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The Categories of Thought and Being

In a series of writings from the late 1670s and the 1680s, we encounter a neglected aspect of Leibniz's views concerning ontology and method. The principal theme of these works is the definition and classification of the fundamental categories of thought and being. In both form and content, these writings suggest a throwback to an earlier philosophical generation. In them Leibniz's model is less the empirically and mathematically inspired method of Descartes, Hobbes, or Spinoza than the "tables of division" and classificatory "systems" of a group of almost forgotten late-sixteenth- and early-seventeenth-century German thinkers, whose outlook is characterized by an eclectic blend of Aristotelian, Ramist, and Semi-Ramist thinking.[1] The history of this movement and its influence on Leibniz lies outside the scope of the present study. My concern in what follows will be solely with articulating what may be interpreted as its residue in a specific collection of Leibnizian texts. Using this approach, I hope to give further content to the conception of metaphysics outlined in Chapter 4, and at the same time to illuminate several of Leibniz's most distinctive ontological commitments: his much discussed nominalism, his distinction between substantial and nonsubstantial being, and his complete concept theory of substance.

The Encyclopedia and the General Science

Leibniz's arrival in Hanover in December 1676 signaled a crucial turning point in his career. On the one hand, it marked the beginning of his long employment with the House of Brunswick-Lüneberg, an association that would last until his death forty years later. No less significantly, however, it set the stage for an important development in his philosophical thinking, which would culminate a decade later in the composition of the *Discourse on Metaphysics* and the correspondence with Arnauld. It has become common to interpret these last works as milestones in Leibniz's philosophical career, some even going so far as to describe them as offering the first examples of his mature metaphysics. Whatever one's view of the relationship of these writings to Leibniz's later thought, it can hardly be denied that they represent substantial progress over the theories of his Paris period. Yet this

makes all the more pressing the question of the route by which Leibniz arrived at the novel features of these works. Do his activities during the decade 1676–86 help to explain their appearance, or are they to be interpreted simply as the inspiration of a snowy week in the Harz?[2]

Since the pioneering study of Couturat (1901) the evidence has been available to show that the first answer is surely the right one. The voluminous writings composed by Leibniz during his first years in Hanover – most of them unedited until this century, some until this decade – offer considerable insight into the development of his later doctrines. The relationship between these writings and Leibniz's mature philosophy is by no means simple. The projects pursued with greatest intensity in these writings – the "encyclopedia," the "general science," the "universal characteristic" – receive relatively little attention in his later corpus.[3] Moreover, there is little obvious continuity between the themes of these writings and those of his more familiar metaphysical works. Be this as it may, I believe that Leibniz's ambitious intellectual projects of the decade 1676–86 merit close attention, both for their own sake and for the light they shed on his later philosophy.

One idea that continues to inspire Leibniz from his student days through his years in Hanover is that of *pansophia,* or universal knowledge. The term *pansophia* derives from Jan Amos Comenius, a Czech philosopher and reformer who was a student of J. H. Alsted at Herborn and exerted a powerful influence on the young Leibniz.[4] The idea of universal knowledge itself, however, has a much longer history, extending back through the hermetic movement of the Renaissance and late Middle Ages to the *Ars Magna* of the fourteenth-century Catalan philosopher Ramon Lull, and ultimately to the Kabbalah of the Jewish mystical tradition. From these predecessors, Leibniz extracted a fundamental conviction: All knowledge, in any domain, can be regarded as the result of combinations of certain primitive concepts or ideas. Hence, if we could arrive at a complete enumeration of these primitives, we would be able to derive in a systematic manner all possible truths knowable by the human mind. We would, in short, possess universal knowledge.[5]

To the modern reader, *pansophia* can only seem a vague and utopian notion. It is, since the rise of modern empirical science, simply not the way we conceive of the acquisition of knowledge.[6] Working on the cusp of the modern period, Leibniz stands in a complicated relationship to this idea. On the one hand, he is far more open to its possibility than near contemporaries such as Descartes or Locke. At the same time, he refines the idea to such a degree, trying to make it precise and productive in a way earlier thinkers had not, that he, too,

arguably comes to recognize its limitations. In writings from his early Hanover years, Leibniz formulates his scheme for universal knowledge in terms of the three projects already noted: the encyclopedia, which would serve as a repository for all acquired knowledge and would include a complete catalogue of the most basic concepts and principles; the general science, which would supply a method for arranging and relating the contents of the encyclopedia according to a strict logical order; and, closely associated with the general science, the universal characteristic, which would supply it with appropriate symbols, such that all the reasoning associated with the encyclopedia could be transformed into purely formal deductions, thereby ruling out the possibility of error.[7] These three projects establish the dimensions of Leibniz's plan as it emerged during the second half of the 1670s. In brief, he is concerned with the collection and arrangement of all human knowledge, in a way that would best demonstrate its completeness and rational order.[8]

Leibniz is especially motivated to pursue the project of the encyclopedia by what he perceives to be the strife and disorder rampant within the scientific community of his day.[9] In one piece from the period, *Precepts for Advancing the Sciences,* he complains that those engaged in scientific work

> all run in mass after what others have already done, or else they copy them and at the same time contend with them endlessly. What one has constructed is straightaway reversed by another who aspires to found his reputation on the ruins of that of the first, but his reign is no better established nor any longer lasting. The fact is that they much more seek glory than the truth and aim to dazzle others rather than enlighten themselves. (GP VII 158)

In order to overcome this "embarrassment," Leibniz argues, it is first of all necessary to abandon the "sectarian spirit" and to imitate geometers, "among whom there are no Euclideans or Archimedeans; they are all for Euclid and all for Archimedes, because they are all for the common master which is the divine truth" (GP VII 158). For this, we need only to strip the propositions we have established of their "vain ornaments and to state them in a clear and simple way . . . , and then to arrange them according to the order of their dependence and their subject matter" (GP VII 158). From this starting point, there would gradually emerge a demonstrative encyclopedia:

> Insensibly, there would be formed the elements of all the knowledge that human beings have already acquired, which would be no less fitting for posterity than those of Euclid, and would even surpass them incomparably. We would be admired for riches that we ourselves are now unaware of, because they are dispersed in an infinity of persons and books. We would have a general inventory of our public treasury which would be of incomparable use in all the needs of life, we would save ourselves from doing what has been

done, and instead of turning in a small field like those animals that are attached by the feet, we will go forward and push back our frontiers. (GP VII 158)

The only hesitation Leibniz expresses concerning the possibility of this "general inventory" of our knowledge rests on a practical problem. Because it would be difficult for any one person to execute the complete plan, "we must believe that it will only be little by little, in various stages or by the labor of many, that we will arrive at the demonstrative elements of all human knowledge" (GP VII 168). In the interim, he suggests, it will be necessary to employ a substitute for this "great method." Rather than wait until a complete inventory of human knowledge is achieved, we must examine each science to discover its "principles of invention, which when combined with some higher science, or rather the general science or art of invention, can suffice to deduce all the rest from them, or at least the most useful truths, without needing to burden the mind with too many rules" (GP VII 168). What Leibniz here describes as a "substitute" for the encyclopedia can also be seen as the true basis for its realization, for it is an essential part of his plan for the encyclopedia that a rigorous order be observed throughout, such that we should be led infallibly from the first principles of any science to its most complex theorems. The logical order that is integral to the encyclopedia indicates the critical role of the general science, which supplies the basic rules of reasoning for any subject matter. This is another point that Leibniz stresses in the *Precepts:*

It is besides evident that even when we have achieved an entirely demonstrative encyclopedia, it would be necessary to have recourse to this device [the general science] in order to aid the memory. It is true that if this encyclopedia were constructed such as I wish it, we could supply the means for always finding the consequences of fundamental truths or given facts by a type of calculus as exact and simple as that of arithmetic and algebra. (GP VII 168)

In another essay from the period, *Introduction to a Secret Encyclopedia,* Leibniz again explicitly links the encyclopedia to the general science, calling the latter the *argumentum* of the former.[10] He defines the general science as "the science of what is universally thinkable insofar as it is such" (*Scientia de Cogitabili in universum quatenus tale est*).[11] And this science, he continues,

includes not only what has hitherto been regarded as logic, but also the art of invention, together with method or the means of arrangement, synthesis and analysis, didactics or the science of teaching, Gnostologia (the so-called Noologia), the art of memory or mneumonics, the art of characters or symbols, the Art of Combinations, the *Art of Subtlety,* philosophical grammar; the Art of Lull, the Kabbalah of the wise, and natural magic. Perhaps it also includes Ontology, or the science of something and nothing, being and not

being, the thing and its mode, and substance and accident. It does not make much difference how you divide the sciences, for they are one continuous body, like the ocean. (C 511–12/P 5–6)

In one way or another, Leibniz sees all of these disciplines, each of which has a complex history in his own thought and in the Renaissance literature on method, as contributing to the general science. Foremost among them is the "art of invention," which, along with the "art of demonstration," he often simply identifies with the general science.[12] No less significant, however, is the "art of characters or symbols," for in Leibniz's view it is only possible to establish rigorous logical relations among the propositions of our knowledge when these have been formalized in a mechanical calculus. Thus, again, he seems prepared almost to identify his universal characteristic, or *spécieuse générale,* with the general science itself: "This characteristic art, whose idea I have conceived, would contain the true organon of a general science of everything that is subject to human reasoning, clothed in the uninterrupted demonstrations of an evident calculus" (GP VII 205).[13]

The promise of the encyclopedia to offer a source of universal knowledge rests, in Leibniz's view, on our ability to arrive at the demonstrative elements of human knowledge: a set of basic concepts and principles from which all other knowledge can be derived. In the *Introduction to a Secret Encyclopedia,* he indicates two methods for establishing these elements. The first rests on the possibility, already encountered, of a reduction of all concepts to primitive notions. As we have seen, the general science has for its object whatever is "universally thinkable," excluding only names which lack associated notions, such as the scholastic nonsense word "Blitiri" (C 512/P 6). That which is "universally thinkable," however, can be divided into the simple and the complex. What is simple is called a "notion" or "concept"; what is complex involves a combination of concepts related in a proposition, that is, an affirmation or negation. Simple concepts can further be divided into the clear and the obscure, the distinct and the confused, the adequate and the inadequate, and the primitive and the derivative. For our present purposes, the last of these distinctions is the most important. According to Leibniz, "a concept is primitive when it cannot be analyzed into others; that is, when the thing has no marks, but is its own sign" (C 513/P 7). Such a concept, he goes on to argue, "can only be of that thing which is conceived through itself, namely, the supreme substance or God." Hence, it follows that all concepts are ultimately derived from primitive concepts that define the absolute nature of God:

We can have no derivative concepts except by the aid of a primitive concept, so that in reality nothing exists in things except through the influence of God,

and nothing is thought in the mind except through the idea of God, even though we do not understand distinctly enough the way in which the natures of things flow from God, nor the ideas of things from the idea of God. This would constitute ultimate analysis, i.e. the adequate knowledge of all things through their cause. (C 513/P 7)

Just as all perfection or reality is ultimately derived from God, whence through limitation it determines the natures of created things, so all ideas are ultimately derived from the "idea of God," which is to say God's understanding of his own perfections.[14]

Although the divine nature is thus characterized by Leibniz as the source of all thinkables, he is generally pessimistic that anything like "ultimate analysis" is available to human beings: "An analysis of concepts by which we are enabled to arrive at primitive notions, i.e. at those which are conceived through themselves, does not seem to be in the power of man" (C 514/P 8).[15] It is against the background of this constraint on the cognitive power of finite minds that we can best appreciate the second method Leibniz pursues for arriving at the elements of human knowledge. If it does not lie within our power to effect an analysis of concepts all the way back to their primitive components, we can nevertheless attempt an exhaustive survey of the possibilities of human thought by determining the basic categories under which all concepts must fall. Our method will begin with a catalogue of the most general concepts or categories, each of which will in turn be divided into subcategories, with the process of division being repeated until we arrive at the most specific concepts. In this way, we should eventually be able to establish the totality of all thinkables starting from a catalogue of *summa genera,* which would form "a kind of alphabet of human thoughts" (GP VII 292/P 10).[16] Two points are worth noting about this method. First, in its essentials it is closely related to the method pursued by the Ramist and Semi-Ramist thinkers whom Leibniz acknowledges as having exerted an important influence on him.[17] Second, within Leibniz's own thought, we can see the method of categorical analysis as an attempt to preserve some semblance of the idea of universal knowledge given the failure of ultimate analysis. If, as Leibniz allows, it is impossible for human beings to carry out an analysis of all concepts into their simplest components – the primary attributes of God – we can nevertheless attempt to survey the entire range of human cognition through the successive division of the fundamental categories of thought.

In one piece from the period, Leibniz suggests the following catalogue of basic categories:

Everything which we think is for the most part contained in the following. *Generally:* Reality, Variety, Consequence, Order, Change. In a *middle position,* the modes of discriminating things: Quality, Quantity and Position. *Specifically,* the discriminations themselves: Extension, Sensible Quality, Thought.

He then offers a series of further divisions of each of these primary categories, beginning with *reality:*

Reality includes the possible, excluding the impossible, the positive excluding the negative. But the positive in turn has its degrees, for if it is complete, it constitutes a substance, if less an accident; if it is absolute, it constitutes God, if it is limited a creature. (LH IV 7B, 3 Bl. 17 [V 323])

A list of categories very similar to this division of the category of *reality* appears in *Introduction to a Secret Encyclopedia:*

Categories [*Praedicamenta*]: i.e. a catalogue of concepts set out in order, and of conceivable things or simple terms. The concepts are: possible; being; substance; accident or adjunct; absolute substance; limited substance, or that which can be passive; living substance, which has in itself a principle of operation, or soul; *thinking substance,* which acts on itself – this is also called *mind.* (C 514/P 8)

These lists of concepts offer a good example of the direction of Leibniz's thinking during his early Hanover period. Through such lists, he aims to arrive at an "alphabet of human thoughts," from which all other thinkables can be constructed via the general science or "art of combinations."[18] The simple lists of concepts given above, however, offer only the briefest suggestion of the contents of a series of studies from the 1680s, in which Leibniz pursues in a more rigorous manner the division and definition of the fundamental categories of thought.

Category Studies I: Being

The studies to which we now turn represent two main advances over the lists of categories considered in the preceding section. First, they make much more precise the exact sequence of conceptual divisions. Second, they link these divisions to definitions of the relevant concepts, thereby providing a clearer basis for the divisions themselves. The definitions Leibniz offers in these studies are of considerable philosophical interest. As we saw in the last chapter, it is his firmly held belief that metaphysics can in principle be transformed into a demonstrative science every bit as rigorous as Euclidean geometry; and that to this end, what is required above all are adequate definitions of philosophical terms.[19] We also saw, however, that Leibniz frequently claims to have arrived at a good many such definitions, although the evidence supporting this claim is scant in his more popular works. The next two sections make the case that the best places to look for these definitions are the many category studies he composed during the 1680s.[20]

In this section, I examine a series of definitions that answer to Leibniz's division of the most general category of *being* or *reality.* In the interest of clarity, I have organized my account around one repre-

sentative study, from which I quote at length.[21] I have broken Leibniz's sequence of divisions down into five stages, and in my discussion of each I frequently refer to the corresponding stages of related studies.

Stage 1: Terminus > Impossibile | Possibile > Non Ens | Ens

I call a *term* whatever is *per se,* or can be the subject or predicate of some proposition, like *man, chimera;* particles are thus excluded. A term is either possible or impossible. *Possible* is what is distinctly thinkable without contradiction, such as *being, God, heat, nonbeing. Impossible* is what is indeed thinkable in a confused way, but if you attempt to think distinctly, you will find that the notions from which it is composed disagree with one another or involve a contradiction, like *fastest motion, largest circle,* or *mind–body.* A possible is either affirmative like *being* or negative like *nonbeing.* For *nonbeing* certainly involves no contradiction, and consequently belongs among the positive terms.

To begin, we must consider what exactly Leibniz's category studies seek to establish. The highest category in his schemata is usually, as in our example, that of *term,* which he defines as whatever can be the subject or predicate of some proposition. We may assume, then, that these studies in the first place represent divisions of terms. Leibniz sometimes suggests that terms can be identified with names. More frequently, however, he distinguishes names and what they are signs of – concepts or notions – and assimilates terms to the latter.[22] His schemata thus in general define a hierarchy of concepts, or "simple thinkables." As the highest category, *term* represents both the most general concept, whose division gives rise to all the rest, and the most general category, under which everything else in the schema falls. This dual role, as both a category of concepts and a concept itself, is characteristic of all the terms that mark the basic divisions in Leibniz's schemata. Thus when *term* is divided into *possible* and *impossible,* we may think of *possible* as both defining a category under which a large number of other concepts fall (e.g., *being, God, man*) and as a concept in its own right.

Consistent with what we saw in the last chapter, Leibniz defines the *possible* as that which is distinctly thinkable without contradiction. He thereby excludes from this category concepts such as *fastest motion* or *largest circle,* which on the surface seem to represent coherent ideas but on analysis are shown to involve a contradiction. Significantly, in this particular study he does not identify the *possible* with the category of *being,* for he claims that insofar as the concept *nonbeing* does not involve a contradiction, it too belongs among the possible or "positive" terms. This assumption, however, raises an obvious difficulty, which Leibniz seems intent on avoiding in other studies. In a slightly later piece, he identifies *nonbeing* with the concept *impossible,* or "that whose definition involves *A non-A,* or implies a contradiction" (LH IV

7B, 2 Bl. 34–5 [V 1208]).[23] This allows him to escape the conclusion that *nonbeing* can be classified as a positive term. "The *positive,*" he writes in this study, "is that which does not imply *non-A.*" This is crucial, for he goes on to say that the positive "coincides with that which Aristotle called entelechy or act, and others perfection or reality. Such notions are *being, thinking, acting.* Such are all the attributes of God, none of which involves any limitation, and thus they are capable of infinite degrees" (V 1208). By excluding *nonbeing* from the category of positive terms, Leibniz avoids the unacceptable conclusion that *nonbeing* is a property of God.

In his most careful development of the categories, Leibniz seems committed to preserving the identification of *possible* and *being;* and he relates both of these, as we have seen, to a ground in the divine nature. Given this identification, we can from this point on regard Leibniz's schema as having a twofold purpose. Subsequent stages in the analysis can be understood to express both a division of concepts and a division of types of being, that is, those real possibilities of existence whose essences are expressed by distinctly conceivable concepts.[24]

Stage 2: Ens > Abstractum | Concretum

Being [*ens*] is either concrete or abstract. A *concretum* is that which at the same time involves a subject; an *abstractum* is that which is otherwise. Thus, *God, man, body, circle, hour, hot, acting* are *concreta,* which are not understood to be in something else as though in a subject. For although the shape of a circle is in a bronze circle as though in a subject, nevertheless a circle is not in a subject; and acting already involves a subject, for it is a thing [*res*] to which action is attributed. *Divinity, magnitude, heat, state, action* are *abstracta.*

Leibniz defines a *concretum,* a concrete term or being, as that "which at the same time involves a subject." An *abstractum,* on the other hand, is that which "is in" [*inest*] or "inheres in" another being, "as though in a subject." These definitions are best understood in terms of what is involved in our conception of each type of being. We conceive of a *concretum* as a being that has some quality but is not itself the quality of another being, for instance, a certain man or house. By contrast, we conceive of an *abstractum* as a being whose nature is merely predicative and which therefore requires another being – its subject – in which to inhere. Leibniz sometimes says that the distinction between *concreta* and *abstracta* cannot be accounted for without a notion of what it is to be the same and different. If *A* and *B* are *concreta,* for example, *calidum* and *siccum,* it is possible that they should be numerically identical: namely, a subject that is both hot and dry. The corresponding *abstracta,* however, *calor* and *siccitas* (heat and dryness), will

be two different beings which cannot be identified either with their subject or with each other (LH IV 7B, 3 Bl. 17–18 [V 324]).

Stage 3: Concretum > Adjectivum | Substantivum

A *concretum* is either a *substantivum* or an *adjectivum:* an *adjectivum* like *loving;* a *substantivum* like *lover,* that is, *loving thing.* Thus, only a *substantivum* involves a subject with a predicate; but since the former is always implied [*subintelligi*], it was not necessary to distinguish *substantiva* and *adjectiva* linguistically.

The division of *concreta* into *substantiva* and *adjectiva* seems at first glance to be merely one of grammar. Under the former heading Leibniz lists terms expressed by proper and common nouns: *man, God, poet, machine;* under the latter, terms expressed by adjectives: *hot, loving, large.* He proceeds, however, to give a deeper explanation of this distinction. Although *substantiva* straightforwardly "involve a subject with a predicate [*subjectum cum praedicato*]," or the notion of something of which something else is predicated, in the case of *adjectiva* a subject is only implied. The result is that while a substantival term by itself succeeds in signifying some *concretum,* a subject of which something else is predicated, an adjectival term does not. If something is not added to it – if a *subjectum* per se is omitted, Leibniz says – it does not "denote" an *ens,* but only a "mode of conceiving" (LH IV 7C Bl. 101 [V 181]). Elsewhere, he claims that *adjectiva* do not make complete sense unless supplemented by a term like *subjectum, ens,* or *res* that explicitly introduces a subject. In the case of a *substantivum,* by contrast, the addition of such a term would produce a tautology, for it is the mark of such a term that it is already analyzable into the term *subjectum* and a term expressing a quality predicated of it (LH IV 7C, Bl. 103–4 [V 187]). *Homo,* for example, can be understood as *subjectum humanum; rex* as *subjectum regnans* (SF 479).

In some works, Leibniz attempts to assign a further ontological import to the division *substantivum–adjectivum* by identifying it with the distinction between, on the one hand, *substantia* or *res,* and, on the other, *accidens* or *modus.* A substantival term like *man,* which "connotes" its subject, is said to "express a substance," a being that supports (*substat*) other beings but is not itself supported. He also refers to *man* as a "universal substance" signifying any singular substance of a determinate species (LH IV 7C Bl. 107–8 [V 411]). There is reason to be cautious in interpreting these remarks. In one of these same pieces, Leibniz asks himself why *homo* should be called a substance and *calidum* an accident, when nothing stops us from understanding through *calidum* a particular hot substance. He concedes that the difference is not of philosophical importance (LH IV 7C Bl. 103–4 [V 187]). Overall he is anxious to offer the same account of the signifi-

cance of substantival and adjectival *concreta:* for any *adjectivum,* he says, there will be some "explicit or suppressed" substantival term signifying an *ens.* In a "rational language," furthermore, there would be no need to mark the distinction, since every *concretum* would be represented by a combination of an *adjectivum* and the term *ens* or *res* (C 289, 433; SF 479).

Stage 4: Substantivum > *Attributum* | *Suppositum*
Substantivum > *Incompletum* | *Completum*

A *substantivum* is either complete, which we call a *suppositum,* or incomplete, which can be called an *attribute.* A complete [being] is that whose concept involves all the predicates of the same subject; and so it is the concept of an ultimate subject or *suppositum.* Thus the concept of Alexander or Bucephalus involves everything that can be predicted of that to which the name "Alexander" is attributed, for whoever knows Alexander perfectly knows his entire nature and history. But the appellations *man, king, victor* do not involve everything, nor consequently will they delimit one thing, such that there can be nothing else in which the same things coincide.

In this stage of his schema, Leibniz offers two different divisions of the category *substantivum.* First, he suggests that a *substantivum* may be either a *suppositum* or an *attributum;* second, a *substantivum* may be either a *completum* or an *incompletum.* While it may appear from the quoted text that he means to identify the respective halves of these two divisions, the situation is more complicated than this. Whereas all *attributa* are conceived by Leibniz as *incompleta,* the converse does not follow. Likewise, whereas all *completa* qualify as *supposita,* we shall see that not all *supposita* qualify as *completa.* Of the first of these divisions, Leibniz has relatively little to say. A *suppositum* is identified simply as an ultimate subject of predication, that is, following Aristotle, that of which other things are predicated which is not itself predicated of anything else. An attribute is that which lacks this characteristic. With regard to the complete–incomplete distinction, Leibniz gives a somewhat fuller explanation. A *completum,* he says, is "that whose concept involves all the predicates of the same subject," that is, all the predicates of the subject of which it itself is predicable. This he identifies as the concept of an ultimate subject like Alexander, since within such a concept is contained everything that can be predicated of that subject. By contrast, incomplete terms like *man* or *king,* which are also truly predicated of Alexander, do not contain everything that can be said of Alexander. Neither, for example, contains the term *student of Aristotle,* which would, on Leibniz's view, be contained within Alexander's complete concept.[25]

With the definition of *completum,* we arrive at what is in effect the end of Leibniz's division of the categories of being. Starting with the

most general category *ens,* we have narrowed this to the category *concretum,* or that which "involves" a subject, and then to the category *substantivum,* including only terms that on analysis can be shown to contain the terms *subjectum* or *res.* Leibniz now suggests the possibility of specifying the comprehension of a term even further, so as to define the category *completum,* which will include just those terms whose comprehension contains everything that can be predicated of the subject of which they themselves are understood. The full significance of this definition will become apparent in what follows. For the moment, two points should be noted. First, Leibniz clearly arrives at the category *completum* and its definition through a process of division, starting from the most general categories of *term* and *being.* Second, during this period, the idea of a "complete being" is integral to his understanding of what it is to be an individual substance. As he writes in a contemporary study, "the concept of a singular substance is something complete, which already contains potentially whatever can be understood of it. . . . A complete concept is the mark [*nota*] of a singular substance" (LH IV 7C, Bl. 111–14 [V 417]).

Stage 5: Suppositum > substantia singularis | phaenomenon reale

A *suppositum* is either a *singular substance,* which is a complete being and one *per se,* like God, some mind, I; or a *real phenomenon,* like any body, the world, a rainbow, a pile of stones, which is conceived by us like one complete substance, when nevertheless a body, unless it is animated or contains within it some one substance corresponding to a soul, which is called a substantial form or first entelechy, is no more one substance than a pile of stones; and if, on the contrary, there is no part of it which can be taken as one *per se* (if indeed a body is actually subdivided or at least composed of things subdivided into parts), it follows that every body will be only a real phenomenon, such as a rainbow is.

With this final division, Leibniz affirms that something can indeed be a *suppositum* without being a *completum.* A divisible entity, like a body, he suggests, can be a *suppositum* or ultimate subject of predication, and yet not a complete being, insofar as it is not an *unum per se.* In this case, it is no more than a "real phenomenon." The only circumstance under which a body can be a complete being is if it is endowed with a substantial form or entelechy, which is both itself an *unum per se* and capable of conferring this status on the matter to which it is joined. It is evident from this that Leibniz regards the class of concrete, substantival beings as extending beyond the class of individual substances.[26] Thus, he conceives of the possibility of particular things, like bodies, which are apparently singular things, yet which lack the per se unity definitive of substance. Insofar as such beings fail on these grounds to qualify as genuine substances, they are denied

the status of complete beings. What remains unclear at this point is the connection Leibniz sees between something's being an *unum per se* and its possessing a complete concept. Are these merely coextensive properties of substance, or do they entail one another? A further question concerns the relationship between matter, which in itself lacks a true unity, and substantial form. How exactly does Leibniz see the latter as conferring the unity of substance on an extended body? We return to these questions in Chapter 6.

Category Studies II: Order

We observed in Chapter 2 that Leibniz begins with a very general conception of order: "Order is the relation of several things, through which any one of them can be distinguished from any other" (BH 124). The crucial point stressed in this definition is the distinguishability of ordered things: Order is that species of relation which things bear to each other insofar as they can be distinguished one from another. For this to be possible, we saw, there must exist an intelligible principle or ground by which we can comprehend the differences between them.[27]

Throughout his career, Leibniz concerns himself with two principal types of order: on the one hand, the order present in an arrangement of parts or constituents, or what he calls the order of *situs;* on the other hand, the order present in a series or progression of things. His first detailed exposition of the notion of arrangement, or *situs,* appears in his 1666 study *On the Art of Combinations:*

> The whole itself (and thus number and totality) can be broken up into parts, smaller wholes as it were. . . . And the disposition of the smallest parts, or of the parts assumed to be smallest (that is, the unities) in relation to each other and to the whole can itself also be varied. Such a disposition is called *situs.* (A VI 1, 171/L 77)[28]

Leibniz regards disposition or arrangement as an essential feature of all complex beings. "Since everything which exists or which can be thought must be compounded of parts, either real or conceptual," there are two ways in which differences of kind can arise: either through a difference of parts or through a different arrangement of parts (A VI 1, 177/L 80). The notion of arrangement thus extends to all spatial and quasi-spatial wholes, including those formed from concepts.

An order of succession is determined by its involvement of the notions of priority and posteriority.[29] As in the case of arrangement, Leibniz regards this type of order as universally applicable. He assumes there is a natural order of ideas or concepts "common to angels and men and to intelligences in general" (RB 276). And correspond-

ing to this order of ideas there is a natural ontological order. Most basically, there is an order of priority that obtains among the eternal essences of things. In addition, however, there is a natural order of existing things, which succeed one another not only temporally but also in a causal order that is itself determined by a priority of natures: A "preceding instant always has the advantage of priority, not merely in time but in nature, over following instants" (GP III 582/L 664). It is this second conception of order – the order of priority or succession – on which Leibniz's category studies focus.[30] There are two reasons to pay close attention to the definitions that appear in these studies. First, they substantiate Leibniz's claim to have arrived at an adequate definition of the concept of cause, in addition to his definition of substance. Second, these studies introduce us to a technical notion that will be of critical importance later in our discussion of the relationship between matter and substance.

In a piece dating from 1687, Leibniz stipulates the following series of definitions:

[D1] If A is, then B is = A is an *inferens*, B is an *illatum*.
[D2] If A is not, then B is not = A is a *conditio*, B is a *conditionatum*.
[D3] A is *prior by nature* if its notion is simpler.
[D4] If A is not, then B is not, and if A is prior by nature to B = A is a *requisitum*, B is a *requirens*.[31]

These first four definitions are relatively straightforward. [D1] specifies the existence of A as a sufficient condition for the existence of B.[32] In this case, Leibniz designates A as an *inferens*, B an *illatum*. [D2], his definition of *conditio*, specifies the existence of A as a necessary condition for the existence of B. In [D3] we are introduced to the idea of one thing's being "prior by nature" to another. Leibniz recognizes this notion as raising problems for him.[33] He states in [D3] that a being is prior by nature if its notion is "simpler," or as he puts it later in the same study, if it can be "conceived more simply" (V 1230). In another work, he defines that to be simpler, "whose possibility can be demonstrated more easily or whose synthesis is shorter" (LH IV 7B, 2 Bl. 36 [V 1214]). Finally, these definitions are united in a third study, where the "prior by nature" is said to be that "whose possibility is demonstrated more easily, or that which can be understood more easily" (LH IV 7B, 2 Bl. 37 [V 128]). What Leibniz appears to have in mind is a notion of the degree of complexity of a concept as measured by the logical steps required to pass from the concept itself to a complete resolution of it into its simple components. His idea is that one being can be said to be prior by nature to another if fewer steps are required to effect a complete decomposition of its concept. In special cases, this condition is satisfied if the demonstration of the possibility

of one concept is effected through a demonstration of the possibility of another (LH IV 7B, 2 Bl. 36 [V 1214]).[34]

If the existence of being *A* is a necessary condition for the existence of being *B*, and if *A* is prior by nature to *B*, then *A* is said to be a *requisitum* of *B*. This definition marks one of the most important concepts in Leibniz's metaphysics. In a 1685 study, he distinguishes two basic types of *requisita:* "Some *requisita* of things are mediate, which must be investigated through reasoning like causes; others are immediate like parts, limits and generally those things which are in [*insunt*] a thing" (SF 481). In Leibniz's view, something is an "immediate requisite" if it is directly presupposed by the nature of another being, such that the latter cannot be conceived without the former. This type of relation holds between a concept and its conceptual components, a whole and its parts, a line and its endpoints, and, as we shall see, a body and its constituent substances. Significantly, Leibniz contends that the cause of a thing is not an immediate requisite of it, or something that depends solely on its nature. Instead, the cause–effect relation is necessarily relative to a "mode of existing or producing" that must be "investigated through reasoning." This leads us to the next sequence of definitions:

[D5] A *producens* is an *inferens* that is prior by nature, or at least what is in itself an *inferens* (i.e., if nothing impedes it) prior by nature.
[D6] A *relevans* is what renders a *relevatum* easier, or that which is a requisite on a certain hypothesis or according to certain circumstances and a certain mode of existing or producing.
[D7] A *conferens* is a *producens* of a *relevans.*
[D8] A *cause* is a *conferens* with outcome [*cum successu*], i.e., the *producens* of a requisite, on the hypothesis or according to the mode of existing by which a thing in fact exists.

This second set of definitions is considerably more complex than the first. [D5] clearly stands to [D1] in the same relation as [D4] stands to [D2]: a *producens,* according to Leibniz, is an *inferens* that is also prior by nature. [D6] next defines an example of a *requisitum mediatum:* a *relevans,* which is a *requisitum* "on a certain hypothesis or according to certain circumstances and a certain mode of existing or producing." With this last proviso, Leibniz takes note of the fact that, within the contingent order of nature, one thing existing in a particular state is generally not a necessary condition per se for the existence of another thing, but only a necessary condition "on a certain hypothesis." If one intends to heat a room with a wood fire, the dryness of the wood is necessary for the production of the heat. It is not absolutely necessary for the heat, but only "according to certain circumstances and a certain mode of existing and producing." Under these

conditions, the dryness of the wood makes the production of the heat "easier."

The biggest puzzle about this sequence of definitions is [D7] and [D8]. In another study, Leibniz substitutes for these two definitions, the following:

[D7′] A *conferens* is a *requisitum* according to some mode by which a thing could be produced.

[D8′] A *cause* is a *requisitum* according to that mode by which a thing has been produced. I prefer to call it an *efficens* (SF 483).

[D7′] has essentially the same content as [D6], Leibniz's definition of *relevans*. A *conferens* is thus conceived as a necessary condition for the existence of a thing according to some mode by which it could be produced. As in the case of *relevans*, this definition acknowledges that the necessity of a factor which contributes (*confert*) to the bringing about of a certain effect is relative to a certain mode of production. [D8′] then defines a *cause* as a special case of a *conferens*, namely, a necessary condition according to the mode by which a thing has in fact come into existence.[35] Now why, we must ask, did Leibniz feel compelled to replace these relatively simple definitions with the more complex ones that appear in [D7] and [D8]?

In yet another piece from the same period, he offers an argument that can be read as defending these more complicated definitions.[36] Whatever "contributes to something [*conferens ad aliquid*]," he says, "is the *producens* of a *requisitum*." Hence:

> We say that a teacher contributes to the fact that human beings are happy, since he produces something that is necessary, namely knowledge from one experienced in some of the things necessary for happiness. However, the contributing [*conferens*] itself is not immediately a *requisitum*. For, to stay with the same example, we can learn the same things even without a teacher. (LH IV 7B, 3 Bl. 17–8 [V 326–7])

As Leibniz sees it, [D7′] and [D8′] fail to articulate an adequate definition of "cause," since in limiting a cause to a type of necessary condition, they rule out those things, such as the teacher's instruction, which may in fact be effective in bringing about a certain outcome but are not necessary for it. For this reason, he prefers to define a *conferens*, or contributing factor, more broadly as that which is sufficient for a *requisitum* (or necessary condition) under a certain set of circumstances, and a *causa* as a *conferens*, which contributes to an effect that in fact occurs. So defined, the notion of cause remains weaker than that of a *producens per se*. The latter is identified with a "full cause," or a *producens* that "involves all the *requisita* that are *sufficient*" (V 328; cf. V 1303). At the same time, Leibniz says, we may also regard as a cause

a *producens* which does not absolutely bring about an effect, but does so only under some hypothesis, especially if this hypothesis is only negative, i.e., if nothing impedes it. Thus, whoever impels is the cause of impelled motion, if nothing resists. For he acts in such a way that from this an effect follows, if nothing prevents it. But if, in this case, the outcome is in fact the effect, it is necessary also that nothing should have prevented it, and thus that the outcome would have been the effect. . . . From this it is clear that every *producens* is a cause, but that not every cause merits being called a *producens,* as for example, an instrument, an aid, an occasion, and similar things. If we observe common usage, a cause is that which contributes [*confert*] much. (V 327)[37]

According to Leibniz, a cause is a factor that contributes significantly to an actual effect by being a sufficient condition for something that is, under a certain hypothesis, a necessary condition for the occurrence of the effect.[38] Implicit in this definition is a recognition of the counterfactual character of causal relations. Thus, he suggests in the above passage, if X is a cause of some Y that in fact occurs, it must also be true that given X and any other requisites, Y would occur provided that nothing prevented it. That is, Y succeeds X not merely accidentally but through some contribution that X makes to its existence.

The evidence presented in the last two sections lends considerable weight to the conception of metaphysics ascribed to Leibniz in Chapter 4. As he himself notes, his theorizing is to a large extent driven by the search for definitions, which in turn provide the means for rendering metaphysics as rigorously demonstrative as Euclidean geometry. In his pursuit of these definitions, Leibniz adheres to a consistent method. Starting from definitions of the most general terms (e.g., *ens, conditio*), he proceeds step by step, via the principle of division, to definitions of more specific terms (e.g., *completum, causa*). The studies we have been examining are no more than Leibniz's working notes. As a result, we find in them many loose ends, many hesitations, even many inconsistencies. For all of this, I would argue that they offer unrivaled entry into one of the deepest currents of his thought.

Leibniz's Nominalism

The topic of Leibniz's nominalism has received considerable attention in the philosophical literature. While all parties seem to accept that Leibniz was some sort of nominalist, there remains substantial disagreement about the precise set of ontological commitments that warrant ascribing this label to him. At the focus of much recent discussion has been the status of the divine ideas in which Leibniz claims to ground the reality of essences and eternal truths. Mates (1980, 1986), and following him Jolley (1990), have made the case that Leibniz should be understood as a strict nominalist who denies the reality of all abstract entities, including those resident in the divine understand-

ing. According to Mates, when Leibniz "tells us that possible worlds, concepts, and propositions exist only in 'the region of ideas' or in 'the mind of God,' what he intends is . . . that statements purporting to be about these kinds of entities are only *compendia loquendi* for statements about God's capacities, intentions, and decrees."[39] Against this interpretation, other authors have presented strong arguments for taking Leibniz at face value when he says that essences and eternal truths "exist (if I may put it so) in a certain region of ideas, namely, in God himself, the source of all essence" (GP VII 305). They have maintained, contrary to Mates, that Leibniz's doctrine of divine ideas falls squarely within the Augustinian tradition, and that consequently divine ideas cannot be reduced to mere dispositions or capacities.[40]

I do not propose to undertake here a full examination of Leibniz's nominalism. We have already seen that on the issue of divine ideas Leibniz asserts his allegiance to a broadly Neoplatonic position and ascribes a similar position to Augustine and Malebranche.[41] There is no question that he regards essences and eternal truths as possessing a type of reality as ideas of the divine understanding. In this respect, they are to be contrasted with impossible terms, such as *fastest motion* or *largest circle,* which indicate a (confused) human concept for which there is no corresponding being or essence and hence no divine idea.[42] Admitting this much may suggest to some that Leibniz is better described as a "conceptualist" regarding possibility and concepts, rather than a "nominalist." If so, fine. On the other hand, a case can be made for preserving the label "nominalist" as a way of indicating Leibniz's unequivocal opposition to the actuality or created existence of all types of abstract being. What this indicates, I believe, is that the issue of the reality of divine ideas has been something of a red herring. Leibniz's nominalism, insofar as he is a nominalist, rests squarely on the division he draws between concrete and abstract beings and their respective claims to exist within the created world.[43]

In Leibniz's view, the division between *concreta* and *abstracta* represents a distinction in thought that is not reflected in reality. Although various distinctions can be drawn within the category of *concreta* corresponding to the different modes of existence of concrete beings, Leibniz is adamant that no *abstracta* find their way into the domain of existing things; they are without exception merely ideas or "beings of reason" (*entia rationis*). Because of this, *abstracta* such as *heat, humanity,* or *magnitude* would have no place in a "rational language" or universal characteristic.[44]. At best these terms duplicate distinctions that are expressible through concrete terms; at worst they are the sources of irresolvable philosophical controversy:

> [I]t is abstractions which give rise to the greatest difficulties when we try to scrutinize them, as those who are informed of the subtleties of the Scholastics

know, the thorniest of which disappear at once if we agree to banish abstract beings and resolve to speak ordinarily only in terms of concrete beings, admitting no other terms in scientific demonstrations than those which represent substantial subjects. (NE II, xxiii, 1; RB 217)

As one example of the "subtleties" of the scholastics, Leibniz cites the propensity of *abstracta* to proliferate *in infinitum,* creating the impression of levels upon levels of abstract being.[45] Although he thus appeals to considerations of ontological parsimony in denying that *abstracta* signify actual or existing things, his principal objection is directed at the very notion of an "abstract being." Such a being, he argues, is simply not a candidate for an independent existence: "Although a proposition can be formed from *humanity* just as if it subsisted per se, as when I say 'humanity is less than divinity,' it nonetheless requires in truth some *suppositum* in which to subsist" (LH IV 7B, 3 Bl. 21 [V 338–9]). For Leibniz, it is a basic article of faith that *abstracta* – beings which by definition exist "in" another being, as though in a subject – possess no ontological standing in their own right. Such beings can only arise as abstractions from *concreta.*[46]

Leibniz's commitment to this species of nominalism has important repercussions for his understanding of predication. In discussing the conditions for the truth of a predicative proposition, he frequently refers to the scholastic dictum *praedicatum inest subjecto.* It is natural to read this statement as making a claim about the circumstances which ground a proposition's truth. There is, however, more than one way of interpreting it. On one reading, the dictum can be understood as asserting a relation of "inherence" or "inexistence" that holds between two different beings. Thus, to say truly that Socrates is hot or that Socrates is a man is to say that a separable being – the quality of heat or of humanity – inheres in Socrates, as though in a subject. On this understanding of predication, an important role is assigned to abstract beings: Their instances represent the accidents that inhere in another being and thereby endow it with its distinctive qualities.

In a 1688 essay, *De accidentibus,* Leibniz makes clear his opposition to any theory of this sort.[47] "It is worth considering," he begins, "whether accidents have something other than modal reality and in what it consists. And if in fact we suppose real accidents, either their reality is a part of the reality of a substance or it adds a new reality to a substance." His argument, in brief, is that neither option is coherent, since any change in the reality of a substance, what he takes to be a necessary consequence of its accidents contributing to that reality, makes it that *that* substance ceases to exist. Although this argument strictly tells only against real accidents, Leibniz moves from it to reject the reality of predicative beings in general. Although humanity is both a persisting and an essential quality of any human being, he

denies that a substance's having it will involve its inherence in that substance. Thus he adopts a version of nominalism that restricts reality to substantial beings (i.e., *substantiva*) that are not themselves predicated of other beings:

> Up to now I see no way of avoiding these difficulties than by considering *abstracta* not as real things but as *compendia loquendi* . . . and to that extent I am a nominalist, at least provisionally. I would say therefore that a substance is changed or that its attributes are different at different times, for this supports no uncertainty: but it is not necessary to consider whether there are various realities in a substance that are the foundations of its various predicates, and indeed if the matter is raised adjudication is difficult. It suffices to posit only simple substances as real things and to assert truths about these. (G 547)[48]

Given that the basis of a true predication cannot lie in the inherence of a distinct being in a subject, Leibniz infers that, properly understood, predication consists solely in the stating of truths about things, not in the assertion of a special sort of relation between things. Accidents conceived as being "in" a subject are in reality only states or modifications of a substance, not distinct separable beings.[49]

At this point we encounter an important connection between Leibniz's nominalism and the doctrine of divine ideas. Although Leibniz accepts the title "nominalist" as descriptive of his attitude toward the existence of *abstracta,* he strongly objects to the position, which he associates with Hobbes, that truth depends solely on the relations of signs.[50] Consequently, while he rejects an explanation of true predication in terms of the inherence of real accidents in a subject, he nevertheless continues to maintain that there must be some ground in reality for the truth of any proposition. As noted in the last chapter, this ground is supplied by the distinctive twist he gives to the *praedicatum inest subjecto* principle. In contrast to the doctrine that a thing's having such-and-such a quality requires the inherence in it of some real accident, Leibniz argues that the reason for a true predication, its "basis in the nature of things," rests on the relation between the perfect notions of subject and predicate present in the divine understanding. A proposition is true just in case the concept of its predicate is contained in the concept of its subject, and this not only in the case of human concepts but also in the case of the divine ideas that ground possibility and truth. Now, it is essential to recognize that this approach is consistent with, and supportive of, the nominalist strategy suggested in *De accidentibus.* In relocating the metaphysical ground of predication from things in the created world to the perfect notions or essences of things resident in the intellect of God, Leibniz undercuts the principal reason for supposing the existence of predicative beings in the first place. If this is right, then supporters of the interpretation of Leibniz as a strict nominalist intent on denying the reality of divine

ideas have missed a critical aspect of his position. As Leibniz sees it, the assertion of the reality of divine ideas is in fact the only way to uphold a nominalist ontology, while at the same time preserving an objective ground for possibility and truth.[51]

Substance in the Category Studies and in the *Discourse on Metaphysics*

Leibniz's category studies emphasize two main features of substance: its completeness and its per se unity. In this final section, we look at the first of these features in more detail, in the hope of establishing a clearer connection between the category studies and Leibniz's seminal *Discourse on Metaphysics.*

The doctrine that substances are by nature "complete beings" is of paramount importance to Leibniz's philosophy during his early Hanover period. Signs of the doctrine of completeness are discernible in his writings of the late 1670s. What we find there, however, are only rudimentary versions of the view he elaborates during the 1680s. Until this time he remains limited to expressing himself in very general terms: a "complete being," or substance, is one which contains "everything" (A VI 3, 400), or the "entire nature of things" *(totam rerum naturam)* (G 540). In the early 1680s, a shift in Leibniz's usage of this phrase is evident. It now appears almost exclusively in the context of defining, in a logically rigorous way, a special type of concept, or the being expressed by such a concept.[52]

The best-known instance of this definition appears in §8 of the *Discourse on Metaphysics:*

> [T]he nature of an individual substance or of a complete being [*un estre complet*] is to have a notion so complete [*si accomplie*] 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. (Le 36/AG 41)

There is no doubt that Leibniz regarded this as an instructive way of characterizing an individual substance, for statements like it occur repeatedly in works leading up to the *Discourse,* as well as in later writings.[53] Our question is why he opts for this particular definition. Why does Leibniz see possession of a complete concept as both a necessary and a sufficient condition for something's being a substance?

Received wisdom on this question has held, following hints from Leibniz, that this definition can be read as an immediate consequence of his theory of truth.[54] It is fairly easy to see, however, that this explanation is inadequate as it stands. While a simple argument supports the complete concept requirement as a necessary condition for

something's being an individual substance, the same argument works against the idea that it is also a sufficient condition. Consider any individual substance *A*, and all the propositions that are true of *A* and have the form "*A* is *F*." According to Leibniz, the truth of each proposition rests on the inclusion of the concept of its predicate term in the concept of its subject term, that is, in the concept of *A*. Thus the concept of *A* must be complete in the sense that it includes concepts of all the true predicates of *A*. The problem with this argument, however, is that it delivers too much. If it is meant to turn solely on Leibniz's explanation of truth, then there is no reason why it should not be applied to propositions whose subject terms designate species rather than individuals. A human being is rational, sensate, two-legged, and so on. Therefore we may reason that the concept *human being* must include the concepts of all and only those predicates which are attributed truly to human beings, and infer that *human being* is in this sense complete. But if we accept this conclusion, then possession of a complete concept will not be a sufficient condition for something's being an individual substance.

In one passage from a letter to Arnauld, Leibniz appears to confirm this result, suggesting that a complete concept is not a distinguishing mark of an individual substance:

> Can it be denied that everything (whether genus, species or individual) has a complete [*accomplie*] notion, according to which it is conceived by God, who conceives of everything perfectly, i.e., a notion containing or comprehending all that can be said about the thing? (GP II 131)

In the face of this passage, we must say one of two things: Either Leibniz cannot claim possession of a complete concept as a sufficient condition for something's being an individual substance or he employs two different senses of "complete," one of which is applicable to the concept of any being, the other, exclusively to that of an individual substance. The balance of evidence supports the latter alternative.[55] Not only are there a number of texts that clearly limit possession of a complete concept to individual substances,[56] but in a note appended to another of his letters to Arnauld, Leibniz distinguishes a complete concept (*notio completa*), which he describes as containing all the predicates of a subject, from a full concept [*notio plena*], which "comprehends all the predicates of a thing [*res*]" (GP II 49). It is reasonable to identify what he here calls a "full concept" with what is demanded of the subject term of any true proposition by his theory of truth. Thus, there are grounds for thinking that we may reserve the expression "complete concept" for the notion of an individual substance. But if this is so, and Leibniz's original definition can be rescued, then it cannot be viewed as a simple consequence of his theory of truth.

A more complex explanation of Leibniz's complete concept doctrine is evidently needed. Part of what such an explanation must account for is why Leibniz chooses to define the notion of an individual substance via the definition of a special type of concept. The basis for an answer to this question has already been given. We know that during this period, just before the composition of the *Discourse,* Leibniz was preoccupied with the classification and definition of the different types of being, or *ens,* and that he defines an *ens* as whatever is understood through a distinctly conceivable concept. There is thus a good reason why he opts for this sort of definition. Beyond this is the issue of why Leibniz elects to define an individual substance through the device of a *complete* concept. It is clear from DM §8 that he see a close connection between this idea and substance's claim to be an ultimate subject of predication. Thus, while the section begins with the theological problem – raised to new prominence by Leibniz's confrontation with the occasionalism of Malebranche – of distinguishing between the actions of God and those of creatures, he immediately moves to an interpretation of the scholastic thesis *actiones sunt suppositorum,* which requires explaining the precise sense in which an individual substance is the subject of which actions are predicated. It is the move from this conception of substance as a *suppositum* of actions to its definition as a "complete being" which needs to be accounted for. As we have seen, this move cannot be explained by an appeal to Leibniz's theory of truth alone. In what follows, I sketch a more promising interpretation of his position, which stresses the relationship between his definition of a complete concept and his nominalism.[57]

Leibniz's initial characterization of individual substance in DM §8 as an "ultimate subject of predication" is drawn from Aristotle's *Categories:* "When several predicates are attributed to a single subject and this subject is attributed to no other, it is called an individual substance" (Le 35/AG 40–1).[58] Leibniz allows that this statement is true but claims that it does not go far enough, since it offers only a "nominal" explanation of substance. As we saw in the last chapter, "nominal" is an expression he uses elsewhere to refer to a definition that fails to supply a proof of the possibility of something – what is provided by a "real" definition. In DM §8 he makes no explicit appeal to his theory of definition; nevertheless, there is an obvious connection between it and the issue at hand. The link is his assumption that the essence of any being is defined through God's perfect understanding of it, that is, through a concept that includes all that is true of that being. Leibniz's criticism of this initial attempt at a definition of substance suggests that what it fails to provide is an understanding of what it is to be an *ens* capable of serving as an ultimate subject of predication. This "nominal" account of substance is insufficient be-

cause it invokes no more than the bare notion of a subject of which all other things are predicated.

Leibniz clearly sees an important connection between the insufficiency of this definition and an explanation of true predication, for he immediately goes on in DM §8 to give his own interpretation of the *praedicatum inest subjecto* principle:

> [I]t is evident that all true predication has some basis in the nature of things and that, when a proposition is not an identity, that is, when the predicate is not explicitly contained in the subject, it must be contained in it virtually. That is what philosophers call *in-esse,* when they say that the predicate is in the subject. Thus the subject term must always contain the predicate term, so that one who understands perfectly the notion of the subject would also know that the predicate belongs to it. (GP IV 433/AG 41)

In order to appreciate the link Leibniz establishes between this account of true predication and his complete concept theory, we must return to our earlier discussion of his nominalism. We shall recall that Leibniz's nominalism is chiefly defined by its exclusion of all terms save those that are concrete or that involve a *subjectum cum praedicato.* In conceiving of a *concretum,* we necessarily conceive of a subject of which something else is predicated. Thus, the concrete term *equus* expresses the idea of a *subjectum equinum:* a subject, or particular, of which the concept *horse* is understood.[59] Now, granting Leibniz's limitation of significant terms to concrete terms, we may assume that any predicative proposition of the form "*A* is *B*" has a complex sense. If our grasp of any concrete term involves the supposition of a subject of which it, *qua* predicate, is true, then the predicative relation of any two concrete terms can be expressed as a conditional: "If *X* is *A*, then *X* is *B*," where the expression *X* designates the common *subjectum* of the two terms and plays a role not unlike that of a free variable in modern logic. In general, a predicative proposition involving concrete terms asserts that whatever we understand of a thing through the proposition's subject term entails, or includes, whatever we understand of the same thing through the predicate term. Thus, *equus est animal* asserts that whatever is understood as a horse must also be understood as an animal.[60]

According to this interpretation, the significance of true predication is that it provides an explanation of a subject's having some quality in terms of its having some larger set of qualities that includes the first. Thus *X* is a living thing, because *X* is an animal; *X* is an animal, because *X* is a human being; *X* is a human being, because *X* is a king; and so on. That there should simply be an indefinite extension of such a series of reasons is perhaps not inconceivable; nevertheless, it fails to accord with Leibniz's view that in every such series a limit will be reached at which point nothing further can be consistently added

to the concept of a subject. The limit of such a series – a complete or maximally consistent term – defines the concept of a substance *qua* ultimate subject of predication. The import of this definition should be clear. A concrete term is necessarily understood of some subject. It involves the predication of a subject and it stands in logical relations to other terms that are understood of the same subject. For the most part, terms that are understood of a subject will not provide a ground for every other term that can be understood of the same subject (i.e., every partially coextensive term). They cannot therefore express the notion of an ultimate subject of predication, for that must provide a reason for everything that is understood of whatever it is understood of, and thus serve as the limit of a series of predications of the sort described above. By definition, this is exactly what is expressed by a complete term or concept.

We can now better understand the advantage Leibniz ascribes to his own definition of substance as against Aristotle's *Categories* account. In characterizing a substance as an ultimate subject of predication, we refer to an essential feature of all substances, but we do not explain what it is to *be* an individual substance. To define the being that is specifically that of a substance, it is necessary to define the type of concept through which the essence of a substance is adequately conceived. Drawing on Aristotle's account and on his own analysis of true predication, Leibniz argues that this will have to be a "complete concept," or a concept that includes everything that can be predicated of the same subject. An explanation of individual substance in terms of its possession of a complete concept is thus privileged for Leibniz, for only this type of concept supplies the real definition of a substance, or an expression of its essence as this is understood by God.[61]

I have claimed that the account of individual substance that appears in DM §8 can be seen as the culmination of several years of effort on Leibniz's part to arrive at a satisfactory understanding of what is distinctive about substantial being. The studies investigated earlier in this chapter have already provided support for this claim. It will be valuable, however, to look briefly at one further piece, the *Notationes Generales* (ca. 1683–6), in which we can observe Leibniz refining the strategy just outlined.[62] He begins the *Notationes* with a series of definitions. A simple proposition is true, he writes,

> if the predicate is contained in the subject, i.e., if when the terms *A* and *B* are resolved it appears that the content or concept of the predicate is contained in the concept of the subject. For this reason also Aristotle was accustomed to say that the predicate is in the subject. (SF 474)

He then goes on to articulate the relationship between this definition and that of a "complete term":

If the same thing is *B* and also *C* and *D*, etc., because it is *A*; or if a term *A* involves all the terms *B*, *C*, *D*, etc., which can be said of the same thing, the term *A* expresses a *singular substance* itself, or the concept of a singular substance is a complete term containing everything which can be said of it. (SF 475)

Finally, having affirmed that a complete term affords us the concept of a singular substance, Leibniz illustrates this with an example much like one that appears in DM §8:

Thus if anyone is strong, and quick-tempered, and learned, and a king, and leader of an army, and victor at the Battle of Arbela, and all the other things which are said of Alexander the Great – God, at any rate, considering the singular essence of Alexander the Great, will see it as a complete concept in which all these things are contained virtually, or from which they all follow. King cannot be inferred from strong, nor victor from leader, but from the concept of Alexander are inferred strong, king, leader and victor. And that there is such a concept is obvious from the definition of a true proposition explained a little earlier. For when we say that Alexander is strong, we mean nothing else than that strong is contained within the notion of Alexander, and likewise for the rest of Alexander's predicates. (SF 475–6)

In the *Notationes Generales*, a piece that may predate the *Discourse on Metaphysics* by several years, we find the outlines of Leibniz's analysis of individual substance in an essentially finished form. The connection between his concept containment theory of truth and the complete concept of an individual substance is explicitly developed. As we saw earlier, it is a necessary consequence of the former that for any substance there is a concept (known to God) that contains everything predicable of it. Something more, however, is required to support the claim that possession of a complete concept is a sufficient condition for something's being an individual substance. This, I have suggested, is Leibniz's nominalism. Acknowledging this background, we can specify an individual substance as that type of concrete being which is by nature capable of serving as an ultimate subject of predication. For Leibniz, this is just to say that substance is a being whose essence is expressed by a complete concept.

Notes

1. The philosophers in question include Johann Heinrich Alsted (1588–1638), Johann Bisterfeld (1605–55), Clemens Timpler (1563/4–1624), and Bartholomew Keckermann (1572/3–1609). For accounts of their views, see Petersen 1921, Ong 1958a, Gilbert 1960. Ong characterizes Alsted and Keckermann as semi-Ramists or "Mixts," who "were followers in part of Ramus and in part of Aristotle or (in dialectic and rhetoric) of Philip Melanchthon" (299), and describes Bisterfeld as "in many ways . . . the Ramist to end all Ramists" (265). Timpler he identifies as having "some Ramist affinities" (1958b, 512, 531). A crucial point distinguishing

Ramists and Aristotelians concerns the role of first principles in scientific knowledge. According to Ramists, the proper method for the organization of any body of knowledge is a table of divisions (i.e., a division of the subject matter from the most general to the most specific) rather than demonstration from first principles. As Ong comments, Ramists believed that a "convincing 'methodical' framework was at hand which made first principles in the strict Aristotelian sense superfluous. Insofar as it can be defined, divided, and at least in the visual imagination spitted on a set of dichotomies, any 'matter' at all can be given a 'scientific' treatment by having its terms 'clearly' (that is, diagrammatically) related to one another" (1958a, 300). For Leibniz's reaction to this method, see note 17.

2. "A snowy week in the Harz" refers to the circumstances of the composition of the *Discourse on Metaphysics* (see Sleigh 1990, 1). Something like the latter view is suggested by Rescher, who writes that "for the long interval 1675–1685 Leibniz devoted himself mainly to his official duties and to mathematics, logic, and physics. His ideas in metaphysics lay fallow, apart from his continued intensive assimilation of ideas. . . . During the winter of 1685–1686 he returned to philosophy and, in a concentrated period of thought, worked out the details of his philosophical system" (1979, 7). Sleigh, on the other hand, opts for the former approach, and, although he does not himself pursue it, he endorses the need for a study of one of the main themes of this chapter: "[T]here are motivations for Leibniz's metaphysical doctrines operating in our period [1686–7] that are broadly logical in character and that have not received the attention they deserve, here or elsewhere. What I have in mind is Leibniz's effort to distinguish abstract entities from concrete individuals, and, within the class of concrete individuals, substances from nonsubstances" (1990, 186).
3. This is not to say that Leibniz gives up on any of them; new correspondents, in particular, are often treated to expositions of them. See, e.g., his late letters to Remond (GP III 605/L 654) and Biber (BB 15–16). What it does imply is that after his first decade in Hanover, Leibniz came to realize that for both theoretical and practical reasons the execution of these projects would be far more difficult than he had originally imagined.
4. On the relation of Leibniz to Comenius, see Meyer (1952, 65), who cites the importance for him of Comenius's *Prodromus pansophiae* (1639). In a 1671 letter, Leibniz praises Comenius's *Janua linguarum* (1628); an accompanying poem mourns Comenius's recent death (A VI 1, 199–201).
5. Leibniz acknowledges the debt his combinatorial scheme owes to the Lullist movement; however, he criticizes Lull and Lullists for their arbitrary choice of primitive terms and their inattention to the topic of definition. Cf. GP VII 293/L 229–30; GP III 619–20/L 657. For discussions of the Lullist background to Leibniz's thought, see Couturat 1901, chap. 2; C. Wilson 1989, chap. 1.
6. Nevertheless, traces of its main theme persist in chemical theory and even in elementary particle physics, the important idea being that if we arrive at the absolutely primitive terms of a theory, everything else can be derived through combinations of them.
7. The best survey of these projects remains Couturat 1901, chaps. 3–5. For an account of the development of the universal characteristic, see Rutherford 1995a. During the 1670s and 1680s, Leibniz pursued these topics in a large and varied array of writings. In form, they range from polished essays and memoranda to fragmentary working notes. In content, they

cover the entire breadth of his interests in definition, classification, method and symbolism, different pieces combining these subjects in different ways. Many of the relevant texts are collected in C and SF. Others will appear with the publication of Series 6, Volume 4 of the *Akademie* edition, a version of which has been made available to scholars in the so-called *Vorausedition* (V).

8. Leibniz makes it clear that an important part of the encyclopedia would consist of a deductive arrangement of the truths of metaphysics – the demonstrative science outlined in the last chapter. See Couturat 1901, 161–75.
9. The impetus for this project thus derives from the virtue of piety, which demands that we work to further the enlightenment of our fellow rational creatures. Cf. *Memoir for Enlightened Persons of Good Intention*, §§13–20 (K 11–15/R 106–8). Leibniz was primarily inspired in this endeavor by the encyclopedic works of J. H. Alsted (Couturat 1901, 125–6, 570–1). From the early 1670s, there remains a brief plan for correcting and completing Alsted's four-volume *Cursus philosophici Encyclopedia* (1620). In the 1680s, Leibniz also composed two longer commentaries on Alsted's 1630 *Encyclopedia septem tomis distincta* (LH IV 7C Bl. 11–12 [V 1266–75]; LH IV 7C Bl. 13–16 [V 1276–90]). (Couturat [1901, 126, n. 2] errs in suggesting that the latter notes pertain to Alsted's 1620 *Cursus* and that they were written before Leibniz's return to Hanover.) Leibniz's general view of Alsted's efforts is made clear in an essay from May 1681: "the most industrious Joh. Henr. Alsted, whose encyclopedia certainly seems to me praiseworthy by the standards of those times" (GP VII 67). He adds the latter proviso since the greatest problem he sees with Alsted's work is its silence regarding the scientific discoveries made in the intervening half century. The same criticism is voiced in a 1716 letter to Lange, where he says of Alsted's encyclopedia that it "must now be completely reestablished, on account of the innumerable things of the greatest importance which have happened since his time" (D V 404).
10. C 511–15/P 5–9. Its complete title reads: "Introduction to a Secret Encyclopedia; or, foundations and specimens of the General Science, of the renewal and increase of the sciences, of the perfection of the mind, and of discoveries, for the public happiness." Müller and Krönert date this piece from late 1679 (1969, 58). On the basis of watermark evidence, the editors of the *Vorausedition* place it between July 1683 and March 1686 (V 869), although they also note a date of 1678.
11. A little later he writes that the "object of this science is what is universally thinkable insofar as it is such through our mode of considering it," and adds in a note: "We conceive many things, not as they are in themselves, but according to the way in which they are conceived by us and affect us" (C 512/P 6).
12. In another fragment, he writes: "I understand the general science to be that which teaches all the other sciences the means [*modum*] of invention and demonstration from sufficient givens" (GP VII 60).
13. Leibniz claims that upon its completion the encyclopedia would also necessarily contain the universal characteristic: "The characteristic that I have in mind demands only a type of new encyclopedia. The encyclopedia is a body [*corps*] in which all the most important human knowledge is arranged in order. If this encyclopedia were made according to the order I envisage, the characteristic would be, as it were, completely constructed;

however, those who worked on it would not know the design, believing themselves to be working only on an encyclopedia" (GP VII 40).

14. Cf. C 429–30/P 2; and *A Specimen of Discoveries:* "[T]he necessary being . . . is in all things potentially, since it is the ultimate reason of things, insofar as they contain realities or perfections. And since the full reason for a thing is the aggregate of all primitive requisites (which do not need other requisites) it is evident that the causes of all things can be reduced to the attributes of God" (GP VII 310/P 77). Concerning the derivation of the perfection of finite things from God, see Chapter 2.
15. Cf. C 431/P 3.
16. Cf. C 220–1: "Of the alphabet of human thoughts, or those concepts primitive with respect to us (although perhaps they are not absolutely primitive), from which all the others are composed."
17. This influence is evident both from the internal evidence of his writings and from his own statements: "But as soon as I began to learn logic, I was greatly stirred by the classification and order which I perceived in its principles. . . . My greatest pleasure lay in the categories, which seemed to me to be a standard roll of everything in the world, and I examined many logics to see where the best and most exhaustive lists could be found. I often asked myself and my companions into which category and subdivision of it this or that concept might belong, although I was not at all pleased to find that so many things were entirely excluded. . . . I soon made the amusing discovery of a method of guessing or of recalling to mind, by means of the categories, something forgotten when one has a picture of it but cannot get at it in his brain. One needs only to ask one's self or others about certain categories and their subdivisions (of which I had compiled an extensive table out of various logics) and examine the answer, and one can readily exclude all irrelevant matters and narrow the problem down until the missing thing can be discovered. . . . In such tabulations of knowledge I attained practice in division and subdivision as a basis of order and a bond of thoughts. Here the Ramists and Semi-Ramists were heavily drawn upon." Letter to Gabriel Wagner, 1696 (GP VII 516–17/L 463–4). In later writings, Leibniz expresses reservations about what he calls the "recitatorial" method of the Ramists, which he opposes to the demonstrative or "scientific" method employed by geometers: "Here I observe that there are two ways of classifying subjects, one according to concepts, the other according to the principles by which they are proved. I call the former method recitatorial, the latter scientific. The schools commonly follow the former in their divisions, employed extensively by the Ramists; the author [Stegmann] uses this method too, and indeed it has its use. But this is a way of acquiring not so much science, as a catalogue of truths known from other sources. This method is thus used for reducing things already known into a synopsis, and it also serves the purpose of teaching those who are looking for a historical acquaintance with doctrines rather than reasons for them. But it does not preserve the order in which some truths are born from others; it is this order which produces science." *Ad Christophori Stegmanni Metaphysicam Unitariorum,* ca. 1708; translation quoted from Jolley 1984, 195–6. We are justified in concluding, I believe, that Leibniz is ultimately much more interested in providing demonstrations of philosophical truths than in Ramist tables of division. Nevertheless, his writings contain many more examples of the latter than the former.

18. In a 1687 study, Leibniz writes: "Everything, it seems, can be reduced to these. Somethingness [*Aliquidditas*], Essence, Existence, Reality, Perfection, Unity, Agreement, Truth, Consequence, Order, Causality, Change, Magnitude, Sense, Appetite, Thought, Sensible Qualities." He then suggests a general form of symbolic expression "to which every distinct thinkable can be reduced" (LH IV 7B, 2 Bl. 73–4 [V 1230]). This again confirms the close connection between the projects of the encyclopedia, general science and universal characteristic. Many pieces from this period evidence Leibniz's keen interest in a survey of the totality of thinkables. The following are representative: "It is of great importance in thinking that the total variety of thinkables which we are accustomed to observe most frequently in our mind be collected in one overview" (LH IV 7B, 3 Bl. 21 [V 338]); "A Catalogue of Primitive Notions, from which all the many others are composed" (LH IV 7C Bl. 52 [V 590]). Cf. LH IV 7B, 3 Bl. 19–20 (V 332, 336–7); SF 483.
19. In a contemporary study, *On the Universal Science,* Leibniz writes: "In place of the Euclidean *axioms* and *theorems* . . . , I have discovered others of much greater importance and more general use . . . concerning *cause* and *effect,* or *power, relations in general,* the *container* and the *contained,* that which happens *per se* and *per accidens,* the general nature of substance, and finally the perfect spontaneity, ingenerability and indestructability of substances, the *union of all things* and the agreement of substances among themselves" (GP VII 199). Cf. his letter to Arnauld of 4/14 January 1688 (GP II 134/M 168), and the texts cited in Chapter 4.
20. For a detailed survey of these studies, see Schepers 1966, 1969.
21. LH IV 7C Bl. 105–6 (V 1298–1305). On the basis of watermark evidence, the editors of the *Vorausedition* date this study between September 1680 and February 1685.
22. In one piece, he initially states that "every simple term is a name," but then goes on to deny this, saying that a term is "not a name, but a concept, i.e. that which is signified by a name; you could also call it a notion, an idea" (C 243/PL 39).
23. On the basis of watermark evidence, the editors of the *Vorausedition* date this piece between November 1688 and January 1689.
24. Two points are worth noting here. First, despite our earlier claim that Leibniz's method of categorical analysis represents a retreat from the more ambitious goal of *pansophia,* the method nevertheless has considerable philosophical import, since an analysis of the fundamental categories of thought is equated with an analysis of the categories of being. Second, while Leibniz identifies distinct conceivability as the mark of being or possibility, the latter category cannot be equated with the class of possible *created* things. As we shall see, it is a feature of his nominalism that there are conceivable beings which are not candidates for a created existence. These are so-called *entia rationis,* whose being is limited to that of eternal ideas in the divine understanding.
25. In another piece, Leibniz marks the distinction by saying that while every substantival term "involves some vague subject or uncertain subject," only a complete term designates a singular substance that is "certain and definite" (SF 479).
26. In later writings, he sometimes uses the term "substantial" in the broader sense of "substantival": "The concrete can be distinguished into the accidental (such as warm, warm man) and the substantial. The substantial I

divide further into simple substances (such as God, angel, soul) and substantiated beings. Substantiated beings are divided into unities *per se* or composite substances, and unities *per accidens* or aggregates." This is from a marginal note in a draft of a letter to Des Bosses of 20 September 1712 (GP II 459/L 616, n. 19). Cf. NE II, xxii, 1 (RB 213). These texts confirm the enduring importance of the method of division in Leibniz's philosophy.

27. Cf. C 535/P 146: "Distinct cogitability gives order to a thing. . . . For order is simply the distinctive relation of several things. And confusion is when several things are indeed present but there is no ground [*ratio*] for distinguishing one from another."
28. As Loemker (L 84, n. 12) points out, although he miscites the source, this account derives from Aristotle: "'Disposition' means arrangement of that which has parts, either in space or in potentiality or in form. It must be a kind of position, as indeed is clear from the word 'disposition.'" *Metaphysics* V. 19 (Aristotle 1935, 271).
29. Woznicki (1990, 14), claims as the three essential components of Aquinas's conception of order *ratio prioris et posterioris, distinctio* and *ratio ordinis*. Cf. Aristotle, *Metaphysics* V. 11.
30. In a survey of concepts cited earlier Leibniz divides the category of *order* as follows: "To *order* . . . there belongs that which is prior and posterior by nature. Cause and effect. Now, from order and consequence there results cause; for from a cause, as from a prior nature, there follows an effect" (LH IV 7B, 3 Bl. 17 [V 323]).
31. LH IV 7B, 2 Bl. 73–4 (V 1229). Where a natural English equivalent is not available, I have left Leibniz's technical terms untranslated. This is the case, for example, with the contrast between an *inferens* (that which infers or brings forward something else) and an *illatum* (that which is inferred).
32. [D1] could also be interpreted as making the stronger claim that *A* as a being is sufficient for *B*, or that the possibility of *A* is sufficient for the possibility of *B*. For this reason, the proposition "*A* is" (*A est*) should not be equated with "*A* exists," but should be understood as shorthand for "*A* is a being" (*A est ens*), where the latter may include *A*'s actual or possible existence. The same point holds for the definition of *conditio*. For a discussion of this form of proposition, see Mates 1986, 54–6.
33. A brief study begins: "Difficultas aliqua est in explicando quid sit *natura prius*" (LH IV 7B, 2 Bl. 37 [V 128]).
34. Leibniz's grasp of the idea of "prior by nature" remains imperfect. In another study, he writes: "*A* is *prior, B posterior* (namely, by order of nature), if *A* is simpler to the intellect than *B*, or if the possibility of *A* is demonstrated more easily than that of *B*. Since that which is understood *per se* is primary in all things, we may assume from the outset that a number of things are understood *per se*, such as *L, M, N, O* and that from these follow *LM, LN, LO, MN, MO; LMN, LMO, LNO, MNO; LMNO*. Thus we may say that singletons are prior to pairs, triplets, quaternions, etc.; pairs are prior to triplets, quaternions, etc.; triplets are prior to quaternions, etc. And so on" (LH IV 7B, 3 Bl. 17–18 [V 325–6]). According to this account, it is not the number of steps required to effect a decomposition of a concept but the variety of its simple components that determines its order of priority. This is at odds with Leibniz's remarks elsewhere, since he conceives of the possibility that two concepts may be reciprocal, insofar as they contain exactly the same primary elements, and yet one may be prior by nature to the other (LH IV 7B, 2 Bl. 37 [V 128]). This

would be the case, for example, with the concepts *LM* and *LA*, where *A* is definitionally equivalent to *LM*. Although these two concepts are reciprocal, the latter requires a further step in order to be reduced to its primary elements. In either case, it is worth noting that the notion of "prior by nature" does not presuppose an ultimate analysis of concepts, but only their decomposition into some set of common elements. Cf. C 241.

35. "That is said to be in some way a *cause*, or to contribute [*conferre*], which is a *requisitum* with respect to some mode of producing. Alternatively, a *cause* is said to be that which is a *conferens* with an effect, or that which is a *requisite* according to the mode of producing by which a thing is assumed to be produced" (LH IV 7C Bl. 105–6 [V 1302]).
36. LH IV 7B, 3 Bl. 17–18 [V 324–8]. This manuscript gives no indication of a date. On the basis of its contents, however, we can confidently locate it within the same period. This is the only other study I have been able to find (in addition to LH IV 7B, 2 Bl. 73–4) that includes Leibniz's more elaborate definition of "cause." Given that the latter work dates from a slightly later period (December 1687) than most of the studies, this may suggest a later date for this piece as well. But this is only speculation, since the piece also shows similarities in wording to LH IV 7C Bl. 105–6, which has been dated between 1680 and 1685.
37. The paragraph concludes with the following: "The definition should be constructed in such a way that God cannot be said to be the cause of sin except perhaps *per accidens*, [i.e.,] only in the sense that God could be said to be the cause of anything *per accidens*."
38. The adequacy of this definition would seem to hinge on whether Leibniz is prepared to allow, as in his simpler definition, that a necessary condition (according to the mode by which an effect in fact exists) itself counts as a cause. This he could do by stipulating that every *relevans* is also a *conferens*, or that every necessary condition for the production of an effect is also *sufficient* for a necessary condition for the production of an effect – that necessary condition being itself. In the piece in question he actually asserts the contrary: "But in truth every cause or condition of a *relevans* is a *relevans;* yet it is not the case that every *relevans* is the cause of a *relevans*, therefore not every *relevans* is a *conferens*" (V 1229).
39. Mates 1986, 177.
40. See Mondadori 1990a, 1990b; Mugnai 1990a, 1990b.
41. See Chapter 4, note 16. Leibniz aligns his position with that of Augustine at NE IV, xi, 14 (RB 447) and in his letter to Hansch of 25 June 1707 (D II 1, 224–5/L 592–3).
42. Cf. Leibniz's long letter to Arnauld of 14 July 1686: "In order to call something possible, it is enough for me that one can form a concept of it even though it should only exist in the divine understanding, which is, so to speak, the domain of possible realities" (GP II 55). See also NE II, xxv, 1 (RB 227) and *A Specimen of Discoveries* (GP VII 311/P 77).
43. That the rationale for his position should be found here is significant, for it means that Leibniz's nominalism is not limited to the claim of his later philosophy that reality consists solely of monads and their singular modifications. (For this reading of his position, see Mates 1986, 209; Jolley 1990, 135–6.) As we have already seen (note 26), and shall see in more detail in Part III, Leibniz is prepared to admit other concrete beings into his ontology (so-called *substantiata* or "beings through aggregation"), provided it is recognized that the existence of these is wholly dependent

upon the prior existence of substances. We must not confuse his reductionism with his nominalism. The basis of the former lies in the primacy of the existence of substances an *entia per se,* the basis of the latter in the division between *concreta* and *abstracta.*

44. Cf. C 243, 435, 512–13; LH IV 7C Bl. 101 [V 182]; LH IV 7C Bl. 109–10 [V 191].
45. In a note to the *Introduction to a Secret Encyclopedia,* he writes: "Here we should remove abstract concepts as unnecessary, especially as there may be abstractions of abstractions. In place of heat [*calore*], we shall consider what is hot [*calidum*], since one could again suppose some 'caloreity' [*caloreitas*], and so on *in infinitum*" (C 512–13/P 6–7). Cf. *De lingua philosophica* (LH IV 7B, 3 Bl. 40–9 [V 357]).
46. See GP II 458/L 605; NE II, xxiii, 1 (RB 217). Falling within the class of *abstracta* to which Leibniz denies a created existence are, notoriously, all relations. They are in general *entia rationis,* whose "reality, like that of eternal truths and possibilities, comes from the Supreme Reason" (NE II, xxiv, 1; RB 226). Cf. NE II, xxx, 4 (RB 265), and the texts gathered in Mates 1986, chap. 10. For a comprehensive treatment of Leibniz's views on this topic, see Mugnai 1992.
47. LH IV 7C Bl. 102 (V 1607–9). The editors of the *Vorausedition* gives this study the title *De realitate accidentium.* On the basis of watermark evidence, they place it between October and December 1688.
48. My translation of this passage follows that of Mates (1986, 171).
49. "But you ask whether there are not certain accidents which are more than modifications. Such accidents seem, however, to be entirely superfluous, and whatever is in such a substance other than a modification seems to pertain to the substantial thing itself. I do not see how we can distinguish an abstraction from the concrete, or from the subject in which it is; or how we can explain intelligibly what it is to be in or to inhere in a subject, except by considering inherence as a mode or state of a subject – a mode which may be either essential, so that it cannot change unless the nature of the substance changes, and differs from the substance only relatively, or which may be accidental, in which case it is called a modification and can come into being and perish while the subject remains." Leibniz to Des Bosses, 20 September 1712 (GP II 458/L 606). Cf. NE II, xii, 3 (RB 145); LH IV 7B Bl. 107–8 (V 412); LH IV 7C Bl. 99–100 (V 1601–6).
50. See the preface to his 1670 Nizolius edition (A VI 2, 428/L 128).
51. At the end of his book, Mates (1986, 246) seems to recognize this point, although he continues to insist that talk about divine ideas is to be given a dispositional analysis.
52. In his edition of Leibniz's writings 1675–6, Parkinson comments that "if one is looking for the ancestry of the thesis that a substance has a complete concept, one cannot trace it back as far as [this period]" (1992, liii). He goes on to suggest that the crucial innovation comes with Leibniz's introduction of the theory of truth as concept containment in a series of logical papers written in April 1679. We shall see that this provides only part of the answer.
53. "A complete concrete term is one which already includes everything that can be predicated of the same subject; it is also called a singular substance" (LH IV 7C Bl. 109-10 [V 191]). "A term expressing a singular substance involves all the predicates of its subject, or is a complete term" (LH IV 7C Bl. 101 [V 182]). "A complete term is that from which all the

predicates of the same subject can be demonstrated, or that which expresses the entire nature of a subject" (LH IV 7B, 4 Bl. 13 [SF 478]). "Every concept from which a reason can be given for all the predicates of the same subject is the concept of a substance itself; a complete term expresses a substance" (LH IV 7B, 3 Bl. 19-20 [V 329]). The preceding are all from pieces which predate the *Discourse on Metaphysics*. See also C 403/P 95; GP VII 316/P 84; LH IV 7B Bl. 103–4 [V 186]; LH IV 7C Bl. 73–4 [V 406]; LH IV 7C Bl. 107–8 [V 411]; LH IV 7C Bl. 111–14 (V 417); LH IV 7C Bl. 105 (V 1299).

54. Leibniz can be read as suggesting this in DM §8, in the *Notationes Generales* (SF 474–5), in his correspondence with Arnauld (GP II 43/M 47; GP II 56–7/M 63–4), and in the brief essay Parkinson has entitled *The Nature of Truth* (C 401–3/P 93–5). For affirmations of this view, see Couturat 1902; Parkinson 1965, 131; Broad 1972, 2; McRae 1976, 78.
55. It might be argued that Leibniz signals this in using the expression *notion accomplie* rather than *notion complète*. He thus claims only that for every being there is a "perfect" concept, i.e., the concept of a thing as it is known by God. This reading would have to be squared, however, with the fact that he also employs the former expression in DM §8 when defining *un estre complet*. Sleigh (1990, 49, n. 2) also expresses skepticism concerning this move.
56. "If a notion is complete, i.e., is such that from it a reason can be given for all the predicates of the subject to which this notion can be attributed, this will be the notion of an individual substance; and conversely" (C 403/P 95). "If *A* is *B*, and *B* is a complete term, then *A* will be a *singular substance*, or a determinate [*certum*] subject which is commonly called an individual. For a singular substance alone has a complete concept" (LH IV 7B, 4 Bl. 13 [SF 479]). Cf. LH IV 7C Bl. 111–14 (V 417).
57. Sleigh (1990, 54) offers a related analysis of the problem, framing his solution in terms of Leibniz's plan for a "rational language" from which all abstract expressions would be barred.
58. Significantly, in combining the *Categories* definition with his own theory of predication, Leibniz collapses Aristotle's distinction between "being said (or asserted) of" and "being present (or found) in" a subject. *Categories* 2a11–14 reads: "Substance in the truest and strictest, the primary sense of that term, is that which is neither asserted of nor can be found in a subject" (Aristotle 1973, 19).
59. The important point is that *equus* designates a concrete thing, i.e., any particular horse, and not the universal *horse* or the property of being a horse. Both of the latter are abstractions to which Leibniz denies a created existence.
60. "A proposition is that which says, as regards two terms or two attributes of things, that one, called the *predicate*, is contained in the other, called the *subject*, in such a way that the predicate must apply to everything to which the subject applies" (GP VII 43–4).
61. Cf. his 1685 notes to Joachim Jungius's *Logica Hamburgensis* (the first part of the text is Jungius, the parenthetical remark, Leibniz): "If various accidents of various powers are understood together, it follows from this that some common subject is understood in which the former may be understood and contained, and this is called a *substance*. . . . (I respond that it is demonstrated elsewhere in what consists the true nature of a substance, namely, in a complete concept . . .)" (V 845).
62. For related texts, see note 53 and Rutherford 1988.