ARE THERE CORPOREAL SUBSTANCES FOR LEIBNIZ?
A reaction to Stuart Brown

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1. Introduction

There is, according to Stuart Brown, a shift in Leibinz's position concerning the existence of material (corporeal) substances from the *Discourse on Metaphysics* to the last part of the correspondence with Arnauld. At the stage of the *Discourse,* partly motivated by what Brown calls his tendency "to regard established opinion as presumptively true,"[1] Leibniz is said to uphold the view that there are corporeal substances. This position, then current in what Brown describes as the acceptable philosophical tradition for Leibniz (Scholasticism), must be surrendered as the result of a tension between two different conceptions of substantial unity which according to Brown underlie Leibniz's efforts at clarifying the meaning of substantiality. Leibniz's mature position —which Brown believes is already present at the end of the correspondence with Arnauld— is that there are no corporal substances:

> For whereas the author of the *Discourse* attempted to explain how there could be material substances, Leibniz later came to believe that, strictly speaking at least, there were no such substances.[2]

Brown refers to Leibniz's letter of 1690, the last to Arnauld, as evidence of this change, which represents, in his view, "a significant modification of

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[1] Stuart Brown, *Leibniz* (Minneapolis: University of Minnesota Press, 1984), p. 140. The abbreviations which appear in some of the passages I quote from Brown refer to the following editions of Leibniz's writings: F de C = *Nouvelles Lettres et Opuscules inédits*, edited by Foucher de Careil (Paris 1857); G = *Die philosophischen Schriften*, edited by C.I. Gerhardt (Berlin 1875-90); C = *Opuscules et Fragments inédits*, ed. by Couturat (Paris 1903); BW = *Basic Writings* (LaSalle: Open Court, 1902); PW = *Philosophical Writings*, transl. by Mary Morris and G.H.R. Parkinson (London 1973).

[2] Ibid., p. 139.

Diálogos, **55** (1990) pp. 39-69.

Leibniz's system."[3] In it, Brown suggests, "Leibniz roundly declares: 'a body is an aggregation, and is not a substance properly speaking'."[4]

The metaphysical status of bodies in Leibniz's philosophy seems to me one of its most interesting aspects, with enormous implications for his physics, metaphysics and epistemology. It is my view that Leibniz's mature philosophy includes the claim that there are material or corporeal substances. Nevertheless, this issue represents what I consider a great challenge for Leibniz's thought and it underwent a process of maturation and change where his early views were, indeed, surpassed, and different emphases kept appearing in his efforts to make clear his definitive position. I believe however, that the *Discourse* contains his definitive view, one that distinguishes between bodies, corporeal substances, and immaterial substances. Leibniz's metaphysics from the Discourse onwards, at least, includes these types of "entities", and they play a crucial role in his philosophy.

The purpose of this paper is to offer, in opposition to Brown, my interpretation of the meaning of corporeal substances in the *Discourse* and the correspondence. Since Brown presents his views as centered around the contents of these two works and since I believe that Leibniz's mature position is basically found in them, I will be satisfied here with their examination. In what follows I will first elaborate on Stuart Brown's position and, afterwards, will present my own interpretation.

2. Brown's Interpretation

According to Brown the *Discourse* contains a fusion, which he suggests may be a "confusion," of two different traditional approaches to the concept of substantial unity. One is the view, which originates in Plato, of a substance as that which is incorporeal, and thus indivisible, a being that has therefore true unity. The other is the Aristotelian conception of substances as organic unities, where substantial forms, conceived as souls or soul-like beings, are metaphysically complementary to matter in bringing about a living substance.

For Brown, these two conceptions of substantial unity are used by Leibniz in order to address two problems which originate from the mechanistic account of corporeal substances of modern philosophy. Brown calls them the Aristotelian and the Platonic problems, and is referring to them when he says:

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[3] Ibid., p. 139.

[4] Ibid., p. 151.

> The two problems come together as problems posed by the mechanical philosophy for belief in corporeal *substances*. For, if bodies are mere machines, then their unity consists in nothing more than their parts being interrelated with one another to a much greater extent than they are interrelated with other bodies.[5]

Brown explains that the above conception of unity cannot satisfy Leibniz with regard to living substances. Moreover, he says that it is incapable of meeting the condition of unity which Leibniz stipulates for individual substances in general. For Leibniz "a substance", Brown tells us, "must be a genuine unity and not a merely accidental one. It must, in the Scholastic jargon, be an *unum per se* and not an *unum per accidens*, as a collection of things."[6] These two problems move Leibniz, in Brown's interpretation, towards the Aristotelian and the Platonic conceptions of substantial unity. The former is used to address the problem of organic unity, while the latter serves to deal with the problem of infinite divisibility in extended substances. The issues are not clearly sorted out by Leibniz, according to Brown, and hence we can detect a tension between one and the other conception in the *Discourse* and the correspondence. This tension moves Leibniz's thought in the direction of making preeminent the Platonic view while abandoning what was initially dominant, the Aristotelian conception of substance. This is the shift whereby corporeal substances are lost.

Brown believes that in the *Discourse* the Aristotelian conception, *via* the influence of the Scholastic tradition, prevails, and represents the established view which Leibniz treats as presumably true and defends. This position is said to be persuasive because it enables Leibniz, against the Cartesians, to "accommodate the fact that living things generally are regarded as having an essential unity which cannot be explained on the assumption that the essence of corporeal substances consists of extension alone."[7] At this stage, Brown explains, Leibniz's view is not dualistic, it is a view where neither souls nor bodies by themselves are substances:

> The view which Leibniz sought to defend in the *Discourse* was that the sort of things we should think of as substances were people, animals and, perhaps, plants as well.[8]

And:

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[5] Ibid., p. 138.
[6] Ibid., p. 100.
[7] Ibid., p. 138.
[8] Ibid., p. 142.

> This is in a way a theory about the relations of souls and bodies. But it is a monistic theory. Souls are not substances as such. Nor are bodies. What makes a body a substance is its being 'endowed with' a substantial form.[9]

Substantial forms play an essential role in this account, and, according to Brown, Leibniz was interested in defending their metaphysical importance, at least up to the *Discourse,* for one other reason beyond explaining organic unity along scholastic lines: Leibniz wanted to find common grounds of interests between Protestants and Catholics, and believed that the Christian ritual of the Eucharist required substantial forms to be explained and was one point over which Christian factions could agree.

Now, in spite of the strength of the factors which incline Leibniz in favor of the Aristotelian conception of substantial unity, we find, according to Brown, a turn, in Leibniz, away from this position. Brown writes:

> Leibniz's attempt to address the 'Aristotelian' problem and the 'Platonic' problem (of substantial unity) simultaneously did not work and, although he continued to give some thought to the 'Aristotelian' problem, he evidently found the 'Platonic' problem both more urgent and more tractable. The view, suppressed in the *Discourse,* that perhaps in metaphysical strictness there are no corporeal substances as such became, by 1690, his acknowledged opinion. But his thoughts about the composition of the continuum were taking him even further in the direction of making his ultimate entities not merely non-material but non-spatial also.[10]

Leibniz's concern with organic unities gradually became secondary to physical considerations for which, Brown contends, substantial forms were not relevant. The Aristotelian schema for solving the problem of substantial unity gave way to the Platonic conception under the influence of questions of mechanics and dynamics. For Brown, though both the Aristotelian and Platonic problems subsist through the correspondence with Arnauld, one must conclude that:

> Leibniz seems to have given the second problem (unity of matter) a priority over the first (unity of living things)—partly perhaps because he became more interested in questions of mechanics and what he called 'dynamics' than in biology.[11]

The change that left out substantial forms resulted, ultimately, according to Brown, from the inadequacy of the Aristotelian schema before the general problem of substantial unity. The trend that Leibniz's thought follows with regard to corporeal substance, as interpreted by Brown, is the outcome of

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[9] Ibid., p. 142.
[10] Ibid., p. 145.
[11] Ibid., p. 144.

the strength of Leibniz's basic criterion of substantiality, unity, which was not adequately met, after all, by the Aristotelian conception. Motivated by the problem of infinite divisibility of extended entities Leibniz is led towards the recognition that his initial position is not tenable. It cannot solve that problem which needs also to be addressed in the case of the bodies of living organisms. Whatever individual substances there may be, inanimate or animate, must fully satisfy all the conditions of substantiality, and preeminently that of true unity. If there are corporeal substances, living or not, these must somehow be shown to be an *unum per se* and not merely an *unum per accidens*. Brown explains:

> The transition in his (Leibniz's) view of material substances corresponds to other changes and can be seen largely as an attempt to make his theory of what true substances are fully consistent with the implications of his requirements of substantiality.[12]

This effort towards consistency involved a cost, according to Brown: "The cost of doing so was to reduce material substances to the status of well-founded phenomena."[13]

For Brown the change whereby what was before considered a substance became a "well-founded phenomenon" is clearly illustrated by a change in a comparison between rainbows and bodies or matter which Leibniz customarily used to present his views. While in the *Discourse,* bodies (being substantial) were distinguished from rainbows, insofar as the latter were "phenomena," Leibniz, Brown tells us, later considered bodies and matter merely aggregates, and "they became like rainbows instead of being contrasted to them."[14] The change in meaning of the comparison marks for Brown the turn away from the initial acceptance of corporeal substances:

> The comparison with the rainbow is significant in another way. For it marks the extent to which Leibniz retreated from his assumptions about matter in the *Discourse* and for a few years later. At that time he presented rainbows as mere phenomena from which bodies must sharply be distinguished if they are to be regarded as substances (see, for instance, PW 135, G i i 58). It seems as if he then believed that corporeal substances could meet the conditions of substantiality. Whereas a rainbow had only an apparent unity, 'the reality of a corporeal substance consists in a certain individual nature; that is, not in mass but in power of acting and being acted on' (PW 81, G v i i 314). Not only could material body have unity, identity and agency. It could also enjoy relative autonomy: *'A corporeal*

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[12] Ibid., p. 143.
[13] Ibid., p. 143.
[14] Ibid., p. 143.

substance can neither arise nor perish except by creation or annihilation' (PW 92, C 523).[15]

Leibniz's turn towards consistency, we have seen, eventually led, according to Brown, to the recognition that the conception of organic substance is laden with problems, resulting from spatiality, it cannot surmount. The basic problem, Brown believes, is that positing the existence of living corporeal substances always involves asserting that they are spatial, and this makes the problem of infinite divisibility unavoidable. This is the point of the passage below:

> The belief that there are material substances has the consequence that substances can be spatial. But, if this is so, there arises the old problem concerning the composition of the continuum. For whatever is spatially extended seems to be infinitely divisible and the 'Platonic' requirement for something being a real being—namely, that it be a true unity *(unum per se)*—is not met. If that requirement is not met, then there is nothing substantial in the visible world.[16]

The problem, thus posed by Brown, indeed, suggests that spatiality is totally incompatible with unity, and leads in the direction of concluding that the only way out is to discard corporeal substances altogether. It is not surprising, therefore, that Leibniz's attempt at answering the question 'How can there be corporeal substances which satisfy the conditions of substantiality?' in the *Discourse,* is said to fail. Nor is it surprising that the outcome of such failure is claimed to be the abandonment of corporeal substances. Indeed, we find that Brown will not consider Leibniz's reiterated emphasis upon the value of the Aristotelian conception of substance for the solution of the problem of spatial divisibility convincing, and will not even interpret this conception of substantial unity as really addressing that problem. The main thrust of Leibniz's efforts to make infinite divisibility compatible with unity is rather found in Leibniz's position with regard to the existence of an infinite number of actual parts in corporeal substances. Brown therefore suggests:

> Leibniz sought to meet this problem (infinite divisibility) by saying that 'there is no portion of matter which is not actually subdivided; so the parts of any body are actually infinite' (PW 98, C 19). Hence 'there is no portion of matter so small that there does not exist in it a world of creatures, infinite in number' (PW 10, F de C 180).
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> That answer, however, gives rise to two quite different problems. In the first place it does not help with the 'Aristotelian' problem about how liv-

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[15] Ibid., p. 141.

[16] Ibid., p. 144.

> ing things like man, animals and plants are substances. For on this account living things will themselves contain 'a world of creatures, infinite in number' and its is not clear how the macroscopic things will have a substantial unity. In the second place, even if there is a world of true substances to be found in every particle of matter, this is just as true of rainbows and the non-living world as of organisms.[17]

Brown presents as the first problem of the unsatisfactory answer above its inability to explain the unity of the organic entity (macroscopic thing) composed of an infinite number of parts. What he means with regard to the second problem is not so clear to me, though the emphasis seems to be that we are basically left with an account of things as well-founded phenomena. Both problems, however, are supposed to show that Leibniz's attempted solution fails.

It is clear that Brown does not accept the Leibnizian claim in the *Discourse* that substantial forms serve to substantiate bodies insofar as they make unitary the composite being that results from the metaphysical "confluence"—for lack of a better expression—of matter and form in a corporeal substance. An infinite number of parts still subsisting in the so-called "unitary" composite entity leaves open for Brown—both with regard to organic and material unities— the question: How can such an entity be unitary if that which is infinitely divisible is not? As Arnauld and several others, Brown believes that the substantial forms do not achieve their purported end in solving the question of the unity of what, being material, is infinitely divisible. The attempted solution, for Brown, is a very defective one, and such that Leibniz himself will find it unsatisfactory. The outcome of this situation is that, after hesitation and various views, Leibniz takes "a phenomenalistic direction,"[18] in his accounts of matter, space and time. These, Brown explains, will be progressively accounted for "in terms of the perceptions of monads."[19] Accordingly, Brown says,

> Material substances are reduced to well-founded phenomena as are also space and time. The tendency is brought out succinctly in his [Leibniz's] review of Berkeley's *Principles* quoted earlier: Many things that are here seem right to me. But they are expressed rather paradoxically. For there is no need to say that matter is nothing. It is sufficient to say that it is a phenomenon like a rainbow. Nor need we say that it is substantial: rather that it is the result of substances. Nor need we say that space is more real than time: It is sufficient to say that space is nothing but the

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[17] Ibid., p. 144.
[18] Ibid., p. 147.
[19] Ibid., p. 147.

order of coexisting things and time the order of successive things. The true substances are monads or things that perceive.[20]

Brown reads the above remarks on Berkeley as a clear indication of Leibniz's rejection of corporeal substances. He had referred in previous paragraphs to this same passage as indicative of Leibniz's definite view, as follows: "Leibniz's later view is brought out well in the way he contrasts his position to that of Berkeley."[21] His point is that we are being told here clearly that matter is a phenomenon, like the rainbow. No longer is matter as corporeal substance contrasted to rainbows as phenomenal. Only monads, i.e. subjects of perception, are substances.

Phenomenalism for Brown is Leibniz's answer to the problems involved in spatiality: infinite divisibility and the impossibility of motion which Zeno had discovered as evidence for Parmenides' views. Leibniz's solution is conceiving matter and bodies to be "well-founded phenomena," while abandoning the defense of corporeal substances. A well-founded phenomenon, however, Brown explains, is not for Leibniz a "mere" phenomenon as something entirely subjective. Rather, like the rainbow, it has substances underlying it, from which they "result". Brown says:

> Space, time and matter are what, in Leibniz's later theory, are called 'well-founded phenomena'. They are 'well-founded' in that, unlike *mere* phenomena, they result from substances. A 'corporeal substance' is a phenomenon produced by monads and is not to be understood simply in terms of my perceptions. Some of the properties commonly ascribed to corporeal substances, such as color and even size, figure and motion are at least partly 'imaginary and relative to our perceptions' (*Discourse* § 12). But corporeal bodies also possess properties, like resistance to change, which need to be understood, according to Leibniz, in terms of underlying substances.[22]

The main thrust of what Brown claims here, in what I consider rather unclear terms, is that we should understand the "phenomenalistic turn" in Leibniz in a way that makes room for "well-founded phenomena" as that which is objectively real insofar as substances underlie it. While a body has qualities (sensible) that are merely subjective it also possesses other (resistance) that should be considered real, from the relation they bear to underlying substances. The sentence that says, "A 'corporeal substance' is a phenomenon produced by monads and is not to be understood simply in terms of my perceptions," stresses this point. It also suggests that some-

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[20] Ibid., p. 147.
[21] Ibid., p. 141.
[22] Ibid., p. 149.

times Leibniz expresses himself in this manner and speaks of a corporeal substance as a "phenomenon". Presumably, this must be the result of a degree of laxity in Leibniz's use of expressions such as "corporeal substance". Indeed this is part of Brown's interpretation. He believes that since Leibniz attempts to accommodate common sense somehow, he will, while eliminating "corporeal substances" and "physical causality" from his mature metaphysics, admit the traditional linguistic usages in our ordinary description of reality. He explains this point as follows:

> But it was only in strict metaphysical usage that Leibniz came to think it was incorrect to talk of material *substance*. He was just as happy to talk of bodies as 'substances' in a theoretically uncommitted way as he was to talk of bodies causing things to happen in other bodies.[23]

Even if real, "well-founded phenomena" are not corporeal substances; and the turn towards them is made at the expense of corporeal substances, for Brown. What was previously considered a substance is no longer, in Brown's interpretation of Leibniz, in itself substantial. And we must infer that since this being is metaphysically dependent upon substances which underlie it, and since such substances cannot be corporeal (for there are none such), they must be immaterial. We end up, in this interpretation, with an ontology which only admits immaterial substances.

I must concede that there is much in Leibniz's way of expressing his views which lends itself to the interpretation Brown offers. Nonetheless, I consider it erroneous. My contention is that a careful study of what he says in the *Discourse* and the correspondence allows us to see that he defends the existence of corporeal substances, and, also, that he speaks of both "mere phenomena" and "well-founded phenomena," in a way that does not imply that either is the metaphysical substitute of what he consistently calls "corporeal substances." I believe too that well-founded phenomena require corporeal substances as that which underlies them, a point Leibniz emphatically and continuously defends. In what follows I offer my interpretation of Leibniz's thought in the *Discourse* and the correspondence. I will treat the *Discourse* first, and afterwards I will separately examine the *Correspondence.*

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[23] Ibid., p. 148.

3. Leibniz's view of corporeal substances

3.1 Discourse on Metaphysics

The nature of bodies and their metaphysical status is a theme that in the *Discourse* Leibniz takes up once he has explained what it is to be a substance and has offered several consequences (that he calls paradoxes) that follow from his conception of a substance as that which affords a complete concept. Among these consequences he mentions (without providing in § 9 of the *Discourse* a comprehensive account of how it follows from his definition of substance) indivisibility: "a substance cannot be divided in two, or one substance made out of two."[24] His attention to substances as topic resulted from a moral question about responsibility which required that it be established which entities are capable of action, i.e., can initiate action and may thus be morally responsible. If, Leibniz contends, actions are modalities of substances the question about responsibility requires that we clarify what is a substance and what types of substances there may be. This eventually leads to a clarification of the notion of corporeal substance, which is offered in opposition to what Leibniz considers the current prevalent conception of such substances: that of the Cartesians.

Leibniz's views, by his own account, are the result of a turn towards Scholastic philosophy prompted by the realization that, metaphysically, the Cartesian thesis that bodies or extended entities are substances is not tenable. Leibniz treats the Cartesian view as if representative of modern philosophy, and presents his own thought as motivated by his metaphysical consideration of what is a substance. The recognition of what constitutes the essence of substantiality has made him aware of the fact that bodies, as conceived in modern philosophy, cannot be considered substances. He writes:

> I believe that anyone who will meditate about the nature of substance as I have explained it above will find that the entire nature of the body does not consist merely in extension, that is to say, in size, figure, and motion, but that there must be necessarily recognized in it something related to souls, which is commonly called a substantial form, although this form makes no change in the phenomena, anymore than does the soul of beasts if they have one.[25]

Leibniz's point is that the geometrically inspired conception of corporeal substances of Cartesianism, which equates bodies and corporeal sub-

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[24] Gottfried Wilhelm Leibniz, *Philosophical Papers and Letters*, Translated and Edited by Leroy E. Loemker (Chicago: The University of Chicago Press, 1956), p. 472.

[25] Ibid., p. 475.

stances, and considers a body to be essentially an entity whose modalities of being are only figure, magnitude, and motion, is not consistent with his own, presumably correct, conception of substance. Though he repeatedly claims that physical accounts of phenomena obtain nothing from the metaphysical use of substantial forms, he clearly asserts that the Cartesian conception of bodies as substances constitutes an error in metaphysics which should be remedied, and can be, by the introduction of the substantial forms of the peripatetics. Leibniz will explain that the basic problem is that a substance must have unity and the body or corporeal substance of the Cartesians, being just extended and infinitely divisible, does not have unity. In § 12 of the *Discourse,* however, Leibniz stresses the phenomenal character of bodily attributes. He says:

> It can even be demonstrated that the concepts of size, figure, and motion are not so distinct as has been imagined and that they include something imaginary and relative to our perceptions, as do also (though to a greater extent) color, heat, and other similar quantities which one may doubt truly are found in the nature of things outside of ourselves. This is why qualities of this kind cannot constitute any substances. And if there is no other point of identity in body than we have just mentioned, no body can ever subsist longer than a moment.[26]

We can see above an extension of modern philosophy's conceptual schema whereby a distinction is wrought between what belongs to the thing itself, the substance, and what appears to us as the thing. Now, while figure, size and motion are primary qualities for the Cartesians, which exist in the corporeal substance itself (color, heat and so-called "sensible qualities," on the other hand, are not found in such substances outside ourselves), for Leibniz the primary qualities of the Cartesians have to be considered secondary (using Lockean terminology) insofar as they are not distinct and are relative to our perceptions, imaginary in the sense of depending on subjectivity and not being a faithful rendering of corporeal substances as they are in themselves. And if subjective, in the same manner as Cartesian secondary qualities, these attributes cannot account for the identity or subsistence in time of a body as a corporeal substance, for they do not really qualify the corporeal substance itself.

This last point is suggested by Leibniz in the last sentence of the passage quoted. The sentence really goes beyond the claim that identity cannot be grounded upon qualities that are just phenomenal, for it contains the suggestion that the Cartesian conception of a body as just geometrically extended yields a static conception of substance which cannot explain subsistence in

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[26] Ibid., p. 475.

time. Indeed, in the third meditation *(Meditations of First Philosophy)* Descartes tells us that a body has nothing in itself linking its successive existence through time, and that its subsistence can only be explained through the hypothesis of continuous creation. This is consistent with the conception of matter as inert that we find in Descartes, which entails the view that force is extrinsic to matter and corporeal substances and leads to the occasionalistic account of causal interaction between bodies. Two reasons then are suggested in the passage above for discarding extensional qualities as the essential attributes of corporeal substances. If there are corporeal substances, Leibniz will argue, they must be more than mere extended entities. This "more" is obtained by conceiving of corporeal substances as extended entities invested with substantial forms; a position which, Leibniz explains, he was forced to reach even when he was initially inclined in favor of the view of modern philosophers. He writes:

> I know that I am advancing a great paradox in seeking to restore the old philosophy in some respects and to restore these almost-banished substantial forms. But perhaps I shall not be condemned so lightly when it is known that I have given much thought to the modern philosophy and that I have spent much time in physical experiment and geometric demonstrations and was for a long time convinced of the emptiness of these beings to which I am at last compelled to return in spite of myself and as by force.[27]

Leibniz's critique against the Cartesian conception of bodies as corporeal substances is furthered through another argument which occupies him in §§ 17 and 18 of the *Discourse*. The argument is based on the claim that the Cartesian account of laws of nature is flawed; specifically, the view that "God always conserves the same quantity of motion in the world"[28] can be shown, Leibniz believes, to be erroneous, and by doing so the metaphysical conception upon which it is grounded is itself shown defective. In order to appreciate Leibniz's argument appropriately I will first summarize the background against which it is offered.

Modern philosophers, like Galileo, Descartes and Malebranche, to name a few, had elaborated a view of external reality in which ordinary things, or the things of common sense, attained the stature of substances when deprived of sensible qualities. Under the persuasion that not all the attributes of things appear with really belong to them, these philosophers considered substantial the entity in the external world whose only attributes are figure, extension, and motion. Guided by a geometric understanding of things as

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[27] Ibid., p. 474.

[28] Ibid., p. 482.

bodies, and in the case of Descartes and Malebranche, by the very explicit principle that only those attributes which are "clear and distinct" (rational) belong to an external entity and qualify it substantially, they concluded that sensible qualities belong not in the domain of external reality (things themselves) but rather in the domain of consciousness. For them the external world was a conglomerate of bodies constantly in motion.

This conception of external reality of the moderns entailed the view that all physical change is motion, physical change being either macroscopic change in the position of perceptible bodies relative to each other, or change in figure and magnitude, which is just change from the motion of the internal parts of a body. It is this view of change which, according to Leibniz, is at the basis of the Cartesian theory that states that the quantity of motion in the universe remains constant throughout causal interaction between bodies. But a clear account of what it is that remains constant leads to the discovery that force, conceived in a way that does not admit that it be equated with the phenomenal manifestations of motion, is what remains constant. From this realization we should conclude that Cartesian views of bodies as substances, fundamentally and essentially qualified by motion, is inadmissible.

In § 17 of the *Discourse* Leibniz explains that, for Descartes, in physical causal interaction between bodies quantity of motion "coincides exactly with the moving force"[29] and remains constant. Quantity of motion is understood as the product of velocity times mass. Leibniz offers a case of a free falling body as an instance of a change where force, conceived as a function of mass times distance, remains constant but quantity of motion (velocity times mass) does not. From here he concludes that force is not quantity of motion, and that quantity of motion is not a constant in the universe. Now, since this mistake in Cartesian physics is seen as a consequence of Descartes' metaphysical conception of corporeal substances as essentially characterized by primary extensional attributes, the denial of the Cartesian hypothesis in dynamics is said to entail the denial of his metaphysical views about corporeal substances. Leibniz writes in § 18:

> This consideration in which force is distinguished from quantity of motion, is of importance not only in physics and mechanics in finding the true laws of nature and the rules of motion, and even in correcting many errors in practice which have slipped into the writings of a number of able mathematicians, but also in metaphysics for the better understanding of the principles. For considering only what it means narrowly and formally, that is, a change of place, motion is not something entirely real; when a number of bodies change their position with respect to each other, it is impossible, merely from a consideration of these changes, to

[29] Ibid., p. 482.

determine to which bodies motion ought to be ascribed, and which should be regarded as at rest, as I could show geometrically if I wished to stop now to do it. But the force or the immediate cause of these changes is something more real, and there is a sufficient basis for ascribing it to one body rather than to another. This, therefore, is also the way to learn to which body the motion preferably belongs. Now, this force is something different from size, figure, and motion, and from this we can conclude that not everything which is conceived in a body consists solely in extension and its modifications, as our moderns have persuaded themselves. Thus we are compelled to restore also certain beings or forms which they have banished.[30]

Motion is not real, and thus not an essential attribute of substance, because it is not that which remains constant in change and because it depends upon position understood as the spatial relation bodies exhibit to each other, which, as Leibniz frequently says, is something entirely relative. Force, on the other hand, since it does remain constant, must be considered essential; it is that which remains identical in physical interaction and, as we shall see further on, what belongs to a corporeal substance constantly throughout the unfolding of its phenomenal history. Motion is the fundamental attribute of bodies in the Cartesian conception, for figure and magnitude change with motion. Figure, size, and motion, therefore, are not sufficient to explain the nature of a corporeal substance.

We must be aware of the fact that Descartes and Leibniz share the same metaphysical conceptual schema, in the analysis of physical interaction, whereby the constancy of a factor in change points to what is substantial. In Descartes' example of the wax in the second meditation *(Meditations of First Philosophy)* he had stressed that only extendedness remained (is constant) in a process where the wax as a corporeal substance did not lose its identity while losing its previous sensible qualities. In this manner he was proving that the sensible qualities are not really (substantial) in the body while extension is. Analogously, Leibniz proves that in an exchange of movement that which is constant points to what is substantial in the entities involved. The principle here in question is that causality is grounded on substantiality so that causal interaction may be understood on the basis of the substantial or essential features of the entities in question. In the domain of physical entities the principle which states that the effect obtains whatever reality the change has brought about from its cause, suggests that the effect contains what is lost by the cause and never more. If less than what was originally in the cause the difference must remain in the cause. The outcome of these metaphysical conceptions is the view that something remains con-

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[30] Ibid., p. 484.

stant in physical causal exchanges, and that is precisely what is substantial in the entities involved. That this was motion followed from Descartes metaphysical presuppossition considering motion an essential feature of corporeal substance. Leibniz proves that quantity of motion is not constant and infers that motion is not substantial but phenomenal. Force, conceived as a function of distance time mass, in falling bodies, remains constant and must be considered, then, in accordance with the conceptual schema explained above, what is substantial.

There is an additional implication for physics of the view that corporeal substances are just extended entities. Leibniz does not attribute this "implication" to Descartes as something he expressly defended, but treats it as consistent with his views. Therefore, by showing it erroneous he contends that additional evidence is brought against Cartesian metaphysics. In several works Leibniz refers to this "implication" as a thesis to which he subscribed as a consequence of his initial acceptance of the moderns' conception of bodies. In the *Discourse* he says:

> For if there were nothing in bodies but extended mass, and nothing in motion but change of place, and if everything should and could be deduced solely from the definitions of these by geometric necessity, it would follow, as I have elsewhere shown, that the smallest body, in colliding with the greatest body at rest, would impart to it its own velocity, without losing any of this velocity itself; and it would be necessary to accept a number of other such rules which would be entirely contrary to the formation of a system.[31]

As Leibniz will make clear in other works,[32] the view that a small body would be able to transmit the motion (velocity) it has, without any loss, to a much larger body, is based on the supposition that the geometrical features of a body at rest, conceived just in terms of figure and magnitude, include nothing which would make comprehensible any kind of resistance (inertia) on the part of the body moved. And if this is the case the same motion of

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[31] Ibid., p. 487.

[32] "Thus in a book written long ago when I was young, I proceeded on the assumption that matter in itself is indifferent to motion and rest and concluded from this that the largest body, at rest, must be moved by any impelling body, however small, without any weakening of the latter; from this I then derived the abstract rules of motion for the system. And such a world, in which matter at rest would obey the moving body without any resistance, could indeed be imagined as possible, but such a world would actually be pure chaos. So the two tests upon which I always depend—success in experiment and the principle of order—caused me later to recognize that matter has been so created by God that there is in it a certain repugnance to motion and, to put it in a word, a resistance, insofar as the body in itself withstands being moved and thus opposes all motion if at rest, or all greater motive force applied in the same direction if in motion, so that it weakens the force of the impelling body." Ibid., p. 839.

the moving body would be aroused in the body moved without any consideration of the masses or the volumes involved. Elsewhere Leibniz will refer to experiences which show that physical interaction does not accord with this hypothesis, and he will explain fully what is implied in his last statement above: that "it would be necessary to accept a number of other such rules which would be entirely contrary to the formation of a system." This statement implies, for Leibniz, that the account of causal interaction that supposes that there is no resistance in bodies, for its essential attributes do not suggest any, would not allow for an ordered nature. Furthermore, to conceive of nature in that manner is not compatible with the view that nature is the product of creation by a perfect omniscient (perfectly rational) and omnipotent God. Now, since empirical evidence is contrary to a hypothesis grounded on the Cartesian conception of corporeal substances as extended entities, and absurd consequences follow from it, we must conclude, according to Leibniz, that this conception is false.

We have seen, up to now, considerable evidence in the *Discourse* of Leibniz's defense of the existence of corporeal substances, understood not as extended entities but as composites of the sort that led Stuart Brown to suggest that his is a monistic theory where neither bodies nor souls are substances. In the *Discourse* the defense of this type of substances is based mainly, as the passages we have quoted show, on the claim that the prevalent conception of corporeal substances, which makes no use of substantial forms, leads to mistakes in dynamics. It would seem that what Brown characterized as a biologically oriented conception of corporeal substances as organic unities is motivated by considerations in dynamics primarily. It is clear too that this conception is offered as one that solves the problems the Cartesian conception gives rise to. Within this context the substantial form works as the principle that explains the active character of a corporeal substance and its identity in time; it also enables us to understand the real nature of the entities which make up the physical world. Substantial forms are introduced in opposition to an exclusively geometrical conception of corporeal substances, but in order to do physics correctly. We must realize, then, that though their metaphysical significance is fundamental, there is a great emphasis in the *Discourse* on their physical implications, in a way that makes Brown's suggestion—that dynamics and physics prompt a change whereby what primarily was a biological conception of corporeal substances had to be abandoned—unacceptable.

The emphasis that Brown places on the biological significance of the Aristotelian schema has blinded him to the fact that though soul-like substantial forms served in Aristotle mainly for explaining life, in Leibniz they play a more basic metaphysical role with respect to all types of substances,

the substances of the physical world included. In fact the impression one gets, as our examination of the *Discourse* must have suggested, is that the principle of life of Aristotle becomes, for Leibniz, preeminently a principle of action, whose most important explanatory role relates to physics. We will see that this impression must be somewhat modified; yet we can say now, unhesitantly, that Brown's interpretation of substantial forms as that which, against Descartes, is used by Leibniz to account for the essential unity of animals—which otherwise would have to be considered machines—misses a considerable part of what Leibniz is saying.

Once we realize the full extent of making figure, magnitude and motion phenomenal attributes of corporeal substances we become aware of a shift by Leibniz whereby the substantial in the physical realm is not being abandoned but what is truly real about the substances in this realm are not their spatial features but their dynamical ones. Now this may sound closer to what Brown tells us, but we must realize that we still have for Leibniz corporeal substances, that the essential attribute of such substances is force, from which the substance is primarily an agent of force and activity, and has motion as its phenomenal manifestation which, in turn, yields figure and magnitude.

We can also say, at this stage, before our examination of the correspondence with Arnauld, that there is a problem in Brown's interpretation that stems from a degree of inconsistency in what he says when he attempts to make clear what is Leibniz's view of corporeal substance. His suggestion that what prevails in the *Discourse* is a monistic conception of substance where bodies by themselves are not substances would, if by 'bodies' he means 'corporeal substances' (as he usually does when he uses that term), entail the rejection of corporeal substances already. This would seem hard to conciliate with the claim he started out with, that in the *Discourse* we have a defense of corporeal substances, which is only abandoned at the end of the correspondence with Arnauld. The problem, I believe, is the result of a poor interpretation of Leibniz which has not brought about the realization that the terms 'body' and 'corporeal substances' are not equivalent in Leibniz's metaphysics. The practice of using these terms as interchangeable, which we find in Brown, is appropriate to Cartesian metaphysics, but contrary to Leibniz's. The fact is that Brown seems not aware of the importance for Leibniz's position of being very careful when using these terms so that in statements where the term 'body' appears, if Leibniz's position is being expressed, 'corporeal substance' should not be understood. Only thus can it become clear that Leibniz can at the same time deny substantiality to bodies while affirming corporeal substances.

We have a very important piece of evidence illustrating this carelessness in the usage of the terms in question, on the part of Brown, in his assertions regarding Leibniz's letter to Arnauld of 1690. His whole thesis suggesting a change in Leibniz, whereby corporeal substances are abandoned, is grounded on an interpretation of the contents of this letter where the term 'body' is handled as if it meant 'corporeal substance'. The crucial sentence is the following:

> A body is an aggregation of substances, and is not a substance properly speaking.[33]

Now, this statement would not be interpreted as a negation of corporeal substances by anyone who takes 'body' here not to mean the same as 'corporeal substance'. The assertion, on the basis of what we already know from the *Discourse,* is entirely compatible with Leibniz's consistent negation of the substantial character of bodies conceived as just extended entities. A negation that we know does not entail the negation of corporeal substances, otherwise understood. Indeed the sentence that follows the one just quoted reaffirms this interpretation of Leibniz. It suggests that "bodies," which are not for Leibniz corporeal substances but "well-founded phenomena," have true substances underlying them. Leibniz goes on as follows:

> Consequently in all bodies must be found indivisible substances which cannot be generated and are not corruptible, having something which corresponds to souls.[34]

If in the sentence above the reference to that which must be found in bodies, is understood as an allusion to underlying substances from which the nature of bodies as "aggregations" becomes metaphysically comprehensible, and if such underlying substances are corporeal, we can read this statement very differently from Brown. It would rather be the expression of a metaphysics which includes corporeal substances and considers bodies beings by aggregation. This is, I believe, what Leibniz means.

The terminological confusion that I attribute to Brown explains his claim suggesting that Leibniz is willing to be lax in the use of metaphysical terms outside strict metaphysical contexts—a laxity that Brown takes to its utmost limits as in the statement where he speaks of a "corporeal substance" being a "phenomenon" (ref. 22). It is true that Leibniz is not totally consistent in his usage of the words 'body' and 'corporeal substance', but he is trying to express the view that bodies without a principle of action are not substances,

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[33] Gottfried Wilhelm Leibniz, *Discourse on Metaphysics, Correspondence With Arnauld, Monadology* (Evanston: Open Court, 1980), p. 244.

[34] Ibid., p. 244.

and yet that they are substances when so endowed. This task, and expressing other aspects of the substantiality of corporeal substances versus the phenomenality of bodies, give rise to statements where the terms in question are dealt with in a way that could lead to erroneous interpretations. But, with what I consider the correct interpretation of his views we become aware of the fact that Leibniz's usage of these terms is quite consistent, and not as lax as Brown makes it out to be.

Leibniz's attempt to clarify his views to Arnauld strengthens the interpretation I have offered. Their correspondence is, indeed, an excellent source of enlightenment to this whole topic, for the question of substantial unity of corporeal substances becomes, from Arnauld's letter of September 28, 1686 onward, one of the two dominant concerns of the correspondents. We shall, therefore, now address the correspondence with Arnauld in order to further our interpretation.

3.2 Correspondence with Arnauld

3.21 POINT OF DEPARTURE – ARNAULD'S LETTER OF SEPTEMBER 28, 1686.

I would roughly divide the correspondence between Arnauld and Leibniz into two parts, the last of which begins with Arnauld's letter of September 28. While the first part is mostly concerned with problems of freedom and necessity which originate from Leibniz's conception of substance, the last part deals with two topics that Arnauld identifies as still obscure to him: the first, Leibniz's "hypothesis of the concomitance and of the agreement of substances among themselves",[35] and the second, the following statement by Leibniz:

> In order that the body or matter should not be a simple phenomenon, like a rainbow, nor a being brought together by accident or by an accumulation, like a pile of stones, it must not consist merely in extension, and there must needs be something which is called the substantial form and which corresponds in some sort to what is called the soul.[36]

Leibniz will address both topics in the letters that follow in the correspondence. Our concern is the obscure statement. What Leibniz adds in the correspondence, in his attempt to satisfy Arnauld's request for clarity, goes well beyond what was stated in the *Discourse;* and indeed, clarifies what he means by 'corporeal substance', 'substantial form', and 'body'. It is my view that this amplification is, however, completely consistent with what was suggested in the *Discourse*. In order to emphasize what I consider most im-

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[35] Ibid., p. 143.

[36] Ibid., p. 145.

portant and to present the appropriate passages in the letters after that of September 28, I have divided the exposition that follows under four tittles: Contextual Significance of the Obscure Statement; The Draft of the Letter of November 28–December 8, 1686; The Letter of November 28–December 8, 1686; and The Letter of April 30 1687.

3.22 CONTEXTUAL SIGNIFICANCE OF THE OBSCURE STATEMENT.

The statement cited above (footnote 36) appears in Leibniz's letter to Arnauld dated July 14, 1686, where he is mainly concerned with clarifying the following proposition.

> That the individual concept of each person involves once for all, all that will ever happen to him.[37]

In this proposition "a person" is an instance of substance. Leibniz often expresses a general version of it which is obtained from the proposition above, by substituting 'substance' for 'person' in it.

Though Arnauld's question about the puzzling statement goes quite beyond asking for the meaning of the statement within the context of the letter it first appears in, and leads in the correspondence in the direction of making clear the metaphysical status of bodies and corporeal substances, I believe that it is worthwhile to begin with its contextual significance. To clarify this we must understand the import of the proposition around which the letter of July 14 centers. What I have called its general version states: "That the individual concept of each substance involves once for all, all that will ever happen to it." This proposition is practically a definition of what Leibniz calls a complete concept. It states what could also be expressed as follows: a complete concept includes all the predicates that may be truthfully ascertained of its substance. Now, for Leibniz, God possesses this concept before creation as the idea of a possible individual substance—this idea is that substance's individual essence—with which the existent or created substance must accord, and which for this reason determines it *a priori*. Since this means that created individual substances will exhibit the attributes and modalities that their individual essences prescribe, one must conclude, according to Leibniz, that nothing that occurs to a substance is externally caused, but rather originates from itself (from its complete concept). And Leibniz says: "Thus every individual substance or complete being is, as it were, a world apart, independent of everything else excepting God."[38] From this self-sufficiency, in turn, follows, that *corporeal* substances, appearances to the contrary notwithstanding, do not really influence each other (interact).

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[37] Ibid., p. 120.

[38] Ibid., p. 133.

Now, the statement Arnauld finds puzzling is introduced by Leibniz after a sentence that says, "It may be surprising perhaps that I deny action of one corporeal substance upon another, when this seems so evident, but besides the fact that others have already done this, we must also consider that it is rather a play of the imagination than a distinct conception."[39] Leibniz is saying that interaction is imaginary, and he presents the next statement, the obscure one, in order to strengthen this point by adding that bodies themselves, without substantial forms, are imaginary. He brings in his view that corporeal substances require other essential attributes than extension to suggest that it should not be surprising to realize that interaction is imaginary once we realize that the subjects of interaction (Cartesian bodies) are themselves phenomenal.

We can see by the account above that the statement Arnauld finds obscure or puzzling just expresses what, by now, we must consider as the view about bodies and corporeal substances of the *Discourse*. Arnauld finds this position, however, hard to accept because he is a dualist, *à la* Descartes. For him bodies are substances and so are minds. An hylemorphic conception where the two relate in a metaphysical manner that precludes that they be considered substances each by itself is contrary to his basic metaphysical stance.

3.23 The Draft of the Letter of November 28–December 8, 1686.

Arnauld's dualism, stands at the basis of several questions that he presents to Leibniz, in his letter of September 28, in order to specify the aspects and implications of the puzzling statement which most needs clarification. I paraphrase or reproduce them as follows: If the body is a substance (as Arnauld believes), why should it need a substantial form? Is a substantial form extended and divisible or not? "Is it the substantial form of a block of marble which makes it one?"[40] Are there many substantial forms, one for each body, or just one for extension *(forma corporeitatis)?* Are the substantial forms "different in kind when the bodies are different in kind?"[41] Are the sun and the moon unitary? How so? Why speak of substantial forms if we have no clear ideas of them and they contribute nothing to the explanation of the particular phenomena of nature?

Leibniz addresses these questions in a draft of a letter proper dated November 28–December 8 1686. In the draft we find a statement that Brown considers evidence of Leibniz's practice of taking established opinions as presumptively true. It says:

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[39] Ibid., p. 135.
[40] Ibid., p. 146.
[41] Ibid., p. 147.

> We must maintain that the bodies are substances and not merely true phenomena like the rainbow,...[42]

The "must" according to Brown points to the need of presuming that bodies are substances, along with established opinion. I rather interpret this statement as Leibniz's characteristic point of departure when treating this whole issue. It expresses tentatively the Cartesian position that he considers prevalent and which, it should be realized, must be modified with the introduction of substantial forms in order to become appropriate. The statement does not express, as Brown would have it, the Scholastic presumptively true view that Leibniz will defend, but one that he wants to show is untenable. We can see here again the basis for Brown's usage of the terms 'bodies' and 'corporeal substances' as interchangeable, which leads Brown to consider assertions where "bodies" are said to be "substances" as expressive of Leibniz's own views, without apparently recognizing that such sentences characteristically serve to present a metaphysical view that Leibniz wants to attack. He will read, hence, statements that assert that bodies are not substances, as if expressing Leibniz's definitive position against corporeal substances. It is odd that Brown does this while he also writes as if aware of the fact that Leibniz is rejecting the conception of substances of the Cartesians.

Consistent with my interpretation, what follows in the draft is what we have been accustomed to expect from the *Discourse:* the claim that corporeal substances cannot be understood in terms of extension only. Leibniz writes:

> I think that the corporeal substance consists neither in extension nor in divisibility, for it will be granted that two bodies distant from each other, for example, two triangles are not really one substance; suppose now that they come together to compose a square, does the mere contact make them one substance? I do not think so.[43]

The main thrust of what is contained in this draft is the view that extended entities have only unity from "contact" and this is not substantial unity but unity "by aggregation," or as Leibniz says elsewhere "unity by accident":

> Now, every extended mass may be considered as a composite of two or of a thousand others, and the only extension there is, is that by contact. Consequently we shall never find a body of which we can say that it is really one substance; it will always be an aggregate of several. Or rather,

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[42] Ibid., p. 154.

[43] Ibid., p. 154.

> it will not be a real being, for the beings which result from an aggregation have only as much reality as there is in their ingredients.[44]

The passage above is important beyond asserting that bodies are not substantial. It mentions a feature of beings by aggregation that is crucial for Leibniz's metaphysics: such beings acquire the reality they possess from their components. This being so, if we are to understand bodies as beings by aggregation, composed of other such bodies, it is not only that we have not a substance in such a body, but that it will not be a real being at all. Leibniz's point is that in order to fully understand metaphysically a being by aggregation we must inquire about the nature of its components, and these may be either substances or again beings by aggregation (bodies, corpuscules) about whose components the same question must be raised. In such a reductive analysis if a substance is not reached, we would have a process *ad infinitum,* yielding only bodies at each reductive stage. Without an end to the process there would be no metaphysical support for the aggregates in question and one would need to conclude that they are not real. If reality is to be predicated of beings by aggregation, Leibniz contends, substantial ultimate components must be reached.

The draft contains another argument against Arnauld's conception of substance, which Leibniz presents as follows:

> The general conception of individual substance which seems to appeal to you, M. [Arnauld], evidences the same thing, that extension is an attribute which can never constitute a complete being; no action can ever be derived from extension, and no change. It merely expresses a present state. Never does it express the future or the past as the conception of a substance should.[45]

This argument is linked to a point we found expressed in the *Discourse:* that a substance's identity in time cannot be explained through a static geometrical conception of substance such as Descartes'. It stresses that a substance is a being capable of action, and therefore an entity which coheres in time, a complete being not fragmented by succession in time. In the context of the correspondence the argument is offered with the definition of an individual substance as that which affords a complete concept as background. The individual essence of an individual substance, we must remember, ensures that everything that occurs to it unfolds from it own being as determined by its complete concept. And this, according to Leibniz, entails that substances do not influence each other and that what occurs to one originates from its own metaphysical spontaneity. The Cartesians (Arnauld) con-

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[44] Ibid., p. 154.

[45] Ibid., p. 155.

sidered bodies inactive, obtaining all its motion from forces extraneous to it, but Leibniz's conception of substance as spontaneous implies that all modalities of a substance (motion in the case of a corporeal substance) result from its own principle of action (its substantial form). Bodies as understood by Arnauld are said to lack such principles of action, hence such bodies cannot be substances for Leibniz. Identity and subsistence in time are intrinsic features of a substance; a being which lacks these cannot but be some type of phenomenon, and not a substance proper. Identity, in Leibniz's conception, results from the agency in time of a substance which is the outcome of its spontaneity. This spontaneity entails that all that happens to an individual substance is intrinsic to it and projects its being in time as prescribed by its complete concept. The complete concept is the essence, but also the individual substance's substantial form and principle of action.

The argument, then, restates Leibniz's views against Cartesianism. Its emphasis, however, is different from those which stress unity, for agency in it, as a feature of substantiality, is uppermost, and not unity.

3.24 The Letter of November 28–December 8, 1686.

In the letter of November 28–December 8 Leibniz addresses Arnauld's questions specifically. He starts out (with regard to the first question, *supra* 3.23) by opposing Arnauld's Cartesian claim that bodies are substances, as are souls, and that the two are distinct, by arguing, in the same fashion we have seen before, against the substantial character of bodies. Leibniz also refers to a declaration of the "last Lateran Council" stating "that the soul is veritably the substantial form of our body,"[46] as if consistent with his view and contrary to Arnauld's. This point suggests an opposition between the latter's dualism and Leibniz's view, which could lead us to consider his position monistic.

Leibniz answers Arnauld's second question by saying that substantial forms and substances are indivisible and indestructible (can come into being "only by an act of creation,"[47] and stop being from an act of annihilation). An animal is a substance, and its death is transformation not annihilation, for the unitary substance subsists after death though its physical appearance changes drastically.

The question about the substantial unity of a block of marble prompts as answer the clarification of what are beings by aggregation, along the same lines followed in the draft of the letter. Extended entities, like the block of marble, we are told, have accidental unity (from contact). Substantial unity is far more than unity by aggregation, as the following passage explains:

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[46] Ibid., p. 159.

[47] Ibid., p. 160.

> Substantial unity calls for a thoroughly indivisible being, naturally indestructible since its concept involves all that must happen to it. This characteristic cannot be found either in forms (shapes) or in motions, both of which involve something imaginary as I could demonstrate. It can be found, however, in a soul or a substantial form, such as is the one called the me. ...Now, the me above mentioned or whatever corresponds to it, in each individual substance can neither be made nor destroyed by the bringing together or separation of the parts. Such juxtapositions are wholly apart from the constitution of a substance.[48]

This passage makes it clear that Leibniz speaks as if substantial forms were indivisible beings, hence substances. We have seen that he also frequently suggests that bodies invested with substantial forms are individual substances, also indestructible. The "me" which he frequently also calls the "soul." but more precisely a "spirit," when he is interested in distinguishing the substantial form of man from that of animals (souls) or that of corporeal substances (substantial forms), is said, in the next to the last sentence above not to be affected "by the bringing together or separation of the parts." I understand that Leibniz suggests here that the individual substance which obtains its unity from a substantial form modifying a body maintains its unity even when the bodily parts of the individual substance are still divisible. In a way that is very hard to understand for Arnauld, an individual substance has a body but also unity from its substantial form, of a sort that is not affected by the divisibility of its body. Leibniz seem to believe that what cannot be attained in the case of a merely extended entity, unity and divisibility together, is attainable in the case of that special being which is a body invested with a substantial form. It would seem that the individual living substance, indestructible and yet transforming itself continuously from the change of its bodily parts, is an instance of this type of substantiality. If so a living substance and a corporeal substance would be the same type of entity, resulting from having a body endowed with a substantial form. Only that the form in the animal is a soul, with perceptive capabilities that other substantial forms lack.

Arnauld's question about *"forma corporeitatis"* is answered by Leibniz as follows: "I assign substantial forms to all corporeal substances that are more than mechanically united."[49] This answer suggests that forms are not specific essences but individual essences. It also underlines that corporeal entities which poses a form have more than unity by contact. It is consistent with

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[48] Ibid., p. 161.

[49] Ibid., p. 162. This statement illustrates the difficulty the usage of the terms 'bodies' and 'corporeal substances' involves for Leibniz. Neither is completely appropriate in it. There are no 'corporeal substances' that are less than mechanically united, and no 'bodies' that strictly speaking are more than mechanically united.

the emphasis throughout the correspondence upon the meaning of a complete concept as a substance's individual essence, and as that which is its source of action, identity in time, and unity. The individual essence is the substantial form of an individual substance. And it is clearly, as its principle of spontaneity or action, what Leibniz has called "force" in the case of corporeal substances.

3.25 LEIBNIZ'S LETTER OF APRIL 30, 1687.

The letter of April 1687 answers that of Arnauld dated March 4, 1687. It first addresses the issue of substantial unity with an argument, based on Leibniz's conception of the reality of beings by aggregation, offered against an objection that Arnauld presented in his letter. Arnauld suggested that Leibniz's definition of substance as unitary is not shared by other philosophers and is rather idiosyncratic. A substance, he argued, could rather be defined as "that which is not a modality or manner of being."[50] This definition enables Arnauld to say that bodies have no unity, are beings by aggregation, and yet are substances, for it does not make unity a necessary feature of substance.

Leibniz argues against this position of Arnauld by presenting his views about the reality of a being by aggregation, in terms such as we saw above (3.23). After stating that what we have here is no mere dispute about words as if definitions were conventional, he suggests that the claim that a substance has unity must be recognized as a necessary metaphysical conception. Whether one wants it or not, according to Leibniz, substances, conceived as unitary, are needed in order to explain what is real. It will not do, as Arnauld pretends, to posit the existence of bodies as substantial without unity. The problem is that there cannot be a real being from the aggregation of components which are not substantial, and substantial components must be unitary, themselves no longer reducible, if the process of analysis is to stop. The concept of a being by aggregation is not self-sufficient and requires the metaphysical concept of substances understood as unitary beings. Leibniz says:

> I take still higher ground and, leaving the question of terminology, I believe that where there are only beings by aggregation, there are not even real beings, because every being by aggregation pre-supposes beings endowed with true unity, because it obtains its reality only from the reality of the elements of which it is composed, so that it will have no reality at all if every being of which it is composed is again a being by aggregation;...[51]

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[50] Ibid., p. 175.

[51] Ibid., p. 189.

One way or another, either as the unitary whole that is a substance, or as the ultimate, no longer divisible component of a real entity by aggregation, which again, must be a unitary whole, reality cannot be understood without substantial unities, according to Leibniz. And the source of unity is the substantial form.

It is important to be very aware of the fact that Leibniz's position disclaiming that bodies are corporeal substances is at the same time a clarification of the nature of corporeal substances and a clarification of the nature of bodies. Bodies, for Leibniz, are real, as aggregations of substances, which lack the overall connection of a substantial form. A body is a whole, but not a substantial whole, and yet its reality requires substances as underlying entities. A body as a whole is a unity by contact, a mechanical unity, which results from our mental capacity for thinking together as a whole the substances which underlie it. This is the phenomenal character of a being by aggregation, which nonetheless is not a mere phenomenon as something lacking all objective basis. Rather, metaphysically, Leibniz explains, it is real as a mode of a substance is real. The clearest type of such entities for Leibniz are pluralities; numbers he frequently says are modes, and space and time are real in this same fashion. What is substantially real is individual; pluralities, ordered aggregates, functional wholes, and other such entities are modes, modes, however, of individual substances. As Leibniz says:

> Being is very different from beings, but the plural presupposes the singular; and there where there is no being, are there still less several beings. What can be clearer? I thought therefore that I should be permitted to distinguish beings by aggregation from substances, since these beings have their unity only in our minds, and our minds repose upon the relations or the modes of real substances.[52]

The unity of machines, like clocks, and the unity of social entities, like commercial associations (corporations), constitute wholes that depend upon the mind, for Leibniz, which he is willing to recognize exhibit a closer bind than non-functional wholes by aggregation, such as piles of stones. Nonetheless, it should be clear that theirs is not a substantial unity, but a unity as modality of the underlying substances. The mental unity of such entities Leibniz suggests is brought about by the linguistic function of a name as the instrument of denomination of a plurality. Unities thus constituted are what Leibniz calls "compendia loquendi," nominal beings. He writes about these as follows:

> We may say of these compounds and of similar things what Democritus said very well of them, namely *esse opinione, lege*, νόμῳ. Plato had the same opinion with regard to all that is purely material. Our mind sees or

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[52] Ibid., p. 191.

conceives of certain true substances which have certain modes . These modes involve relations with other substances whenever the mind finds occasion to join them in thought and to make one name stand for the whole assembly of these things, which name shall serve as a means of reasoning; but we must not make the mistake of thinking that they are substances or veritably real beings.[53]

4. Conclusions

From our study of the correspondence with Arnauld, I believe we have presented a clear characterization of Leibniz's conception of corporeal substances and of bodies which enables us to assert that the two are not the same and that in the *Discourse* and the correspondence we have a consistent unvarying account which posits the existence of both types of realities. A body, like every real being by aggregation, is a well-founded phenomenon. Mere phenomena, however, are strictly subjective contents and have no reality. Substances are what is truly and basically real in Leibniz and we have found many passages suggesting the existence of a physical realm made up of individual corporeal substances. These are unitary composites of matter and form, whose substantial unity results from its Form performing the role of principle of unity. It is also its principle of action, and of identity in time. Spatiality, paradoxical as it may sound, is not, for Leibniz, an essential attribute of corporeal substances.

Leibniz's characterization of bodies, we saw, pointed to an inescapable need of substances, as their source of modal reality. Such underlying substances, in an interpretation like Brown's, could not be but immaterial. But if we realize that Leibniz is far from abandoning corporeal substances we have no need of rejecting something for which there is ample evidence in the works we have studied: the conclusion that the substances that underlie matter and body are corporeal. Indeed if we now examine the passage of the letter of March 23, 1690, which served Brown for his interpretation in favor of the view that corporeal substances had been by then abandoned, we find that, once Leibniz's terminology and basic conceptions are understood, it shows rather that bodies are aggregates of corporeal substances and underlines the difference between the two types of entities. The passage runs as follows:

> A body is an aggregation of substances, and is not a substance properly speaking. Consequently, in all bodies must be found indivisible sub-

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[53] Ibid., p. 196.

> stances which cannot be generated and are not corruptible, having something which corresponds to souls.[54]

Leibniz does not say that the indivisible substances are souls, but substances that have "something which corresponds to souls." These are composite beings that have substantial forms, "which correspond to souls" or play a role "analogous to that of souls" in animated substances. Substantial form is the generic name for what Leibniz calls "spirit" in relation to the composite man is, and calls "soul" in relation to the substance an animal is, and calls "force" in relation to a corporeal substance. "Corporeal substance" itself is treated by Leibniz as a generic term which includes under it corporeal substances in a restricted sense and also animals and men.

Leibniz's conception of corporeal substances, as composites of Forms and matter is clearly conceived in the manner of the Aristotelian tradition. But it is not the composite of matter and form which serves Aristotle to account for the substantial character of inert bodies. Rather, as Brown saw, this is the organic composite which results from that special substantial form that is a soul for Aristotle, which acts as what he called in *De Anima* "the first grade of actuality of a natural body having life potentially in it,"[55] i.e. that which imparts life to it. Leibniz, however, has universalized the role of the soul in the Aristotelian schema that explains life in order to explain substantiality, conceived in terms of a metaphysically self-propelled dynamic unity, a substance very close to life itself. Leibnizian substances, therefore, are at the same time organic unities and material substances, for their principle of action is fundamentally of the same nature, even when the phenomenal manifestations of different species of substances are different. We might say that his metaphysics is a panpsychism where everything is animated, and we would be led in this direction by the preeminence Leibniz gives to the soul as the paradigmatic type of substantial form. But I believe that we could also speak of panphysicalism, if the latter term is divorced from connotations linking it to an inert materialism, a physics of the Cartesian sort. But perhaps what is most evident is that "panpsychism" or "panphysicalism" will not really do (if the terms are conceived in the traditional manner), for Leibniz is simply providing a homogeneous and all-encompassing conception of substances in the created world, as the unities that blend matter and substantial form. Substantial forms are generically the same but specifically different as principles of spontaneity which may be considered a principle of life, or of thinking, or of action. In any case it is clear that corporeal substances are also

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[54] Ibid., p. 244.

[55] Aristotle, *The Basic Works of Aristotle,* edited and with and introduction by Richard McKeon (New York: Random House, 1941), p. 555.

animated substances for Leibniz, as we can see from a passage in Leibniz letter of October 6, 1687 that accounts for the relation between matter and its underlying substances.

> I am far from saying that animated bodies constitute only a small proportion of the bodies in the world; for, I think rather that everything is full of animated bodies, and in my opinion there are incomparably more souls than M. Cordemoy has atoms. His atoms are finite in number, while I hold that the number of souls, or at least of forms, is wholly infinite, and that matter being divisible without end, no portion can be obtained so small that there are not in it animated bodies, or at least such as are endowed with a primitive entelechy, and (if you would permit me to use the word life so generally), with the *vital principle,* that is to say, with corporeal substances, of all of which it may be said in general that they are alive.[56]

Animated bodies are corporeal substances. Each of them has a substantial form. Matter is an aggregate of many such substances. Matter is not an animated substance but since it is infinitely divisible, and every piece of matter is an aggregate of corporeo-animated substances, matter has an infinite number of animated substances in it. But matter too is that which serves as complement to form in the constitution of the composite that is a corporeo-animated substance. Such a composite is nevertheless unitary for Leibniz, its unity results from the metaphysical function that its substantial form plays. The composite has a body according to Leibniz and yet has unity, from which the divisibility of its body and the change in its parts in no way affects its unity:

> It is true that the whole, which has a real unity, may continue as the same individual in the strictest sense even when it loses or gains parts as our experience show us.[57]

In the *Discourse* most references to corporeal substance had to do with physical questions, and were part of an effort aimed at clarifying true metaphysics through arguments that concurrently showed the correct hypotheses in dynamics. In the correspondence, pressed by Arnauld's questions, Leibniz gives more attention to the metaphysical significance of corporeality, and provides what I consider a very detailed account of what is a corporeal substance and what is metaphysically characteristic of bodies. A decisive argument for Leibniz, we have seen, shows that reality requires that there be substances in a physical realm which includes beings by aggregation. And we have also seen that such substances are corporeal substances, from which the frequent Leibnizian suggestion, that there is life everywhere, acquires a

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[56] Gottfried Wilhelm Leibniz, *Discourse on Metaphysics,...* (ref. 33), p. 221.

[57] Ibid., p. 233.

clear meaning as an allusion to the composite animated corporeal substances that underlie matter.

Materialism, understood in the tradition of modern science and philosophy, with its twofold physical and metaphysical roles will not do for Leibniz. Physical atomism is not coherent, for there is no reason for positing indivisible extended entities. Metaphysically, materialism is incomplete for there cannot be beings by aggregation without substantial components. If a radical phenomenalism *à la* Berkeley is not the answer some solution must be obtained for the problem of unity of what is infinitely divisible. From beginning to end in the works we have studied and beyond, I believe, substantial forms are offered as the solution to the problem, as the dynamic principles of unity of bodies, which constitute life-like substances, in which multiplicity manifests itself within the wholeness that their form warrants.

As concluding remarks let us say that, though I believe that Leibniz defends the existence of corporeal substance in the terms that I have explained above, and does so well beyond the *Discourse* and the correspondence, it is clear to me that there are very serious questions that still must be posed to Leibniz's philosophy akin to the issue of substantiality. These are questions whose treatment would bring us back to the topics we have discussed in this paper. We need to understand whether his position can be considered monistic, or whether, as his conception of preestablished harmony suggests, his views, at least with regard to a certain level of reality, must be called dualistic. On the one hand, a consistent conception of substances as composites of matter and form would seem monistic; on the other hand, Leibniz seems to want to make room for a pure simple, non-composite substance (the substantial form by itself), which against the composite one would give us a dualistic metaphysical picture. On the one hand, there is a body, which is treated as a substance in the context of preestablished harmony, and opposed to a soul, which analogously is said to be another substance, and both are said to express in a concomitant manner the perfect being which created them. On the other hand, there is the body which is just an aggregate of substances and as matter is complementary to a form in a composite substance. Are body and soul both substances, or are they the complementary metaphysical principles of one composite being, the latter only being the substance? Can Leibniz have it both ways? These are very difficult problems with which Leibniz is clearly grappling in his mature works; I mention them, but they go way beyond the scope of this paper.

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