

THE ARISTOTELIANISM AT  
THE CORE OF LEIBNIZ'S PHILOSOPHY

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1. Leibniz's "Uncommon" Idea of Aristotle's Philosophy

Godfried Wilhelm Leibniz began his university studies in the spring of 1661 at the University in Leipzig. In a passage written sometime in the 1660s, he describes a crucial phase in his philosophical development:

No sooner had I set foot at the Academy than, by a rare fortune, I encountered as my master the famous Jakob Thomastus who, although he did not accept my doubts and was very little disposed to let me do such a reform of the substantial, incorporeal forms of bodies, engaged me very strongly to read Aristotle, announcing to me that, when I would have read this great philosopher, I would obtain a wholly different opinion of him than that the one [conveyed] by his scholastic interpreters. I soon recognized the wisdom of this observation and saw that between Aristotle and the scholastics, there was the same difference as between a great man versed in the affairs of state and a monk dreaming in his cell. I therefore took of Aristotle's philosophy another idea than the common one. I did not accept all of his hypotheses, but I approved of them as principles. Aristotle seemed to me to admit, almost like Democritus and as Descartes and Gassendi in my own time, that there exists no body that is moved by itself.<sup>1</sup>

<sup>1</sup> Foucher de Careil, *Mémoire sur la philosophie de Leibniz*, pp. 6–7: "A peine eus-je posé le pied à l'Académie que, par un rare bonheur, j'y rencontrai pour Maître, le célèbre Jacques Thomastus qui, bien qu'il n'acceptât point mes doutes et qu'il fût très-peu disposé à laisser faire une telle réforme des formes substantielles, incorporelles des corps, m'engagea beaucoup à lire Aristotle, m'annonçant que, quand j'aurais lu ce grand philosophe, j'en prendrais une toute autre opinion que d'après ses interprètes scholastiques; je reconnus bientôt la justesse de cette remarque, et je vis qu'entre Aristotle et les scholastiques, il y aurait la même différence qu'entre un grand homme versé dans les affaires de l'État et un moine rêvant dans sa cellule. Je n'en acceptai point la philosophie d'Aristote une toute autre idée que celle du vulgaire. Je n'en acceptai pas toutes les hypothèses, mais je les approuvai comme principes. Aristotle me parut admettre, à peu près comme Démocrite, et comme de mon temps, Descartes et Gassendi, qu'il n'y a pas de corps qui soit mu par lui-même." This passage is found among the notes that Foucher de Careil collected, published, and subsequently lost. According to Foucher de Careil, the passage cited here was written during the 1660s.

Three decades after Leibniz composed this account of his conversion to an uncommon form of Aristotelianism, he published the *Système nouveau pour expliquer la nature des substances et leur communication entre elles, aussi bien que l'union de l'âme avec le corps*. This text of 1695 is the first published presentation of Leibniz's mature philosophy. He spends nearly a fifth of this essay justifying his "rehabilitation" of Aristotelian substantial forms. After describing some of the steps in the development of his metaphysics, Leibniz writes: "Hence, it was necessary to restore, and, as it were to rehabilitate the *substantial forms* which are in such disrepute today, but in a way that would render them intelligible." According to Leibniz, these substantial forms must be conceived "on the model of the notion that we have of souls" and "contain ... an original *activity*."<sup>2</sup>

Recent scholars of Leibniz have begun to clarify his relation to Aristotelian thought and to identify the Aristotelian elements in his philosophy. We now understand that the distinguished between the good scholastics and the bad,<sup>3</sup> that he drew upon Aristotelian thought throughout the course of his long philosophical life,<sup>4</sup> and that his notions of matter, form, and corporeal substance have their roots in his Aristotelianism.<sup>5</sup> Although these details contribute importantly to our understanding of Leibniz's thought, they overlook what is arguably the most fundamental lesson that he learned from the philosophy of Aristotle: Throughout his long philosophical career, he frequently emphasized the fact that his philosophy—unlike that of the Cartesians, the atomists, the Spinozists, the occasionalists, and others—insists on the proper self-sufficiency and activity of created substance. Consider, for example, Leibniz's *Discours de métaphysique* 8 whose summary is as follows: "To distinguish the actions of God from those of creatures we explain the notion of an individual

<sup>2</sup> Leibniz, *Die Philosophischen Schriften* [Gerhardt], vol. IV, pp. 478–479: "Il faut donc rappeler et comme rehabliler les *formes substantielles*, si décriées aujourd'hui, mais d'une manière qui les rendist intelligibles ... et qu'ainsi il falloit les concevoir à l'imitation de la notion que nous avons des *âmes* ... qui ... contiennent ... une *activité* originale."

<sup>3</sup> Mercer, "Vitality and Importance," pp. 43–44.

<sup>4</sup> See, for example, Robinet, *Architektonique disjointive, passim*; Garber, "Leibniz on Form and Matter"; Belaval, *Leibniz*, ch. 2; Hoobstruer, "Leibniz-Interpretation"; Leinsie, *Reformversuche protestantischer Metaphysik*, pp. 230f; Mercer, *Leibniz's Metaphysics, passim*.

<sup>5</sup> For recent discussions and citations to other literature, see Robinet, *Architektonique disjointive, passim*; Garber, "Leibniz on Form and Matter"; "Leibniz: Physics and Philosophy"; Garber et al. (eds.), *Cambridge History of Seventeenth-Century Philosophy*; Mercer, *Leibniz's Metaphysics, passim*.

substance."<sup>6</sup> In this important text of 1686, Leibniz says that it is "difficult to distinguish the actions of God from those of creature" and acknowledges that some philosophers "believe that God does everything, while others imagine that he merely conserves the force he has given to creatures."<sup>7</sup> In contradistinction to such philosophers, however, Leibniz insists that "it is the nature of an individual substance or a complete being to have a notion so complete that it is sufficient to contain and to allow us to deduce from it all the predicates of the subject to which this notion is attributed."<sup>8</sup> That is, in order to distinguish the actions of God from those of creatures, Leibniz proposes that an individual substance contains "vestiges of everything that has happened to it and marks of everything that will happen to it and even traces of everything that happens in the universe, even though God alone could recognize them all."<sup>9</sup> According to Leibniz in *Discours de métaphysique* 9, many of the core doctrines of his metaphysics follow from this account of substance.

The self-sufficiency that Leibniz assigns to individual substances in 1686 is not the standard sort. For the mature Leibniz, (1) every feature of a substance has its source and explanation in the nature of the substance itself, and (2) for every substance, there is a notion so complete that it contains in it all the predicates that can truly be predicated of the substance. These two claims stand at the core of Leibniz's mature philosophy: they constitute two of the most fundamental assumptions in his metaphysics of substance and underlie his natural philosophy. But they are also implied by the most prominent lesson that the young Leibniz learned from the philosophy of Aristotle: When Thomasius encouraged his precocious student "to read Aristotle" with the result that the young man "took of Aristotle's philosophy another idea than the common one," and when Leibniz "rehabilitated" the scholastic notion of substantial form, the

<sup>6</sup> Leibniz, *Sämtliche Schriften und Briefe* [Deutsche Akademie], series 6, vol. IV [B], p. 1339: "Pour distinguer les actions de Dieu et des creatures, on explique en quoy consiste la notion d'une substance individuelle."

<sup>7</sup> *Ibid.*, pp. 1539–1540: "Il est assez difficile de distinguer les Actions de Dieu de celles des creatures ... Car il y en a qui croyent que Dieu fait tout, d'autres s'imaginent, qu'il ne fait que conserver la force qu'il a donnée aux creatures."

<sup>8</sup> *Ibid.*, p. 1540: "Cela estant, nous pouvons dire que la nature d'une substance individuelle, ou d'un Être complet, est d'avoir une notion si accomplie, qu'elle soit suffisante, à comprendre et à en faire deduire tous les predicates du sujet à qui cette notion est attribuée."

<sup>9</sup> *Ibid.*, p. 1541: "et les marques de tout ce qui lui arrivera, et même des traces de tout ce qui [se] passe dans l'univers, quoiqu'il n'appartienne qu'à Dieu de les reconnoître toutes."

Aristotelianism that he devised assumed the causal and explanatory autonomy of substance. In the remainder of this paper, I will argue that the extreme substantial self-sufficiency underlying these two claims naturally grew out of the young Leibniz's interpretation of the philosophy of Aristotle. Although it would take some time for the details of Leibniz's theory of substance to fall into place, the roots of that theory are clearly traceable to the "uncommon" idea of Aristotle's philosophy that he acquired as a youth.

### 2. *Aristotelianism and Mechanism Combined*

Between 1666 and early 1672, Leibniz lived in Mainz where (among other things) he acted as lawyer and adviser to a distinguished German statesman, Baron Johann Christian von Boineburg. Under the encouragement of Boineburg, he began work on a large theological project entitled *Demonstrationes catholicae*. Leibniz's original metaphysical and physical assumptions emerge as the implicit premises and underlying assumptions of the texts that were written as part of the project. Before turning to the theological essays that are relevant here, it will be helpful to offer a background sketch of Leibniz's philosophical commitments when he began the *Demonstrationes catholicae* in 1668. As we will see, underlying these commitments is the assumption that Aristotelianism and mechanism can be (indeed, must be) combined.

I have recently argued that Leibniz's philosophy is built out of elements borrowed from several of the philosophical schools dominant in the mid-seventeenth century. These include mechanism, Platonism, Aristotelianism, and to a lesser extent Stoicism and skepticism. Beginning in his youth and continuing throughout his long life, it was Leibniz's belief that the truth existed beneath the divergent views of the prominent philosophical sects and that the true metaphysics was to be constructed mainly out of Platonism and Aristotelianism.

At least since the time of Porphyry (232–304 AD), it was common for philosophers to turn to the Platonic tradition for inspiration concerning divine matters and to Aristotelianism for insight concerning the mundane. Jakob Thomaeus and other professors in Leipzig bequeathed this ancient tradition to the young Leibniz.<sup>10</sup> Like so many of his contemporaries, Leibniz believed that the schoolmen had ig-

nored the true brilliance of Aristotle's philosophy, but that it had finally become possible to rediscover the underlying truth of the Aristotelian system,<sup>11</sup> which could now properly be combined with the truth in Platonism.

However, in his conciliatory tendencies, Leibniz differed from many of his contemporaries. First, unlike Jakob Thomaeus and most of his German colleagues, Leibniz was prepared to add the new mechanical physics to this ancient metaphysical mixture.<sup>12</sup> In the passage quoted at the outset of this paper, Leibniz explains that, encouraged by Thomaeus, he "took of Aristotle's philosophy another idea than the common one." But he also acknowledges that Thomaeus "did not accept my doubts and was very little disposed to let me do such a reform of the substantial, incorporeal forms of bodies." That is, unlike his illustrious professor, the young Leibniz was prepared to reform major parts of Aristotelian natural philosophy.<sup>13</sup> Leibniz's reform involved the rejection of the traditional role of substantial form in the explanation of corporeal phenomena and the replacement of that notion with a "reformed" account. Roughly speaking, for the scholastics, the substantial forms of bodies possessed innate powers which inclined those bodies to behave in characteristic ways. Fire, for example, contained the innate power to heat and to rise while rocks possessed the tendency to fall. The young Leibniz rejected this explanatory model and replaced it with a mechanical one. Between the time of his conversion to mechanical physics (about 1661) and the commencement of the *Demonstrationes catholicae* in 1668, he attempted to discover the common denominator among the mechanical options of philosophers like Cassendi, Hobbes, and Descartes. By 1668, he had attained that goal so that, in the theological essays of 1668–1669, he was able to offer a summary of the mechanical

<sup>10</sup> For a detailed discussion of the Platonism of Leibniz's teachers and of Leibniz's use of that philosophy, see Mercer, *Leibniz's Metaphysics*, chs. 5–6.

<sup>11</sup> For recent discussions of the place of Aristotelianism in seventeenth-century philosophy and for citations to previous literature, see Garber et al. (eds.), *Cambridge History of Seventeenth-Century Philosophy*, passim; Meier, "The Intellectual Setting," Aronson et al., "The Scholastic Background"; Leijenhorst, *Hobbes and the Aristotelians*, passim. <sup>12</sup> In the mid-seventeenth century, there were other German philosophers who attempted to combine the new mechanical philosophy with the thought of Aristotle. See especially Johannes Clauberg, *Disputationes physicae* and Johann C. Sturm, *Philosophia selecta*. For a brief discussion of Clauberg and Sturm, and for references to other literature, see Mercer, *Leibniz's Metaphysics*, passim. <sup>13</sup> Thomaeus did not endorse the new natural philosophy, but he "despised" their thought and complained about the tendency among his contemporaries to mix new ideas with the old. See, Leibniz, *Sämtliche Schriften und Briefe* [Deutsche Akademie], series 2, vol. 1, pp. 12–14.

one that offers the greatest insight into his original understanding of Aristotelian metaphysics is the *Congestio naturae contra atheistas* which is the first of the series. In this essay, written in 1668, Leibniz struggles to articulate his most fundamental assumptions about created substance. The *Congestio naturae* reveals Leibniz's original thinking about mind, body, explanation, and cause. The work has two parts, one being a rather long argument for the existence of God, the other a short proof of the immortality of the soul. The first, "That a Ratio of Corporeal Phenomena Cannot be Presented without an Incorporeal Principle, i.e. God,"<sup>19</sup> is especially significant for what it reveals about Leibniz's attempt to construct a mechanical natural philosophy on an Aristotelian foundation.

Leibniz begins his essay with an account of how the mechanical philosophy has led philosophers to atheism. In his view, while the *rationes* of the ancients had referred either "to the Creator alone or some kind (I know not what) of incorporeal forms," the mechanists had discovered that "the *rationes* of most things can be given in terms of the figure and motion of bodies, as it were mechanically."<sup>20</sup> It is important to see that Leibniz is generally satisfied with the mechanists' explanation of corporeal features. His disagreement with the mechanists lies in the inference they draw from this account. Before adequately considering the metaphysical foundations of their mechanical explanations, these philosophers proclaimed that natural reason offered no evidence of anything incorporeal (either of God or the soul) so that one had to find evidence for the incorporeal elsewhere. Leibniz maintains that his present investigation began because of his own dissatisfaction with these conclusions. He became impatient at being dispossessed of "the certitude of eternity after death and the hope that divine benevolence would sometime be made manifest toward the good and the innocent."<sup>21</sup>

<sup>19</sup> "Quod ratio phaenomenorum corporatum reddi non possit, sine incorporeo principio, id est Deo." The Latin term, *ratio, rationes*, is ambiguous in a number of ways. In order to bring attention to this fact and to remain uncommitted as to how it is to be interpreted, I have chosen not to translate the term when it is used in its causal or explanatory sense.

<sup>20</sup> Leibniz, *Sämtliche Schriften und Briefe* [Deutsche Akademie], series 6, vol. 1, p. 48g: "... appareret, per omneque rationes ex Corporum figura motuque velut mechanice reddi posse."

<sup>21</sup> *Ibid.*, p. 48g: "Coepi igitur ipsemet inquisitioni rerum incumbere, tanto vehementius, quanto ferentem impatientius, me maximo vitae bono, certitudine scilicet aeternitatis post mortem, et spe divinae beneficentiae in bonos ac innocentes aliquid appariturae, delicti per subtilitates novarum."

If Leibniz's motivation is theological, his method is "scientific." He writes: "Setting aside all prejudices, therefore, and suspending the credit of scripture and history, I set my mind to the anatomy of bodies, to see whether it is possible to give the *ratio* of sensory appearances without supposing an incorporeal cause."<sup>22</sup> Leibniz feels that he is in full agreement with philosophers such as Galileo, Bacon, Gassendi, Descartes, Hobbes, and Digby on two basic points: first, that in "giving the *ratio* of corporeal phenomena, one must not unnecessarily resort to God or any other incorporeal thing, form, or quality"; and second that, as far as can be done, "everything should be derived from the nature of body and its primary qualities—magnitude, figure, and motion."<sup>23</sup> But, Leibniz asks: "What if I should demonstrate that the origin of these very primary qualities themselves cannot be found in the nature of body? Then, indeed, I hope that these naturalists will admit that body is not self-sufficient and cannot subsist without an incorporeal principle."<sup>24</sup> From this and related comments, it is clear that Leibniz is committed to the mechanical assumptions that bodies are constituted of some sort of extended stuff (*res extensa*) and that corporeal features ought to be explained in terms of the primary features of such bodies, that is, in terms of their magnitude, figure, and motion.<sup>25</sup> Where he thinks he differs from the mechanists is in his denial that the primary features themselves have a proper metaphysical grounding in the nature of body as it is defined by the mechanists. Because the primary features are not sufficiently explained by the account of body offered by the mechanists, the

<sup>22</sup> *Ibid.*, p. 48g: "Sepositis igitur praepiudiciis et dilata Scripturae et historiae fide, anatonem corporum mente aggregatione, tentaturus an eorum quae in corporibus sensu apparent, rationem reddere possibile sit, sine suppositione causae incorporealis."

<sup>23</sup> *Ibid.*, p. 490: "... in reddendis corporatum phaenomenorum rationibus neque ad Deum, neque aliam quancunque rem, formamque aut qualitatem incorporealem sine necessitate coniungendum esse ... sed omnia quoad ejus fieri possit, ex natura corporis, primaeque ejus qualitatibus: magnitudine, figura et motu deducenda esse." Although the language here and in the long quotation just above suggests that Leibniz is primarily interested in sensory phenomena, he is not. As the remainder of the essay makes clear, his main concern is with the explanatory source of the primary features of bodies.

<sup>24</sup> *Ibid.*, p. 490: "Sed quid si demonstrarem, ne harum quidem primarum qualitatum originem in natura corporis reperiri posse? Tum vero fatebuntur, ut spero, naturalistae nostri, corpora sibi non sufficere nec sine principio incorporeo subsistere posse. Demonstrabo vero nec obscure nec Huxore."

<sup>25</sup> In fact, the proposals of the mechanical philosophers differ greatly, and it is difficult to summarize accurately their basic assumptions. Leibniz's discussion here is based on an over-simplification of their views, but it is one that I will follow in presenting his argument.

latter are wrong to conclude that their mechanical physics does not require an incorporeal principle. For Leibniz, mechanical physics forces us to admit just such a principle.

In the rest of Part I of the *Confessio naturae*, Leibniz presents arguments to show that none of the primary features has its origin in the nature of body. Although he claims that his arguments "will lack obscurity,"<sup>26</sup> they are in fact less than perspicuous. Before explicating them, it will be helpful to make some preliminary comments. First, Leibniz is confused about what the mechanists' position actually is. While they do think that all corporeal features are explicable in terms of the fundamental features of body (they differ about what these are) without recourse to anything incorporeal, they do not believe that the fundamental features are themselves wholly derivable from the nature of body (*res extensa*) taken by itself. Although Descartes and Gassendi have very different accounts of motion with respect to God's agency, they both assume that God is required to account for the motion of body, and in this sense they deny that motion comes from the nature of body itself. Descartes maintains that God "preserves motion in matter," while Gassendi thinks that God infuses motion into atoms at their creation.<sup>27</sup> Descartes and Gassendi are perfectly happy to let God be the cause of the motion of bodies and see no problem in the fact that the full account of motion does not rest in the nature of body.

Leibniz's mistaken interpretation of the mechanists seems to rest on two closely related assumptions. Because the mechanists designate magnitude, figure, and motion as the fundamental features of body and because they take body to be extended stuff, Leibniz assumes that they must also believe that the cause and explanation of these features lie in the nature of body. He finds it unfathomable that someone would assign to an object features which themselves do not follow from the nature of the object. According to Leibniz, if the "origin of these very primary qualities themselves cannot be found in the nature of body," then "body is not self-sufficient."<sup>28</sup> The intuition

here, what I will call the *Principle of Self-sufficiency*, may be put as follows: a being *s* is self-sufficient if and only if the full account of its features—that is, the cause and explanation of its features—can be discovered in the nature of *s*.

Nor does Leibniz stop here. He goes on to make an even stronger claim, namely, that "if these [primary] qualities cannot be derived from the definition of body, they obviously cannot exist in bodies left to themselves."<sup>29</sup> As he puts it later in the *Confessio naturae*, left to their own natures, "bodies cannot have any definite figure, quantity or motion."<sup>30</sup> Here the claim, which I will call the *Principle of Causal Self-sufficiency*, seems to be that a being *s*, strictly speaking, cannot be said to have a feature *f*, and *f* cannot be said to exist in *s*, unless the full account of *f* may be found in the nature of *s*.<sup>31</sup> It follows from the Principle of Self-sufficiency and the Principle of Causal Self-sufficiency that if the full account of *f* cannot be found in the nature of *s*, then *s* is not self-sufficient and *f* cannot exist in *s* (*s* cannot have *f*). The strategy of Leibniz's general argument in Part I of the *Confessio naturae* derives from his firm conviction that because his opponents will want to make bodies self-sufficient, they will recognize the need for an incorporeal principle, namely, God. Although Leibniz becomes more sophisticated over the years about the position of the mechanical philosophers, he never doubts the truth of the Principle of Self-sufficiency and the Principle of Causal Self-sufficiency.

It is striking that Leibniz presents neither explanation nor argumentation for these two assumptions. What I would like to suggest here is that they derive from his interpretation of the philosophy of Aristotle. As Leibniz understood the ancient thought, substance is both ontologically and explanatorily basic. It is the primary created thing, that on which all other created things depend, and it is that in terms of which everything else is explained. Despite the various conflicting interpretations and accounts of Aristotle's metaphysics (of which Leibniz was well aware), Aristotelians generally did think of

<sup>26</sup> See note 24.

<sup>27</sup> For Descartes's views about motion, see especially *Principia philosophiae*, part II, sect. 37 ff. Like his ancient predecessors, Democritus and Epicurus, Gassendi takes motion to be intrinsic to matter; but unlike them he thinks that God put motion into atoms. He writes: "It may be supposed that individual atoms received from God ... the requisite force for moving, and for imparting motions to others ... All this to the degree that he foresaw what would be necessary for every purpose he had destined them for." See Cassendi, *Selected Works* [Bush], pp. 400–401.

<sup>28</sup> See note 24.

<sup>29</sup> Leibniz, *Sämtliche Schriften und Briefe* [Deutsche Akademie], series 6, vol. 1, p. 490: "Si scilicet qualitates istae ex definitione corporis deduci non possunt, manifestum est eas in corporibus sibi relictis existere non posse."

<sup>30</sup> *Ibid.*, p. 492: "... corpora determinatam figuram et quantitatem, motum vero omnino ulium habere non posse."

<sup>31</sup> For the sake of simplicity, I have dropped the phrase "left to itself" from the formal presentation of the principle, but the assumption of the Principle of Causal Self-sufficiency is that the nature of *s* must by itself constitute the full account of the feature.

substance as that which causes and explains its essential features and in this sense, as what is self-sufficient. Although in the *Confessio naturae* Leibniz did not bring in the notion of substance, he soon would. What he emphasized here was that something that is self-sufficient is what causes and explains its (primary) features. In the next essay of the *Demonstrationes catholicae*, he makes this self-sufficiency the basis for his definition of substance.

Finally, before turning to an explication of Leibniz's arguments in Part I of the *Confessio naturae*, it would be helpful to make one more preliminary comment about his assumptions. This final point is especially important not only because it is crucial to a proper understanding of Leibniz's arguments, but also because it lays bare another of his fundamental metaphysical beliefs. He assumes that for everything in the world, there is a reason or *ratio* that (a) is in theory knowable and (b) that is so complete that it constitutes an explanation of why that thing and no other came about. The full significance of the arguments in the *Confessio naturae* has not been previously recognized, because the notion of *ratio* around which the arguments turn has not been properly understood. It will be important to clarify this notion before turning to an analysis of the text.

In its causal sense, *ratio* is usually translated by the English term, where its causal meaning is as broad as that of the English term.<sup>32</sup> That is, *ratio*, like *reason*, is so general in its causal sense that it can comfortably accommodate almost any kind of causal link, however weak or strong. In this sense, it is also rather like the English preposition "because of" in that it may apply to a very large variety of explanatory relations. The point I want to emphasize here is that things that count as a *ratio* may vary greatly in their relation to the thing being explained. In Leibniz's words, both early and late, we find two very different kinds of *rationes*, those which count as a complete or sufficient reason for a thing and those which count as only a partial or incomplete reason. An incomplete *ratio* r may contribute to a thing s in the barest or most indirect way.<sup>33</sup> As long as r contributes in some way or other to s, it is appropriate to consider r a reason for s. An incomplete *ratio* need only have a minimal connection to s; the complete kind of *ratio*, what Leibniz sometimes calls a *plena ratio*, constitutes the complete ground and source of s. A complete

*ratio* is the sufficient condition for s. The notion of a complete *ratio* is closely linked to that of a complete explanation or account: if r is the *ratio* of s, then a complete account of r will constitute a complete explanation of s. In fact, according to Leibniz, r is a *ratio* for s in the strong sense if and only if an account of r constitutes a complete explanation of it. It will be helpful to summarize the basic idea here: for some feature or state of affairs f, a complete *ratio* for f has the following features: (1) it constitutes the necessary and sufficient condition for f; (2) it is perspicuous in that, when one understands or apprehends it, one sees exactly how it is "the because" of the f that is, why f follows; (3) it is such that in those cases when a full account of it can be given, that account constitutes a complete explanation of f; and (4) the *ratio* itself does not require a *ratio* of the same type. In this sense, to present the *ratio* of f just is to explain it fully.<sup>34</sup>

With this said, we may return to the analysis of Part I of the *Confessio naturae*. Leibniz presents three arguments, each of which shows for a primary feature of body that the *ratio* of that feature is not discoverable in corporeal nature. The first argument concerns the features of magnitude and figure and runs as follows: (1) "The *ratio* of every affection (*affectio*) is derivable either from the thing itself [of which it is an affection] or from something extrinsic."<sup>35</sup> (2) A body is essentially that which exists in space and the space of a body is its magnitude and figure. (3) However, the *ratio* for some particular body with a particular shape (say, a square shape) cannot be found in its own nature since "the same matter is indeterminate as to any definite figure" (that is, the matter of a particular body does not constitute the *ratio* of its shape).<sup>36</sup> (4) Nor can the *ratio* of a particular square body be found in any body outside of it. For, "if you say it was made square by the motion of another body," then you must explain the motion of the latter and so on in which case "no

<sup>34</sup> It is worth noting that, as Michael Frede points out, the ancients distinguished among different kinds of causes or different ways of bringing about or producing an effect. The perfect or complete cause is the one that does not depend for its causal efficacy on the agency of some other cause outside of it. For an account of the other sorts of causes and how these fit into a general theory of causation see Frede, "The Original Notion of Cause," pp. 238–239. The important point here is that Leibniz is not alone in preferring causal completeness over incompleteness. While this preference is now anachronistic, there are ancient precedents, versions of which survived into the seventeenth century.

<sup>35</sup> Leibniz, *Samtliche Schriften und Briefe* [Deutsche Akademie], series 6, vol. 1, p. 490: "Omnia enim affectionis Ratio vel ex se ipsa, vel ex aliquo extrinseco deducenda est."

<sup>36</sup> *Ibid.*, p. 490: "Cujus rei ratio ex corpore natura reddi non potest, eadem enim materia ad quancunque figuram ... indeterminata est."

<sup>32</sup> The Latin term *ratio* possesses a variety of meanings, many of which Leibniz employs. We are here mostly concerned with the meanings "reason" and "ground."

<sup>33</sup> See, e.g., Leibniz, *Samtliche Schriften und Briefe* [Deutsche Akademie], series 6, vol. 1, pp. 59, 95, 346.

complete *ratio* [for the figure] will ever be given." (5) "Therefore, it appears that the *ratio* for their specific figure and magnitude can never be found in the nature of bodies."<sup>37</sup>

Leibniz begins his second argument with an attempt to explain how the primary feature of motion (defined as change of place) can arise from the nature of body. He argues that bodies, as things which exist in space, do not constitute the *ratio* of motion and concludes that "therefore, the *ratio* of motion cannot be found in bodies left to themselves."<sup>38</sup> Leibniz insists here that pointing to one body (as the cause of the movement of another) does not constitute the right kind of *ratio*. He writes:

But if they say that this body is being moved by another body contiguous to it and in motion, and this again by another, and so on without end, by no more have they presented the *ratio* why the first and second and third and any one whatever is moved as long as they do not derive the *ratio* for why the following one is moved from all the antecedent ones. For the *ratio* of a conclusion is not fully given as long as the *ratio* of the *ratio* is not given, especially because the same doubt will remain in the case without end.<sup>39</sup>

In his third and final argument of Part I, Leibniz uses cohesion (*cohesivitas*) to show that this feature also cannot be explained by the nature of body itself. With this said and without further comment, Leibniz presents the conclusion of these arguments: "Through the ultimate analysis of bodies, it becomes clear that nature cannot dispense with the help of God."<sup>40</sup> In short, the three arguments have as their common conclusion that in fact we do "need to resort to God" to explain appropriately the primary features of body.<sup>41</sup>

<sup>37</sup> *Ibid.*, p. 490: "Sin dicitis alterius corporis motu quadratum factum esse, restat dubium cur figuram talem vel talem ante motum illum habuerit; et si iterum rationem refert in motum alterius, et sic in infinitum, tum per omne infinitum responsum tuas novis questionibus prosequendo, apparebit nunquam materiam deesse quaerendi rationem rationis, et ita rationem penam reddidit nunquam esse. Apparebit igitur ex natura corporum rationem certae in his figurae et magnitudinis reddi non posse."

<sup>38</sup> *Ibid.*, p. 491: "Ratio igitur motus in corporibus sibi relictis reperiri non potest."<sup>39</sup> Sin dicunt corpus propositum moveri ab alio contiguo et motu, idque iterum ab alio, sine fine, nihil magis rationem reddiderunt, cur moveatur primum, et secundum et tertium vel quomocunque, quando non reddiderit rationem cur moveatur sequens, a quo omnia antecedentia moventur. Ratio cum conclusionis tam diu plane reddita non est, quantum reddita non est, ratio rationis. Praesertim cum hoc loco idem dubium sine fine restet." *Ibid.*, p. 491.

<sup>40</sup> *Ibid.*, p. 492: "Apparet enim in extrema corporum resolutione Dei auxilio carere naturam non posse."

<sup>41</sup> See note 23.

Leibniz's argument in Part I is problematic: the subsidiary arguments (each directed at a different feature) are themselves less than transparent and they do not in any obvious way imply their mutual conclusion. However, with the help of the assumptions articulated above, which function as implicit premises, we can recognize the subtlety of the argument and the importance of its implication. Consider, for example, the first subsidiary argument. It is not at all apparent *why* the efficient cause of the squareness of a body does not constitute the right sort of *ratio*, nor exactly what sort of thing would. Although Leibniz asserts (in premise (4)) that in such a list of efficient causes "no complete *ratio* ... will ever be given" and (in the long quotation above) that "the same doubt remains ... without end," he gives no indication of *why* this is the case. He merely assumes (see premise (4)) that a simple efficient cause of a feature *f* (the figure of a body) does not constitute the appropriate sort of *ratio* of *f*. He does not explain that an efficient cause is insufficient because it includes only one of the factors (here the active, efficient cause) which contributes to the existence of the features and hence only presents part of the account. In the text, Leibniz merely asserts that the simple efficient cause or reason is insufficient as the *ratio* of the primary features of bodies and that he is in search of a complete reason (*plena ratio*).

However, the distinction between complete and incomplete *rationes* renders the fundamental point in Leibniz's argument transparent. Reconsider a passage quoted above: "Setting aside all prejudices ... I set my mind to the anatomy of bodies, to see whether it is possible to give the *ratio* ... without supposing an incorporeal cause."<sup>42</sup> We can now see that Leibniz does not seek a simple efficient cause. Rather, he thinks that the search for an explanation of the relevant feature will come to a satisfactory end only with the discovery of a complete explanation of exactly how and why that feature and no other came about. That is, Leibniz seeks a complete *ratio*.

Besides the fact that each of the subsidiary arguments critically relies on the distinction between complete and incomplete *rationes*, Leibniz also makes crucial use of the Principle of Self-sufficiency and the Principle of Causal Self-sufficiency. I said above that as a pair the Principle of Self-sufficiency and the Principle of Causal Self-sufficiency imply that if the full account of a feature *f* of a being *s* cannot be found in the nature of *s*, then *s* is not self-sufficient and

<sup>42</sup> See note 22.

f cannot be said to belong to s (s cannot be said to have f). Thus, given the Principle of Self-sufficiency and the Principle of Causal Self-sufficiency and the fact that the full account of the primary features cannot be found in the nature of body, it follows that body is not self-sufficient and that the primary features cannot be said to exist in the nature of body. The conclusion of each of the subsidiary arguments crucially depends on this point. For example, in his first subsidiary argument, given the Principle of Self-sufficiency and the assumption that bodies are self-sufficient, it follows from the definition of body (premise (2)) that the magnitude and figure of a body will be derivable from the nature of body itself. Because they are not so derivable (premises (3) and (4)), Leibniz reasons that body by itself does not constitute the right sort of *ratio* for its features ((5)). Given the Principle of Self-sufficiency and the Principle of Causal Self-sufficiency, it therefore follows that body is not self-sufficient and that magnitude and figure do not strictly speaking exist in or belong to body. The Principle of Self-sufficiency and Principle of Causal Self-sufficiency help us decipher exactly what, according to Leibniz, the problem with body is. To put the point another way, these two principles reveal exactly why the explanatory model offered by the mechanists does not, according to Leibniz, rest on a secure metaphysical base.

So far so good. But to attain his final conclusion, Leibniz requires yet another assumption, namely the *Principle of Sufficient Reason*, which in this context claims that, for every (primary) feature of body, there is a complete *ratio*. As with the other assumptions, Leibniz does not argue for the the Principle of Sufficient Reason. He merely uses it. He reasons because there must be a complete *ratio* for each primary feature and because corporeal nature by itself does not offer such a *ratio*, it is necessary to assume an incorporeal principle. As Leibniz concludes this part of the *Confessio naturae contra atheistas*:

Indeed, in the ultimate analysis of bodies, it becomes clear that nature cannot dispense with the help of God. But since we have demonstrated that bodies can have absolutely no determinate figure, quantity, or motion, without presupposing an incorporeal being, it readily becomes apparent that this incorporeal being is one thing in the service of all for the sake of the harmony of all things among themselves. ... But no *ratio* can be presented why this incorporeal being chooses one magnitude, figure, and motion rather than another, unless it is intelligent. ... Therefore, such an incorporeal being will be Mind, Ruler of the whole World, that is, God.<sup>45</sup>

<sup>45</sup> Leibniz, *Samtliche Schriften und Briefe* [Deutsche Akademie], series 6, vol. 1,

What Leibniz seeks is a *ratio* for each and every determinant figure, quantity, and motion that is so complete as to explain exactly why "one magnitude, figure, and motion rather than another" occurs. Since no such *ratio* is discoverable in corporeal nature, Leibniz reasons that an incorporeal principle is required.

Leibniz's argument in Part I of the *Confessio naturae contra atheistas* fails as a criticism of mechanism: ironically the position he argues for is consistent with at least some versions of the mechanical philosophy. Nonetheless, the essay is important for what it reveals about his original philosophical assumptions. The arguments of Part I use three significant metaphysical principles which reveal Leibniz's dissatisfaction with the standard mechanical conception of body and which display his original understanding of Aristotle's metaphysics. In brief, the lesson that the young Leibniz learned from his reading of Aristotle concerned the causal and explanatory self-sufficiency of substance, and it was this lesson that led him to reject major parts of the mechanical account of nature. Over the course of his very long life, Leibniz remained committed to the Principle of Self-sufficiency, the Principle of Causal Self-sufficiency, and the Principle of Sufficient Reason. The development of his mature theory of substance was motivated by his commitment to these claims.

#### 4. *Substantial Forms and Substantial Activity*

The *Confessio naturae contra atheistas* is primarily a critical essay. It says a good deal about what is wrong with the metaphysical underpinnings of the mechanical philosophy, but it displays precious little about what Leibniz considers the right metaphysics to be. Although the three principles identified as the underlying assumptions in the argument of the essay place extreme demands on the relation between an object and its features, they do not tell us exactly how to satisfy those demands. In other words, a crucial question arises about exactly how the nature of a corporeal substance will be able to offer

P. 492: "Apparet enim in extrema corporum resolutione Dei auxilio carere naturam non posse. Cum autem demonstravimus corpora determinatam figuram et quantitatem, motum vero omnino ullum habere non posse, nisi supposito Ente incorporeali facile apparet illud Ens incorporeale pro omnibus esse unicum, ob harmoniam omnium inter se, praesertim cum corpora motum habeant, non singula a suo Ente incorporeali, sed a se invicem. Cur autem Ens illud incorporeale hanc potius quam illam magnitudinem, figuram, motum eligat, ratio reddi non potest, nisi sit intelligens. ... Tale igitur Ens incorporeale erit Mens totius mundi Rectrix, id est deus."



a complete *ratio* of its features and thereby be self-sufficient in the right sort of way. Leibniz succinctly offers the answer to this question in another essay written as part of the *Demonstrationes catholicae*. In this text, entitled *De transsubstantiatione*, Leibniz displays his original understanding of the nature of substance. He writes:

1. *Substantia* is a being that subsists *per se*.
2. *Being that subsists per se* is one that has a principle of action *in se* ...
3. Whatever has a principle of action within itself, if it is a body, has a principle of motion within itself. Indeed every action of a body is motion, because every action is a variation of essence. Hence every action of a body is a variation of the essence of body. The essence or definition of a body is being in space. Therefore a variation of the essence of body is a variation of existence in space. A variation of existence in space is motion. Therefore every action of a body is motion ...
4. No body apart from a concurrent mind has a principle of action *in se*, as has been demonstrated in Part I of the *Demonstrationum catholicarum* [that is, the *Confessio naturae contra atheistas*], where the existence of God is proved.
5. Therefore no body taken apart from the concurring mind is a substance.<sup>44</sup>

We find here for the first time a principle that is fundamental to Leibniz's way of conceiving of substance. This assumption, which I call the *Principle of Substantial Activity*, assumes that a being *s* is a substance if and only if it subsists *per se*, and *s* subsists *per se* if and only if it has a principle of activity within itself (*in se*). That substance is essentially what acts and hence has its own principle of activity is a view from which Leibniz never wavers. By such means *De transsubstantiatione* goes beyond what was said in the *Confessio naturae* and explains

<sup>44</sup> *Ibid.*, pp. 508–509: “1. Substantia est ens per se subsistens. 2) Ens per se subsistens est, quod habet principium actionis in se. ... 3) Quicquid habet principium actionis in se, id si corpus est, habet principium motus in se. Omnis enim Actio Corporis est motus. Quia omnis Actio est variatio essentiae. Omnis igitur Actio corporis est variatio essentiae corporis. Essentia seu definitio Corporis est esse in spatio. Variatio igitur essentiae corporis est variatio existentiae in spatio. Variatio existentiae in spatio, est motus. Omnis igitur Actio corporis est motus. ... 4) Nullum Corpus, praecisa mente concurrente, habet principium motus in se. Quod demonstratum est parte I. Demonstrationum Catholicarum ubi demonstrata est existentia Dei. 5) Nullum ergo corpus, praecisa mente concurrente summum, est Substantia.”

exactly why corporeal nature needs an incorporeal principle. In the latter, Leibniz insisted that bodies are not self-sufficient and cannot “subsist without an incorporeal principle,” because a full account (or *ratio*) of their primary features cannot be found in their nature. By means of the *Principle of Substantial Activity*, Leibniz displays both why an incorporeal principle is needed and what connection there is between an incorporeal principle and a complete *ratio*. That is, where the *Confessio naturae* insists on the necessary relation between self-sufficiency and complete *ratio* (the Principle of Self-sufficiency claims that a being *s* is self-sufficient if and only if a complete *ratio* of its features can be discovered in *s*), *De transsubstantiatione* offers an explanation of this. In the quoted passage, Leibniz explains exactly what it is that incorporeal nature has and corporeal nature lacks such that the latter is insufficient without the former: bodies do not subsist *per se* and cannot constitute a complete *ratio* of even their primary features because they lack a principle of activity. They need an incorporeal principle exactly because they need a principle of activity, and they need a principle of activity in order to cause, along with *res extensa*, their primary features. Without a source of activity to arrange the matter or extended stuff in some way, bodies would have no such features. In the second part of *De transsubstantiatione*, Leibniz again proclaims: “I call substance an entity subsisting *per se*.” He then insists that, as the scholastics claimed, such entities are substantial individuals that act.<sup>45</sup>

Leibniz also articulates here for the first time what differentiates mind from body: the former has its own principle of activity while the latter has to acquire its activity through union with mind. Given the *Principle of Substantial Activity* and the fact that only mind has its own principle of activity, it follows that body needs mind to “complete” it or to make it substantial. It also follows that because mind has its own principle of activity, it not only constitutes the substance of body, it is itself a substance. That is, from what Leibniz says here, each corporeal substance itself contains a substance in the sense that it contains its own principle of activity. The remainder of the passage confirms the point that mind is both a substance itself and a constituent of the substance it creates with body. Leibniz continues:

8. Whatever is taken with concurrent mind is substance; whatever is taken apart from it is accident. Substance is union with mind. So,

<sup>45</sup> *Ibid.*, p. 511: “Substantiam appello Ens per se subsistens.”

the substance of a human body is union with human mind; the substance of bodies which lack reason is union with the universal mind or God ...

9. Therefore, the substance of body is union with sustaining mind.<sup>46</sup> In the remainder of the essay, Leibniz makes clear that it is "the substantial form that is itself the principle of activity"<sup>47</sup> Although the substantial form is here provided by God so that there will be a different one for every substance, what is important for our purposes is that Leibniz conceives the substantial form as a mind-like incorporeal principle whose metaphysical duty it is to act.

There are several points to emphasize about the proposals in *De transsubstantiatione*. First, Leibniz retains a mechanical conception of body in that corporeal features are reducible to "the essence of the body," which he defines as "being in space." At the same time, he conceives of substance in terms that are fundamentally Aristotelian: a body or passive principle is combined with a substantial form to constitute a non-human substance. He equates mind and substantial form and he implies that the substantial form contains a principle of activity and hence is itself a substance. In this way, the essay bears witness to the subtle development of Leibniz's ideas about substantial self-sufficiency: given the Principle of Substantial Activity, the Principle of Self-sufficiency, and the notion of complete *ratio*, it follows that substances will be exactly those things that have their own source of activity, which is necessary in order to offer a complete *ratio* for their features.

The second point to emphasize is that Leibniz implies in his demonstration that a body is not itself a substance, because it does not subsist in itself, and it does not subsist in itself, because it lacks an active principle. It becomes part of substance when it is joined to mind or substantial form and thereby acquires an active principle that can (along with its body or being in space) act as a source of those features. The principle that Leibniz assumes here, which is an extension of the Principle of Self-sufficiency and the Principle of Substantial Activity and which I call the *Principle of Substantial Self-*

<sup>46</sup> *Ibid.*, p. 509: "Quicquid summum cum mente concurrente est Substantia, praeter ea accidentis, Substantia est unio cum mente. Id Substantia corporis humani est unio cum mente humana; Substantia corporum ratione carentium est unio cum mente universalis seu Deo ...." 9) Corporis igitur Substantia est unio cum mente sustentante."

<sup>47</sup> *Ibid.*, p. 511: "Ex hoc porro sequitur: Formam Substantialem esse ipsam principium actionis."

*sufficiency*, may be put as follows: a being *s* is a substance if and only if it is self-sufficient, and *s* is self-sufficient if and only if the full account or complete *ratio* of all of its features can be discovered in the nature of *s*.

Finally, Leibniz also offers here the beginning of an account of substantial form, where the basic idea is that a substantial form is something mind-like that contains a principle of activity and that contributes to the self-sufficiency of the substantial nature of which it is part. Although in the original essays of the *Demonstrationes catholicae*, namely, in the *Confessio naturae* and *De transsubstantiatione*, Leibniz assigns the role of substantial form to God in the sense that God constitutes the source of activity in created substances, he will soon change his mind about this. By 1670, he will have decided that the best way to construct a thoroughly self-sufficient substance is to give each created thing its own mind-like substantial form. His first articulation of this position appears in another essay from the *Demonstrationes catholicae*, entitled *De incarnatione Dei seu de unione hypostatica*. In this essay of 1670, Leibniz insists that God gives each substance its own mind which acts constantly but cannot act "outside itself except through its body," which "does not subsist per se."<sup>48</sup> According to Leibniz, created minds "subsist per se" and "have in themselves their own principle of acting"<sup>49</sup> with which they form a unified substance with their body.<sup>50</sup> Leibniz maintains this account of substantial form for the rest of his very long philosophical career. For example, in a passage that we have seen from the *Système nouveau pour expliquer la nature des substances et leur communication entre elles, aussi bien que l'union de l'âme avec le corps*, written in 1695, Leibniz explains: "Hence, it was necessary to restore and, as it were, to rehabilitate the *substantial forms*" which he came to conceive "on the model of the notion that we have of souls" and thereby containing "an original activity."<sup>51</sup>

The developmental lesson of the demonstration offered in *De transsubstantiatione* is clear: Leibniz is in the process of working out his own theory of substance, one that is significantly different from those offered by mechanical philosophers (although consistent with mechanical physics) and one that is consciously Aristotelian. That the notion of substance presented in *On transsubstantiation* is roughly analogous to an Aristotelian conception of substance is a fact that

<sup>48</sup> *Ibid.*, p. 533: "Corpus nullum per se subsistit .... mens imperfecta extra se non igit nisi per corpus."

<sup>49</sup> *Ibid.*, p. 534: "Res per se subsistens seu principium agendi in se habens."

<sup>51</sup> *Ibid.*, p. 533: "mentes ... habent principium actionis in se."  
<sup>51</sup> See note 2.

Leibniz is happy to acknowledge. Upon the conclusion of his account of transubstantiation, he discusses at length the similarity of his account of substance in general and of substantial form in particular both to that of Aristotle and to the proposals of other philosophers scattered throughout the history of philosophy. Leibniz emphasizes both the ancient roots and the conciliatory nature of his proposals. He claims that this "philosophizing of ours differs little from the received [i.e., Aristotelian-scholastic] philosophy"; where he has improved on that philosophy is in the clarity with which he defines scholastic terminology.<sup>52</sup> According to Leibniz, the result is better and clearer than the original, and more in agreement with Aristotle himself and the noblest of his followers.<sup>53</sup>

But for some readers there may be a lingering doubt about Leibniz's apparent veneration of the philosophy of Aristotle. Since his Aristotelianism contains views never promulgated by the philosopher himself, how can we be sure that Leibniz was sincere in his proclamations of the metaphysical virtues of Aristotle? Is it possible that his Aristotelian terminology and references to ancient doctrines were merely part of a rhetorical strategy to appeal to his Aristotelian contemporaries? It would not be surprising, for example, that he would praise the Aristotelian philosophy in an essay about transubstantiation. In brief, can we be confident that Leibniz's commitment to the philosophy of Aristotle was real?

Fortunately, there is abundant evidence of Leibniz's sincerity. Not only does he frequently brag about his use of the Aristotelian philosophy,<sup>54</sup> he seems genuinely taken with the philosophical virtues of Aristotle who is the single most important source of his ideas. In the notes, published texts, and letters written between 1663 and 1672, Leibniz refers to Aristotle some 151 times, compared to 98 references to Hobbes and 33 to Gassendi. But what is more important than just numbers is the kind of references these are. To show the certainty of a principle or the truth of an opinion Leibniz often considers it sufficient simply to note that it was accepted by the "most profound Aristotle."<sup>55</sup> A reference to Aristotle seems to constitute its own kind of rhetorical argument. The vast majority of these con-

cern ethical and legal topics, but many pertain to issues in natural philosophy, the area where the new mechanical physics would naturally have its strongest influence. When Leibniz disagrees with an Aristotelian doctrine, it is almost always because it clashes with Christian orthodoxy.<sup>56</sup> The most damaging criticism Leibniz can muster against the Philosopher during this time appears in his letter to Thomasius of April 1669: "For the most part Aristotle's reasoning about matter, form, privation, nature, place, infinity, time, and motion is certain and demonstrated, almost the only exception being what he said about the impossibility of a vacuum and of motion in a vacuum."<sup>57</sup> If Leibniz could not bring himself to criticize Aristotle seriously, he had no such problem in disagreeing with philosophers like Hobbes.<sup>58</sup> Even Leibniz's letter to Hobbes of July 1670 reveals his greater regard for Aristotle. After noting some problems which he thinks Hobbes' conception of body may face, he defers to Aristotle on a topic concerning body.<sup>59</sup> Both here and in the other 150 references to Aristotle, Leibniz takes the Philosopher to be the final word on most topics, even those concerning physical matters.

But the most vivid display of Leibniz's regard for the philosophy of Aristotle occurs in a letter to Thomasius of April, 1669. Leibniz explains to his teacher that the "truth per se" of his Aristotelianism will become clear "in the same way that the Christian religion can be proven by reason and experience as well as by sacred scripture."<sup>60</sup> He then continues the analogy:

The holy [church] fathers clarified the sacred scripture with the best interpretations; the monks soon obscured it with their superstitions. With the light of the souls having increased, the reformed theology is threefold: there is heretical theology that rejects the scriptures themselves ...; there is the schismatical theology that rejects the ancient fathers of the church ...; there is the true theology that reconciles the teachers of the church with the sacred scriptures and the earliest church ... Similarly, the Greek interpreters clarified Aristotle; the scholastics obscured him by idle talk. With the light having increased, the reformed philosophy is threefold: one is dull, as that of Paracelsus, Helmont, and others,

<sup>52</sup> E.g., *ibid.*, p. 84.

<sup>53</sup> *Ibid.*, series 2, vol. 1, p. 15; "Quae Aristoteles enim de materia, forma, privatione, natura, loco, infinito, tempore, motu, rationumque, plerumque certa et demonstrata sunt, hoc uno fere demto, quae de impossibilitate vacui, et motus in vacuo aserit."

<sup>54</sup> *Ibid.*, series 6, vol. 1, p. 490; vol. II, pp. 438 and 432.

<sup>55</sup> *Ibid.*, series 6, vol. 1, p. 57.

<sup>56</sup> *Ibid.*, series 2, vol. 1, p. 21: "Nunc conciliata iam cum Aristotele philosophia reformata, restat, ipsius per se veritas ostendatur, proxius quemadmodum religio Christiana, tum ex ratione et historia, tum ex scriptura sacra probari potest."

<sup>52</sup> Leibniz, *Ständliche Schriften und Briefe* [Deutsche Akademie], series 6, vol. 1, p. 510: "Nostra haec Philosophemata a Philosophia recepta minime abhorrent."

<sup>53</sup> *Ibid.*, p. 511.

<sup>54</sup> See, e.g., *ibid.*, series 2, vol. 1, pp. 15, 17; series 6, vol. 1, p. 510; series 6, vol. II, p. 247.

<sup>55</sup> E.g., *ibid.*, series 6, vol. 1, pp. 84, 199, 455.

who straightforwardly reject Aristotle: one is audacious for it has little concern for the ancients, nay, open contempt for them, replacing even the good meditations with suspicious ones, as Descartes did, and the last is true, which understands Aristotle to be both a great man and for the most part true.<sup>61</sup>

In this extraordinary passage, Leibniz compares Aristotle to sacred scripture and the Greek commentators to the church fathers. In the same way "the monks" perverted the Bible, so the schoolmen obscured Aristotle. Analogous to the true theology, the true philosophy will be one of reconciliation grounded in the philosophy of Aristotle. Leibniz's commitment to a "reformed" Aristotelianism is clear, as is the fact that he had no taste for any philosophy (audacious or otherwise) that ignored the "great man."

##### 5. Leibniz's Core Aristotelianism

We are now in a position to identify more precisely the Aristotelianism at the core of Leibniz's philosophy. Despite the fact that some of Leibniz's early principles and assumptions (arguably) go beyond the Philosopher's view, the underlying metaphysics that we have found in the essays of the *Demonstrationes catholicae* is recognizably Aristotelian. One can safely say that, for Aristotle, substance is that in terms of which everything else can be explained, and a concrete individual substance is what causes and explains (at least) all of its essential features. The metaphysical assumptions underlying the arguments in *Confessio naturae contra atheistas* and *De transubstantiatione* reveal how the young Leibniz interpreted the Aristotelian claim that substances are the ultimate explanatory principles. For him, most fundamentally, substances are self-sufficient. This means that they have their own principle of activity (what he later often called *entelechia*) by means

<sup>61</sup> The entire text is: "Scripturam sancti patres optimis interpretationibus illustrarunt: mox monachi obscurarunt superpositionibus. Ora luce animorum, theologia reformata triplex est: alia haeretica, quae ipsas scripturas relict, ut fanaticorum; alia schismatica, quae patres ecclesiae relict, ut Socinianorum; alia vera, quae ecclesiae doctores cum scriptura sacra et primitiva ecclesia consistat, ut Evangelicorum. Similiter Aristotelem interpretes Graeci illustrarunt, scholastici obscurarunt nugis. Ora luce, philosophia reformata triplex est: alia solida, quales Paracelsi, Helmontii, aliorumque Aristotelem prorsus relicerunt; alia adæx, quae exigna veterum cura, immo contentu eorum palam habito, bonas etiam meditationes suas suspectas reddunt, talis Cartesii; alia vera, quibus Aristoteles vir magnus, et in plerisque verus cognoscitur." Leibniz, *Sämtliche Schriften und Briefe* (Deutsche Akademie), series 2, vol. 1, p. 21.

of which they act as the cause and explanation for their primary features. In brief, the underlying metaphysics in these essays does correspond to some of the most fundamental of Aristotle's views.

One of the suggestions here is that in order to grasp the impact of the Aristotelian philosophy on the evolution of Leibniz's metaphysics, it is important to discern the exact manner in which he used that ancient philosophy to right the metaphysical wrongs of the mechanists. In the *Confessio naturae*, Leibniz accepts the explanatory model of the mechanical physics, but argues that its metaphysical foundations are inadequate. There he reveals exactly *what* problems the proper notion of substance must solve. In *De transubstantiatione*, he displays exactly *how* to solve those problems. Leibniz intends to correct the mistakes of the mechanists by making substance active in a way that will allow it to be both causally and explanatorily complete. He demotes *res extensa* to the passive principle in substance, and combines that principle with a substantial form whose active nature forms a unity with it. The result is an individual corporeal substance. Although the details of Leibniz's views about substance will continue to evolve in the course of his very long philosophical career (e.g., he comes to conceive the passive principle as itself constituted of mind-like substances, and eventually he prefers to call substances *monades*), he never wavers from his commitment to the causal and explanatory autonomy of the fundamental entities of nature. It is this robust self-sufficiency that is Leibniz's profound debt to the metaphysics of Aristotle. And it is this robust self-sufficiency that inspired some of the core doctrines of his mature thought.

To better understand the impact of Leibniz's original understanding of Aristotle's philosophy on the development of his mature thought, it will be helpful to offer a brief analysis of the principles discovered as the implicit assumptions in the essays of 1668–1669. Thus far, I have presented the *Principle of Self-sufficiency*, the *Principle of Substantial Self-sufficiency*, the *Principle of Causal Self-sufficiency*, the *Principle of Substantial Activity*, the *Principle of Sufficient Reason*, and the notion of a complete *ratio*. The conjunction of these principles implies others. For example, the notion of complete *ratio* along with the *Principle of Sufficient Reason* implies two other assumptions:

- The *Logical Assumption* claims that, for any state or feature *f*, the logically necessary and sufficient conditions of *f* exist and in theory can be articulated.
- The *Intelligibility Assumption* claims that those conditions are in theory intelligible. It is important to note that, when taken with

the Principle of Causal Self-sufficiency, the Intelligibility Assumption implies that for any feature *f*, *f* cannot be said to belong to a being *s* unless one can in theory understand how the nature of *s* acts as the cause of *f*.

As a group, these assumptions imply a good deal about the nature of created substance. According to the Principle of Substantial Activity, each substance will have a principle of activity *in its nature*, according to the conjunction of the Logical Assumption and the Principle of Causal Self-sufficiency, for every feature *f* that strictly belongs to *s*, there will be a set of necessary and sufficient conditions in the nature of *s* that will constitute the complete *ratio* of *f*, and according to the Intelligibility Assumption, those conditions in *s* are in theory intelligible.<sup>62</sup> In the discussion of *De transsubstantiatione*, I noted that Leibniz equates substantial form and mind, where the basic idea is that a substantial form is something mind-like that contains a principle of activity and that contributes to the self-sufficiency of the substantial nature of which it is part. Once we piece together these clues, we obtain a further assumption.

— The *Substantial Nature Assumption* claims that, for every substance *s*, it has a nature that contains the set of necessary and sufficient conditions or the complete *ratio* for those features which strictly belong to it, and moreover those conditions are in theory intelligible.

It is noteworthy that the Principle of Substantial Self-sufficiency and the Substantial Nature Assumption reduce to the same basic intuition, namely, that substances contain the cause and explanation for what they are and what they do. It follows that each individual substance is the complete *ratio* for (at least) its primary features and moreover that the totality of substances is the source of activity—and hence the cause and explanation—for everything that happens in the world. In short, the metaphysical principles and assumptions presented here reveal how Leibniz interpreted Aristotle's account of substance. They constitute the truths that Leibniz took himself to borrow from Aristotle's philosophy and that he intended to use as core elements with which to build his own metaphysical system.

I suggested in section 1 that there is a direct connection between Leibniz's original understanding of the Aristotelian philosophy and the notion of substance that stands at the center of his mature phi-

<sup>62</sup> In fact, due to their complexity, only God will understand them.

losophy. In *Discours de métaphysique* 8, for example, he explains that "it is the nature of an individual substance or a complete being ... to have a notion so complete that it is sufficient to contain and to allow us to deduce from it all the predicates of the subject to which this notion is attributed." I asserted that, for the mature Leibniz, (1) every feature of a substance has its source and explanation in the nature of the substance itself, and (2) for every substance, there is a notion so complete that it contains in it all the predicates that can truly be predicated of the substance. It is now time to consider exactly how Leibniz's early Aristotelianism relates to these later claims.

Leibniz's original assumptions about the self-sufficiency of substance can be seen to imply exactly these two assertions. The Principle of Sufficient Reason demands that there be a sufficient explanation for every feature of a substance. The Principle of Causal Self-sufficiency claims that a feature cannot be said to belong to a substance unless that explanation lies in the nature of the substance. If we assume that these principles apply to every feature of a substance *s*, then it follows that the nature of *s* will contain the complete *ratio* for all its features, whether essential or non-essential. By such easy means, we arrive at claim (1), namely, that every feature of a substance has its source and explanation in the nature of the substance itself.

Moreover, the Substantial Nature Assumption demands that a substance *s* contain the set of necessary and sufficient conditions or the complete *ratio* for those features that strictly belong to it; and it insists that the conditions in *s* be in theory intelligible. That is, if we extend the Principle of Causal Self-sufficiency to all the states or features of *s* so that the nature of *s* constitutes a complete *ratio* for all its features, then something very like claim (2) seems to follow. Since the nature of *s* contains the necessary and sufficient conditions for all the features of *s* and since a complete concept is the set of properties truly predicated of *s*, the nature of *s* (or the cognition of that nature) would contain something very like the complete concept of *s*. Finally, it seems to follow from Leibniz's original assumptions that every feature of *s* is caused by the nature of *s*, and therefore that there will be no real causal interaction among substances. But in this case, we have arrived at a view of the world that looks a good deal like that of preestablished harmony.<sup>63</sup>

<sup>63</sup> For a more thorough discussion of the development of Leibniz's doctrine of preestablished harmony and related doctrines, see Mercer, *Leibniz's Metaphysics*.

When Leibniz wrote the theological essays of 1668–1669, he did not yet accept even the main doctrines of his mature philosophy. But he soon would. It is my suggestion here that some of the core elements of Leibniz's mature philosophy developed out of his early assumptions about the causal and explanatory self-sufficiency of substance and moreover that these assumptions about substance were firmly grounded in the philosophy of Aristotle, as Leibniz interpreted it. When Leibniz read "his great philosopher" under the direction of Thommasius as a university student in Leipzig, the principles and assumptions listed above were the main ideas that he took from his study. As Leibniz explains in 1686 in the *Discours de métaphysique*: "I know that I am advancing a great paradox by attempting to rehabilitate the old philosophy in some fashion and to call the almost banished substantial forms back to their former place."<sup>64</sup> But, the "misuse of forms must not cause us to reject something whose knowledge is so necessary in metaphysics that, I hold, without it one cannot properly know the first principles or elevate one's mind sufficiently well to the knowledge of incorporeal natures and the wonders of God."<sup>65</sup> When the youthful Leibniz "took of Aristotle's philosophy another idea than the common one," he thereby took a significant step toward the development of one of the great metaphysical systems of western philosophy.

<sup>64</sup> Leibniz, *Sämtliche Schriften und Briefe* [Deutsche Akademie], series 2, vol. IV [B], p. 1544: "Je scay que j'avance un grand paradoxe en prétendant de rehabliler en quelque façon l'ancienne philosophie, et de rappeler *postliminio* les formes substantielles presque bannies."

<sup>65</sup> *Ibid.*, p. 1543: "Mais ce manquement et mauvais usage des formes, ne doit pas nous faire rejeter une chose, dont la connoissance est si nécessaire en Métaphysique, que sans cela je tiens qu'on ne sçaurroit bien connoistre les premiers principes ny élever assez l'esprit à la connoissance des natures incorporelles et des merveilles de Dieu."

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