leibniz as having changed his fundamental ontology in 1704 or so, from a middle period espousal of Aristotelian corporeal substances to a late period idealism, where Leibniz introduced his simple substances or monads to provide a bottom level for the composition of substances. That is, he is supposed to have abandoned the idea of *living things* — *organic body* + *dominant monad*— *one within another to infinity* in favour of an ontic bottom level of *mind-like simple substances from which all composites are composed by aggregation*.

One further passage may merit special citation. In one of his final letters to Des Bosses, dated 19 Aug. 1715, Leibniz seeks to disabuse his correspondent of some misconstruals of his views which Des Bosses seems still to make, and to set out the fundamentals of his metaphysical system with special categorial clarity. Leibniz notes that we (humans) “are not the only existents” (L 613). He goes on to say that we mustn’t simply assume that bodies are substances. “For it is possible that bodies are not substances, yet that all men are prone to consider that they are, just as everyone is prone to consider that the earth is standing still, even though it is really moving.” He continues:

I do not believe a system is possible in which the monads act upon each other mutually, for there seems to be no possible way to explain such action. I add that influence is superfluous, for why should one monad give another what it already possesses? It is the very nature of substance that the present is great with the future and that everything can be understood out of one, at least if God does not intervene with a miracle. (L 613)

Leibniz goes on: “You say that you cannot see why something cannot be real without being *substantial*. Here we may be arguing about terms. Whatever is not a modification can be called a substance.” (614) Leibniz continues to discuss the proper applications of the term ‘substance’, indicating both what he would prefer and what he is nonetheless prepared to say. Out of this discussion emerges a willingness to countenance what he calls composite substantial beings. Admittedly, this is in the context of a last attempt to construct a notion of composite substance compatible with his monads and with which he hopes Des Bosses can agree. What is interesting, though, is that (in an ontological or categorial *chart* he appends as a supplement to this letter), Leibniz divides “permanent absolute creature[s]” into two kinds: on the one hand, simple substances “like minds, souls, which are subject to no influence by other creatures”; and on the other, a kind of substance that is “[c]omposite (like animals or other organic beings), which always remains

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unchanged and adheres to a dominant monad but is subject to the influence of other composite substances... ." According to this scheme, "aggregates of simple substances such as an army or a pile of stones", if held together by a substantial bond (*vinculum substantiale*), would be "semi-entities"; but "if there were only monads without substantial chains", "all these things would be mere phenomena, though real" (L 614).

It is of course possible to interpret all of Leibniz's references to bodies as real as cases of *speaking with the vulgar*, or just in abbreviated or *as if* mode, the intention being always that bodies and the physical order are to be understood merely as well-founded phenomena, appearances for the several sorts of minds, the monads, which are (with their interior representational states) the sole genuine *realia*. Upholders of the idealist interpretation can well concede that, according to Leibniz, created monads are always embodied; bodies are indeed real phenomena, in that the body of each monad is well-founded in that monad and its representations of other monads; but Leibniz has a deeper account of what body is, in which it is reducible to monads and their states with no remainder. This he takes to be perfectly compatible with all his realist talk of bodies and their motions. So, ultimately, everything reduces to mind-like monads and their perceptual states: Leibniz is an idealist.

Actually inspecting relevant passages seems nonetheless to make it difficult to sustain this line of interpretation with full conviction. They appear within larger texts where the full monadological philosophy is on open and undisguised display. It is at least puzzling that phenomenalist qualification is not provided in a more or less regular way when Leibniz juxtaposes truths about the monads and their states with pieces of his accounts of the continuum, motion, and of at least apparent causal interactions of bodies in a world which is (at least) the world that physics investigates (and is also, some of the time, the common sense physical world).

2. Parallelism, Harmony of Final and Efficient Causes and the Connection of All Things

There is moreover a very famous and original Leibnizian theory, which its author repeats in a number of contexts, which is certainly difficult (if not perhaps strictly impossible) to explain on the received idealist interpretation, and, so we will claim, impossible to see the *point* of if that interpretation is accepted. This is Leibniz's parallelism, his theory for interpreting and understanding so-called mind-body, or psycho-physical, interaction, or *apparent* interaction. Leibniz gives the theory a

number of times, at different stages of his work; often (though not always) explained with an analogy to two clocks. One such context is in a Postscript of a Letter to Basnage de Beauval, of 3/13 January 1696. Leibniz explains that his account is intended to explain “the communication or harmony of two substances as different as the soul and the body.” He proceeds:

Imagine two clocks or watches which are in perfect agreement... Now put the soul and the body in the place of these two timepieces... [M]y hypothesis... is the *way of pre-established harmony*, according to which God has made each of the two substances from the beginning in such a way that though each follows only its own laws which it has received with its being, each agrees throughout with the other, entirely as if they were mutually influenced or as if God were always putting forth his hand, beyond his general concurrence. (L 459ff.)

Here it must be understood that in writing for a Cartesian audience, Leibniz is speaking in their terms in calling bodies and minds *substances*. As first spelled out in unpublished papers dating probably from 1678-79, especially “A Body is not a Substance”, his own view is that body in the sense of Descartes and Cordemoy —bulk [*moles*] or a portion of purely extended stuff— cannot be regarded as a substance on pain of “falling into contradiction as a result of the labyrinth of the continuum”.⁹ Nevertheless, he does not abandon the parallelist thesis, which appears up to the end of his life, in, for example, his 1715-16 correspondence with Clarke:

The harmony or correspondence between the soul and the body is not a perpetual miracle but the effect or consequence of an original miracle worked at the creation of things ... 'Tis true that according to me the soul does not disturb the laws of the body, nor the body those of the soul, ... the soul and the body do only agree together, the one acting freely according to the rules of final causes and the other acting mechanically according to the laws of efficient causes. (L 711f.)

There is a physical order, then, Leibniz is proposing, and a mental one, and they are structured via an amazingly intricate and complex scheme of things —part (but, importantly, *only* part) of the so-called pre-established harmony that God has orchestrated for the world he has created— to correspond, and dovetail, so as to *appear* to involve causal interplay between select elements and units of the two systems, but never really to do so. The idea is clever, and imaginative; and also never really convinces anyone, apart, evidently, from Leibniz himself.

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But why has Leibniz bothered with it? On the idealist interpretation there is never any causal interaction between *any* of the *realia* (always, of course, excepting God), including whatever is real and regarded standardly as physical. Of course the monads constitute a hierarchy, and one might wish to highlight or distinguish apparent causal interactions between monads at considerable mentalistic distance from each other within that hierarchy, in particular, those between the monads with conscious apperceptions, and those without. But this really doesn't seem very convincing. The point of the parallelist idea is plainly to provide an account — Leibniz of course thinks a better account — of what it is that Descartes's psycho-physical interactionist account, and Malebranche's and Hobbes's rival accounts, were supposed to be addressing: when, for instance, anxiety appears to cause muscular constrictions in the body, or the dropping of acid on one's hand appears to cause pain, what is going on, and in what theoretical terms can it best be explained? If the idealist view is correct, with its systematic cosmic acausality, there is nothing for parallelism actually to *do*.

Interpreters of Leibniz do regularly note that they find Leibniz's professed treatment of mind/body relations puzzling in light of the idealist overview which they are confident is his fundamental position. Benson Mates, for example, says:

Since bodies are only phenomena, whereas minds are real, one would suppose that the mind-body problem... would simply disappear. But Leibniz does not seem to be content to leave it at that. We have seen that he has a great deal to say about bodies. Since phenomena do not really exist, all such statements should somehow be analyzable into statements about the perceptions of monads. But Leibniz gives no clues as to how such reductions could be accomplished; we can only conjecture that he would have followed a phenomenalist line... (*The Philosophy of Leibniz* (Oxford University Press, 1986), p. 206)

Many other Leibniz commentators express similar puzzlement. The present paper is intended further to contribute to the idea that maybe the solution to this puzzle is that Leibniz really means his claims about bodies, and about their relations to monads, to be taken as his actual views; and that he is not in fact an idealist at all. In fact, once this possibility is raised, and the possibilities for it are taken seriously, several of Leibniz's most salient doctrines appear to be very problematic on the received idealist understanding.

One doctrine that is obviously closely connected with the mind-body parallelism just noted is that of the harmony between efficient and final causal realms. If bodies "do not really exist", then there clearly cannot be real efficient causal relations

among them. Again, there could be *apparent* causal relations, to be explained by “following a phenomenistic line”, where what appear to be bodies acting one on another are in fact simply mind-like monads running through their sequences of states or perceptions in order, the perceptions of the individual monads being in perfect harmony. But Leibniz’s pronouncements on harmony depict this harmony of the internal perceptions of different monads as a *different* harmony than the harmony between the two realms. Again, there is a further harmony between efficient and final cause explanations that occurs wholly within the realm of bodies, as for instance in the paradigm case of the alternative explanations of the optical laws of reflection and refraction. But if bodies are nothing but aggregates of monads and Leibniz were following a phenomenistic line, one would expect him to reduce the apparent efficient causal behaviour of bodies to final cause explanations involving monads, and not even to trouble with a parallelism between efficient and final cause explanations on the level of phenomena. Again, it is hard to see why a phenomenistic Leibniz would continue to the last to appeal to the causal interconnections of all co-existent bodies — the interconnection of things — as somehow explanatory of or parallel to the soul’s representing the whole universe through its body, rather than simply claiming that the former is reducible to the latter. In sum, three instances of Leibniz’s body realism that are not easily explained if bodies are reduced to the results of perceptions are (1) psycho-physical parallelism, (2) the harmony between efficient and final causal realms, and (3) the interconnection of all things.

3. The Continuum Problem, the Plurality of Substances and Origin of Forms

But there are equally unhappy results for three other major planks of Leibniz’s metaphysics under the idealist interpretation: (4) his vaunted solution to the continuum problem, and connected with this (5) his argument for the plurality of substances, and (6) his solution to the problem of the origin of forms. First let us consider the problem of the continuum. Leibniz claims on several occasions that he only reached a proper understanding of substance through his solution to this problem¹⁰; standard interpretations of his thought have at least implicitly tended to dismiss these claims as exaggerated. Leibniz explained the connection between the continuum and the problem of substance in the following terms. If body is understood as mere bulk (*moles*) or extension, as by Cordemoy and the Cartesians,

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then it will be essentially divisible, and therefore actually divided by the actions on it by all the other bodies in the plenum. But since these actions continue into its smallest parts without bound, any body will be internally divided to infinity, actually infinitely divided. Therefore there will be no atoms or material indivisibles (*contra* Cordemoy), and no body will stay the same beyond an instant. It follows that any body that can be considered a unity, that is the body of the same thing through an extended time, must contain an immaterial principle or *entelechy* responsible for this. The unity will therefore be not the material body itself, which is constantly changing, but the entelechy that explains what is the same about the succession of approximately identical bodies-at-different-times; and the plurality of perduring things evident in perception will be aggregates of such unities.

Now suppose a body is only an aggregate of monads understood as immaterial principles or entelechies, its unity being constituted by agreements among their internal perceptions. If such monads do not exist in a real space, at least by virtue of the bodies they inhabit existing in real spatial relations to one another, in what sense can they form an *aggregate*? It not only seems odd to talk about an aggregate of purely immaterial entities, Leibniz himself denies that there is such a thing as composition of monads, or indeed any connection among them.¹¹ As he explains to Des Bosses in May 1716, "Monads alone do not compose the continuum, since *per se* they are destitute of all connection, and each monad is like a world apart".¹² Indeed, he invariably supports his talk of aggregates by arguments from the division of matter, implying that the aggregation in question is conceived, at least in the first instance, as an aggregation of entities existing in matter. But if matter and the spatial relations of bodies are wholly ideal, as on the received view, then why isn't the agreement of perceptions sufficient for the constitution of a body, as in Berkeley's philosophy, without reference to aggregates? Further, one may ask, what necessity is there for a body to be an *infinite* aggregate, that is, why must "any aggregate that is sensible or corresponds to the phenomena" contain "a multitude of monads or simple substances that is greater than any number whatever", as Leibniz assures De Volder? (G. ii. 282; Russell 245-246). The unease with which commentators have tried to reconcile the conception of bodies as aggregates with the received idealist interpretation is palpable.¹³

This is not just a problem for Leibniz's talk of aggregation, moreover, but for his very argument for monads in the first place. Bertrand Russell was among the first to recognize this difficulty, although he attributed it to Leibniz's philosophy rather than to his own interpretation thereof.¹⁴ After giving a statement of the argument

from the division of matter sketched above, he commented that Leibniz's argument, "in obtaining many reals, assumes that these are parts of matter — a premiss which it is compelled to deny in order to show that the reals are not material" (Russell, 110). One of us has elsewhere dubbed this "Russell's Conundrum":¹⁵ monads are inferred from the actually infinite division of matter, which entails infinitely many reals. But the monads are not extended, and body is not real; therefore the derivation is incoherent. If the parts of matter are mere appearances and therefore do not really exist, then an infinite plurality of parts does not prove an infinite plurality of monads; in fact it gives no evidence of plurality at all, since the appearances could be those of a single perceiver.¹⁶

The acuteness of this difficulty can be appreciated by pondering the second paragraph of the *Monadology*: "And there must be simple substances, because there are composites; for the composite is nothing but a collection or *aggregate* of simples." (WFPT, 268). Suppose now the standard interpretation of Leibniz is correct, and simple substances are ideal, mind-like entities. Then an aggregate of simples would simply be an aggregate of such entities. Such an aggregate would not be extended, since Leibniz denies that something extended (body) can be composed out of unextended monads. But then what would be the evidence for an aggregate of simple substances, and how could that be an argument for simple substances? If all Leibniz meant was that there *appear to be bodies*, but they are in fact infinite multiplicities of immaterial and unobservable substances, then his reasoning from composites to simples would be circular, since it would presume the plurality of monads in order to prove it.¹⁷ In order for this argument to succeed, the assertion that there are composites must be independent of the assumption of simple substances. It makes much more sense if what Leibniz means is that there really exist bodies that are, observably, composites of parts.¹⁸ A similar critique may be applied to the argument for the reality of monadic change in *Monadology* §10. Leibniz "takes it for granted" that "every created thing is subject to change, and therefore the created monad as well; and indeed that such change is continual in every one" (WFPT 269). If it is true that for Leibniz things and their changes are mere appearances, then a Platonist could agree, while insisting that substances themselves do not change. That being so, Leibniz would not be entitled to infer change in simple substances from change in created things, as he does here.

A third embarrassment for the idealist view is Leibniz's solution to "the vexatious problem of the origin of forms" — or rather, his dissolution of the problem. The problem is essentially this: in accounting for the orderly development of an animal

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or plant from seed to mature individual, natural philosophers took recourse to the idea of an animal and/or vegetative soul or form which governed this teleological development.¹⁹ The question is, how does this form arise? Leibniz made the bold move of declaring that there was no origin: the forms, together with the organic bodies they inform, have always been in existence since creation in the form of microscopic seeds or germs; he then made the equally bold move of declaring that there is also “never ... total death in the strict sense, which consists in the detaching of the soul [from its organic body]... ; what we call *death* is enfolding and diminution” (*Monadology* §73; WFPT 278). He was therefore an early proponent of *preformation*: “As a result we have come to see that not only was there an organic body already there before conception, but there was also a soul in that body: in a word, there was the animal itself.” (278)

How can one account for this on the idealist interpretation? Granted, there might be some phenomenological construction of organic bodies out of immaterial monads and their perceptions. But then what sense can be made of Leibniz's stressing that “There are also no *souls* which are completely detached from matter, and no *spirits* without bodies. Only God is completely removed from matter.” (*Monadology* §72; W&F 278) ?²⁰ If the entelechies or souls are not entelechies or forms of real organic bodies existing at locations in a real space, then surely there is neither a problem to explain nor a solution. Unless the entelechy of a maggot, say, informs the organic body of the maggot at the very place in the windowsill where the maggot is undergoing transformation into a fly, nothing is explained. On the idealist interpretation, *all* bodies are either aggregates of monads or merely phenomenal or intentional objects within monadic experience, so there is not the required ontological distinction between the organic body the entelechy is supposed to explain the development of, and all the other bodies in the universe: everything would reduce to a degree of confusedness of perceptions. Again, if the animal is a mere accidental union between the dominant monad and the subordinate monads making up its body, it would be perishable. But Leibniz expressly argues that “not only is the soul —the mirror of an indestructible universe— indestructible, but so too is the animal itself; even though its machine may often come to an end in part, and throw off or take on an organic coating.” (*Monadology* §77; W&F 279)

The way to resolve these difficulties, we suggest, is to take Leibniz's apparent commitment to body-realism at face value. Of course, there are many challenges for an interpretation of Leibniz as genuinely committed to body-realism, and many passages that may seem recalcitrant to any such reading. In what follows we will

present two interpretations along these lines, neither of which can, perhaps, be made compatible with all of the Leibnizian texts, but which should at least be suggestive, and provoke discussion. The first (due to PL) is built around the need to take seriously Leibniz's psycho-physical parallelism, and also makes sense of the parallelism between the realms of efficient and final causes, and Leibniz's realist talk of efficient causation (problems (1) to (3) above); the second (due to RTWA) takes off from a reading that is compatible with Leibniz's solution to the problem of the continuum and his derivation of the infinite plurality of monads from the actual division of bodies, whilst also making sense of the biological realism involved in taking seriously Leibniz's claims about the non-origin of forms and the generation of animals (problems (4) to (6) above).

We proceed to an elaboration of our individual interpretations of Leibnizian body realism, which may diverge in some respects (in some cases only in point of emphasis), in the first person singular, for PL and RTWA, respectively.

4. PL's Interpretation

The centre of focus in the account I wish to develop, at least in outline, is on parallelism, conceived as key and central for understanding Leibniz's metaphysics adequately. In so far as alignments with Leibniz's philosophical predecessors will enter the analysis, the interpretation advanced here will take particular account of Leibniz's obviously great interest in, and indebtedness to, Spinoza. Spinoza's is a system in which, it is plain, not everything real is a substance. Indeed, it is, of course, dramatically and spectacularly the case that for Spinoza all manner of fully real items, both mental and physical in nature, are not substances. By virtue of its definition, very precise, exact, and fine-grained requirements are needed for something to manage to be a substance. That only one item suitably qualifies does not begin to diminish or abridge the *existent* status of the many other things that there are. The nature, and the reality, of those other things are, to be sure, to be understood, for Spinoza, as quite fundamentally involving the one substance.

Spinoza's is also a closed deterministic physical world. It is *the* physical world, the one that the new science of the self-conscious seventeenth-century scientific revolutionaries is disclosing, and *understanding*, as philosophy never had previously. That is, Spinoza clearly *means* that his system, his metaphysical account of the world, is offered, and to be seen, as a modeling of the causal and physical realities that post-Copernican natural philosophy saw itself as coming to grips with, rather

than merely as a refashioning, even if with some innovations, of ancient Stoic or atomistic blueprints.

One of the unclaritys in Spinoza's theory, which I think Spinoza scholarship has not sufficiently considered, is Spinoza's idea of an absolutely systematic and symmetrical correspondence between an order —*the order*— of physical bodies, and physical causes, and an order of *thought* —Spinoza says *ideas*. Some interpreters call this Spinoza's 'double aspect' theory, but don't succeed, I argue, in explaining clearly, literally, and in detail, what this is supposed to mean, in a way which will apply to, say, rocks, mountains, and rivers, as well as to creatures like human beings. Is Spinoza a panpsychist? Are *ideas* meant to comprehend, inclusively and synoptically, *concepts* as well as thoughts and thinking objects?²¹ The theory is supposed to be one, as Descartes's, earlier, also had been, which the new working scientists of fully theoretical bent could and should take up, as coordinating and housing their endeavours in a satisfactory theoretical way. At any rate, the argument which will be developed here, in respect of Leibniz —who of course also shared the philosophy-for-the-new-science goal— may or may not help shed light on Spinozist body-idea symmetrism.

Leibniz of course met with Spinoza, in 1676, and had read and studied his work extremely closely —his subsequent denials of significant contact or influence, and his repeated joining in the regular attacks on Spinoza and his ideas, are among the bases for reservations Russell and other commentators have expressed about Leibniz's moral character, and views of a certain intellectual slipperiness in his work. At any rate, one more general posture—it is in part a feature of *methodology*—which Leibniz shares with Spinoza, and may have derived from him, is a readiness, in some respects an active resolve, to subsume what other inquirers may see as distinct entities under a common head, where they may have been seen to have significant commonalities. This is one of the features of Leibnizian philosophy which is regularly found puzzling for early-stage investigators, and which, I would argue, is insufficiently assimilated and appreciated even by a number of seasoned scholars. Thus, for Leibniz minds and things which don't seem very obviously to resemble them very closely nonetheless deserve grouping under a common fundamental category, that of the monad. That 'higher' non-human animals might be seen as having minds is plausible and straightforward. That all living things—plants as well as animals—do was at least sanctioned and advocated, in some form or other, by Aristotle. But that *every* individual body, inanimate as well as animate, should be regarded as having a sort of mind, seems both puzzling, and a stretch. None-

theless, so to seek to view items of the world, where some sort of case for doing so can be made, expresses, and speaks to, a kind of philosophical synopticism or syncretism, which certain philosophical temperaments will have, just as others will lack it. One might begin to try to be moved in Leibniz's specific monadic direction, in this way, by thinking, imaginatively, of a magnetic body's attractions of nearby metallic items as a sort of, or on a continuum with, 'representings' or 'perceptions' of a surrounding neighbourhood, or salient parts of it. That all 'representings' or 'perceptions' will turn out to be *mere* or *apparent* or *virtual*—as happens in Leibniz's account—will be a conceptually independent consideration.

We find numerous examples and expressions of this conceptual/categorical propensity in Leibniz. A prominent case in the older secondary literature, initiated by Couturat and Russell, is the interpretation of the principle of sufficient reason as the claim that every non-existential true subject-predicate proposition is analytic. One which will figure in the account which will be defended here characterizes *actions* and *passions*: "The creature is said to *act* externally insofar as it is perfect, and to *be acted upon* [*patir*] by another, insofar as it is imperfect. Thus we attribute *action* to a monad insofar as it has distinct perceptions, and *passion*, insofar as it has confused perceptions." (*Monadology* 49)

What I want to propose is what may be called a revisioning of Leibniz's system, with an idea which at first may seem alien, or contrary, to the Leibnizian scheme. Initially I pose it just as a putative imaginative model. I will then argue that this model fits the texts to a very considerable degree. Then I will, more tentatively, suggest that the model may be close to what Leibniz actually intends. My aim is primarily to enunciate the proposed reconceiving of Leibniz's metaphysical system, to provide a consideration of some late texts which appear to give it some plausibility, and from which it may be grasped in a focused way, and briefly to address some objections to the proposed model. The proposal, in a nutshell, has two components, which will be argued to be mutually reinforcing. One is that Leibniz's parallelism—far from being a peripheral, as well as an odd and puzzling (even if ingenious) add-on to the central core of his metaphysical system, at best dubiously consistent with it—is in fact at the centre of that system, and key to understanding it adequately. The other component of the proposal is that Leibniz is a certain sort of *epiphenomenalist*.

Epiphenomenalism holds that *mental things* are, paradigmatically, causally inert. Strictly, the theory may be held to allow some mental states to produce other mental states. At any rate, one version of epiphenomenalism seems to permit some

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mental-mental causation. The other, the arguably purer version, asserts that no mental state or event causes anything. In both versions, of course, at least some mental states/events are directly caused by physical events, and no mental state or event ever causes physical ones. There are then four key constituent theses of epiphenomenalism: 1) the mental is *real*; 2) the mental is ontologically *sui generis*, and irreducible to the physical; 3) apart, possibly, from cases where thoughts cause thoughts, the mental is produced by the physical; and 4) apart, possibly, from cases where thoughts cause thoughts, the mental is entirely causally inert.

In the theory I want to propose for the projected Leibnizian revisioning, the mental states are not caused by physical ones. So the theory is not strictly epiphenomenalist in the classic sense. Thus, the “certain sort of epiphenomenalist” phrasing; the first two, and the fourth, only, of the four classic epiphenomenalist theses are intended to be assigned Leibniz in the model that is proposed here, and always only for the *created* world—Leibniz’s God is a mental substance whose acts do have causal efficacy. What the theory proposes is that we envisage a fully replete, closed, fully deterministic physical causal order, none of its constituents being substances (‘monads’), though some of them are *bodies*, of extremely variable size, cohesion of parts, and durability. Then, we will think of there being, *at* every body, coordinated with and corresponding to it, a monad, or substance, which will ‘mirror’, from its point of view, or represent, the whole of reality; with a special perspective of ‘proximity’ to the body the monad is ‘at’. The states of the monads—they will all of them be ‘inner’ states—will constitute a sequential structure of inherent and representational states, encompassing, as indicated, everything that there is. The ‘encompassing’ and representing will always be a matter of something virtual, or phenomenal, never a genuine relating to an exterior object, monadic or non-monadic.

The latter part of the story will be more or less just as usual with standard, and usually idealist, renderings of Leibnizian metaphysics. What will be different is the not-merely-phenomenal reality of bodily objects and doings. Once this idea is fully taken in, the resulting picture will definitely *feel* importantly, significantly different from standard and usual construals. There will be—on this view—a full, presumably spatially infinite, at any rate, entirely replete physical causal order. There will be no gaps, and no room, or occasion, for *mind* to do anything, apart from the divine mind, which provided the original launch for the whole scheme. God’s initial impetuses aside, all of the happening, and causing, that the system will include, will be physical and bodily happening and causing. And, duly ‘stationed’,

as it were, in ghostly, imperceptible, but entirely systematic, and divinely decreed and orchestrated, conjunctions with key bodily locations, will be the indefinitely many monads/substances, in their hierarchical diversity of representational type. From each of *their* points of view, all of the rest of reality could be removed and there would be no difference, even as the sum total of those representational states, for each monad, depicts a hallucinatory movie (so to speak) of all of the rest of what is actually happening, monadically and non-monadically, exterior to those locations. Again, this last is standard Leibniz interpretation.²²

The ‘feel’ of the system, on this reconceptualizing, is, as may be seen, epiphenomenalist; in the sense that all those minds, and mind-like entities—all those instances of ‘mentality’—are there, but not *doing* anything, except inwardly, in ways that make no difference. *Real* doings are happening, a bump and grind of collisions and entanglements of bodies in real motion (none of them a *substance*); and these events would be happening even if any given monad, or the total set of the created monads, had not existed. The monads, apart from God, will be superfluous, mere invisible recording angels, so to speak. The ‘influence’ they are sometimes said by Leibniz to exercise on bodies will be a *façon de parler*—necessarily, given the *windowlessness* of the monads—a way of pointing to the ‘atness’ that God has systematically arranged.

It will be useful to summarize the theses the interpretation offered here advances, beginning with views shared both by Leibniz and Spinoza. According to the account being proposed, then, the following are affirmed both by Spinoza and Leibniz:

1. A physical or material world, comprised of bodies, and physical states of bodies and physical events involving bodies, exists.
2. At least one substance exists.
3. No proper part of the physical or material world is a substance in the strict sense.
4. Being a substance includes or involves thought, the mental, or the ideational in some manner or degree or other, i.e. involves having perceptions.
5. God exists, and is a substance.
6. God possibly excepted, there are no causal interactions among substances.
7. The states or properties of every substance include representations of, or conceptual relations with, the entirety of the rest of the world.
8. The absence of causal interactions among such substances as there may be does not preclude causal interactions between and among bodies.

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9. There are causal interactions between and among bodies.

In addition to the preceding theses, Leibniz asserts the following doctrines:

10. The physical universe constitutes a closed deterministic system, infinite in time, following its creation by God, and space.

11. A dimension or order of monads/substances exists, which is parallel or corresponds to the order of bodies, such that for every monad/substance there is a body, and for every body²³ there is a monad (not necessarily an apperceiving 'mind').

12. The monads constitute a hierarchy, stratified by level of representational ('perceptual') state, a most fundamental differentiation being between monads with (mere) perceptions and those with consciousness (apperceptions).

13. Each monad represents, stands in ideal or virtual relation to, the whole of the universe, varying in the degree of vividness and conscious awareness of that which is represented.

14. A highly complex structure of merely apparent causal interactions between monads and monads and monads and bodies obtains.

15. Apperceiving monads are capable of making free choices, i.e., of acting for reasons, and of having succeeding states produced by inner inclinations which do not necessitate, those choices and succeeding states all known in advance by God, who has chosen that the actual world will be one in which precisely those choices and succeeding states will obtain.

16. The dimension or order of monads constitutes a *teleological structure*, in virtue of which the world as a whole is a system of final causes.

Some of the preceding theses—12., 13., and 15. for example—are familiar and uncontentious parts of usual and received Leibnizian interpretation. It may be noted also that thesis 10. is not to be understood as requiring so-called 'absolute' or non-relational conceptions of time or space, both of which Leibniz clearly rejected.

If the overall interpretation seemed to have a measure of plausibility, it may be seen that it keeps, or purports to keep, the best of two (or more) worlds (so to speak). Substances will be *real*. They will be kinds of minds, and include you and me and all of the rest of the persons occupying the moral as well as the ontological centre of Christian orthodoxy. The apperceiving selves will be metaphysically free, hence morally accountable, even if their activities are always either internal or merely apparent. The 'important' world, it may be said, is the world of the monads, which exists both individually (or individualistically) as the world of each windowless monad 'mirroring', hence, containing—virtually—the whole of the rest of the world, and also as the world of the community of the (especially the apperceiving)

monads, the ‘republic’ of conscious minds which has God as moral focal point and prince. And at the same time the world of the monads is causally inert, in a sense a Platonically merely ideal order, which leaves a replete physical order untouched, there for the natural philosophers—physicists—to study and theorize about, and technologists and engineers to implement Baconian visions on. That physical order too is real, though lacking metaphysical substances; and corresponding to it there is a divinely arranged array of simulacra, a (merely) phenomenal content in the intentional or representational states of the monads.²⁴

The revisioning of Leibniz proposed here is extensive, even bold. Although a number of Leibniz’s readers have expressed aspects, in some cases intimations, of the view indicated, it does not seem hitherto to have been set out fully explicitly.²⁵ Interestingly, one of the most nearly explicit expositions of what is essentially this view may be found in Bayle’s well-known “Rorarius” article, in the *Dictionary*. “According to [Leibniz’s] theory,” Bayle says, “it must be said that the body of Julius Caesar exercised its moving faculty in such a way that from his birth to his death it went through a continual series of changes that corresponded exactly to the continual changes of a certain soul that it did not know and that made no impression on it. It must be said that the rule according to which that faculty of Caesar’s body was to produce its acts was such that he would go to the senate on such and such a day, at such and such a time, that he would there pronounce such and such words, and so on, even if it had pleased God to annihilate Caesar’s soul the day after it was created.”²⁶

Part of the upshot of the conception Bayle articulates, and which I mean here to renew and extend, is that Leibniz will in fact emerge, his protestations otherwise, and his authorship of the *Theodicy* notwithstanding, as a rather dodgy friend or ally of Christian theism. We human persons are for Leibniz individual monads, and if none of our mental states—our beliefs, desires, values, or resolutions of action—make any difference at all for each other or anything else that there is (except, of course, God), there will result a moral and metaphysical picture of the world that must be seen as quite remote, and alien, from anything that can qualify as orthodox Christianity. To be sure, the same is to be said of the metaphysical analyses of mind, body, and causality, of Malebranche, to whom Leibniz clearly owes a significant part of his view, and whom he must reasonably have seen as a kind of theological ‘fellow-traveler’. Yet Leibniz is still more the fifth column force undermining orthodox theism than is Malebranche, for in Leibniz’s world, unlike Malebranche’s, there is a really existing closed deterministic physically

interactive spatio-temporal order—just as the darkest-dyed materialist would say. His conception is saved from blind mechanist materialism by the necessary reality of the perfect being, who has orchestrated the full system of the world including an order of minds and lesser mind-like beings which will exhibit his purposes, and in their coordination with bodies, his art, and his engineering prowess. But it is difficult to believe that this is a world which a standard theist could want, or value.

I have called the interpretation of Leibniz's system offered here radical, and bold. In fact, though, it would not have seemed so to many of Leibniz's contemporary and eighteenth-century readers. This appears in the numerous ascriptions to Leibniz of a veiled Spinozism in his views, by Lessing, Herder, and others. (Russell, later, was to come to a somewhat similar conclusion, though on different grounds.) So far as I know, only Bayle seems explicitly to have reached something close to the interpretation offered here; and it may be that Leibniz's eighteenth-century critics were primarily focusing (merely, one wants to say) on the *determinism* which Spinoza and Leibniz share. Leibniz was a genuine, and thought-through, compatibilist—something which there does not seem to be good evidence to believe Spinoza was. What Bayle, and the present analysis, discerns in Leibniz is not mere determinism, though that is there too, but an *asymmetry* between mind and matter in his system.

The scholars who work on Leibniz's natural philosophy tend to proceed *as though* natural and physical phenomena are real for Leibniz, sometimes making a perfunctory gesture in the direction of interpretations of his metaphysics where they acknowledge—or by a division of scholarly labour will defer to the interpretive judgment of colleagues who affirm—the view that in the strict sense they (the natural and physical phenomena) are *not* real. Formally, the view I am advocating modifies only the physical-world side of more usual views, but its according that side full-blooded reality may diminish the full-bloodedness, even if not, formally, the reality, of the created monads. And it stems from taking more seriously than most present-day readers of Leibniz have, perhaps, done, his never-abandoned claims about bodies and their causal relationships, and his curious parallelist thesis.

How might Leibniz's occasional phenomenalist claims (or apparent claims) be treated on the parallelist epiphenomenalist 'two worlds' (more accurately, two 'domains') view being proposed? One option would be simply to see inconsistency, or, as one might prefer, indecision, in Leibniz's thinking about monads and bodies. This is essentially the position taken in Catherine Wilson's *Leibniz's Metaphysics* (Manchester University Press, 1989).²⁷ I would prefer to suggest

that Leibniz's parallelism is a still deeper and more significant indicator of the fundamental character of his system than it is usually seen to be. Although the pre-established harmony does make the worlds coincide in those amazingly elaborate and systematic ways, the monadological world and the world of bodies are quite distinct worlds—subworlds, of course, of the one actual possible world that God has made. While Leibniz does independently argue that it is metaphysically impossible that substances—monads—not exist, still, in a significant sense, each of these 'subworlds' can exist without the other; even as each 'involves' the other in that extraordinary manner that God has effected. But *from the point of view* of the monadological order (so to speak) a bodily order has a merely virtual or phenomenal or *as if* character. The system or kingdom of monads is a sort of society, even if its members' relations with each other are merely virtual. Leibniz's remarks at *Monadology* §§84–87 may be seen to have a more literal and ontological significance than they are standardly accorded:

This is what makes minds capable of entering into a kind of society with God, and allows him to be, in relation to them, not only what an inventor is to his machine (as God is in relation to the other creatures) but also what a prince is to his subjects, and even what a father is to his children... From this it is easy to conclude that the collection of all minds must make up the city of God... This city of God, this truly universal monarchy, is a moral world within the natural world, and the highest and most divine of God's works... Since earlier we established a perfect harmony between two natural kingdoms, the one of efficient causes, the other of final causes, we ought to note here yet another harmony between the physical kingdom of nature and the moral kingdom of grace, that is, between God considered as the architect of the mechanism of the universe, and God considered as the monarch of the divine city of minds. (AG 223f.)

The last sentence just quoted, taken quite literally, will lend itself to a still more Spinozist construal of Leibniz's system than anything suggested earlier; at any rate, we will see in the passage as a whole a reinforcement of the two worlds view, and the parallel that it will imply. Just as *for the citizens of the city of God*, individually and collectively, it is as though they were the whole of the world, and a bodily/physical order merely virtual and phenomenal, so too, for the kingdom of efficient causes, the mechanist universe, the ghostly acausal minds are (as though) nowhere and nothing.²⁸

Finally: what of Leibniz's frequent claims that bodies *consist* or *are composed* of (aggregations of) monads? This is a problematic view on more interpretations than just the present one. At any rate, I would argue that these claims are not to be interpreted in literal, spatial (part-whole) terms. We noted above that Leibniz (like Spinoza) often has in mind non-literal construals of terms and principles. I suggest that Leibniz's claims to the effect that bodies, or composite substances, are aggregates of monads is one of the ways in which he says that *at every body, including every body that is a constituent of some other body, there is a monad*. As noted in the correspondence with Des Bosses, the verb he uses is "*adheres*"; in at least the clear case of an organic body which is not a constituent of a larger body, that adhering monad will be the 'dominant' monad; a fully adequate account of 'adherence' and 'dominance', sufficient to cover all cases, must await another occasion.²⁹

5. RTWA's Interpretation

I, too, think that the comparison with Spinoza is instructive, and does much to explain how Leibniz can countenance the reality of bodies in contradistinction from their substantiality. But I shall be stressing the dynamism that is at the heart of both these thinkers' philosophies, and playing up their dissent from Cartesianism in a way that does not appear on PL's account. More importantly, I shall be trying to explain the difference between them, which consists essentially in this: in making only God a substance, Spinoza, according to Leibniz, removes the basis for the reality of things and their motions. If this does not reside *in* things, then there would not be in things the basis of substances, and everything except God would be reduced to "mere accidents and modifications".

Let me begin with the problem of the continuum. As a first question we can ask, why are bodies infinite aggregates, according to Leibniz? The answer, briefly, is because each body is actually divided into further parts, each of which is itself a body, so that any body is an infinite aggregate of parts. Leibniz gives this argument in many places, most explicitly in an undated piece probably written between 1678 and 1681:

Created things are actually infinite. For any body whatever is actually divided into several parts, since any body whatever is acted upon by other bodies. And any part whatever of a body is a body by the very definition of body. So bodies

are actually infinite, i.e. more bodies can be found than there are unities in any given number (A VI iv 1393; LoC 235).

Several things about this argument are worthy of note. First, although the thesis of the infinite dividedness of matter occurs early in Leibniz's work, his arguments for it all derive from or explicitly refer to Descartes's argument in *Principles* II, 33-35 (LoC 357-358). Descartes argues for "a division of certain particles of matter to infinity" on the grounds that when a liquid moves in a plenum into a narrower channel around a solid, it must change shape, and for this to happen "all the imaginable particles of this part of matter—which are in fact beyond number—must be to some extent mutually displaced from each other; and such a displacement, however slight, is a genuine division." (*Principles* II, 34; LoC 358)

Second, Descartes's conclusion that the constituent particles "are in fact beyond number" is parsed by him in terms of his notion of "the indefinite". Leibniz never accepted that notion, arguing for instance in his *TMA* of 1672 that "Descartes's indefinite is in the thinker, not the thing" (*TMA*, LoC 339).³⁰ Thus when Leibniz presents the conclusion that there are more bodies "than there are unities in any given number", he means that the aggregate of the particles or bodies is actually infinite in the "syncategorematic" sense that no matter how great a number one assigns to the bodies, there are actually more.

Third, this representation of the conclusion is in good agreement with Spinoza. For in his Letter on the Infinite Spinoza repeats Descartes's scenario for the infinite division of matter (liquid matter moving through unequal spaces around a solid), making it serve as a prime example of how "there are also many things which cannot be equated with any number, but which exceed every number that can be given" (A VI iii 280; LoC 111). The agreement between Spinoza and Leibniz on this point is, I believe, worth exploring in detail for the light it throws on Leibniz's philosophy at a crucial point of its development.³¹

By the time Leibniz received a copy of Spinoza's Letter on the Infinite from Schuller in the second half of April 1676,³² he was already far advanced in his understanding of the infinite and infinitely small. In 1672 he had argued from the actually infinite division of matter to the composition of extension out of indivisibles, each one defined in terms of its distinguishing endeavour. By the Spring of 1676, under the stimulus of Huygens, he had developed the idea of infinitely small parts of the continuum into a full-blown geometry of the infinite and the infinitely small, the differential calculus, written up in a formal treatise for the Académie Française, *De quadratura arithmetica*. But the infinitely small parts occurring in this work

are explicitly interpreted as fictions, standing for variable finite parts that can be taken as small as desired, but which can nonetheless be treated as if infinitely small under certain specified conditions. The infinite is likewise syncategorematic, and, as in Spinoza, distinguished from the unbounded, being a quantity “greater than any assignable by us, or greater than any number that can be designated” (Scholium to Proposition 11; Leibniz 1993, 133; 2004, 98). Thus when Leibniz comes across Spinoza’s exposition of Descartes’s “solid in a liquid” argument in his Letter on the Infinite, he is able to agree with Spinoza’s conclusion that there are more things than can be equated with any (finite) number, commenting:

Now it is evident that what is really to be concluded from this is that matter, which is divisible to infinity, is in fact so divided into all the parts into which it can be divided. The same consideration applies in every case of a solid moving in a perfect liquid plenum. Indeed, there emerge difficulties whose resolution occasions certain splendid theorems,³³ and if Descartes had happened to discover them, he would have corrected certain of his opinions. (A VI iii 281; LoC 113)

Leibniz had earlier concluded that matter, as a mere aggregate of parts, needed indivisibles out of which it could be composed; and, just before annotating Spinoza’s letter, that such an aggregate is a mere *ens per accidens*, and not a true whole.³⁴ But Spinoza drove a harder line, arguing that since substance is indivisible, and body—as conceived through the senses or in the imagination as pure extension—is divisible into parts, body is therefore not a substance. Extended substance as conceived through itself is not susceptible to measure: it is immense (measureless), actually infinite, indivisible and unique; its existence is explained through *eternity*. Body, according to Spinoza, is a mode or affection of extension, and exists contingently, and in relation to the whole order of matter, and its existence is referred to duration. “So those who hold extended substance to be made up of parts or bodies really distinct from each other are, in a word, talking nonsense, not to say going insane ... For all these arguments suppose corporeal substance to be made up of parts.” (107)

So we find here a significant level of agreement between Leibniz and Spinoza on the first step towards resolving the problem of the continuum: whereas body is divided, indeed actually infinitely divided, substance is indivisible. But this only gives us a modal pluralism, infinitely many bodies, and Spinoza insists that the argument entails a substantial monism. Leibniz agrees that “Body is not a Substance”, arguing in a piece of that title in 1678-79 that if we consider body as a substance

—body taken in the sense of the “Democriteans” as bulk (*moles*)— “then we will fall into contradiction as a result of the labyrinth of the continuum” (A VI iv 1637; LoC 259). But by then Leibniz has reintroduced substantial forms under his own reinterpretation, so that body in the sense of “what the Scholastics compose out of matter and a certain intelligible form” is, in contrast to bulk, exempted from this criticism (LoC 259). The point is that Spinoza’s monism and its concomitant mortalism is never an option for Leibniz, and in 1676 he is striving to find a way to represent at least the human being as a substance.³⁵ Where Spinoza is content to describe the infinitely divided extension of *natura naturata* as “infinite by force of its cause”, and to found it in the dynamic indivisible substance (*natura naturans*) which is “infinite by force of its essence”, Leibniz refuses to grant that an infinite aggregate of beings “can have any reality at all if every being of which it is composed is itself a being by aggregation” (to Arnauld, 30 April 1687; G.ii.96; WFPT 123). For him, “any being by aggregation presupposes beings endowed with true unity, because it derives its reality only from that of the things which make it up” (*ibid.*). Thus, famously, he will declare that the solution to the problem of the continuum is that in actual things unities are prior to the multiplicities they make up, which exist only through them, whereas in ideal things the whole is prior to the parts into which it can be divided.³⁶

That said, there are some indications that Leibniz is drawn quite far in the direction of Spinozism in 1676-78, and again it will be worth exploring this for the light it sheds on Leibniz’s philosophy. First there is his distinction of *immensity* from *space* as the aggregate of its parts. Because the parts of space are distinguished one from another by the changing motions of the parts of matter (he argues in some notes of March 18th, 1676), “it follows that space itself is a whole or entity accidentally, that it is continuously changing and becoming something different” (A VI iii 391; LoC 53). But there must then exist something eternal in space which remains through these changes, and this something Leibniz identifies as “the immensity of God, namely an attribute that is one and indivisible, and at the same time immense. Space is only a consequence of this, as a property is of an essence” (A VI iii 391; LoC 53-55).³⁷ Expanding on this a month or so later, Leibniz dubs this “the immense”, and identifies it with “that which is extended in itself”.³⁸ Places are not its parts, but modifications arising from the addition of matter: “from the addition of bulk and mass there result spaces, places and intervals, whose aggregates give Universal Space” (519; LoC 121).

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Related to this is the problem of the individuation of bodies. Bodies or parts of extension are distinguished by their differing motions, but motion is not derivable from a passive concept of extension like Descartes's. Recognizing this, Leibniz had sought to include mind in body as a principle of its individuation. For his part, Spinoza held that extended substance cannot be "an inert mass", since from this "it will be quite impossible to demonstrate the existence of bodies" (Letter 81, Curley 274). In response to Tschirnhaus's earlier probing (Letter 64, Curley 271) about what things "could be produced immediately by God", Spinoza declared that in the case of extension, this would be "motion and rest". Without going too far into the details, it appears that Spinoza's idea was that an individual body could maintain a harmonious relation among its parts as long as its endeavour to do so exceeds that of the other things endeavouring to break its unity (IIIP8). The continuance of the whole of extended substance is thus underwritten by the conservation of the total motion and rest in the universe.

In the Spring of 1676 Leibniz had also tried to account for the nature of body or matter in terms of the inverse relationship between mass and speed in the law of conservation of quantity of motion, what he called "the law of compensation". But this was something for which the individual mind of each body could not be responsible: "For when two bodies collide, it is clear that it is not the mind of each one that makes it follow the law of compensation, but rather the universal mind assisting both, or rather all, equally." (A VI iii 493; LoC 77) In the dialogue *Pacidius Philalethi* written on his way to Holland to see Spinoza in October/November 1676, the individual minds do not appear (whether this constitutes a change of position or mere diplomacy is not clear), but one of the chief conclusions of the dialogue is that no action can be found in body.³⁹ In a note to himself at the beginning of the dialogue, he stresses that one of the things he has left out of the discussion is "the subject of motion, so that it may be clear which of two bodies changing their mutual situation motion should be ascribed to" (A VI iii 529; LoC 129). This is taken up by him after he has left Holland in "Motion is Something Relative" of February 1677:

A remarkable fact: motion is something relative, and one cannot distinguish exactly which of the bodies is moving. Thus if motion is an affection, its subject will not be any one individual body, but the whole world.... From the fact that motion is an affection not of one body but of the whole world, it is evident that the first cause of all things and of the whole world is unique... (A VI iv 360; LoC 229).

Thus for Leibniz the failure to locate a principle of action in each body, together with the consequence of the relativity of motion that motion cannot be the affection of individual bodies but only of the whole world, leaves his position precariously close to Spinozism. This set of circumstances, I propose, explains why his discovery in 1678 of the conservation of force is crucial to Leibniz's redefinition of substance in terms of force later that year. For once he can pinpoint force as a principle of activity that is conserved within bodies, the way is open for him to rehabilitate substantial forms under this new conception. From the point of view of a body that is acting on and being acted upon by bodies around it, and has the perceptions to perceive this, Leibniz's substantial forms are the sequences of representations centered on each (organic) body together with sensation or appetite. This is explicitly stated by him in one of his unpublished manuscripts from the early 1680s:

Insofar as God relates the universe to some particular body, and regards the whole of it as if from this body or, what is the same thing, thinks of all the appearances or relations of things to this body considered as immobile, there results from this the substantial form or soul of this body, which is completed by a certain sensation or appetite. For there is in all things a certain sensation and a natural appetite which does not at all detract from the laws of mechanism; for the former is not so much a cause as an occasion for God's acting. (March-June 1681?; A VI iv 275; LoC 261)

What I am suggesting is that most Leibniz scholars have failed to appreciate that it is as fundamental to Leibniz's philosophy as to Spinoza's that bodies exist in a nexus of spatial relations to all the other bodies in nature (the "order or connection of things"), and that each node of this nexus is what Leibniz calls a "point of view". For each thinker the infinite variety of bodies is brought about immediately by God through its participation in the whole nexus of relations of cause and effect, in agreement with the laws of mechanics (although Leibniz will try to persuade Spinoza that the law of conservation of quantity of motion holds only for relative motion).⁴⁰ For each philosopher, also, the relations with other bodies have a dual aspect, the (internal) representations of the things perceived, and the (external) things as they are represented. The difference is that Leibniz adds, in the case of organic bodies, an internal principle which produces in lawful succession a corresponding representation of all these external relations from the point of view of the organs of that body: the representation is the perception, and the principle is the appetite, and the combination of the two — what "results from" the representation together with the appetite — is the substantial form. This requires, contrary

to current readings, that the “point of view” of a monad be taken quite literally: it is the situation of the monad, through the perceiving organs of its body, in the space of relations it has to all other bodies. This space is the Universal Space that is an aggregate of all the different parts it has at each moment, not the ideal space that results from abstracting the relations from the relata. It is *real space* or “space filled up”, as he refers to it in his Fifth Letter to Clarke (August 18th, 1716):

The parts of time or place considered in themselves are ideal things, and therefore they perfectly resemble one another like two abstract units. But it is not so with two concrete ones, or with two real times, or two spaces filled up, that is, truly actual. (Fifth Letter, §27; AG 334)

The foundation of this real space is, as we have seen, divine immensity, just as in Spinoza, and the foundation for duration is in divine eternity.⁴¹ The difference in Leibniz's case is that when appetite (equivalently, monadic endeavour or action) is added, one has added something substantial to space, namely the unities or monads, the aggregate of which constitutes matter. This is explicitly stated by Leibniz in the following passage from the late 1680s:

Time and place, or duration and space, are real relations, i.e. orders of existing. Their foundation in reality is divine magnitude, to wit, eternity and immensity. For if to space or magnitude is added appetite, or, what comes to the same thing, endeavour, and consequently action too, already something substantial is introduced, which is in nothing other than God or the primary unity. That is to say, real space in itself is something that is one, indivisible, immutable; and it contains not only existences but also possibilities, since in itself, with appetite removed, it is indifferent to different ways of being dissected. But if appetite is added to space, it makes existing substances, and thus matter, i.e. the aggregate of infinite unities. (c. 1686; A VI iv 1641; LoC 335).

Thus the “fundamental difficulty” Russell perceived in “the relation of monads to space” (252) is wholly due to his own idealistic misconstrual of Leibniz's philosophy. Leibniz does not situate monads in a purely subjective space, only to try to smuggle a real, objective space in by the back door.⁴² He was consistent throughout his corpus that “primitive entelechies are dispersed everywhere throughout matter” (G.vii.329; Russell 258); this is consonant with his view that all monads are embodied, and possess organic bodies through which they perceive.

Now let me turn to the issue of parallelism. In the passages quoted above Leibniz represents God as creating substances by including in the substantial form a natural appetite which “does not detract from the laws of mechanism”. This makes

it seem as if this is something neglected by his contemporaries, and in particular Spinoza. But in fact this is not so, and one finds a similar parallelism in the latter's philosophy:

The mind and the body are one and the same thing, which is conceived now under the attribute of thought, now under the attribute of extension. The result is that the order or connection of things is one, whether nature is conceived under this attribute or that; hence the order of actions and passions of our body is, by nature, at one with the order of actions and passions of the mind.... [T]he decisions of the mind are nothing but the appetites themselves, which therefore vary as the disposition of the body varies (*Ethics*, IIP2S, IIP7S; Curley, *A Spinoza Reader*, 155, 157)

So there is appetite in bodies in Spinoza, and, just as in Leibniz, it does not at all detract from the order or connection of things. The difference is that the appetites in Spinoza "vary as the dispositions of the body varies", and are as it were epiphenomena (although not effects) of the varying bodily endeavours or determinations, whereas in Leibniz appetite is conceived as an active force governing the sequence of (internal) representations according to a teleological law. The key is that for Leibniz appetite or primitive active force is a principle of activity: "whatever acts cannot be destroyed" according to Leibniz, whereas "whatever is acted upon and does not act can be destroyed" (A VI iii 521; LoC 121). Bodies, as Spinoza conceives them, are subject to dissolution, when their governing endeavours are overcome. For Leibniz, on the other hand, the appetite necessarily takes the substance through to its next state or representation and this is all, in the strictest sense, its action amounts to. It is also what grounds the reality of motion, which otherwise would be a mere phenomenon, having its nature only in relation to its perceiving subjects. But in giving a law that connects together these representations from the point of view of the perceiving subject's body regarded as immobile, the appetite or force gives motion its reality.⁴³ As Leibniz writes to Arnauld in January 1688,

motion in itself separated from force is only a relative thing, and its subject can never be determined. But force is something real and absolute, ... we should not be surprised that nature retains the same quantity of force and not the same quantity of motion. However, it follows that in nature there is something other than extension and motion, unless we refuse all force and all power to things, which would be to change them from the substances they are into modes. That

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is what Spinoza does; he thinks only God is a substance, and that all other things are only modifications. (WFPT 135-36)

In sum, while there is a parallelism in Spinoza between the mental appetites and their physical correlates, there is only one realm of (efficient) causation, viewable under two aspects. In Leibniz's system, on the other hand, (while there is the same dual aspect between appetition in psychology and active force in physics) there are two distinct realms of causation, and the causation in the realm of appetition is teleological.⁴⁴ As he writes in a revealing paper of 1678-81 in which he takes all bodies (here classified as "extended substances") to be animate, "*Even though all things are animated and act with sense and appetite, they nevertheless act according to the laws of mechanics*" (A VI iv 1402; LoC 251). Then, commenting on the way "most people go to extremes in this matter", and presumably with Spinoza in mind, he writes "For some who think that everything is governed by the laws of mechanics, do away with all incorporeal substances and final causes." He, on the contrary believes that "both efficient and final causes should be conjoined, for everything happens because of the will of soul, so that souls act by willing, but again, each of their forces going to infinity is determined by the laws of mechanics... For just as a man neither acts nor is acted upon any the less in accordance with the laws of motion even though he has sensation and appetite, so the same thing will be understood in a certain proportion in the other animated beings." (A VI iv 1402; LoC 253). It is because of this teleological development in things that "*All the phenomena of nature can be explained solely by final causes, exactly as if there were no efficient cause; and all the phenomena of nature can be explained solely by efficient causes, as if there were no final cause*". (A VI iv 1403; LoC 253). Thus Leibniz is able to give and justify both efficient causal and final causal derivations in physics. This is most useful, as "the laws of reflection and refraction of rays are more easily demonstrated by the contemplation of final than efficient causes", as Leibniz goes on to show in this piece by deriving the law of reflection in optics according to both methods (A VI iv 1403-05; LoC 253-57).

The positing of such active principles in all organic bodies, finally, is what enables Leibniz to give his dissolution to the problem of the origin of forms. Because a substance is a thing that acts, and whatever acts cannot be destroyed, all substances are indestructible. Thus whatever dramatic variations there may be in the body of an animal, the substantial form, containing the principle of activity, always remains intact and self-identical, and continues to produce the successive representations of the world from the point of view of whatever organs it still has.

This is why Leibniz remains sanguine in the face of Arnauld's apparently devastating criticisms that if a hundred silkworms are burned, then "according to you there would be a hundred silkworm souls in as many little particles of ash", and in that case, "why aren't silkworms born from these particles of ash, just as they are born from eggs?" (WFPT 129): "I believe I have shown that there must be entelechies if there are corporeal substances, and if we accept these entelechies or souls, we have to recognize their ungenerability and indestructibility... You suppose that there would remain no organized body in the ashes ... But I believe that naturally there is no soul without an animated body, and no animated body without organs; and neither ashes nor other masses seem to me incapable of containing organized bodies" (133-34). Leibniz, consequently, becomes one of the most earnest supporters of the theory of preformation, according to which "the living things the organs of which we know, that is to say plants and animals, do not come from putrefaction or from chaos, as the ancients believed, but from *pre-formed seeds*, and therefore from the transformation of pre-existing living beings" (PNG, WFPT 261). It is apparent, then, as I have argued in detail elsewhere,⁴⁵ that Leibniz's position on the origins of human, plant and animal forms requires the sort of strong commitment to body realism that we have been arguing for in this paper. Moreover, in order for it to be a solution at all, it is necessary for the forms literally to be in the organic bodies and seeds; otherwise nothing about the generation and subsequent development of the plant, animals or human could be explained by their containing such a form.

It remains for me to say something about the apparently recalcitrant texts, where Leibniz declares that there are only simple substances, which are by definition immaterial. Thus in a text that is central to Adams' interpretation, Leibniz informs De Volder in 1704 that "it may be said that there is nothing in things⁴⁶ but simple substances, and in them, perception and appetite. Moreover, matter and motion are not so much substances or things as they are the phenomena of perceivers" (to De Volder, 30 June 1704: G.ii.270; L 537, AG 181). This text is also crucial for Garber's claim that Leibniz abandoned an earlier commitment to corporeal substance in 1704. I cannot give a full accounting of all such texts here, but I am inclined to interpret the situation as follows.

First, although I have used earlier passages to show the genesis of Leibniz's ideas, I have been careful to note the passages in Leibniz's last works, such as the *Monadology*, the *PNG*, and his last letters to Des Bosses and Clarke, where the same solutions are upheld: simple (i.e. partless) substances are still presented as resolving the problem of the composition of the continuum, the argument for their

infinite plurality is still derived from the actual division of bodies,⁴⁷ the existence of a real space aggregated of filled parts is upheld, and the non-origin of souls is still presented in terms of their pre-existence in preformed organic bodies. It is simply not plausible that Leibniz would continue to voice these views long after he had abandoned them. Second, expressions of these views can be found not only in the same period as assertions of the phenomenality of bodies and motions, but often in the very same piece of writing, whether in the 1670s or in the *Monadology*. So, I believe, what is undeniable is that Leibniz never did acknowledge a discrepancy between the two, and that it is his lack of recognition of any discrepancy that requires explaining.⁴⁸

What I offer towards such an explanation is the suggestion that for Leibniz, as for Spinoza, there is a kind of dual-aspect basis for the parallelism between the internal and the external. A phenomenon for Leibniz can be taken in two senses, as an “internal phenomenon” and as an “external phenomenon”, that is, as a perception, “the internal state of a monad which represents external things”, or as the external things so represented.⁴⁹ This is the same thing under two different aspects. Much as in Spinoza “the mind and the body are one and the same individual, conceived now under the aspect of thought, now under the aspect of extension” (*Ethics* IIP21), so, I propose, for Leibniz one and the same phenomenon can be taken now internally, as something existing in perception, and now externally, as the thing perceived. This proposal at least has the merit of relieving the paradox in Leibniz’s switching between apparently idealist formulations such as that above, and frankly realist talk about the bodily sense organs in which the perceptions can be said to occur. In short, I am urging a strong consonance with Spinoza, if not a Spinozan provenance, for Leibniz’s psycho-physical parallelism. On this reading, when God creates simple substances with their perceptions and appetites, he *thereby* creates the bodies and motions we sense. Although bodies and their motions are as real for Leibniz as for Spinoza, in both systems they derive their reality from that of substance. Leibnizian bodies and motions “result” from their entelechies in much the same way that the various bodies in Spinoza’s extended substance result from God as modes or modifications.⁵⁰ In neither case does God “act on” created substance: rather the actions of substances manifest themselves externally as the motions (and in Leibniz’s case, the derivative forces) of bodies. But according to Leibniz the reality of both body and motion depend on an active force within them; otherwise they would be mere modifications of divine substance, motion would

be completely relative, and bodies would not contain anything that would enable them to endure the same for longer than an instant.

At any rate, Leibniz's criticisms of Spinoza are not that his system is false because he asserts the reality of bodies and the realm of cause and effect. On the contrary, it is because in failing to provide active principles he has removed the basis for the reality of bodies and motions and reduced everything to evanescent phenomena. Thus when Louis Bourguet suggests that Leibniz's monadology is tantamount to Spinozism, Leibniz rejoins:

I do not know Sir, how you can derive any Spinozism from this; that is jumping to conclusions rather too fast. On the contrary, it is just by means of these monads that Spinozism is destroyed, for there are as many true substances, and so to speak, living mirrors of the universe always subsisting, or concentrated universes, as there are Monads, whereas according to Spinoza there is only a single substance. He would be right, if there were no monads; then everything except God would be passing, and would sink into mere accidents and modifications, since there would not be in things the basis of substances, which consists in the existence of monads. (Letter to Bourguet, December 1714; G. iii. 575; Russell, 261)

Similarly, in "On Nature Itself" Leibniz writes:

No enduring thing can be produced if the divine power cannot impress on it some force which lasts through time. If that were so, then no created substance would remain the same thing, and nothing would be conserved by God. Everything would be reduced to just transitory, evanescent modifications or phantasms, so to speak, of one permanent divine substance. Or, what comes to the same thing, nature itself, or the substance of things, would be God — a doctrine of very ill repute which an irreligious, though admittedly clever, author has recently introduced to the world (or at least revived). (WFPT 214)

In conclusion, I contend that the world of disembodied immaterial substances that the standard idealist interpretation imputes to Leibniz, where bodies are mere transitory and unreal appearances, bears a closer relationship to the view that Leibniz was trying to avoid than to his own system. If the substantial forms posited by Leibniz are not really *in* things, situated derivatively through those things' situations in a real spatial ordering, all the justification for positing a plurality of such substances vanishes. The appearances could as well be modifications of one divine substance, and there would be no inference from the plurality of composites or bodies to monads. Moreover, there would be no basis for the attribution of teleology to the

natural world, and the success of final cause explanations in physics and biology would be groundless. The positing of eternally existing substantial forms, finally, would be disconnected from the phenomena of generation and development of living things: if the form of a caterpillar is not contained in the caterpillar's body and in the butterfly that emerges from it — if the form does not exist through these bodies in that region of space — then the positing of an eternal form for each creature seems unmotivated: the creatures might as well be transitory manifestations of Spinoza's "one permanent divine substance".

6. Conclusion

Thus our two interpretations. In eschewing the usual idealist reading, both situate Leibniz's metaphysics much closer to Spinoza's than is usual. PL's quasi-epiphenomenalist reading stems from taking seriously Leibniz's doctrines of psycho-physical parallelism, the inter-connection of all things, and the harmony between the realms of final and efficient causes. Stressing the "windowlessness" of the monads, it portrays the monadic and the physical as wholly separate realms, where (apart from God) the mental is causally inert and the perceptions of a monad are wholly internal, representing but never genuinely relating to the world of independently existing bodies, which themselves comprise a spatio-temporal causal order as real as Spinoza's. On RTWA's reading, taking off from Leibniz's solution to the continuum problem, these bodies have what reality they possess by virtue of the substances really situated within them. The particular nexus of spatial relations a body bears to all others at each instant (real space) is represented from the point of view of the perceiving subject's body regarded as immobile, and while this nexus is continuously changing, the dominant monad in any organic body provides a law that connects together these representations through time. This connection, together with the appetite or active force which takes each monadic representation or perception into the next, is what underpins the reality of motion. On this reading, if bodies did not really contain substances situated in a real space, they, their causal relations and their motions would be mere phenomena, devoid of the activity that grounds their reality.

Thus both of us present Leibniz as committed to real bodies and motions existing in a nexus of spatio-temporal and causal relations that is as real as that envisaged by Spinoza, and as advancing a parallelist thesis that is Spinozist in spirit if not in origin, but as firmly rejecting Spinoza's monism and immanentist conception of

God. But there are some seminal differences between our readings too. PL's reading, in stressing the windowlessness of monads, denies that there are properly speaking any substances in the physical world; RTWA's, in stressing the embodiedness of monads, interprets Leibniz's positive references to corporeal substances (à la Phemister) as referring to monads together with their organic bodies. According to RTWA's reading, while what is substantial, the principle of activity, is strictly immaterial, it is necessarily situated in a body and constitutes at any instant the form of that body, so that referring to a dominant monad together with its organic body as a substance is defensible, and does not commit Leibniz to providing a bond that would unite the two over time (as he tries and fails to do for Des Bosses in their correspondence). On PL's reading, on the other hand, Leibniz can be interpreted as denying corporeal substances altogether without this entailing that he denies the reality of bodies in the manner of Berkeley.

But on both readings Leibniz's commitment to psycho-physical parallelism, the harmony between final and efficient causes, the connection of all things, and the plurality of substances is firm and uncompromised.

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Notes

¹ See RTWA: "Russell's Conundrum: On the Relation of Leibniz's Monads to the Continuum," pp. 171-201 in *An Intimate Relation: Studies in the History and Philosophy of Science*, ed. James Robert Brown and Jürgen Mittelstrass, Dordrecht:

Kluwer Academic Publishers, 1989; "Infinite Aggregates and Phenomenal Wholes," *Leibniz Review*, 8, 24-45, December 1998; PL: "Was Leibniz an Idealist?," *Philosophy* 74, 361-85, 1999.

² Several other thinkers have also challenged the idealist consensus in recent years, largely from a point of view that denies that he abandoned the reality of corporeal substances; see Glenn Hartz, "Why Corporeal Substances Keep Popping Up in Leibniz's Later Philosophy," *British Journal for the History of Philosophy*, 6 (32) June 1998, 193-207; Andreas Blank, *Leibniz: Metaphilosophy and Metaphysics* (Munich: Philosophia Verlag, 2005); Michel Fichant, "La Constitution du Concept de Monade", pp. 31-54 in *La Monadologie de Leibniz*, ed. Enrico Pasini (Paris: Mimesis, 2005); and especially Pauline Phemister, *Leibniz and the Natural World* (Dordrecht: Springer, 2005).

³ Robert Merrihew Adams, *Leibniz: determinist, theist, idealist* (Oxford: Oxford University Press, 1994). Before Adams, perhaps the canonical statement of the idealist interpretation was by Montgomery Furth, "Monadology", *Philosophical Review* 76, 169-200.

⁴ Donald Rutherford, *Leibniz and the Rational Order of Nature* (Cambridge: Cambridge University Press, 1995), esp. 219ff. Rutherford distances himself from the phenomenalist interpretations of Furth and Adams (235), but still identifies Leibniz as an idealist, as he continues to do in his most recent work; see, for example, his "Idealism Declined: Leibniz and Christian Wolff", in Paul Lodge, ed., *Leibniz and His Correspondents* (Cambridge: Cambridge University Press, 2004), p. 216.

⁵ C. D. Broad, *Leibniz: An Introduction* (Cambridge 1975), p. 87, Daniel Garber, "Leibniz: the Middle Years", pp. 27-130 in K. Okruhlik and J. R. Brown, eds., *The Natural Philosophy of Leibniz* (Dordrecht: D. Reidel, 1985). For a thorough review of Garber's evolving views, see Paul Lodge, "Garber's Interpretations of Leibniz on Corporeal substance in the 'Middle Years'", *Leibniz Review* 15, 2005, 1-26.

⁶ Peter Loptson, in "Was Leibniz an Idealist?", p. 384.

⁷ All quotations from the *Monadology* and from the *Principles of Nature and Grace* (hereafter PNG) are based on those of G. W. Leibniz, *Philosophical Texts*, ed. and trans. R. S. Woolhouse and Richard Francks (Oxford, 1998; hereafter WFPT), with some stylistic variations.

⁸ "§7. There is also no way in which it could make sense for a monad to be altered or changed internally by any other created thing, since there is nothing to rearrange within a monad, and there is no conceivable internal motion in it that could be

excited, directed, increased, or diminished, as can be done in a composite, where there is change among the parts. Monads have no windows through which something can enter or leave...” (*Monadology*, WFPT 268.) Note that here Leibniz does not restrict the cause of change in a monad to *mechanical* action; any means of effecting a change in a monad by something external (save God) is precluded, and so too is the possibility of a created monad’s acting on or exerting an influence on anything external. Likewise, what is precluded by its nature is interaction not just with other substances, but with any other created thing.

⁹ G. W. Leibniz, *The Labyrinth of the Continuum: Writings on the Continuum Problem 1672-1686*, Transl., Ed. and with an Introduction by Richard T. W. Arthur (New Haven and London: Yale University Press, 2001; hereafter LoC), p. 259. Although he may have had a pragmatic motive in calling bodies substances, however, Leibniz is not just being disingenuous. In the same piece (“A Body is not a Substance”) he declares bodies as understood by the Scholastics — as comprised of “matter and a certain intelligible form” (259)— to be exempt from this criticism. So even though “if God himself had wished to create corporeal substances of the kind people [sc. Cartesians] imagine, he would have done nothing”, he could have created bodies understood as containing “something other than extension” without falling foul of the paradoxes of the continuum, as he explains in another piece composed at about the same time, “There is no such thing as One Body” (259). More on the implications of this below.

¹⁰ The most famous of these occurs in the Preface to Leibniz’s 1710 *Theodicy*, T 53. See also the quotations and citations in LoC xxiii, 365.

¹¹ Rutherford (*Rational Order of Nature*, 219) claims that “there are many types of collective entities that are not spatial aggregates of parts (e.g. sets of numbers)”. Granted, monads do not aggregate spatially to compose bodies; but the bodies they inform do so aggregate. Analogously, four is not a spatial aggregate of two twos; but the four wheels on my car are a spatial aggregate of two pairs of wheels.

¹² G. ii. 520; quoted from Bertrand Russell *A Critical Exposition of the Philosophy of Leibniz* (1900; London, Routledge 1992; hereafter Russell), p. 274. This statement by Leibniz is not a part of his doctrine of the *vinculum substantiale*: he also clearly states elsewhere that bodies are not composed of monads, but result from them: “Matter isn’t composed of constitutive unities, but results from them... Substantial unities are not really parts, but the foundations of phenomena” (to De Volder, June 1704; Leibniz, *Philosophical Essays*, (Indianapolis: Hackett, 1989; hereafter AG), 179; “matter is composed from these [simple substances], not as from parts, but as

from constitutive principles...”, Notes on Fardella, 1690, quoted from Rutherford, *Rational Order of Nature*, 221.

¹³ The best attempt to explain how bodies can be aggregates of substances on the idealist interpretation is that of Adams (*Leibniz*). He acknowledges that the aggregation of substances into bodies depends on the spatial togetherness of the substances (250), and then tries to construct spatial relations on the basis of confusion of monadic perceptions (251ff.); only to abandon the attempt on the grounds that (i) monads do not perceive one another directly but only through their own organic bodies (251); (ii) “distance and confusion of perception are not always directly proportional to each other” (252), and (iii) this would depend on “assigning to each a monad a point in space as its precise position” (251).

¹⁴ Chapter IX, §63 is entitled “Since aggregates are phenomenal, there is not really a number of monads” (xxiv): “If the plurality lies *only* in the percipient, then there cannot be many percipients, and thus the whole doctrine of monads collapses” (117).

¹⁵ Arthur, “Russell’s Conundrum” (see fn. 1).

¹⁶ Russell makes a similar point: “‘Body is an aggregate of substances,’ Leibniz says, ‘and not properly a substance. It must be, consequently, that everywhere in body there are found indivisible substances’ (G. ii. 135). This argument would vanish if space were purely subjective, and extended body, as with Kant, a pure phenomenon.” (Russell, 129)

¹⁷ One might also doubt the cogency of Leibniz’s argument for a plurality of forms from another direction. The influential thinker Zabarella, for example, followed Averroes in holding that elements lose their individuality on forming a compound substance, and a new form of the compound substance emerges. Leibniz, like Sennert before him, adopted “the opinion of Avicenna that the elements not only remain in the mixtures, but also retain their forms perfectly and integrally” (Sennert 1619). It is only *modulo* his various proofs that his forms or immaterial principles are indestructible that this argument of Leibniz’s has the requisite force. See Arthur, “Animal Generation and Substance in Sennert and Leibniz”, pp. 304-359 in *The Problem of Animal Generation in Modern Philosophy*, ed. Justin Smith. Cambridge: Cambridge University Press, 2005.

¹⁸ In the PNG Leibniz explicitly identifies multiplicities of simple substances as “composites, or bodies” (WFPT 259).

¹⁹ René Descartes, of course, was an exception to this consensus; but his account of the process of generation was widely seen as inadequate. Gassendi, on the other

hand, despite his staunch materialism about all souls save the intellectualive soul, upheld the idea that souls govern the teleological development of the organisms they animate. See Saul Fisher, "The Soul as Vehicle for Genetic Information: Gassendi's Account of Inheritance," 103-123 in Smith, *Problem of Animal Generation*.

²⁰ In this context, where what is being talked about are transformations of organic bodies such as maggots into flies, the matter from which souls cannot be detached cannot just be primary matter, but must be the actual secondary matter comprising those organic bodies.

²¹ I (PL) develop an interpretation along these lines in "Spinozist Monism", *Philosophia*, **18**, no. 1, April 1988. Interestingly, there is evidence that *Leibniz* interpreted Spinoza's conception of ubiquitous *thought* and *ideas* in the Platonistic (rather than the panpsychist) manner. In a letter to Count Ernst von Hessen-Rheinfels of 14 Aug. 1683, Leibniz says that Spinoza "had a pleasant concept of immortality of the soul: he thought that the platonic idea of our being, which is without doubt as eternal as that of a circle or triangle, constituted our true immortality." (A II ii 535). Although he discusses only souls in the passage quoted, it seems natural to extend the analysis to all particulars.

²² "[I]n strict metaphysical language, we [souls, or apperceiving monads] are perfectly independent of the influence of all the other created things things. ... Every mind is like a world apart, sufficient to itself, independent of every other created thing, involves the infinite, and expresses the universe..." ["New System of the Nature of Substances and their Communication, and of the Union which Exists between the Soul and the Body", WFPT 151]

²³ The principle of individuation for bodies, as Leibniz may conceive or intend it, remains an important issue, not addressed or resolved here.

²⁴ Another passage, from the correspondence with Des Bosses, may usefully be noted as expressing (if slightly obliquely) the interpretation advanced here. Leibniz: "...you ask what brings about changes in the body itself. ..." Leibniz seems plainly to signal that he agrees that bodies are real, they undergo changes, and a sound theory must have an account of how this occurs. In their exchange in this context Leibniz, and Des Bosses, are particularly concerned with whether bodies are substances. That issue aside, Leibniz affirms that there is a *substantial bond* between (among) monads, and in virtue of this there will obtain "the modifications which [the body] will have, corresponding to the changes in the monads". The monads, Leibniz says, "*influence*" the substantial bond, but the latter "will change nothing" in the monads'

“laws”, for “whatever modifications it will receive from them it will have as an echo, as it were, but naturally and not formally or essentially... .” (L 610).

²⁵ A partial formulation of the view advocated here may be found in a casual aside in a recent book by Jaegwon Kim. “Leibniz is well known for having denied causal relations between individual substances altogether, arguing that an illusion of causality arises out of a pre-established harmony among the monads... Perhaps most philosophers of this time were perfectly comfortable with the idea that ... with God monopolizing the world’s causal power, the epiphenomenalism of human minds just was not something to worry about.” (Jaegwon Kim, *Physicalism, or Something Near Enough* (Princeton University Press, 2005), p. 8f.) The essential character of the same idea is expressed by a number of commentators on Leibniz. One vivid case, from more than a century ago, is that of Edward Caird, who remarks that for Leibniz the monads “are isolated from reality in a phantom universe of their own, a sort of spiritual theatre set up in their own souls; but care is taken that the great drama of existence shall be re-enacted on this private stage.” (*Proceedings of the British Academy*, 1903-4, p. 97.)

²⁶ Pierre Bayle, *Historical and Critical Dictionary: Selections*, translated, with introduction and notes, by Richard H. Popkin (with the assistance of Craig Brush) (Indianapolis/Cambridge: Hackett Publishing Company, 1991), p. 247.

²⁷ See also Catherine Wilson, “The Illusory Nature of Leibniz’s System”, in Rocco J. Gennaro and Charles Huenemann, eds., *New Essays on the Rationalists* (New York and Oxford: Oxford University Press, 1999), where a still stronger position in the same vein is advocated.

²⁸ As Leibniz writes in a paper of 1678-81 that will be quoted from later “*All the phenomena of nature can be explained solely by final causes, exactly as if there were no efficient cause; and all the phenomena of nature can be explained solely by efficient causes, as if there were no final cause*”. (A VI iv 1403; LoC 253). This is reaffirmed in *Monadology* 81, with an important addition: “According to this system, bodies act as if there were no souls (though this is impossible); and souls act as if there were no bodies; and both act as if each influenced the other.”

²⁹ I would like to acknowledge helpful input on earlier drafts of my account from Alan McLuckie, Jean-Pierre Schachter, and Catherine Wilson.

³⁰ Leibniz confessedly derived his knowledge of Descartes’s philosophy (before 1675) primarily from Descartes’s expositors. There are indications, I believe, that Spinoza’s exposition in his *Principles of Descartes’ Philosophy* (tr. H. H. Britan, La Salle: Open Court, 1905) was one of Leibniz’s main sources, not least of which is

the stress Spinoza puts on this argument for actually infinite division in that work (p. 77), which is featured prominently in all Leibniz's comments on the *Principles*.

³¹ In what follows my analysis of Spinoza's philosophy and its relationship with Leibniz's developing thought is heavily indebted to that given by Patrick Riesterer in his MA thesis, *Lost in the Labyrinth: Spinoza, Leibniz and the continuum* (McMaster, September 2005), as yet unpublished.

³² Reasons for dating Leibniz's annotations as after April 10th and before May 2nd are given in LoC 399. It is, however, possible that he received the extracts from Schuller in mid-March.

³³ As seems to be indicated by a similar comment in the *De quadratura arithmetica*, the "certain splendid theorems" alluded to here follow from realizing that "every curvilinear figure is nothing but a polygon with an infinite number of sides, of an infinitely small magnitude". But these are fictional geometrical entities, and Leibniz is well aware that it is not straightforward what implications this has for the existence of infinitesimals and infinites *in rerum natura*.

³⁴ In "Infinite Numbers" Leibniz argued: "I doubt whether what is really divided, that is, an aggregate, can be called one. ... Therefore we conclude, finally, that there is no infinite multiplicity, from which it will follow that there is not an infinity of things either. Or it must be said that an infinity of things is not one whole, i.e. that there is no aggregate of them." (A VI iii 503; LoC 99, 101)

³⁵ As Leibniz wrote on becoming acquainted with Spinoza's metaphysical views in 1676, "So I do not accept Spinoza's opinion that the individual mind is extinguished with the body, for mind somehow remembers what has preceded, and this is over and above whatever is eternal in mind — the idea of body, or its essence" (A VI iii 510; L 162; G. H. R. Parkinson, ed. and transl., *De Summa Rerum* (New Haven and London: Yale University Press, 1992), 61). (Thanks to Patrick Riesterer for reminding me of this passage.)

³⁶ See for example, the various texts assembled by Russell in his Appendix, pp. 245-46, G.ii.278, G.ii.282, G.ii. 379, G.iv.394, G.iv.491.

³⁷ Further comments in this piece are also reminiscent of Spinoza: "[J]ust as what is divine and eternal in space is the same as God's immensity, and what is divine and eternal in body, i.e. in a moveable entity, is the same as God's omnipotence; so what is divine and eternal in time is the same as eternity. One attribute serves admirably to disclose another; for eternity is something indivisible, since it is the necessity of existing, which does not express succession, duration or divisibility."

³⁸ As Patrick Riesterer has reminded me, when Schuller sends Leibniz Spinoza's definition of God as "a substance consisting of infinite attributes, each of which expresses an infinite and eternal essence" he adds "and is thus immense [*immensum*]" (A VI iii 276; LoC103).

³⁹ "Thus action in a body cannot be conceived except through a kind of aversion. If you really cut to the quick and inspect every single moment, there is no action." (A VI iii 566; LoC 211)

⁴⁰ "For all bodies are surrounded by others, and are determined by one another to existing and producing an effect in a certain and determinate way, the same ratio of motion to rest always being preserved in all of them at once" (Spinoza, Letter to Oldenburg, 20 November 1665: in *A Spinoza Reader*, ed. and transl. Edwin Curley (Princeton: Princeton University Press, 1994), 83-84).

⁴¹ This notion of the *Immensum* first makes its appearance in Leibniz's writings in February 1676, at the time he is being introduced to Spinoza's doctrines by Tschirnhaus, with whom he is in regular contact in Paris (A VI iii 575; LoC 51); it is discussed at further length in some notes of March 18th ("what is divine and eternal in space is the same as God's immensity") (A VI iii 391; LoC 55), and in "On Magnitude" which I date as from the second half of April 1676 (see LoC 398), when Leibniz made his notes on Spinoza's Letter on the Infinite.

⁴² See Russell, 129: "It would thus appear that Leibniz, more or less unconsciously, had two theories of space, the one subjective, giving merely relations among the perceptions of each monad, the other objective, giving to the relations among perceptions that counterpart, in the *objects* of perception, which is one and the same for all monads and even for all possible worlds"; and p. 258: "*Leibniz held confusedly to an objective counterpart of space and time*". Of course, Russell's misinterpretation was primed in large part by his interpretation of Leibniz's thesis that space and time are ideal as following from a purported "rejection" of relations. I follow Ishiguro and Hintikka in repudiating this view. I have laid out my own account as a kind of postscript to Massimo Mugnai's masterly *Leibniz' Theory of Relations* (Stuttgart: Franz Steiner, 1992) in RTWA, "Relations of Time and Space", pp. 9-16 in *Leibniz und Europa*, ed. Herbert Breger, Hanover: Gottfried-Wilhelm-Leibniz-Gesellschaft, 1994.

⁴³ "[N]othing in motion is real besides the force and power vested in things, that is to say, beyond their having such a constitution that from it there follows a change of phenomena constrained by certain rules." ("Wonders Concerning the Nature of Corporeal Substance, March 1683, A VI iv 1465; LoC 263.)

⁴⁴ “The perceptions of monads arise one out of another by the laws of appetite, or of the *final causes of good and evil* (which are prominent perceptions, orderly or disorderly), just as changes in bodies or external phenomena arise one from another by the laws of *efficient causes*, of motions, that is.” PNG, WFPT 259-260.

⁴⁵ RTWA, “Animal Generation” (see note 17).

⁴⁶ Thanks here to our anonymous referee for pointing out the incorrectness of Loemker’s widely quoted translation of this as “nothing in *the world* except simple substances” (my stress), which lends itself more readily to an idealist reading than the idea that all *things* contain simple substances.

⁴⁷ Cf. also what Leibniz wrote to De Volder in 1704 or 1705, after his alleged change of view: “If there were no divisions in nature, there would be no things that are different; indeed there would be nothing but the mere possibility of things. It is the actual division into masses that really produces things that appear distinct, and this presupposes simple substances.” (AG 182)

⁴⁸ Likewise, the allegation that Leibniz was duplicitous can only be taken so far. In the manuscripts that were mere notes for himself, who was he trying to deceive? This also undermines the view advanced by Russell (*The Philosophy of Leibniz*, x), Rutherford (*Rational Order of Nature*, 269, 281-282), Adams (*Leibniz*, 307) and others that the discrepancies are explained by the fact that Leibniz suited his views to his different audiences. Even granting this, if the audience was himself, would one not expect his real views? Why would there still be such discrepancies?

⁴⁹ PNG §3 & §4: “The perceptions of monads arise one out of another by the laws of appetite, ... just as changes in bodies or external phenomena arise from one another by the laws of efficient causes, of motions, that is.” (WFPT 259-60)

⁵⁰ As Leibniz explicitly responds to Spinoza’s denial (*Ethics* I P15S) “that God could have created any corporeal and material mass to serve as *subjectum* of the world”: “There is something true in this, but it is something that I think is not sufficiently understood. Matter really exists, but it is not a substance, since it is an aggregate or resultant of substances” (AG 274.)