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Locke and Leibniz: The innateness debate

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Rice University, 1991

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LOCKE AND LEIBNIZ: THE INNATENESS DEBATE

by

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IN PARTIAL FULFILLMENT OF THE
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Abstract

One fundamental difference between the epistemic views of Locke and Leibniz as represented in Leibniz's *New Essays on Human Understanding* concerns the issue of innate ideas and knowledge. In countering Locke's arguments that innate ideas and/or knowledge are neither necessary nor even possible, Leibniz offers a defense of the doctrine which evidently presumes that Locke's objections are the result of a misapprehension. Once properly understood, Leibniz suggests, the doctrine of innateness reveals itself to be not only reasonable but indeed absolutely necessary to accounting for our knowledge.

Leibniz's arguments are not, however, as compelling as he would perhaps like; indeed, certain critics have argued that due to the manner in which he expresses his views—as separate responses to each of Locke's objections, rather than as a straight treatise—Leibniz fails to display a coherent theory of his own. The complexity of Leibniz's views and their ties to his metaphysics render their case against him even stronger. Contrary to the views of these critics, there does exist in Leibniz's thought a coherent theory of innateness. Leibniz's innate speculative truths, with which critics have generally been concerned, are explicated in terms of reflection upon the enduring properties of the soul. There also exists in Leibniz's system an analogous realm of innate moral knowledge, which is also worked out in terms of reflection. This interpretation of Leibniz's theory makes possible a meaningful comparison between his views and those of Locke. The substantial differences between the two systems can be traced to differences in the epistemic questions with which they were concerned. While Locke is concerned with explaining the psychological apprehension of truth, Leibniz's focus is with truth's ontological structure.
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Chapter 1

Sometimes, although not often, it is quite easy to decide upon which side of a controversy the participants sit. On the question of the nature of truth, for instance, no one would confuse Descartes' position with, say, William James'. The same is true with respect to certain individuals on the question of innate ideas and/or knowledge. Plato's views on that issue, for example, are fairly easily distinguished from Aristotle's. Plato maintains that there is innate knowledge in every soul, so that the learning process actually amounts to recollection, while Aristotle insists that the soul is a tabula rasa at birth, upon which experience etches ideas and principles. Knowledge is thus pulled from inside oneself on Plato's view, while in Aristotle's opinion it enters from the outside.

Several factors come to mind in explanation of the apparent ease with which these two views can be distinguished. First of all, the issue in question is understood in the same way by both parties. As employed by Plato and Aristotle, the meaning of 'innate' is both consistent and unmistakable: it refers to a once conscious but somehow forgotten comprehension of a set of eternally and independently existing intellectual entities which can, at least in principle, be recovered through recollection. No other version of innateness is considered. It seems almost undeniable, then, that in their respective support or rejection of this concept the two philosophers address a common notion. Admittedly, this kind of point in other circumstances may be both obvious and insignificant; in accounting for the character of philosophical confrontations, however, it is a matter of no small importance.

Another possible explanation of the ease with which Plato's epistemological perspective is distinguished from Aristotle's centers upon the clearly different philosophical context within which each position is elaborated. Virtually never is the question of innateness an isolated, abstract one, and certainly it is not in either of the views we are currently examining. Rather, for both Plato and Aristotle, as well as for at least most others who consider epistemic questions, the issue of innateness arises from within the consideration of
broader issues regarding human knowledge, which in turn is rooted in even broader, more general interests.

This embeddedness can easily be perceived in our example. The issue of innatism in Plato's system, for instance, is intimately tied to the question of the nature of the soul: since souls for Plato are eternal and dwell in the realm of the divine Ideas prior to their embodiment, whenever a particular soul enters into a particular body (at or about the time of birth), it brings with it the enlightenment of those Ideas. Although this enlightenment is of course upon embodiment completely obscured, and is extremely difficult to recover, due to the imperfections, distractions, etc. of its bodily encasement, prior possession of these Ideas renders some degree of knowledge possible for all those who try.

Aristotle on the other hand does not presume the metaphysical machinery requisite to Plato's kind of epistemology. For one thing, Aristotle is not the mind/body dualist that Plato is. Although Aristotle does conceive of the world as constituted of two kinds of things--matter and form--and though he does maintain that the soul is the form of the body, he does not conceive of the soul as separable from its body in the way that Plato does. Since for Aristotle form cannot exist without matter, a human's body on his view, contrary to Plato's conception, is no less essential to the existence of that particular person than is her soul; a human soul for Aristotle thus cannot exist prior to embodiment in matter. With an individual's soul thus dependent upon her body, there is for Aristotle no mechanism comparable to Plato's pre-embodied soul which could be used to explain the possession of innate knowledge.

These overall differences in metaphysical perspectives in turn stem from fundamental differences in the concerns and assumptions of the two thinkers responsible for them. While an examination of the body of Aristotle's extant works reveals an interest which appears very often to consider the world as it relates to human beings, Plato in general seems more concerned with things as they are in themselves. Notice in the case at hand, for instance, that it is human knowledge for which Aristotle cannot account without the activity of the body,
while it is a kind of divine enlightenment of which Plato maintains disembodied souls capable.

As a student of Socrates, Plato was very interested in definitions; hence many of his dialogues—*Euthyphro* and *Meno* are good examples—have as their goal capturing the nature of some intellectual entity, whether it be piety or virtue, as in the cases cited, or something else. According to the arguments Plato often advances, perception of these intellectual entities would afford one knowledge which can only be hinted at through experience of their physical instantiations, and would moreover account for all similarities and differences between those physical instances.

Although Aristotle no doubt retains interest in the question of what it is that things of the same name have in common, he does not seem to share Plato's attraction for the intellectual entities themselves. He makes clear the reason for his own preferred manner of operating when he notes that although intellectual entities are the things most appropriate to knowledge, they are not the most things most accessible to us. Instead of launching an investigation directly into those things, then, the "natural way" of acquiring knowledge according to Aristotle "is to start from the things which are more knowable and obvious to us and proceed towards those which are clearer and more knowable by nature." For, he says, "the same things are not 'knowable relatively to us' and knowable' without qualification."^1

Beginning as they do with different questions and employing different assumptions, Plato and Aristotle end with epistemologies which, in spite of the differences evident between them, are nevertheless capable of coherent comparison. On Plato's view, knowledge seems understandable only as innate, for since its objects are eternal intellectual realities, it almost definitionally defies acquisition through experience, since experience is finite and temporal. Experience plays an essential role in explaining knowledge on Aristotle's view, on the other hand, for he maintains that, far from being shaped by certain ideas prior to experience, the soul must of necessity be completely without character, in order to be able to take on the form of its objects. As this latter is requisite to knowledge on Aristotle's account, it becomes apparent that the thinking part of the soul on his view must receive something from outside
itself before it can realize its potential for knowing. Since, as we have seen, Aristotle conceives of the soul as the form of the body, the notion of innate knowledge becomes within his system incoherent.

Ah, that philosophical positions were always so easily distinguished! It is much more usual throughout philosophy's long history, however, to find that even in the most hotly contended disputes one position slides into another, so that the more precisely one attempts to locate the point of departure between views the more those views which once appeared obviously disparate look alike. In fact, the argument could be made that the ease with which Plato's position is distinguished from Aristotle's is best accounted for by the fact that these two were among the first philosophical debaters who thus had at their disposal only a relatively few, imprecise concepts with which to formulate their theories. This lack of intermediate alternatives, such an argument might go, forced each thinker to one extreme or the other on any number of questions, obscuring options which, had they been addressed, might have tended to blur the distinctions between certain of the two ancient philosophers' views. Indeed, it seems that this argument might meet with a considerable amount of success, since evidently it is only when a number of objections have been made and alternatives suggested that the differences between views on a given issue becomes so slight that it becomes virtually impossible to draw lines between them.

Paradoxically, then, it appears that the more precision philosophers attain in their concepts the more difficult it becomes to be precise about the differences between positions taken with regard to those concepts. Thus if we examine the discussions which have emerged most recently out of philosophy's long tradition, we encounter difficulty in articulating the differences between the views presented on a great number of controversies. In philosophy of science, for instance, it is not at all obvious what separates realists from antirealists from pragmatists, other than their respective desires to endorse something different from the views they take the others to hold. Even such a prima facie simple distinction as the traditional one between the analytic and the synthetic defies articulation, so that innumerable attempts to state it have resulted in little more than a fairly clear picture of what it is not.
Within the area of epistemology, it has become a significant task to make the distinction between rationalism and empiricism and to identify the proponents of each position. Students of philosophy have for years blithely presumed the existence of such a distinction, that they know what it is, and moreover that it is not difficult to say who holds which view. In this instance, as in those mentioned above, the difference seems clear enough at first glance—the rationalists believe the most important factor in knowledge acquisition to be reason, and thus they rely heavily upon the principles of logic, whereas empiricists find experience to be of greatest importance in explaining the nature and source of knowledge. When the attempt is made to render the distinction clear and specific, however, differences appear to dissolve. The result is a series of objections, reformulations, and more objections. No way of making the distinction seems satisfactory, and on all formulations it becomes increasingly difficult to determine who is which.

Louis Loeb devotes a significant portion of his recent book to the difficulty of distinguishing between rationalists and empiricists, addressing in particular the problems that arise in attempting to make that distinction with regard to Western philosophy in the seventeenth and eighteenth centuries. Although for the most part the concerns of that work are outside the parameters of our present project, it is important to note the difficulty Loeb uncovers in establishing a criterion for distinguishing between these two schools and placing thinkers within them. He makes his point using a prototypical figure of each of the supposed schools, Descartes the rationalist and Locke the empiricist.

It is Loeb's contention that Locke's project in the third and fourth books of his Essay Concerning Human Understanding is to contribute to, rather than to refute, Descartes' epistemology. Analyzing Locke's treatment of the issues addressed in those two books, Loeb concludes that if Descartes' position is a rationalist one, then so is Locke's. In his analysis Loeb considers such issues as

...the standards for knowledge, the conditions true beliefs must satisfy in order to constitute knowledge; the sources of knowledge, the faculties employed in gaining knowledge; the structure of knowledge, the interrelationships of beliefs which constitute knowledge; and the extent of knowledge, the sorts of subject matter about which knowledge is possible.
Based upon the assumption that Descartes and Locke are said to belong to the respective schools of rationalism and empiricism, Loeb asserts that one would expect them to diverge significantly on these issues. But such, he says, is not the case. In the elaboration of each of their views on these issues, Loeb finds, as we have noted often occurs, that prima facie differences tend upon closer scrutiny to slide into sameness.

Although slippery distinctions do not begin or end in the seventeenth century, it is during this philosophical era that occurs the debate which is the focus of our present investigation. The dispute I have in mind is that which takes place between John Locke and Gottfried Wilhelm Leibniz on the question of innateness. Actually, 'dispute' may be a misnomer, as the only confrontation between the two occurs in Leibniz's posthumously published response to Locke's Essay Concerning Human Understanding. Locke never responded to Leibniz's privately offered criticisms, so we are in our analysis denied the benefit of interchange between our philosophers. What we do have is Leibniz's own aptly titled New Essays on Human Understanding, wherein he proceeds systematically, section by section, according to Locke's own organization, to interpret and then respond to each of Locke's views. Leibniz presents this interaction in the form of a dialogue between two fictional characters, Philalethes, who presents Locke's views as Leibniz understands them, and Theophilus, who presents Leibniz's responses.

In spite of, or perhaps because of, the fact that Locke never answered Leibniz's work, a number of scholars have examined more or less broadly the relationship between the views of these two thinkers, both on issues discussed in the New Essays and on others. Not so usual, however, is consideration of where each thinker stands on the question of innatism. And this is perhaps understandable, since on the face of it, a lengthy study of the similarity or difference between these two philosophers with regard to innateness may seem even less promising than such a study focusing upon Plato and Aristotle. In the more recent case there appears to be nothing to discuss, for both Locke and Leibniz address the question and state their positions regarding innateness directly. Leibniz on the one hand declares himself a
proponent of the doctrine of innateness, against which Locke had on the other hand argued directly and forcefully throughout the entire first book of his own Essay.

Even within the New Essays direct opposition between our two debators appears obvious. Philalethes, Locke's spokesman, puts forth Locke's famous thesis: "there are no innate ideas, nor any innate principles either." All the knowledge we have, he asserts, can be explained through experience, without the help of any innate impressions, and so postulating innate knowledge and ideas in such an explanation is superfluous. Leibniz's spokesman, Theophilus, declares to the contrary that experience cannot in fact provide a sufficient explanation of all our knowledge. Certain ideas and truths, he says, cannot get to us through the senses, and yet we have them; these ideas and truths thus must be innate. (RB, p. 75)

The problem with Philalethes' view, states Theophilus, is that it fails to recognize that truths of fact, those contingent truths which we learn through experience, must be distinguished from truths of reason, necessary truths which have their source in the understanding alone. That these necessary truths must be innate is further evidenced, according to Leibniz's view, by the fact that they are necessary in more than one way. Leibniz maintains that this particular class of truths, in addition to being necessary in the sense that of being inevitably true, is further necessary as a prerequisite for other knowledge. Specifically, knowledge of the principle of identity, which Leibniz believes can only originate in the understanding, is a prerequisite for any knowledge whatsoever. Thus in order to explain the possession of any of our knowledge he finds it necessary to suppose certain knowledge innate.

But these necessary principles are not all that Leibniz holds to be innate. Taking the innateness doctrine to its roots, Leibniz has Theophilus claim that in addition to a particular portion of our knowledge, certain of our ideas are innate as well. Those ideas in fact he declares underlie all those principles which constitute our innate knowledge, and so are just as necessary as are the principles to accounting for our knowledge. Innateness, then, evidently plays a crucial role in Leibniz's epistemology; thus his view on the subject must be
decidedly at variance with Locke's, who refuses to see the necessity for either any innate ideas or any innate principles.

Perhaps not so surprisingly, though, closer examination of the *New Essays* reveals certain remarks which provide significant evidence that the dispute between Locke and Leibniz could be merely verbal. The difficulty arises, as one might expect, in uncovering the meaning(s) of the term 'innate'. In the Preface to his work, for example, Leibniz argues that since such items as "Being, Unity, Duration, Change, Action, Perception, Pleasure, and hosts of other objects of our intellectual ideas" are innate in us, and since those objects are "immediately related to our understanding and always present to it" the ideas of these objects are innate as well. (RB p. 52)

The temptation to perceive the difference between this view of Leibniz's and the one Locke presents as merely verbal becomes quite strong on reading these words, for Locke himself could be the author of the first premise of Leibniz's argument. Locke's criticism of innateness never questioned whether objects of certain ideas can be innate; rather, Locke's critique only argues against the innateness of the ideas themselves. In response to the question of whether certain characteristics are innate to us, including perhaps the faculties of compounding, abstracting, and recognizing identities and differences, Locke is the first to admit that they are. Indeed, specific faculties with quite determinate manners of operation occupy an essential position in his epistemology; without the particular capabilities Locke assumes the mind to have, knowledge in his estimation could never arise.

Locke agrees further that we get our ideas of the operations of these faculties through examining the mind itself at work. In fact, he states quite decidedly that reflection is one of the two great "Fountains of Knowledge." In addition to sense experience, Locke maintains, ideas are acquired by the understanding "when it turns its view inward upon itself and observes its own actions." It is not true, then, that on Locke's view no ideas or knowledge come from within the soul. In fact, we will see that Locke understands knowledge necessarily to come from the soul, because he defines it as a result of the mind's operation, rather than, as some may think, the simple result of sensory perception.
The disagreement between Locke and Leibniz on the question of innateness thus does not focus upon the existence of innate entities in general; rather, it concerns the more specific question of whether any ideas or knowledge are innate. As might be expected, much more substantial theoretical differences underlie this fundamental disagreement between Locke and Leibniz. Perhaps less anticipated, though, is the fact that even at the semantic level this dispute is not easily settled, because of its intimate ties to other issues; one such basic issue involved is the difference between our two philosophers' conceptions of 'idea'.

For Locke, ideas are perceptions, individual events, and so cannot even coherently be spoken of in terms of always existing in the mind, even though their objects may well do so. Leibniz, on the other hand, although agreeing that ideas are perceptions, sees no reason why such perceptions cannot be continual and unconscious, and thus in a very real sense, innate. About his use of the term 'innate' with regard to such ideas as those of being, duration, substance, and the rest, Leibniz asks whether, since the objects of these ideas are innate, and since they "enter into all our thoughts and reasoning" and thus are "essential to our minds" (RB, p. 101) it is "any wonder that we say that these ideas, along with what depends on them, are innate in us?" (RB, p. 52)

With the turn toward definitions this dispute has taken, we should not be surprised to discover that some critics have concluded that the supposedly substantial dispute between Locke and Leibniz is actually merely a verbal one. Anthony Savile, for example, charges that there is in fact no way to draw the distinction between Locke and Leibniz on the question of innateness, because Leibniz's remarks are based upon a misinterpretation of Locke's view, and perhaps upon a failure to understand fully even his own declared views. In short, Savile believes Leibniz to be confused. He maintains that once the several ways in which Leibniz speaks of innate ideas are disengaged from one another, "we see that Leibniz's own theses of innateness are not in conflict with Locke's own rejection of it", so that "the feeling we have on reading the New Essays that somehow Theophilus and Philalethes talk by one another and not to one another is here well founded."5
Savile is not the only critic who focuses upon the variety of ways in which Leibniz speaks of innateness. Nicholas Jolley as well, although not taking Savile's position that the dispute between Locke and Leibniz is merely verbal, charges that Leibniz without noticing it "offers two distinct versions of the doctrine of innate ideas," thus rendering impossible, or at least exceedingly difficult, any judgment of the relationship of his views on knowledge acquisition to those of Locke. Jolley declares that although when responding to Locke's attack upon innate ideas and knowledge in Book I Leibniz appears neutral concerning the "type of hardware" which embodies the innate mental structures, Leibniz seems in the other, more positively argued books to adopt quite a different position. Underlying this evaluation of Leibniz as vacillating, as we will see, is Jolley's belief that Leibniz's ultimate concern in the New Essays is not the issue of innate ideas and/or knowledge, or even the nature and extent of knowledge in general, but is rather the threat implied in Locke's own Essay to the doctrine of the immateriality of the soul.

Jolley's tracing of Leibniz's response in the New Essays to underlying religious convictions is intriguing, and brings up another consideration essential to a thorough evaluation of the dispute between our two philosophers: the context in which each of the views involved were elaborated. As was illustrated by the Plato/Aristotle example presented above, the original questions and concerns of the individuals involved in a philosophical dispute may shed much light upon the true nature of the dispute and the relation between the views put forth. Especially if something like Jolley's view is right, and the issue of innateness was never central to the work of either Locke or Leibniz, the problem of sorting out the relation between the two thinkers' positions on this particular question may prove extremely difficult, if not impossible. The two may speak past one another simply because they never address the same question.

My assessment of the relation between Locke's and Leibniz's views on innateness, however, is as far from Jolley's as it is from Savile's. There is no doubt that Locke and Leibniz do appear to speak past one another; likewise, no one would disagree that Leibniz does speak in a number of different ways about innateness, so that, even granting that he and
Locke address the same issues, it is not a simple matter even to understand precisely what his view is, much less to perceive the relation of that view to Locke's. Complicating matters even further is the question of the concerns motivating each of our authors, and the degree to which the questions they appear on the surface to be answering are actually the ones that formed the focus of their work.

In spite of all these difficulties, I will argue that a penetrating comparison of Locke's and Leibniz's views of innateness specifically and knowledge acquisition generally can in fact be accomplished. In response to the charges of incoherence directed at Leibniz's declared position, I will maintain that there are reasons for all his apparently conflicting statements, and, further, that beneath all the complications lies a consistent, statable view of innateness which is capable of coherent comparison to Locke's.

I will grant that the view Leibniz elaborates is complex: his metaphysics makes it necessary for him to speak on many different levels about innate ideas and knowledge, in ways which may appear inconsistent to many readers. I will grant as well that the metaphysical requirements of Leibniz's account of speculative truths and our knowledge of them is not the only factor complicating his view of innateness: his account of innate practical principles makes reference to an even larger ontology. Discussion of practical principles for Leibniz takes place in a realm which is analogous to, but nonetheless distinct from, the logical or speculative realm which occupies his attention for most of the New Essays. The task of clearly presenting Leibniz's view of innateness is thus necessarily a difficult one, involving as it does an enormous degree of complexity. Difficulty and complexity, do not, however, entail impossibility, and it is my belief that although Leibniz's view certainly involves the first two of those terms, it is not in fact an impossible one to explain.

Even the substantial complexity of Leibniz's metaphysical views and their impact on his epistemology do not, however, entirely account for all the difficulty involved in comparing his views regarding innateness to Locke's. Further difficulty arises because Locke speaks from within the context of his own ontology, which Leibniz often fails to recognize,
and which in turn sometimes causes the latter's responses to certain arguments to miss their mark. Consequently, it becomes necessary, if a complete articulation of the nature of the difference between our two philosophers' views on the issue of innateness is to be accomplished, to expound upon the way in which each of them conceives of and relates such fundamental notions as ideas, knowledge, the soul, consciousness, and a myriad of other \textit{prima facie} unrelated concepts, for all of these constituents contribute to the final epistemic posture assumed by each thinker.

We must moreover, as was indicated above, consider at least to some degree the concerns which prompt our philosophers to investigate the question of knowledge in the first place, for what one means by a given statement is often largely determined by its target and the reasons behind its being offered. It may be that Locke never intended to attack anything like what Leibniz is at such great pains to defend. Certainly it will be agreed that it helps greatly in shaping our perception of the difference between Plato's and Aristotle's epistemologies to understand that while Plato was concerned to discover the conditions for the possibility of knowledge as such, Aristotle's primary epistemic interest was in how individuals come to possess the particular body of knowledge that they do. Even if those particular (diverging) motives do not in fact underlie the differences in the ancient philosophers' systems, it cannot be denied that postulating some fundamental concern as directing each man's thought helps readers to put Plato's and Aristotle's respective systems into coherent form, and this in its turn aids in confirming or disproving that particular reading.

The proposed investigation of the relation between the views of Locke and Leibniz on the question of innateness will thus no doubt spread far beyond that specific issue, with our particular inquiry benefitting, it is hoped, from the more general one. Although it is no doubt optimistic, it seems within reason to anticipate from a comparison of these two seventeenth-century philosophers' responses to the question of whether there exist any innate ideas and/or knowledge a certain amount of fruitful discussion about the questions and concerns claiming the attention of the best thinkers of that era, as well as a deeper
understanding of some of each of our philosopher's broader views about the nature of the world and our place in it.


3. G. W. Leibniz, *New Essays on Human Understanding*, trans. and ed. Peter Remnant and Jonathan Bennett (New York: Cambridge University Press, 1981), p. 74. All future references to this work will be made in the text and marked with the abbreviation 'RB'.


Chapter 2

In order to fully explore the debate herein under discussion, we must begin where the debate does, with Locke. It will be necessary, if we are to apprehend the nature of the relationship between his and Leibniz's positions on the nature and sources of knowledge, to understand both Locke's attack on innateness and his positive epistemological views. Although an enormous amount has been written (and disputed) about Locke's motives, intentions, and degree of precision in presenting his view, we must make the effort to sift through the abundance of available material if we are to get some kind of grasp of the character and shape of his thought. Only when we have achieved some degree of understanding of exactly what he was opposing in the first book of his Essay and why, and of his own views on innateness, mental structures, and knowledge acquisition, will we be in a position to discuss Locke's relationship to Leibniz.

Let us begin by examining Locke's well-known and often-evaluated challenge to the doctrine of innateness. He begins by examining and eliminating the argument from universal consent. "There is nothing more commonly taken for granted", he says, than the notion that there are certain principles which enjoy universal consent. The most reasonable way to account for this universal consent, many conclude, is to suppose that those principles are innate. But this conclusion is not warranted, says Locke, for universal consent to a principle would not be sufficient to establish that principle's innateness--some other explanation of that consent might be found. And as long as some other explanation is possible, universal consent offers no proof of innateness.

Worse for the argument at hand, says Locke, is that there are in fact no principles which enjoy universal consent. Children and Idiots, he points out, have not "the least Apprehension or Thought of" the principles generally taken to be innate, and surely a complete lack of apprehension of them is enough to destroy the claim that these people assent to such principles.
This argument seems to Locke irrefutable, since it is incomprehensible to him that there should be something imprinted on the soul of which it has not at some point been consciousness. He declares that "[n]o Proposition can be said to be in the Mind which it never yet knew, which it was never yet conscious of." (I, ii, 5) And if propositions could be in the mind in such a way, he goes on, then all truths the mind is capable of knowing can equally well be called innate. If this is the case, then the innatists have failed to distinguish a particular class of truths as innate. But if there is no difference between the truths taken to be the innate ones and all the others, then there is no innatist position.

In order to avoid destruction by this argument, Locke says, innatists often resort to the claim that people come to assent to innate principles when they reach the use of reason. But if by 'reach the use of reason' they mean that reason is the faculty by which we come to know such truths, then all the truths a rational creature can come to know are appropriately called 'innate', and so once again no special class of knowledge has been delineated. If, on the other hand, what these innatists intend is that simultaneous with reaching the age at which reason is generally attributed to children comes recognition of and assent to these truths, then the claim is both false and frivolous.

It is false, says Locke, that the maxims which innatists want to claim are innate are recognized by all children who exhibit reason. Many such children would readily admit a complete lack of awareness concerning them. Indeed, Locke points out, "a great part of illiterate People, and Savages, pass many Years, even of their rational Age" without ever considering such principles as 'It is impossible for a thing to be and not to be'. (I, ii, 12)

It is furthermore frivolous to argue that people's coming to assent to certain principles upon reaching the age of reason is an indication of the innateness of those principles:

For by what kind of Logick will it appear that any Notion is Originally by Nature imprinted in the Mind in its first Constitution, because it comes first to be observed, and assented to, when a Faculty of the Mind, which has a quite distinct Province, begins to exert it self? (I, ii, 14)
It in no way proves the innateness of certain ideas and/or principles, then, Locke declares, to point out that certain mental perceptions\(^1\) occur to a person when he reaches the age at which a particular faculty (reason) begins to exert itself. In fact, as Locke sees things, it is to argue against themselves for innatists to invoke a relation to the faculty of reason in any effort to defend their doctrine, for if the principles claimed to be innate are only recognized and assented to when reason is involved, then those principles are gained through the efforts of the mind, rather than being present already, and so innateness by their argument seems to be refuted rather than defended.

It seems, then, that Locke takes his arguments against innateness theories to be devastating to the innatists. On his view, all views of innateness are either wrong-headed or trivial\(^2\). Wrong-headed when easily proven either unintelligible or simply false on empirical grounds, and trivial when they fail to distinguish a particular class of knowledge, but rather accomplish nothing more than recognizing the capacity everyone agrees we have for gaining knowledge, so that all knowledge can equally well be called innate. Locke has evidently won the first round, then, with an easy and obvious victory. The door is thus now opened to consideration of alternative accounts as the true explanation of knowledge acquisition.

The doctrine of innateness, though, had been held by numerous (and I think we must agree that at least some were level-headed and intelligent) thinkers for centuries by the time Locke commented upon it. Moreover, individuals have boldly continued to support innateness even after Locke’s arguments gained their widespread fame. We must not fail to recognize that the doctrine has in fact even come to be seriously supported by writers of substantial reputation in the twentieth century. How can this happen in light of such a sweeping and definitive defeat of the notion of innateness as Locke is famous for? Or does the world take Locke’s critique to be as devastating as it appears at first blush?

It seems not. In fact, it has been claimed that the arguments Locke addresses explicitly in Book I account for only the most naive of innatist positions\(^3\). And indeed it does seem true that Locke does not in his polemic consider the possibility of more sophisticated versions of, for example, dispositional accounts of innateness, which would perhaps envision
innate knowledge as something more determinate than simple capacities for gaining knowledge, and which would thus in some way restrict the possible objects of knowledge, without themselves being actual knowledge⁴. This is not to argue that Locke omitted attention to any particular view in his argument: it would hardly be fair to criticize him for that. The point is that one could probably suggest any number of accounts which contradict Locke's assumption that if innateness is to be presented in any dispositional terms, then all knowledge necessarily will be innate.

The choices of defense for the innateness doctrine that Locke gives us, then, according to Locke's presentation, appear to be less than exhaustive of the possibilities. He allows us only the choice between an account that can easily be shown unintelligible or empirically false, and one which will inevitably collapse into his own view. One could thus argue that Locke's supposedly all-encompassing argument against innateness dismisses the possibility of an account of innateness in which the innate knowledge is not representational, fully-formed, and conscious. But no innatist proposes the innate to be like that.

What, then, we are prompted to ask, are Locke's concerns, that they would result in the particular kind of attack we find in Book I? Who and what was he attempting to deal with in this adamant attack? As we will see, the questions of Locke's underlying concerns and motivation for writing the Essay have received as many suggested responses as that of whom he intended to attack. Were his concerns moral, religious, epistemological, or scientific in nature? Was he arguing against Descartes alone, Cartesians generally, the Cambridge Platonists, or someone else? The way in which one answers these questions has a decided effect upon one's understanding of Book I, and indeed upon one's view of the Essay as a whole.

The doctrine of innatism as Locke formulates it seems difficult, as we have seen, to attribute to anyone, and so (naturally) his critics have made a centuries-long quest of the search for the intended target of Book I of the Essay. Some critics have found it so difficult to provide Locke with a target for his polemic that they have suggested that it was purposely set up against a straw man. Cassirer⁵, for example, took Locke simply to have used a
concrete presentation of his arguments against innateness as a device, in order to show how convincingly he could refute one who held the doctrine, thereby of course revealing the need for his own view. Few others, however, have considered Locke to be operating in such a fashion, noting, in fact, as did Aaron, that it would hardly be like the ever-practical Locke to "waste powder and shot on imaginary opponents."\(^6\)

Indeed, it seems clear that the commentators closest to the composition of the Essay did not see Locke as firing into the air in his polemic against innateness. Among them, it has been claimed that at least Leibniz and Voltaire evidently assumed that his target was Descartes and the Cartesians,\(^7\) and that Locke's interest in the issue of innateness was purely epistemological. There is some evidence of this reading with regard to Leibniz, for in the first section of his *New Essays* he explicitly pits Locke and the Gassendists against Descartes and Malbranche. Furthermore, Leibniz's Theophilus implies that Leibniz does not presume Locke to be working in the religious or moral arenas when he states to Philalethes that "You had more to do with the speculative philosophers, while I was more inclined towards moral questions." (RB, p. 71) There is some reason at least, then, for believing Leibniz to perceive Locke's polemic against innateness in Book I as an epistemological argument whose context is a team-players' epistemological disagreement.

In our own century, Aaron has used this reading of Leibniz, together with a similar understanding of Voltaire's views, to support a slightly different interpretation of Book I. Aaron argues that since both Leibniz and Voltaire understood Locke's polemic to be directed at Descartes and the Cartesians, and since "Leibniz had his finger on the intellectual pulse of Europe in Locke's own day and Voltaire was the prince of the learned men of the next generation" their opinion of Locke's polemic "cannot be lightly be turned aside."\(^8\) Thus Aaron maintains that Locke took the theists' side in opposition to the Cartesians in a party war which had as one of its issues the doctrine of innateness.

Even in his well-defended, self-proclaimed return to the "traditional" interpretation of Locke's polemic, though, Aaron does not adhere to the notion that Locke considered no one but Descartes and the Cartesians when constructing his arguments against innateness.
Rather, he broadens his view from what he takes to be those of Leibniz and Voltaire, feeling driven by the evidence as he says to the position that

...Locke's polemic was meant for the Cartesians, for the schoolmen, for certain members of the Cambridge Platonists, and for those others, Herbert and the rest, who advocated the theory of innate ideas in any way. 9

Even though some critics have with Aaron advanced strictly epistemological interpretations of Book I, commentators early in the present century began to view the attack in Book I as rooted in something more far-reaching than the technical issues of philosophers. Consideration of the context of Locke's polemic has become much more important than it had been in previous centuries. In 1936, for instance, Lamprecht suggested that Locke, being a man of his time, "was hardly likely to enter upon his speculations because of some tendency in academic circles or some tradition of the past." Rather, Lamprecht says, Locke was involved in his world, and "meant his writings to bear upon current issues." 10 As well as economic and political issues, the question of religious truth was in Locke's time one which occupied the intellectual community, and one which demanded response. Lamprecht uses the now widely-remarked marginal note of James Tyrrell in Locke's Epistle to the Reader of the Essay to support his view.

In the Epistle, Locke tells the story behind his Essay:

Were it fit to trouble thee with the history of this Essay, I should tell thee, that five or six friends meeting at my chamber, and discoursing on a subject very remote from this, found themselves quickly at a stand, by the difficulties that rose on every side.

Tyrrell, Lamprecht goes on to say, who was a close personal friend of Locke's, and present at those meetings in Locke's chambers, commented in the margin of his own copy of the Essay at this point "principles of morality and revealed religion". 11 Thus for Lamprecht it seems clear that, contrary to the view apparently espoused by Leibniz early in the New Essays, Locke's epistemological work cannot be fully understood outside the context of his concerns about moral principles 12.
On Lamprecht's reading, Locke's specific concern was the use of innate knowledge as the "candle of the Lord" by the Cambridge Platonists to displace the "capricious and heated assertions of the rival authorities of church, council, bishop, creed, or special revelation," in order to insure a peaceful coexistence for all types of worshippers.\textsuperscript{13} That is, it was the Platonists' use of innate ideas as a way of introducing "semi-divine reason" into the dogmatic warfare ripping apart the Church of England. Of course Lamprecht does not hold that Locke disagreed with the Platonists' goal of establishing religious toleration; on the contrary, Locke's reputation as a champion of religious toleration is well established. Rather, says Lamprecht, it was the Platonists' use of innateness in attempting to accomplish their goal that Locke objected to, for he saw that innate knowledge by its very nature carries the danger of dogmatism, which, instead of removing intolerance, encourages it.

Concomitant with his concern for the implications of innate knowledge, according to Lamprecht, was Locke's worry about religious enthusiasm. Although he does not claim that religious enthusiasts were the target of Book I (at least not in the fourth edition, because it includes a separate chapter in Book IV against the enthusiasts), Lamprecht does see that they require a similar response:

..the first book of the \textit{Essay} tried in a preliminary way to clear the ground, aiming its attack at the theory of innate ideas in its theological form as held by the Cambridge Platonists, as the chapter on Enthusiasm was directed against the advocates of special assurance through divine revelation.\textsuperscript{14}

Lamprecht's point is that Locke found it imperative in the face of the dogma-producing religious acceptance of the doctrines of innate knowledge and enthusiasm to distinguish between logical certainty and the psychological feeling of assurance. The distinction required a new basis of knowledge, which Locke took it upon himself to provide. In short, Lamprecht declares, theology for Locke "demanded epistemology".\textsuperscript{15}

By the time Lamprecht presented his issue-based interpretation, Gibson had already suggested that perhaps context as well as particular philosophical opponents should be considered in attempting to understanding Locke's polemic in Book I.\textsuperscript{16} Gibson's reading,
though, emphasizes a context broader than, although encompassing, the morality and religion which Lamprecht finds so important to Locke. On Gibson's view, Locke's polemic was levelled at (in addition to Descartes and the Cambridge Platonists, who he will not deny occupied a part of Locke's mind) a particular tendency of his contemporary intellectuals.

Gibson points out that it was the custom of many philosophical writers in seventeenth-century England to "rest the validity of what they regarded as the fundamental principles of knowledge and conduct upon a vague and often unexplained appeal to Nature."¹⁷ These fundamental principles Gibson says were taken to be simply the set of rules according to which nature operates; that is, they were the very 'law of Nature' (and, some of these writers went on to say, exhibited God acting through nature upon our minds). This relation to nature implied, these writers reasoned, both the universality and the objectivity of these principles. And of course the only thing required for perception of such natural principles was illumination by the 'light of nature', or, in other words, God-given reason. Thus nature itself was credited with giving us the fundamental principles from which all argument could proceed, and these principles, due to their naturalness, could not be disputed.

This method of operating from indisputable principles was on Gibson's view the contemporary remains of the scholastic method, widespread in the universities, and targeted by Locke because of the intellectual laziness it engendered. It served, Gibson says,

as an encouragement to the greatest of all hindrances to knowledge, viz. the lazy acquiescence in the opinions of others, by which men avoid the trouble and exertion involved in the right use of their intellectual powers.¹⁸

Maxims were abused as a result of such unquestioning acceptance, and faulty methods of demonstration abounded. Thus it is Gibson's view that Locke's arguments of Book I of his Essay were directed against a methodology which assumed unquestioningly certain principles taken to be naturally imprinted, a methodology he saw and disliked in his own university professors¹⁹. According to Gibson, "a diluted form of Scholasticism" held "almost undisputed sway during the whole time of Locke's connection with the University." A student who had been forced to study under this dry, formal system but who was now breaking away from
that tradition, Gibson maintains that Locke "conceived himself to be engaged in conflict with the current procedure of the Schools."

In more recent years, some critics have taken this view of Locke's polemic as a reaction to scholasticism more seriously than does Gibson, who, although willing to point the finger at Locke's own professors, would not agree that the method of his professors was Locke's only target. These more recent arguments, as for example Gunnar Aspelin's, claim that Gibson was on the right track, but was not bold enough in his characterization of Locke's argument.\(^{20}\)

According to Aspelin, the important thing to consider in tracing Locke's target is "the contrast between the scholastic university tradition and the new scientific conception of the world."\(^{21}\) Locke is most correctly seen, Aspelin says, as thinking in the same vein as Joseph Glanvill, an "enthusiastic admirer of the new philosophy and its great pioneers" who campaigned against the traditional peripatetic philosophy of the schools in a quite violent spirit. Although noting that Locke was much calmer than Glanvill, Aspelin declares that Locke's experiences in college were of much the same kind as his more acerbic contemporary, and so Aspelin reaches the conclusion that the criticism in the first book of Locke's Essay "is to be interpreted as an attack upon the same traditional philosophy" that Glanville wrote so furiously against.\(^{22}\)

Much more recently, Douglas Greenlee\(^{23}\) has taken the methodological interpretation of Locke's polemic even further. What concerns Locke in the debate over innateness according to Greenlee is the question of the proper route to the acquisition of truth. In Book I of his Essay, rather than making an attempt to dispose of the views of certain individuals, Greenlee says that

...the target of his philosophic ire is not a wrong psychology, which holds that men are born with ideas and truths imprinted upon the mind, but is rather a wrong methodology...Locke is seeking to discredit a scholastic method of reliance on authority and of disputation in order to replace it with what may be called simply a method of discovery.\(^{24}\)
The point of Locke's attack on innateness, then, according to Greenlee is to rebuke its reliance upon authority and, related to that, its determination to justify any new principles in terms of previously accepted ones.

Locke on this reading is thus not endeavoring to demonstrate the superiority of the empiricistic method with his arguments, for he has no inclination to dogmatically support any particular method. In fact, according to Greenlee, Locke is not a strict empiricist at all, if one takes that term to mean that all knowledge is based upon observational knowledge, for Locke recognizes that the reasons for our acceptance of principles quite often have nothing to do with observation. Principles may be accepted, for instance, because they are self-evident. Greenlee's conclusion, therefore, is that all Locke intends to do in the first book of his Essay is to "further intellectual adventurousness", to purge the intellectual community of the traps of laziness and dependence which had for so long been encouraged by peripatetic methodology.

Of all the readings of Locke's Book I, none currently enjoys more acclaim and acceptance than does the one put forth by John Yolton in 1956. Yolton declares that even though Lamprecht, Aaron, and Gibson are all correct in pointing out the widespread nature of the doctrine of innateness among Locke's contemporaries, "none of the critics of Locke has indicated just how prevalent the doctrine was". Yolton's contribution(s) to the discussion was to offer insight into how necessary the doctrine of innateness was in Locke's own England for the stabilization of both religion and morality throughout the seventeenth century and even into the eighteenth. He moreover confirmed that the doctrine could be found even in the later years of this period in the naive form that Locke addressess in Book I, although generally the accepted conception of it changed to a modified form as the years went by.

Yolton, then, ties Locke's concern about innateness to religion, as Lamprecht had done previously. The two critics reached, however, opposing conclusions about the motivation for Locke's work. Whereas Lamprecht had concluded that theology for Locke requires (a specific) epistemology, Yolton maintains that Locke's intention was to separate the
two. According to Yolton, Locke's goal was to separate two areas of thought, the union of which was a basic assumption in his contemporary England, and which had as its result the stifling of creative thought. Yolton states concerning the topic of innateness that

The vital issue between Locke and his critics on this issue was the grounds and foundations of morality and religion. The epistemological question concerning the genesis of our ideas was not an isolated theoretical problem for Locke or for his contemporaries. It was a question integral to the practical problems of life.\(^{26}\)

The issue that concerned Locke, then, according to Yolton, was the fact that for his critics religion/morality and epistemology were inseparable. Yolton says in fact that religion and morality in seventeenth-century London "dictated the outlines of theory of knowledge". In the face of the threat perceived in separating the two, Locke's undertaking in the Essay was thus on Yolton's view "to show that these two areas could be separated and that the separation was not injurious to religion or morality."\(^{27}\) Successful proof of this claim would, of course, greatly increase freedom in the search for knowledge. Discovery of new and unexpected information about the nature of the world, if taken to be distinct from the claims of religious faith and not affecting them, would no longer be perceived as such a threat, and so would naturally not be so closely circumscribed.

Someone might well be asking at this point why I have concerned myself so much with the target of the polemic in Book I, and the context which begat it, rather than concentrating on the form and implications of the argument itself. Lamprecht provides an eloquent response to that query:

For though philosophers usually generalize and thus claim for their principles a universal applicability in all domains of knowledge, their initial interest frequently colors the entire result. Unless we grasp their original concern, we may fail to understand why they describe knowledge as they do or why certain aspects of knowledge are overlooked or curious inconsistencies emerge.\(^{28}\)

It is my view that although analysis of arguments is an invaluable technique which cannot be avoided in any study of a philosopher, in order to fully understand any thinker's position,
one must be aware of the issues which spawned his work, and the concerns which condition its flavor.

In the present case, if we are to understand Locke's views regarding knowledge well enough to make claims about the true nature of his relation to Leibniz, we must make every attempt to understand the questions and concerns which motivated him, and thus how his work is best to be read. That is to say we must attempt to discover which of his stated doctrines are essential to him, and why, and which are of a more peripheral nature. Indeed, many of the critical interpretations we will encounter regarding Locke's views on a variety of aspects of knowledge depend upon their authors' perceptions of the nature and purpose of Book I.

It will be crucial in what follows, then, to remember to view Locke in his context as a proponent of religious toleration in a time when toleration was not popular, and as a follower of Boyle and the corpuscularians, highly interested in and strongly advocating the new corpuscularian science. Nearly every account of Book I that we have seen, regardless of who precisely Locke is judged to be arguing against, seems to revolve around either Locke's advocacy of religious toleration or his love of experimental science, or both.

Notice that each of these motivations implies that at least one of Locke's main interests in rejecting innateness was to encourage individuals to think for themselves, and not to be cowed into accepting on authority certain "first principles" according to which all of their remaining beliefs would have to be justified. Thus it will be important during our attempts to unravel Locke's views about the nature of human knowledge to keep in mind that his reason for wanting to look to the world as its source evidently was not to belittle the role the mind plays in shaping our knowledge, or in any way to deprecate rationality. Rather, Locke's intention seems to be to prevent the easy acceptance of others' opinions and beliefs in forming one's own views. This suggests that Locke's empiricism will not be one which envisions the acquisition of knowledge as a purely passive, receptive process, or even necessarily as one in which the mind's structure and operations play only a minimal role. In fact, assuming that our assessment of the intentions behind Book I of Locke's Essay are
generally correct, we are left after our rejection of innate knowledge relatively undirected concerning Locke's positive view of knowledge acquisition.

With this in mind, then, let us begin our consideration of the relation of the polemic against innateness to the rest of Locke's *Essay*. Although it has received an enormous amount of attention from critics, and rightly so, as we have seen the attack on innateness alone cannot be expected to reveal the nature of Locke's views on knowledge acquisition. The polemic in fact only comprises one book of the four constituting the work, and it came to possess even that significance only in the latest draft of the work. Regardless, then, of how important the critique of innateness theories may be to the *Essay*, it does not take us very far toward understanding Locke's positive views about the nature and sources of knowledge. Our present task, then, is to discover how Book I contributes to the whole of Locke's *Essay*, and thus how it helps to express Locke's views concerning knowledge.

According to a number of critics, Locke's attack on innateness serves as a method of introducing his own empiricist theory of knowledge. R. I. Aaron regards as highly significant the fact that Locke's attack upon innateness in the first draft of the *Essay* (Draft A, of 1671) was offered merely as a response to a possible objection to the empirical account he was presenting.29 After establishing his empiricism in "the main argument", Aaron says, Locke adds a few paragraphs in response to two possible objections, one of which is the claim that knowledge may be gained innately. The objection, Aaron points out, is both stated and dismissed in a single section, which indicates the seriousness with which Locke considers innateness as a possible account of knowledge acquisition.

On this reading, then, the purpose of Locke's attack on innatism is to advertise the untenability and superfluousness of innateness theories in attempting to account for our knowledge, in order to prepare readers to receive favorably his own view. Thus on this interpretation Locke assumes the superior explanatory value of empiricism prior to his criticism of innatism, and moreover employs that assumption in making the charge of superfluousness against innatism. With that unlikely alternative thus effectively dismissed,
Aaron and a number of others have argued\textsuperscript{30}, the way is paved for acceptance of the account which Locke himself has already embraced.

Margaret Atherton reads Locke's polemic against the doctrine of innateness quite differently from the above, which she calls the "standard", view. In fact, it is her contention that this perception of Locke's rejection of innateness as a consequence of his empiricism gets the order of his argument wrong.\textsuperscript{31} It is not Locke's empiricism which disallows innateness, she says; rather, it is the impossibility of innateness as a source of such things as ideas and knowledge which calls for an empirical account. Atherton's understanding of Locke is thus that his "demonstration of where our ideas come from depends upon his rejection of the possibility of innateness, which in turn stems from a picture of what mentality is like and what mental states consist in" (Atherton, p. 223).

Given Locke's picture of the mind, Atherton maintains, any theory of innate ideas and/or knowledge has to be rejected as unintelligible, or if intelligible (as in the "naive" version), either clearly false or true but trivial, establishing the innateness of nothing but a universally accepted innate capacity for learning\textsuperscript{32}. The reason that Locke's argument from universal consent is such powerful evidence against innateness is that on Atherton's reading the only things that could be "in the mind" either innately or in any other way according to Locke are mental things, but mental things on his view just are things which we perceive (are conscious of), and so the very notion of innate ideas or knowledge implies something of which we are conscious:

The only sorts of thing that can literally be in the mind are things we think of as mental, ideas or propositions, and they must be in the mind through our being conscious of them...What is unconscious is not something mental at all, but only an ability or power.\textsuperscript{33}

Because ideas and knowledge are identified with perceptions (thoughts), the notion of innateness as unconscious ideas and knowledge is for Locke incoherent (memories she says are only "in the mind" in the derivative sense that we had them in the mind at one time and have the ability to have them in the mind again--they are not for Locke "stored"). So, if
Atherton is rightly reading Locke, innatists on his view are, in the interest of maintaining coherence, committed to the obviously false proposal that all people assent to the principles for which innateness is claimed. Either that or they have to rest with only the trivial claim that we have the capacity to assent to such principles.

This reading of Locke's argument compares with the twentieth-century critics of such innatists as Chomsky, in presenting the charge that things such as dispositions or structures, although perhaps properly called 'innate', are not properly termed 'knowledge'. For, it is argued, in order to deserve the designation, knowledge must be known by the person who possess it, which implies that it is something of which he or she is or at least at one time was conscious. Dispositions and structures, however, are not things previously cognized by all their users—in fact, most of their users never think of them at all. For any who accept Locke's assumptions about the implication of consciousness in anything rightly called 'knowledge', therefore, he can be taken to have established, not merely an ineffectual outdated argument effective only against an easily defeatable version of innateness, but a conceptual argument which applies categorically and utterly effectively to any innatist position.

The question, though, of whether the "standard" view of Aaron and friends or Atherton's (or perhaps some other one), gives the correct characterization of the relation of Locke's polemic of Book I to the remainder of the Essay seems at this point unanswerable. Both accounts of the direction of Locke's argumentation appear plausible enough, and neither is strong enough to dismiss the other without further evidence and/or argumentation. Thus it seems that in order to decide the question of the role of Locke's attack on innatism it will be necessary to delve into his positive views concerning the nature of knowledge and the process of its acquisition. If it is his model of the mind which precludes for him innate ideas or knowledge, the relations possible between his view and the innatists' theories (Leibniz's in particular, of course) will be decidedly different from those possibilities should he turn out to be defending a particular empiricist epistemology which requires refutation of only
certain tenets of innatism. Let us then turn for the moment away from what he thinks knowledge is not, and ask what Locke thinks knowledge is.

Locke gives clear expression to his conception of the nature of knowledge in his famous definition:

Knowledge then seems to me to be nothing but the perception of the connexion and agreement, or disagreement and repugnancy of any of our Ideas. In this alone it consists. Where this Perception is, there is Knowledge, and where it is not, there, though we may fancy, guess, or believe, yet we always come short of knowledge. (IV, I, 2)

Knowledge, then, simply enough, is the perception of the ways in which our ideas are related. (Since Locke uses the term 'relation', however, in specific reference to one of the four ways in which he maintains our ideas may agree or disagree, we shall continue in our general discussions of knowledge to speak simply in terms of agreement or disagreement.)

Given this definition, our next step is to establish the nature of those ideas between which Locke says we perceive "connexion and agreement, or disagreement and repugnancy".

According to Locke, our ideas are "nothing, but actual Perceptions in the Mind," which, he notes "cease to be any thing, when there is no perception of them." (II X 2) If we accept that these ideas are simply perceptions, though, questions arise concerning which of our perceptions count as ideas, what these perceptions are of and from whence they arise.

Locke's two famous "fountains of knowledge" provide what he takes to be the causes of those perceptions he terms 'ideas':

First, Our Senses, conversant about particular sensible Objects, do convey into the Mind, several distinct Perceptions of things, according to those various ways, wherein those Objects do affect them: And thus we come by those Ideas, we have of Yellow, White, Heat, Cold, Soft, Hard, Bitter, Sweet, and all those which we call sensible qualities, which when I say the senses convey into the mind, I mean they from external Objects convey into the mind what produces there those Perceptions. (II i 2)

Secondly, The other Fountain, from which Experience furnisheth the Understanding with Ideas, is the Perception of the Operations of our own Minds within us, as it is employed about the Ideas it has got...(II i 3)
On Locke's understanding, then, ideas are those perceptions aroused in us through experience, of either the sensitive or the reflective type. Prior to experience, Locke declares, the mind is like "white Paper, void of all Characters". Sensation and reflection together thus account for the existence of all our ideas, and ultimately of all our knowledge, given Locke's conception of knowledge as the perception of the agreement or disagreement of ideas. Although knowledge itself does not come to us through experience, it appears obvious that because it presupposes ideas, no knowledge can exist for Locke which does not have its ultimate source in experience, either in sensation or in reflection.

It will become very important in our final assessment of the relation between Locke's and Leibniz's epistemologies, however, to fully investigate Locke's notion of reflection, for we will see that reflection provides Leibniz with a line of reasoning which allows him to consider his innateness-dependent view of knowledge acquisition as not very different from Locke's position. Leibniz notes, for instance, that for Locke "ideas which do not originate in sensation come from reflection." "But", continues Leibniz, "reflection is nothing but attention to what is within us, and the senses do not give us what we carry with us already." (RB p. 52) Thus for Leibniz it is crucial that Locke cannot claim all the materials of our knowledge come to us through the senses, and he takes this position of Locke's to indicate an acceptance in spirit, if not in language, of the doctrine of innateness. Whether Locke's particular understanding of reflection is actually compatible with Leibniz's innateness will, however, have to wait until both thinkers' views have been elaborated fully enough to uphold comparison.

For now, though, let us content ourselves with endeavoring to understand at least in broad outline the main points of Locke's view of knowledge. Ideas for Locke are those perceptions which occur in our experience, either through sensation or reflection. They are the things which the mind "is employed about whilst thinking" (II i 1). Ideas thus are in short the content of our active consciousness. And knowledge, according to Locke, is an additional perception of the agreement or disagreement between those perceptions.
But that is not quite all there is to it. Locke makes it clear that the perception of agreement or disagreement between ideas, in order to count as knowledge, must also be absolutely certain. For Locke maintains, as does Descartes, that the essence of knowledge is certainty. Thus Locke states quite simply that knowing is being certain:

Certainty of knowledge is, to perceive the agreement of Ideas, as expressed in any Proposition. This we usually call knowing, or being certain of the Truth of any Proposition. (IV vi 3)

What Locke evidently takes to occur in a case of knowledge, then, is a certain perception, upon consideration of two juxtaposed ideas, of the ways in which those ideas agree or disagree. Often when we consider two ideas, of course, no certain perception of the agreement or disagreement of those ideas occurs. In these instances, no knowledge arises, although we can, should, and indeed often must make judgments in such situations. When, however, that additional perception of a "connexion and agreement or disagreement and repugnancy" between those original two perceptions does occur, there exists knowledge. Thus knowledge is for Locke an event—an act of perception. Every piece of knowledge we have is a separate and distinct perception of agreement or disagreement, acquired through a distinct act.

Margaret Wilson, for one, is perfectly willing to accept this understanding of Locke's conception of knowledge. She maintains in fact that it is precisely this conception of knowledge as comparison which fundamentally distinguishes Locke's epistemology from that of Leibniz, who, Wilson argues, holds by contrast that human minds possess innate knowledge of certain "first truths" upon which all other knowledge depends, and to which all other knowledge can be reduced. Wilson makes the distinction clear with the following example: on a hierarchical view of knowledge, the reason we can know that sour is not sweet is because we already in some way know that a thing is what it is and not anything else. Locke's comparison theory of knowledge, on the other hand, has every instance of knowledge being simply a perception of agreement or disagreement, no matter what the subject matter,
so that the reason we can know that sour is not sweet is because we have an idea of sour and we have an idea of sweet and we perceive that the one is not the other.

One implication of this reading of Locke is that our knowledge of a particular truth and our knowledge of the corresponding general one are on the same "level"; that is, they are mutually independent. The only epistemic difference, then, between knowledge of general principles and knowledge of specific ones is the degree of generality of the terms involved (there may of course be differences in their respective practical usefulness, etc.). This means that according to Locke there is no need to assert innate knowledge of certain "first", or "foundational" truths in order to account for the remainder of that which we know. Thus Locke will not countenance attempts to account for our knowledge of identities, for example, or contradictions, via innate knowledge of a formal schema. Rather, the way in which we come to know the truth or falsity of identical or contradictory propositions according to Locke is the same way as we come to know everything we know--by perceiving an agreement or disagreement of those propositions' subject and predicate ideas.37

Even though on our reading all knowledge is for Locke a perception upon their comparison of the agreement or disagreement between ideas, we cannot conclude that all knowledge is for him on a par. On the contrary, Locke, like Descartes, distinguishes between degrees of knowledge. For Locke, there are three: intuitive knowledge, demonstrative knowledge, and sensitive knowledge. Locke says that the difference in "clearness of our knowledge" which distinguishes these degrees comes from the "different way of Perception the Mind has of the Agreement, or Disagreement of any of its Ideas."(IV ii 1) Sometimes we perceive the agreements or disagreements of our ideas immediately, simply by considering those ideas together, while in other cases the agreement or disagreement of our ideas can only be perceived through the use of intervening ideas. And in still other cases what we perceive is "the particular existence of finite Beings without us". This last kind of perception Locke says, although "not reaching perfectly to either of the foregoing degrees of certainty" nevertheless "passes under the name of Knowledge." (IV ii 14)
Let us begin our investigation with the most characteristic types of knowledge. Consider first, then, Locke's statement that if we will only reflect a moment, we will find that

...sometimes the Mind perceives the Agreement or Disagreement of two Ideas immediately by themselves, without the intervention of any other: And this, I think we may call intuitive knowledge. (IV ii 1)

Intuitive knowledge as Locke describes it is thus both clear and certain; indeed, it is "the clearest, and most certain that humane Frailty is capable of." Further, knowledge of the intuitive type for Locke is undeniable, like a perception of the sunshine. He says in fact that it

...forces it self immediately to be perceived, as soon as ever the Mind turns its view that way; and leaves no room for Hesitation, Doubt, or Examination, but the Mind is presently filled with the clear light of it. (IV ii 1)

When considering certain ideas, then, the relations between them show themselves to consciousness in a way which cannot be missed. The relations exist intrinsic to the very nature of the ideas:

In some of our Ideas there are certain Relations, Habitudes, and Connexions, so visibly included in the Nature of the Ideas themselves, that we cannot conceive them separable from them, by any Power whatsoever. And in these only, we are capable of certain and Universal Knowledge (IV iii 29)

For Locke, then, the very perceptions of certain ideas arouse in us additional perceptions of the relations among those ideas. Such ideas themselves imply certain undeniable agreements or disagreements. Ideas for Locke are thus mental entities (that is, perceptions), some of which upon examination prove to include or exclude certain other ideas by their very natures. Just as the objects which we cannot deny in their illumination by the sun have their own natures, and are interrelated independently of our interests and desires, so are ideas, in spite of their character as mental events, objective, and interrelated
independently of our wishes. Our knowledge is a matter of perceiving those ideas and their interrelations, not of creating them.\textsuperscript{38}

This immediate, undeniable kind of cognition obviously does not, however, constitute all of our knowledge. Indeed, most of our knowledge is of the second type Locke mentions, that which must be shown to the understanding. Thus although it is true that Locke understands all our knowledge to be distinct perceptions of agreement or disagreement, it would be incorrect to conclude that for him none of our knowledge depends on other knowledge. On the contrary, Locke declares that ""Tis on this Intuition that depends all the Certainty and Evidence of all our Knowledge" (IV ii 1). But how, one might be prompted to ask, can the certainty Locke requires of all knowledge depend upon our limited intuitive knowledge, when knowledge by his definition consists of individual, distinct perceptions of agreement or disagreement? The answer lies in how Locke conceives one individual perception to render possible other individual perceptions.

According to Locke agreements and disagreements between certain ideas can only be seen through the use of intermediaries:

The next degree of Knowledge is, where the Mind perceives the Agreement or Disagreement of any Ideas, but not immediately. Though where-ever the Mind perceives the Agreement or Disagreement of any of its Ideas, there be certain Knowledge; Yet it does not always happen, that the Mind sees that Agreement or Disagreement, which there is between them, even where it is discoverable...In these Cases, then, when the Mind cannot so bring its Ideas together, as by their immediate Comparison, and as it were Juxta-position, or application one to another, to perceive their agreement or Disagreement, it is fain, by the Intervention of other Ideas (one or more, as it happens) to discover the Agreement or Disagreement, which it searches... (IV ii 2)

Thus when the mind cannot perceive the agreements or disagreements between ideas directly, those relations have to be shown to it, "and the Mind made see that it is so." And how is the mind made to see these relations? By linking together individual intuitions, those bastions of certainty:

Now in every step Reason makes in demonstrative Knowledge, there is an intuitive Knowledge of that Agreement or Disagreement, it seeks, with the next intermediate Idea, which it uses as a Proof: For if it were not so, that yet
would need a Proof. Since without the Perception of such Agreement or Disagreement, there is no Knowledge produced: If it be perceived by it self, it is intuitive Knowledge: If it cannot be perceived by it self, there is need of some intervening Idea, as a common measure to shew their Agreement or Disagreement. By which it is plain, that every step in Reasoning, that produces Knowledge, has intuitive Certainty... (IV ii 7)

Individual perceptions of agreement or disagreement which are certain and clear according to Locke can lead, then, like links in a chain, to other individual perceptions of agreement or disagreement which are also certain and thus deserving of the name 'knowledge'. It thus seems evident that although on Locke's view all knowledge consists of individual perceptions of connections or repugnances of ideas, most of these connections or repugnances are not perceived immediately, but rather must be made perceivable by linking them together through other perceptions which are immediate. Locke's intuitions do not underlie or support demonstrative knowledge; indeed the intuitions are not themselves part of the new perception at all. Instead, they work by moving the mind through previous perceptions of connection to new, previously impossible, individual perceptions of agreement or disagreement.

One implication of Locke's account of demonstrative knowledge, though, requires note. Although Locke says that each step of demonstrated knowledge carries with it the certainty of intuition, which is what accounts for its deserving the name 'knowledge', it does not appear to be for him as perfect as that known with the immediate perception of intuition. Recall that he distinguishes the degrees of our knowledge by the amount of clarity involved. The difference between the degrees of certainty in intuition and in demonstration rests at least in part upon the fact that demonstrated knowledge requires the use of memory, which means that although it is perhaps reliable, it will not always result in a perception as clear as that which comes from the simple perception of an object presented in clear light:

Memory is not always so clear as actual Perception, and does in all Men more or less decay in length of time, this amongst other Differences is one, which shews, that demonstrative Knowledge is much more imperfect than intuitive... (IV 19)
Because memory is precisely the re-experiencing of old perceptions, then, and not a pulling forth of an existing thing stored in the mind, Locke seems to believe that memories will at least some of the time be less vivid than original perceptions, and that the degree of vividness with which any past perception can be recalled will naturally fade with time. Thus although demonstration is indeed reliable, since it necessarily involves memory "it is often with a great abatement of that evident luster and full assurance, that always accompany" intuition. Although the perceptions of the demonstrated type on Locke's view may in some cases be as vivid as those which are intuited, they more often will not be so vivid, especially in cases of knowledge "made out by a long train of proofs." (IV ii 6) The involvement of memory, then, although not affecting the certainty of demonstrated knowledge, evidently does for Locke affect its perfection.

Another implication of Locke's view worthy of consideration is that it would appear to be true that when we are not perceiving the agreement or disagreement of ideas we are not in a state of knowing. But it would be absurd to claim that we are constantly in a state of such perception with regard to all the things we are said to know. Fortunately, Locke is not forced into that position. Memory can preserve for us our previous perceptions:

And thus a Man may be said to know all those Truths, which are lodg'd in his Memory, by a foregoing clear and full perception, whereof the Mind is assured past doubt, as often as it has occasion to reflect on them. (IV i 8)

But it cannot preserve them in the sense of laying them away somewhere in store, for if an event reading of Locke's theory of knowledge is to be consistent, propositions are not things which can be placed somewhere. If ideas and knowledge are perceptions, the only way in which knowledge can be "in the mind" is through our being conscious of an agreement or disagreement between ideas. In what way, then can we be seen to "retain" knowledge "in the Memory"? Consider what Locke says on the subject of our retention of ideas (which presumably could be extended to knowledge as well):

For the narrow Mind of Man, not being capable of having many Ideas under View and Consideration at once, it was necessary to have a Repository, to lay up those Ideas, which at another time it might have use of. But our Ideas
being nothing, but actual Perceptions in the Mind, which cease to be anything, when there is no perception of them, this laying up of our Ideas in the Repository of the Memory, signifies no more but this, that the Mind has a Power, in many cases, to revive Perceptions, which it once had with the additional Perception annexed to them, that it has had them before. And in this Sense it is, that our Ideas are said to be in our Memories, when indeed, they are actually no where, but only there is an ability in the mind, when it will, to revive them again. (II, x, 2)

Thus it seems that any agreement or disagreement which has previously been perceived can again be perceived, though, Locke notes "some with more, some with less difficulty; some more lively, and others more obscurely". Evidently, then, we do not on Locke's view "have" this kind of knowledge in the commonly understood sense of 'have' at all. Rather, we only "have" it in the derivative sense of being able to reperceive the agreements and disagreements perceived earlier, together with cognizance that we have had those perceptions before.39

This provision for knowledge presently unconscious, termed 'habitual', as opposed to 'actual' (the presently conscious kind) knowledge by Locke, is obviously of great moment for his theory, for "if Men had no Knowledge of any more than what they actually thought on, they would all be very ignorant". Indeed!

Of this habitual knowledge Locke says there are two types:

First, The one is of such Truths laid up in the Memory, as whenever they occur to the Mind, it actually perceives the Relation is between those Ideas. And this is in all those Truths, whereof we have an intuitive Knowledge, where the Ideas themselves, by an immediate view, discover their Agreement or Disagreement one with another.

Secondly, The other is of such truths, whereof the Mind having been convinced, it retains the Memory of the Conviction without the Proofs (IV i 9)

Thus Locke makes a distinction between perceiving again the agreements or disagreements between ideas, and perceiving that certain ideas had once been found to agree or disagree. But this second kind of habitual knowledge seems to present problems for understanding Locke's view of knowledge as events of comparison, since knowledge on that theory just is
perceiving the agreements or disagreements, and in this type of knowledge there seems to be no perception of the agreement or disagreement at all.

Locke responds to this problem, however, by stating that ideas are immutable (any given idea always just is that idea), and so any relations existing between ideas once certainly perceived can be taken to exist forevermore (this, incidentally, accounts for Locke's view that all knowledge by definition is necessary and universal--if it were not, it would have to be because ideas are prone to change). Thus the proof one has of demonstrated truths in habitual knowledge is not the original proof, consisting of chains of perceptions of agreements and disagreements, but rather depends upon the premise that

what was once true in the case is always true; what Ideas once agreed will always agree; and consequently what he once knew to be true he will always know to be true, as long as he can remember that he once knew it. (IV i 9)

For Locke, then, the proofs of habitual knowledge (the intervening ideas which allow us to perceive the agreement or disagreement between two given ideas) are different from the proofs of the same truths in the original acquisition of that knowledge. Proofs of the former type are something like: I once before perceived this agreement (or disagreement), and so since ideas and their relations are immutable, I now perceive these two ideas to agree (or disagree). Although the form of the proof for habitual knowledge is different from the form of proofs in knowledge as originally, their foundations are identical. In every case, knowledge ultimately amounts to the perception of agreement or disagreement between ideas.

In every case, then, according to Locke, regardless of what is known or how our certainty is accomplished, knowledge is nothing more than the perception of agreement or disagreement between ideas. The more immediate the perception of the relation between those ideas, the clearer and more perfect our knowledge. Also, the closer to the mind's own nature the ideas involved are, the more immediate is our perception of them, and the greater is the possibility of knowledge concerning them. In illustration of this latter point, consider the kinds of things regarding which Locke believes our possible knowledge to be extensive, and the kinds of things regarding which he is sceptical of the possibility of our enlightenment. First of all, we have intuitive knowledge of those ideas whose natures carry
with them certain relations and connections which attend the very conception of them. They are ideas such as that of a "right-lined Triangle", which "necessarily carries with it an equality of its Angles to two right ones" (IV iii 29). The knowledge which we can have immediately and perfectly clearly, then, is that which springs from our ideas themselves, so that if nothing in the world existed but our consciousness we could still possess it.

Thus Locke is optimistic about our ability to have knowledge of purely mental entities, the things he calls modes, which may be either simple or mixed. By 'modes' Locke intends

...such complex Ideas, which however compounded, contain not in them the supposition of subsisting by themselves, but are considered as Dependences on, or Affections of Substances; such are the Ideas signified by the Words Triangle, Gratitude, Murther [sic], etc. (II xii 4)

Simple modes, according to Locke are "contained within the bounds of one simple Idea," (II xii 5) as is the case with 'inch' 'hour,' 'slide,' 'loud,' 'sweet,' etc. Mixed modes, on the other hand, include such things as "obligation, drunkenness, a lye, etc. which consisting of several Combinations of simple Ideas of different kinds" (II xxii 1), rather than simple ideas of just one kind.

The crucial element in Locke's confidence about our ability to have knowledge concerning modes is the fact that we have "adequate ideas" of them. By 'adequate' he means that our ideas of them

perfectly represent those Archetypes, which the Mind supposes them taken from; which it intends them to stand for, and to which it refers them." (II xxi 1)

In the case of mixed modes, since they are collections of ideas put together by the mind itself and make no reference to objects existing independently of the mind, our ideas are identical to their archetypes. Thus these ideas could not possibly be other than adequate. And when our ideas of something are adequate, it seems that, in principle at least, nothing other than
our own lack of effort could hinder our perception of their agreement or disagreement with other adequate ideas.\textsuperscript{41}

Of substances, on the other hand, things existing independently of our minds, our knowledge on Locke's view is so limited that he declares that although the study of substances and their qualities and powers makes up a "weighty and considerable" part of science, our knowledge of this subject matter "is yet very narrow, and scarce any at all" (IV iii 10). In order to explain this preponderance of ignorance, let us once again appeal to Locke's concern with the adequacy of our ideas.

Our ideas of substances, contrary to our ideas of modes, have their archetypes not in the mind itself, but in independently existing bodies. For although we wish to copy in our ideas precisely what is before us we cannot, for we cannot perceive that upon which those properties that we experience depend. Thus Locke says that in attempting to represent to ourselves the nature of substances "as they really do exist," our ideas "attain not that Perfection we intend: We find they still want something." (II xxxi 3) Paralleling, the impossibility of inadequate ideas of modes, then, in Locke's view is the impossibility of adequate ideas of substances.

Two interrelated but evidently at least somewhat different lines of thought appear to underlie this view of Locke's. He first of all seems to argue that the reason we can never perfectly represent to ourselves the archetypes of our ideas of substance lies in the very nature of this type of idea:

\textbf{The Ideas of Substances are such combinations of simple Ideas, as are taken to represent distinct particular things subsisting by themselves; in which the supposed, or confused Idea of Substance, such as it is, is always the first and chief. (II xii 6)}

The major contributor to our lack of knowledge about substances, then, according to this argument is the fact that "the first and chief" part of our idea of any particular substance is the general idea of substance, which is only a vague and confused supposition:
...if any one will examine himself concerning his Notion of pure Substance in general, he will find he has no other Idea of it at all, but only a supposition of he knows not what support of such qualities which are capable of producing simple ideas in us...(II xxiii 2)

Thus our idea of a particular body for Locke turns out to be "nothing but certain Collections of simple Ideas united in one Subject," (IV iii 9) with that subject itself an inference, a uniter of qualities which we suppose to exist in the thing, "not imagining how these simple Ideas can subsist by themselves." (II xxiii 1) The chief part of our idea of substance must, then, be added by the mind. It cannot come from experience, since substance is that which supposedly underlies and unites a number of sensations or reflections, which themselves are the constituents of our experience. Put simply, the idea of substance must be supplied by the mind, since it is impossible to perceive through experience that which underlies experience.42

The other, related approach Locke appears to use for explaining the impossibility of our attaining adequate ideas (and thus knowledge) of substance begins from the concept of real essence. The real essence of a thing, according to Locke, is

...that real constitution of any Thing, which is the foundation of all those Properties, that are combined in, and are constantly found to co-exist with the nominal Essence; that particular constitution, which every Thing has within it self, without any relation to any thing without it...

...the real Essence is that Constitution of the parts of Matter, on which these Qualities, and their Union, depend... (III vi 6)

The real essence of something, then, is what makes it what it is. With modes it is clear that we have full knowledge of real essences, since those essences are determined by our own wills. The real essence of 'murder,' for instance, is just that set of ideas which we decide will constitute the idea of 'murder' and set it apart from all others. With substances, however, the situation is different, for their being depends upon something outside ourselves which we cannot completely penetrate with our intellects. Thus we cannot adequately represent to ourselves their real essences. If we could attain adequate ideas of the real essences of bodies, though, and represent to ourselves the inner constitutions upon which their properties
depend, it seems evident that in Locke's opinion the degree of our possible knowledge would increase dramatically:

Had we such ideas of substances as to know what real constitutions produce those sensible qualities we find in them, and how those qualities flow from thence, we could, by the specific ideas of their real essences in our own minds, more certainly find out their properties, and discover what qualities they had or had not, than we can now by our senses (IV vi 2)

It is not clear, however, that our knowledge of substance could ever be for Locke as extensive as our knowledge of modes. The passage above certainly makes no such claim: it only declares that we could, if we knew the inner constitutions of bodies, know more about them than we now know by the senses. Although it has been argued that Locke maintains that, given the knowledge of real essences, we could achieve a demonstratively certain science\(^3\), it seems that this may not be the case. For we must not forget the first problem we mentioned with regard to knowledge of substance--the fact that our idea of any particular substance includes (indeed, the "first and chief" part is constituted by) the vague, indeed the supposed, idea of substance in general. In order to bring substances fully within our grasp, it appears that this idea would have to achieve some status other than that of a supposition.

Since a full investigation of this point is beyond the scope of the present project, we will not elaborate upon it at any length.\(^4\) Some insight into this issue may be provided, though, by calling attention to the fact that the idea of substance for Locke according to the second treatment listed above not only is not, but in fact cannot be, acquired through either sensation or reflection. It rather must according to that account be supplied by the mind, in order to render our experience coherent. This implies that Locke might consider full knowledge of the natures of bodies impossible, even granted microscopes sufficiently strong to perceive their inner constitutions. If that account is true, although we would no doubt gain much knowledge regarding the properties and interactions of bodies given knowledge of their inner constitutions, we perhaps could not on his view ever gain the kind of knowledge of substances that we have of modes, because we could not see how certain constitutions produce just the qualities and powers they do. We would rather perceive only
constant correlations. The mind on such a reading would still need to add the supposition that "in some way" this constitution underlies these particular qualities.

This suggestion is however, very rough and open to criticism, and the issue is obviously one worthy of its own investigation. Before such an investigation could settle the questions concerning the possibility, the nature, and the extent of our knowledge of substances, though, a more fundamental question regarding Locke's view must be answered. It is to this foundational issue that I now turn: We must attempt to discover the mind's exact role in knowledge acquisition; for if we are to understand Locke's view of the limits of our possible knowledge, we must render as explicit as is possible in what ways and to what degree he believes the mind to be responsible for its knowledge.

We have seen Locke declare that the idea of substance must be supplied by the mind in order for us to make sense of the qualities which bombard our senses, since we cannot imagine how these ideas could subsist by themselves, and since we on the other hand do not directly perceive any substratum. This indicates that the mind has at least some active involvement in achieving knowledge. It does not, however, indicate to what degree Locke believes knowledge to be received and to what degree created, and it says nothing about whether or to what degree the will might be involved. Let us then consider the degree to which the mind is actively engaged in, and the amount of responsibility the mind has for, its knowledge acquisition.

At one end of the range of possible readings of Locke regarding the mind's involvement in acquiring its knowledge are the views of what have been called the "traditional" critics. This group includes all those who have, at least since A. C. Fraser's edition of the Essay, maintained that knowledge for Locke is not something which the mind itself creates or to which it chooses to assent; rather, according to them knowledge is simply a matter of perception. Only judgement of probabilities, according to Fraser and his adherents, is for Locke characterized by assent, knowledge is simply seeing that which presents itself. Supporting this reading are the facts that Locke does indeed define
knowledge as perception, and that he clearly characterizes this perception in several places as passive. He says for example that

If there be Sight in the Eyes, it will at first glimpse, without Hesitation, perceive the Words printed on this Paper, different from the Colour of the Paper: And so if the Mind have the Faculty of distinct Perception, it will perceive the Agreement or Disagreement of those Ideas that produce intuitive Knowledge. (IV ii 5)

It seems from this that Locke may wish to portray (intuitive) knowledge of truth as passive, in the same sense that vision can be said to passively perceive that which is set before the eyes. The mind, like the eyes, just operates according to its natural receptive capacity. One evidently does not according to Locke assent or withhold assent, that is, one does not exert one's will in perceiving a truth, once two ideas are considered together; rather, Locke seems to maintain that the truth appears to one, whether one wishes it or not.

Further supporting this reading is Locke's statement concerning intuitive knowledge that

the Mind is at no pains of proving or examining, but perceives the Truth, as the Eye doth light, only by being directed toward it. (IV ii 1)

By the mere exposure to some truths, then, the mind becomes enlightened by them.

Continuing in this vein, Locke declares that this kind of knowledge

forces itself immediately to be perceived, as soon as ever the Mind turns its view that way; and leaves no room for Hesitation, Doubt, or Examination, but the Mind is presently filled with the clear Light of it. (IV ii 1)

Depending heavily upon the analogy of knowledge to vision, the traditional view thus maintains that for Locke the perception called knowledge is as unavoidable as it is irrefutable. In intuition the mind cannot help but see the agreements or disagreements between its ideas, and in demonstration, the mind is "made to see" the truth of certain propositions. On the traditional reading, then, knowledge for Locke is something received passively (at the very least, independently of the will), and not something created, for rather
than determining for itself what its truths will be, the mind appears to be, like the eye, simply an observer of the agreement or disagreement of the ideas it considers.

Even if Locke's understanding of knowledge is taken to closely parallel his model of vision, though, and the mind cannot but see the truth of certain propositions once attention is focused upon them, knowledge acquisition is not conceived of on the traditional view as a completely passive occurrence. Gibson, for instance, although embracing the 'traditionalist' conception of Locke's notion of knowledge, points out that, rather than being completely determined to the knowledge it will acquire, the mind can decide toward which ideas and with what degree of attention it will turn its gaze, so that "both the objects of our consideration and the extent to which they occupy our thoughts are under the influence of our will." But, Gibson continues, "given the ideas and the application of the mind to them, the matter passes from our control".\textsuperscript{47} Thus the will's only contribution to attaining its knowledge on this reading is, parallel to the eye's function in vision, in determining in which direction we will look and with what amount of attention. From that point forward, knowledge is simply a matter of perceiving what is before the mind.

This determining of the direction and intensity of our gaze is, however, for Locke no unimportant matter. Consider for example the activity of demonstration, the linking together of intuitions so that the mind can be made to see the agreement or disagreement between two ideas which it could not perceive immediately. Whether or not we direct our attention to these intermediary ideas and their links is, even on the traditional reading, a matter of the will. Thus the third of the causes to which Locke attributes our ignorance is our own failure to trace our ideas through the intermediaries which would allow us to perceive their agreement or disagreement with each other. Due to this failure, he says,

...many are ignorant of mathematical Truths, not out of any imperfection of their Faculties, or uncertainty in the Things themselves; but for want of application in acquiring, examining, and by due ways comparing those Ideas (IV iii 30)
Failure to attain knowledge, then, seems in Locke's estimation often simply the result of laziness. We just do not apply ourselves to the sometimes difficult task of tracing our ideas sufficiently to find their agreements or disagreements. Locke charges further that sloppiness, a lack of discipline, often contributes to our failure to acquire knowledge. Thus he remarks that "that which has most contributed to hinder the due tracing of our ideas" is "the ill use of words", whereby the relations between our ideas are obscured rather than illuminated. It is impossible to discover the relations between ideas, he says, while allowing our thoughts to "flutter about," employing "Words of undetermined and uncertain signification" rather than the ideas themselves. (IV iii 30) All these charges appear to imply that on Locke's view the will is quite active in knowledge acquisition, and thus we bear a great deal of responsibility for the extent and content of the knowledge that we attain or fail to attain.

From what we have seen, then, two things seem clear about the traditional readings of Locke: first, it is evident that on these interpretations the mind for Locke has no control over the truth that it comes to know, once it considers certain ideas, since the agreements or disagreements between our ideas are not matters of the will. Second, it seems equally evident that on each of the interpretations we have seen, the mind for Locke plays an essential role in both creating the possibility for human knowledge, through its determinate faculties, and in determining the content of its knowledge, since it can turn its attention toward or away from any ideas it wills. Thus even a traditional reader of Locke's epistemology notes that

In the intellectual as well as in the material world, labour is the condition for legitimate appropriation. At first we possess nothing but the reasoning faculties, by which we have to gain the kingdom of knowledge as far as it is suffered for finite and imperfect being to explore its domains.48

Some critics, though, have gone even further in their claims about the mind's responsibility in attaining knowledge. Georges Moyal, for instance, argues that for Locke not only our labor, but indeed our active assent, is involved in the acquisition of even intuitive knowledge. Distinguishing himself from the traditional view, Moyal argues against Fraser's
contention that assent for Locke is involved only with judgment, and plays no part in acquiring knowledge. Moyal's claim is that the traditional view of Locke's epistemology, which as he understands it conceives knowledge acquisition to be a matter of passive perception from which "mental activity is absent," cannot be correct if Locke's positive view of knowledge is to be consistent with his own arguments against innatism.48

Locke's main charge against innatism, according to Moyal and certain others50 is that one could on that view have "engraved upon one's mind" certain propositions which one would naturally and certainly affirm, but which were in fact false. An essential element for insuring the truth of our knowledge on Locke's view, Moyal thus argues, is the prevention of any automatic and unavoidable affirmations. Fundamental to any epistemic position that would be acceptable, then, according to Locke's own criterion for certain knowledge, is the element of assent. There must, in short, be a role for the will.

It is Moyal's claim, then, that "though Locke may have consciously adopted the "passive" account of the intellect, he says enough to invalidate it." That is, although it is unarguable that Locke often presents knowing in terms of the analogy to vision, on Moyal's reading Locke's true concerns, as they come out in both his criticisms of innatism and his positive arguments for an empiricistic epistemology, preclude for him a passive, receptive view of the intellect. Indeed not only is Locke in fact on Moyal's view in favor of an activist, will-involved account of knowledge acquisition; he moreover must hold such a view, if he is to avoid in his own theory vulnerability to the very charges he levels against theories of innateness in the first book of the Essay.

This is not to say that Locke ever explicitly makes the point that the innateness of propositions would give no guarantee of their truth, let alone of their necessary truth; in fact, he does not. This omission, however, according to Moyal "does not entail that he was unaware of" this point. Indeed, Moyal declares that

it is on the basis of some form of his own ethics of belief that, in the closing sections of Book One, he condemns those who by-pass an actual examination of the evidence in support of a proposition, and who prefer to accept it as true on the sole assurance of its innateness.
If Locke's conception of knowledge is understood in the traditional manner, as modelled on visual perception, Moyal argues, then the same kind of determinations will be at work in our perceptions of certainties as are presumed by innatists to be at work in our recognition of innate knowledge. That is, the mind will be so constructed that it cannot help but accept as true certain propositions. The only difference between Locke and the innatists in this case, Moyal maintains, would be that while the innatist "postulates a small number of these determinations, directed at a small number of propositions," Locke's view would include "only a single determination of the mind to assent to a nearly infinite number" of propositions.  

If Locke is to escape this similarity to the innatists, if he is to truly have our certainty of truths residing in the truths themselves, in "the nature of things," rather than in the psychological determinations of the mind, he must according to Moyal include some role for assent, even with regard to self-evident truths. There must be some break between perception and acceptance of propositions, some place for the "actual examination of the evidence in support of a proposition."

Against Moyal's argument it must be noted, however, that the only determinate faculties of the mind Locke mentions in connection with the intuition of self-evident truths (the type of knowledge acquisition which most occupies Moyal) are those of perception and distinction. These faculties, though, it seems are precisely the ones which would be used to examine the natures of our ideas. Since these ideas are themselves the only evidence needed to support those self-evident propositions of which we can achieve intuitive knowledge, it is questionable whether Moyal's objection to the traditional view would withstand close scrutiny.

Perhaps Moyal has responses to this kind of objection, which admittedly is only a suggestion roughly sketched. Since, however, evaluation of Moyal's view is not essential to our present task, it will be sufficient for our purposes to note that Moyal provides us with one end of the range of possibilities for the degree to which Locke may hold the mind responsible for knowledge. The other end of the range would be the conception, accepted by
no critic of note, of the mind as truly a blank slate, with no determinations. In between these two, as we have seen, lie all the variations on the generally-accepted view that the determinate nature of the mind for Locke plays an essential role in knowledge acquisition, but does not itself control the outcome of that process (that is, the will is not involved). The mind can only know what there is to know: truth. This the mind cannot create, but can only discover.

Having completed at least in very broad strokes an outline of Locke's view of knowledge, we are now prepared to delve into the question of how that view compares to innatist views; in particular, of course, to the innatism of Leibniz. The process of comparison itself will serve, it is hoped, to refine at least to some extent our understanding of Locke's own views, for presenting his theory from the perspective of a contrasting one surely will reveal aspects of his theories which have not yet been considered.

For this operation, however, it will be necessary to have in mind just what Leibniz takes innatism to be. But explaining that is a task in itself, and no easy one at that, for nowhere does Leibniz put forth in a straightforward manner his conception of innateness. Rather, his theory must be pieced together from scattered remarks made in several places, the largest collection of which is to be found in his *New Essays on Human Understanding*. It will be the task of the following chapter, then, to explicate as fully as possible Leibniz's view of innateness in order that the comparison between that view and Locke's may be accomplished.
1. Although Locke defines 'notion' as a complex idea constructed by the mind without concern for whether those combinations exist together in nature (II xxii 2), he cannot intend this narrow usage of the term in the present argument, for a construct of the mind could not be imprinted by nature. Further, he states in this argument that these notions are assented to at some point; 'notion' on the more narrow definition, however, does not imply any need for assent, since such a thing is of the minds own construction, unless he means by 'assent' that the mind recognizes their logical consistency.

2. Margaret Atherton, for example, in "Locke and the Issue over Innateness" characterizes Locke's enterprise in Book I of the Essay as a demonstration that theories of innateness are either unintelligible, or, if intelligible, obviously false or trivially true." James Gibson in Locke's Theory of Knowledge (Cambridge, 1960) sees Locke's attack as a dilemma as well: "Either the theory signifies that certain ideas and principles are explicitly present from the earliest period of consciousness, or it merely asserts the existence of a generally capacity for knowledge. In the former case, it is admittedly false. In the latter case, it is totally unable to support the theory of certainty which has been reared upon it" (p. 39). Yolton as well perceives the dilemma: "For Locke there were just two alternatives. Either ideas and principles are innate in the sense of ful-blown and perfect ideas, or they can be only tendencies which arise with experience. The former is absurd and false, the latter trivial and of no consequence." Locke and the Way of Ideas (New York: Oxford University Press, 1956)

3. Gunnar Aspelin, for example, assumes that Locke criticizes a naive innatism in his "The Polemics in the First Book of Locke's Essay" in Theoria Vol. vi, Part II, 1940, pp. 109-120. Also, Jonathan Barnes remarks that the charge in Henry Lee's 1702 comment that in Book I of the Essay Locke "has no adversary" "has been regularly repeated: the true theory of innate notions is a sober philosophical hypothesis; the theory Locke gallantly assails, a drunken caricature," in his "Mr. Locke's Darling Notion" in The Philosophical Quarterly Vol. 22, No. 8, (June, 1972).

4. Douglas Greenlee makes the point that "Locke evinces neither awareness of nor an implicit concern with a distinction between a disposition to grasp a meaning as distinguished from a capacity to understand the meaning. Apart from lacking the suggestion of a potential for growth, the concept of a disposition differs from that of a capacity in the suggestion of a fixed way of behaving." See his "Locke and the Controversy over Innate Ideas" in the Journal of the History of Ideas Vol. 33, No. 2, 1972, pp. 252-264.

5. Cassirer, Das Erkenntnisproblem ii. 230-1


7. R.I. Aaron presents convincing arguments in his John Locke that Leibniz and Voltaire were aware that many prominent thinkers in their country interpreted Descartes' view of innateness in the naive way portrayed by Locke, and so assumed the Cartesianists to be his target.

8. Aaron, p. 77.

9. Aaron, p. 82.


12. It should be noted that Nicholas Jolley has recently argued at book-length depth that Leibniz's intention with the *New Essays* was to refute what he takes to be materialist tendencies in Locke's *Essay*. Far from simply having repercussions for metaphysics, then, Jolley argues that metaphysical issues were the center of the difference between Locke and Leibniz. See Jolley's *Leibniz and Locke: A Study of the 'New Essays on Human Understanding'* (New York: Clarendon, 1984).

13. Lamprecht, p. 146.

14. Lamprecht, p. 159.


17. Gibson, p. 29.

18. Gibson, p. 36.

19. Yolton names Hoffding (*Geschichte der neueren Philosophie*, bd. i, p. 429) and Rivaud (*Histoire de la Philosophie*, t. iii, p. 389) as well as holding this view of Book I.


22. Aspelin, p. 117


27. Yolton, p. 65.

28. Lamprecht, p. 147.


30. John L. Jenkins, in *Understanding Locke: An Introduction to Philosophy through John Locke's "Essay"* (Edinburgh: University Press, 1983) casts Book I as one which clears underbrush as "a necessary prelude to the positive empiricist thesis to be announced in Book II" (p. 1), and Kraus in his *John Locke: Empiricist, Atomist, Conceptualist, and*
Agnostic similarly sees him as discrediting the innatist perspective generally in order to pave the way for his empiricism.


32. John Harris asserts a similar characterization of Locke's arguments of Book I, but he adds (and emphasizes, contrary to anything that Atherton would believe) that Locke also shows the innatist claim unnecessary and irrelevant to explaining our knowledge.

33. Atherton, p. 231.

34. This is different from the argument presented, for example, by John Harris in "Leibniz and Locke on Innate Ideas," *Locke on Human Understanding: Selected Essays*, ed. I. C. Tipton (New York: Oxford University Press, 1977), where he compares Leibniz's (for instance) innate knowledge with knowledge contained in a library--neither are known to that which house them. This claim is simply that that which has never been considered cannot be referred to in any usual sense as knowledge.

35. Locke wisely notes in this regard that "man would be at a great loss, if he had nothing to direct him, but what has the Certainty of true Knowledge", since that is clearly doomed to be scanty. For further discussions of these issues, see Chapters 14, 15, 16, and 17 of Book IV of the *Essay*.


37. Margaret Wilson points out in the article cited above (p. 357) that this kind of view of knowledge implies that knowledge can only encompass things of which one has completely understood, determinate ideas. This suggests, oddly enough, that one could never have knowledge even of the identity of an indeterminate idea, such as the idea of God, with itself.

38. Locke sometimes speaks of ideas as in things outside of us and sometimes as in our minds. But since his ambiguity in the use of the term 'idea' has significant impact on the relation of his view to Leibniz's, we will reserve discussion of it until Chapter 4.

39. Margaret Atherton reads Locke this way in her discussion of habitual knowledge in her paper cited earlier, "Locke and the Issue over Innateness", (p. 231).


41. We must grant, however, that attaining adequate ideas of certain modes may be exceedingly difficult, and that some people may not have the talent or mental fortitude necessary for perceiving certain agreements or disagreements, as is often the case with very difficult mathematical deductions, etc. Nevertheless, according to Locke's system, any time we do possess adequate ideas, there is nothing in principle to preclude our perceiving their agreement or disagreement.

42. This seems to imply, of course, that the idea of substance is acquired neither through sensation nor reflection, which contradictory to Locke's stated view that all ideas come through either sensation or reflection. The problem of Locke's evidently self-contradictory position on the issue of substance is discussed by Mandelbaum in his
Philosophy, Science, and Sense Perception: Historical and Critical Studies (Baltimore: Johns Hopkins Press, 1964), pp. 59-63. Also see Jonathan Bennett’s discussion on pp. 59-63 of his Locke, Berkeley, Hume: Central Themes (Oxford, Oxford University Press, 1971). Loeb points out, in perhaps the most clear discussion of all, that Locke exhibits two tendencies with regard to the idea of substance as substratum: his official position in the Essay is that we in fact have no idea of substance in the sense of a substratum at all; on the other hand, in response to Stillingfleet’s criticisms Locke writes that we do have a vague and confused idea of substance "...made up of the general idea of something, or being, with the relation of a support to accidents." (Loeb, p. 81) We just have no "Particular distinct positive" idea of it (Essay, I iv 18) The result for our knowledge of substances is the same, either way Locke argues.

43. Louis Loeb thus argues in an attempt to show that the rationalist/empiricist distinction does not work that for Locke if we could get knowledge of the real essences of substances we could have an a priori demonstrative science. See Loeb’s From Descartes to Hume: Continental Metaphysics and the Developement of Modern Philosophy (Ithaca: Cornell University Press, 1981).

44. For a full discussion of these and related matters, see Susanna Goodin’s as yet unpublished dissertation Locke’s Scepticism Concerning Natural Science (Rice University, 1990).

45. Whether ‘perception’ should ever be understood in terms of passivity is, we should note from the outset, at the very least contentious, for Locke clearly states early on in Book IV of the Essay that "'Tis the first Act of the Mind, when it has any Sentiments of Ideas at all, to perceive its Ideas, and so far as it perceives them, to know each what it is, and thereby also to perceive their difference, and that one is not another." (IV i 4, emphasis mine)

46. See Fraser’s edition of the Essay, Vo. 1, p. 40, n. 1.

47. Gibson, p. 127.


Chapter 3

The task of this chapter is to explain how Leibniz understands innateness. It will be necessary in fact to show that Leibniz actually possesses a coherent notion of innateness, since one opinion popular among some critics (Nicholas Jolley and Anthony Savile, to name two) is that he does not maintain any consistent doctrine on the subject at all. According to these critics, Leibniz both shifts senses of 'innate' (on Savile’s reading, in order to respond to Locke’s various arguments against the doctrine) and uses vague language in the expression of his various claims about the nature of innateness. As a result, Jolley finds at least three different innateness theses in Leibniz’s discussions of the subject, while Savile (dis)credits him with four. When worked out fully, these critics charge, Leibniz’s multiple theses concerning innateness prove to be inconsistent. Thus they maintain that Leibniz is confused, lacking in his own thought a well-defined, coherent conception of that doctrine which he makes it his business to defend against Locke’s critique.

In this chapter I will counter such opinions. Although it is complex, and thus requires a substantial amount of unravelling, I will argue that Leibniz does have a single, consistent view of what it means to have both innate ideas and innate knowledge. Once properly understood, I will show that Leibniz reveals himself not to be confused, but rather to assume a number of apparently conflicting notions and theses, which on deeper analysis can be demonstrated to work together to form a view of innateness which not only coheres internally, but proves to be quite in line with his other doctrines as well.

1

From the beginning, though, it must be admitted that critics are right that if Leibniz is to be credited with a unified view of innateness, it will have to be one which can be abstracted from a variety of apparently disparate theses. We shall have to deal, for example, with the famous Leibnizian doctrine that all ideas in one sense are innate. This sense of the
term stems from Leibniz's metaphysics; specifically, it is related to his famous "no windows" thesis.

According to this doctrine, monads are simple substances which are never causally affected by external finite entities. Human beings, then, which are on Leibniz's understanding monads of a very specific type, cannot be caused to have ideas by any objects outside the soul. Leibniz says that all the thoughts a soul can ever have must "come from its own depths and could not be given to it by the senses" (NE, p. 74). Souls are programmed, as it were, upon their creation to have all the ideas that they will ever have, in the sequence they will have them, so that their perceptions will harmonize with the material world outside them without their being affected by it.

Although Leibniz's no windows thesis's significance extends beyond his philosophy of mind, Savile suggests that in The New Essays Leibniz uses this conception of innateness specifically for the purpose of correcting a problem he sees with Locke's model of the mind. The problem concerns Locke's characterization of minds as blank slates prior to sense experience. If such were the case, then there would be no way on Leibniz's view to account for the existence of more than one mind. According to Leibniz's principle of the Identity of Indiscernibles, no two things can exist both separately and identically. If, however, minds are blank tablets prior to sense experience, then they must in that state all be identical. Since for Leibniz identical things must be the same thing, it seems evident that if minds are ever blank slates, then all minds in that condition are the same mind.

By maintaining that everything an individual will ever think is already "in his mind" at his creation as a preprogrammed sequence of perceptions not yet unfolded, Leibniz can provide for the existence of distinct minds prior to sense experience. Each mind is created as an entity determined by its creator to have a unique sequence of perceptions. Thus according to Savile, Leibniz establishes through the use of this metaphysical conception innateness, which Savile calls 'type-1 innateness', the existence of distinct minds prior to sense experience.
Leibniz's argument for this type of innateness, however, Savile says is inconsistent with another major element of his view. If innateness is to serve the purpose of avoiding identical minds, an innate characteristic "cannot be universal, for if it were it would fail to distinguish one person from any other." Thus in order to do their job, Leibniz's innate ideas must not only not be universal; indeed, Savile notes that "they must be absolutely unique." On the other hand, however, innate possessions in the sense Savile calls 'type-3 innateness', in order to serve their purpose of explaining our knowledge of necessity must be of "guaranteed universality". Leibniz's metaphysical conception of innateness, then, Savile charges, is inconsistent with the notion he employs for epistemological purposes.

Savile's objection can be sidestepped, though, by keeping separate metaphysical and epistemological issues. The sense of innateness stemming from Leibniz's desire to distinguish minds is admittedly not the same as the sense of the term which refers to that which allows us knowledge of necessary truth. That does not seem to be a problem, though, for Leibniz evidently excludes the metaphysical sense of innateness from the epistemic discussion in the New Essays, announcing early on that he "shall set aside the inquiry into that, and shall conform to accepted ways of speaking". (NE, p. 74) Leibniz thus apparently at least believes himself to make a distinction between the innate and the non-innate which is independent of his metaphysical views. He says that

even within the common framework, speaking of the action of the body on the soul...one should...say that there are ideas and principles which do not reach us through the senses, and which we find in ourselves without having formed them, though the senses bring them to our awareness (NE p. 74).

That Leibniz can work entirely "within the common framework" requires proof, however, for he is such a deeply metaphysical thinker that he often brings his assumptions about the underlying nature of reality into the most mundane of discussions. Almost unconsciously he seems to slip his deep metaphysics into his discourse on practically every subject. Witness, for example, the many times that the pre-established harmony enters as a premise into discussions of physical science. Even more obvious, as will be revealed below,
is the connection between innate ideas and knowledge and the special place of human souls in the created universe. Nevertheless, it is my contention that an epistemic interpretation of the theory of innateness can be found for Leibniz which is distinct from, although compatible with indeed intimately connected to, his metaphysics.

Even if we agree, though, that Leibniz can and does "set aside the inquiry to that" and "conform to accepted forms of speaking" (NE, p. 75), with regard to the sources of knowledge, it is nonetheless undeniable that Leibniz discusses innateness in several different ways which are not obviously consistent. He refers to that which is innate as ideas and knowledge gained through reflection, as dispositions, as "virtual" or "implicit" knowledge, and as ideas and knowledge whose "source" is in the soul.

The foregoing indicates a further complication--that Leibniz speaks both of innate ideas and of innate knowledge, each of which seems to require an individual account. 'Knowledge' as Leibniz uses the term when addressing Locke on its nature and extent is propositional. Speaking more generally, however, he says that knowledge "is involved in ideas and terms before we come to propositions and truths" (NE p. 355). Since, however, ideas and propositions are two different kinds of things, Leibniz remains in the position of claiming the innateness of (at least) two distinct kinds of entities, which implies a requirement for our own analysis of a separate inquiry into the arguments for each. The task of providing Leibniz with a coherent doctrine of innateness thus promises to be anything but simple. Nevertheless, we begin.

2

One thing Leibniz states about innate knowledge and ideas (each of these will be treated individually below, but at the outset at least they may be discussed together) is that they are

ideas and principles which do not reach us through the senses, [but] which we find in ourselves without having formed them, though the senses bring them to our awareness (NE p. 74).
Innate ideas and principles for Leibniz are thus ideas and principles which are neither constructed by the mind nor are brought into the mind from the outside, but are rather things which can be found within the mind, or soul, itself. In other words, innate items are marked by the fact that "the mind is capable not merely of knowing them, but also of finding them within itself." (NE p. 79)

Just what Leibniz intends with the claim that the mind is capable of finding these ideas and principles "within itself" is, however, precisely the difficulty. What does he mean when he states that things can be "found in the soul"? Before undertaking to interpret the meaning of this phrase, we should take a moment to point out its significance. According to Leibniz, possession of the innate principles which allow us to discover and perceive the necessity of necessary truths is one characteristic which distinguishes human souls from those of beasts. That which is divinely implanted accounts for the unique ability of humans to reason beyond our experience.

In order to explain this position of Leibniz's, we must establish a few preliminary facts. First of all, in Leibniz's system all monads perceive, even those which do not count as minds of any kind; the distinction between spirits (or minds--Leibniz uses the two terms interchangeably) and all other monads is the nature of their perceptions, not whether they perceive. Thus he makes the following distinction: "only those should be called souls in which perception is more distinct and accompanied by memory." Perception, then, which belongs to all monads alike, "must be carefully distinguished from apperception or consciousness," which belongs to souls alone. Only souls have conscious perceptions and the ability to remember those perceptions.

Among those monads which count as souls, only some possess in addition to this consciousness the faculty of reason. These monads, called 'spirits' or 'minds' are the ones which possess the innate characteristics Leibniz believes essential for attaining knowledge of necessity. Knowledge of necessity, everyone will agree, cannot come through experience, for experience can only provide the particular information of instances. Thus if knowledge of the connections between those instances is possible, it must be due to something which exists
in us (this will be discussed much more fully later in the present chapter). Because they lack this particular set of innate possessions, animal souls, although they may be said to know, cannot know in the way in which human souls can know:

While men are capable of demonstrative knowledge, beasts, so far as one can judge, never manage to form necessary propositions, since the faculty by which they make sequences is something lower than the reason which is to be found in men. The sequences of beasts are just like those of simple empirics who maintain that what has happened once will happen again in a case which is similar in the respects that they are impressed by, although that does not enable them to judge whether the same reasons are at work. The sequences of beasts are only a shadow of reasoning, that is, they are nothing but a connection in the imagination... (NE p. 50)

In addition to simply perceiving that certain ideas or events are associated, human souls thus on Leibniz's view possess some further faculty or faculties which allow them to form necessary propositions concerning the ways in which those ideas or events are connected. That this ability represents for Leibniz something more than a difference in the degree of intelligence of beasts and men seems clear, for he maintains that

...the stupidest man (if he is not in a condition which is contrary to nature, through illness or some other permanent defect which plays the part of an illness) is incomparably more rational and teachable than the most intellectual of all the beasts (NE p. 473, emphasis added).

Evidently, then, for Leibniz that which is "in the soul" of any human being qua human being is enough to distinguish it in kind, not just in degree, from the soul of even the most intelligent of animals, since it allows human beings not only to recognize that certain things have been connected in certain ways in experience, but to know as well why they must always be connected in precisely those ways. Innate possessions in short appear to be responsible for the human ability to reason, which alone he says "is capable of establishing reliable rules" and of "finding unbreakable links in the cogency of necessary inferences", which "often provides a way of foreseeing events without having to experience sensible links between images, as beasts must." (NE, p. 51) Possession of innate knowledge and its resulting uniquely human reason seems, then, of the greatest importance to Leibniz.
Indeed, this particular feature of human souls according to Leibniz indicates something highly significant about their special role in God's creation. While this will be discussed at greater length in later portions of this chapter, let us for the moment at least take note of Leibniz's remark that

\[\text{Intelligences or souls capable of reflection and of knowing the eternal truths and God have many privileges which exempt them from the upheavals of bodies...All things have been made principally for them.}\]

From this it appears that the doctrine of innateness, which provides for human beings knowledge different in kind from that allotted other types of minds, carries for Leibniz much greater significance than that of a mere epistemological doctrine. For him, as for many others on both sides of the innateness issue, the doctrine carries important implications for his views concerning the very nature of reality.

I have said, however, that in spite of Leibniz's propensity to bring metaphysics into virtually every discussion, a purely epistemological interpretation is available for his doctrine of innateness. Let us, then, begin the outline of that interpretation, turning first to the question of what Leibniz means when he describes the innate as that which has its source "in the soul." First of all, Leibniz could intend that innate ideas and principles are contents of the mind which are "the remains of an earlier explicit knowledge", as Socrates suggests is the case in Plato's Meno. This possibility is easily disposed of, however, since Leibniz himself states that "there is no foundation for this opinion." (NE, p. 78) In addition to the usual appeal to the eternal regress that such a doctrine generates, Leibniz makes the remark that

...it is always manifest in every state of the soul that necessary truths are innate, and that they are proved by what lies within, (NE p. 79, emphasis added)
indicating that he believes that not merely is there certain information within the soul, but that there is moreover some kind of source of proof of the truth of that information as well. If innate ideas and principles were simply "left over" from some earlier knowledge, there is no reason to think that within the mind would be the source of that which could prove it true as well. But Leibniz states clearly that the truth of our innate knowledge is proved by our innate possessions, and so this possible interpretation is eliminated.

It does seem, though, at least prima facie, that Leibniz could conceive of the innate as a body of not only internally coherent, but also mutually justifying ideas and principles actually existing in our minds, which happens also to be completely consistent with the world of our experience. This would imply that what is innate in Leibniz's view is a body of actual, fully formed but somehow hidden knowledge which we recognize and affirm sometimes consciously, but sometimes consult and affirm only unconsciously.

Jolley has suggested such a reading of Leibniz. On this view, 'virtual knowledge' is for Leibniz to be contrasted with 'express knowledge'. That is, the innate knowledge which Leibniz declares is in us "virtually" is knowledge which we affirm unconsciously. In illustration of what he thinks Leibniz means by this distinction, Jolley brings in Leibniz's comparison of the use of innate knowledge to the suppressed premiss of an enthymeme. Leibniz says that the way in which we use certain of our knowledge

is rather like the way in which one has virtually in mind the suppressed premisses in enthymemes, which are omitted in our thinking of the argument as well as in our outward expression of it. (NE p. 76)

From his criticisms, it seems evident that what Jolley thinks Leibniz asserts at least some of the time is that we unconsciously affirm innate principles whenever we use them, just as we implicitly or unconsciously affirm premisses in the use of enthymemes. Jolley points out, however, that this use of 'implicit' is not uniformly applicable to all cases Leibniz would wish to call instances of innateness. For example, Jolley believes that 'implicit knowledge' is used in one way when Leibniz likens it to missing premisses in enthymemes, which we use "without having them explicitly in mind". The term means something quite
different, though, Jolley argues, when Leibniz declares it a mistake to oppose an axiom ('a thing is what it is [and nothing else]') to its instance ('the sweet is not the bitter') as a separate truth, advising us rather that we should regard the axiom as "embodied in the example and as making the example true" (NE p. 413).

These two cases of implicit knowledge, it thus seems clear, Jolley perceives to be significantly different. He charges that although axioms may well be incorporated in their instances, suppressed premises are certainly not in the same way incorporated in the conclusions of their arguments. Jolley cites as an example of this last claim Descartes' cogito, which Descartes himself in at least one place includes in it the suppressed premiss 'whatever thinks is'\textsuperscript{10}. But 'whatever thinks is' is certainly not to be found embodied in 'I am', in the way that 'a thing is what it is' is embodied in 'A is A'. Thus Jolley concludes that "Leibniz's conception of implicit knowledge is not very well worked out", that he is vague and inconsistent in his attempts to use it to characterize the innate.

What is worse, though, according to Jolley, is that Leibniz's portrayal of innateness as implicitness, however vague, is distinctly different from his discussion of innateness as dispositions. For, Jolley points out, having a disposition to know a proposition in no way implies that it is known implicitly. Borrowing this time from Descartes' analogy of innateness to inheritable disease, Jolley declares that there is "no sense in which the person who has a genetic propensity to contract cardiovascular disease already has that disease implicitly." This seems undeniable, and would cause enormous problems for Leibniz if he actually conceived of virtual knowledge, as Jolley believes him to, as contrasted with express knowledge.

But the argument for this interpretation is anything but definitive. For one thing, as Martha Bolton points out\textsuperscript{11}, the natural way to understand Leibniz's simile of implicit knowledge as a suppressed premiss is not as a proposition which one holds in one's mind and unconsciously affirms. Rather, the natural way to perceive a suppressed premiss is as simply omitted. The premiss is available to us, it exists as potential knowledge, and we even use it,
in the sense of having a disposition to affirm conclusions which depend upon it. None of this
implies, however, that we somehow affirm it "behind the back" of consciousness.

If we understand our use of suppressed premisses as Bolton does, no inconsistency
arises when Leibniz makes the additional statement that we should see axioms as embodied
in examples rather than as separate truths. For to say that axioms are implicit in their
examples is simply to say that they are available for us, that assuming we assent to the
instances, we would, if they were pointed out to us, agree to the axioms as well. They exist
as potential knowledge toward which we are disposed (that is, we would agree to them once
they were pointed out, and would recognize them as relevantly similar to the instances, etc.),
but which we in no way affirm, either consciously or unconsciously.

Bolton has offered convincing arguments in support of her view that Leibniz does not
have in mind unconscious affirmation of principles imprinted upon the soul when he speaks
of implicitly knowing. She cites for example the instance wherein Philalethes argues that if
there are innate truths, then there must be innate (unconscious) thoughts. Theophilus replies
to this claim:

Not at all. For thoughts are actions, whereas items of knowledge (or truths),
in so far as they are within us even when we do not think of them, are
tendencies or dispositions... (NE, p. 86)

Theophilus indicates here Leibniz's strict distinction between things which are actions
(thoughts, for instance) and things which are not (innate principles). Since innate principles
are not actions and thoughts are, innate principles cannot be thoughts, conscious or
unconscious. Bolton provides us with Leibniz's explicit statement of the nature of innate
possessions:

This is how ideas and truths are innate in us--as inclinations, dispositions,
tendencies, or natural potentialities, and not as actions; although these
potentialities are always accompanied by certain actions, often insensible ones,
which correspond to them (NE p. 52)
It seems from this passage that Bolton is correct in declaring that for Leibniz innate principles are not ones which are unconsciously affirmed, but rather are principles indicated by our dispositions or tendencies.\textsuperscript{12} On this reading, the vagueness and lack of consistency Jolley perceives in Leibniz's view disappears. If there is no unconscious affirmation of innate principles for Leibniz, then there is no difference between the cases of enthymemes and the embodiment of axioms in our knowledge of instances. Also removed is Jolley's objection that dispositional knowledge is not the same as implicit knowledge, for if Bolton is correct, to know implicitly just is to be disposed in certain ways.

Rather than seeing it as imprinted information which is affirmed, although not always consciously, then, Bolton maintains that for Leibniz 'innateness' always and simply refers to dispositions of the soul. She seems to be at least approaching the truth about Leibniz's view, for many other passages in the New Essays suggest similar things\textsuperscript{13}. For example, Theophilus says that what makes us call certain truths innate is "a special affinity which the human mind has with them." Explaining further the nature of this affinity of our minds with certain truths, Theophilus states that it is

a disposition, an aptitude, a preformation, which determines our soul and brings it about that they are derivable from it (NE p. 80)

And he reinforces the idea that we do not unconsciously affirm innate axioms when we use them when he says that

the ideas and truths which are engraved in our souls...are engraved there not in the form of propositions, but rather as sources which, by being employed in particular circumstances, will give rise to actual assertions (NE p. 447)

If what Leibniz actually says is to be taken seriously, it seems that Bolton is right that we cannot attribute to him the view that innate knowledge is occurrent knowledge which we affirm (however unconsciously) whenever we use it. Rather, it seems that innate knowledge for Leibniz does not exist in us as knowledge as that term is usually used at all, since 'knowledge' usually connotes something of which the mind is or at least was at some time
conscious, whereas in the case of Leibniz there is nothing unacceptable about the mind's possessing knowledge of which it never was and perhaps never will be aware.

It seems, however, that Bolton's proposal that innateness for Leibniz is nothing more than innate dispositions to affirm certain propositions and their logical relatives, to use certain propositions without actually affirming them, and to find within us the grounds of truth of the propositions we are disposed to affirm requires further examination. While she is evidently correct in emphasizing dispositions and is undoubtedly right in denying that the use of a proposition is equivalent to the unconscious affirmation of it, her account of innateness as only dispositions seems incomplete.

The evident deficiency in this account lies in the fact that it does not provide an ultimate grounding for the dispositions which provide the key to Leibniz's theory of innateness. Allowing his account of innateness to stop at such a point seems counter to Leibniz's usual proclivity for completeness in explanation. Although Bolton does emphasize Leibniz's remark that the potentialities within us "are always accompanied by certain actions, often insensible ones, which correspond to them," indicating her sensitivity to the fact that the dispositions she finds to be the explanation of Leibniz's innateness require some kind of foundation, the actions to which she looks to fulfill that function appear just as much in need of a foundation as do the dispositions themselves.

Of course one could argue that no further grounding than Bolton gives is either possible or necessary for Leibniz, since on his view the soul is immaterial and marked essentially by activity. Perhaps one may wish to claim that that activity itself in Leibniz's view represents the structure of the soul. Counter to such claims, however, in addition to the conceptual argument that surely the soul could not be simply activity, that there must be something more which accounts for the possibility and the existence of such activity, is Leibniz's own statement that we as souls are not merely activity, but include in ourselves as well "Being, Unity, Substance, Duration, Change, Action, Perception, Pleasure, and hosts of other objects of our intellectual ideas." (RB, p. 52)
For Leibniz, then, it seems clear that the soul is not activity alone, and it seems equally evident that we should not look to action alone to ground his view of innateness, at least if we are to suppose that his view is consistent with his well-known and "fundamental axiom" that nothing happens without a reason.\textsuperscript{14} If this axiom, which plays such a foundational role in establishing most of his views about everything from morality to physics, has a place in his epistemic views, then it seems that dispositions alone, or even the actions by which they are always accompanied, cannot be accepted as Leibniz's final explanation of innate ideas and knowledge, although there can be no doubt that they do occupy central positions in that explanation. What seems needed, in order present a satisfactory account of Leibniz's view of innateness, is a full elucidation of the structure which provides sufficient reason for the dispositions and their accompanying actions to which Bolton has so acutely directed our attention, together with an account of how Leibniz understands that structure to uphold his theory of innateness.

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In beginning our endeavor to illuminate Leibniz's view, it will be helpful to consult Harry M. Bracken's interpretation of Descartes' conception of innateness, for it is my contention that Descartes' and Leibniz's views are closely related. On Bracken's reading, to begin with, innate ideas play the ontological role of grounding truth itself, rather than accounting for the psychological apprehension of truth. That is, the fact that the ideas, and thus the principles derivative from them, have their source in the soul guarantees that these truths (as well as our certainty regarding them) are not dependent upon any instances actually experienced, but are rather of an independent and eternal nature.\textsuperscript{15}

This concern for grounding the necessity of necessary truths seems to hold for Leibniz as well as for Descartes, for Leibniz says that

\begin{quote}

it cannot be denied that the senses are inadequate to show their necessity...The fundamental proof of necessary truths comes from the understanding alone, and other truths come from experience or from observations of the senses.
\end{quote}
Our mind is capable of knowing truths of both sorts, but it is the source of the former; and however often one experienced instances of a universal truth, one could never know inductively that it would always hold unless one knew through reason that it was necessary. (RB p. 80)

This concern for grounding our certainty does not for these two thinkers appear to be purely epistemological. Bracken says that for Descartes "the role assigned innate ideas is ontological, not psychological... The eternal truths of the domain of pure knowledge need a home: Descartes places them in innate ideas and the relations among them." Leibniz as well appears to have deeper concerns than the simple feeling of assurance, for he says that if we were to rest with an "unpolished practical geometry",

we would be deprived of what I value most in geometry, considered as a contemplative study, namely its letting us glimpse the true source of eternal truths and of the way in which we can come to grasp their necessity, which is something that the confused ideas of sensory images can never distinctly reveal. RB, 452

It seems clear enough that Bracken, regardless of whether he can prove his view of Descartes, brings to light a point essential for understanding Leibniz. Leibniz does not look to the mind and its innate ideas and knowledge simply as an explanation for our psychological feeling of certainty. Rather, he sees in the soul the source of eternal truth itself.

Leibniz's intention in calling the mind the 'source' of eternal truth is not, however, easy to establish: it seems that he could mean either one of at least two very different things. On the one hand, he could mean that the soul provides the ontological structure which makes the proposition true. Anthony Savile is one critic who maintains such a view. According to Savile, the soul is on Leibniz's view the cause of necessary truths' necessity. Savile proposes an anti-realist account which maintains that for Leibniz the mind is constructed in such a way that it cannot but agree to certain propositions once it recognizes their true form--that is, the form of identity.

The mind thus on Savile's reading of Leibniz's view makes such propositions necessarily true, because it necessarily perceives them so, in much the same way that objects
for Kant are necessarily in space and time, because those are the very forms of our intuition, unavoidable in the perception of human knowers. One famous implication of understanding the mind as the source of necessary truth in this way is that can only claim to make such truths necessary for us: it leaves us justified in making knowledge claims only about phenomena. It leaves us completely uninformed about the necessity of the truths themselves.

But this cannot be Leibniz's understanding of the soul as the source of innate knowledge and truth, for he clearly intends nothing like a phenomenological view of truth; rather, he states that the ultimate foundation of all truth is that Supreme and Universal Mind who cannot fail to exist and whose understanding is indeed the domain of eternal truths. And lest you should think that it is unnecessary to have recourse to this Mind, it should be borne in mind that these necessary truths contain the determining reason and regulating principle of existent things--the laws of the universe, in short. Therefore, since these necessary truths are prior to the existence of contingent beings, they must be grounded in the existence of a necessary substance. That is where I find the pattern for the ideas and truths which are engraved in our souls. They are engraved there not in the form of propositions, but rather as sources which, by being employed in particular circumstances, will give rise to actual assertions. (NE p. 446)

Clearly then, since only God is capable of grounding eternal truth, rather than being the cause of their necessity, the mind for Leibniz seems set up to recognize necessary truths.

This brings us to a second possible meaning of Leibniz's claim that the mind is the "source" of necessary truths, and the one which I will work out fully in the following pages. Briefly, it is that the mind is that faculty which allows our perception of both the fact of and the reason for the necessity of necessary truths. On this interpretation of 'source', when Leibniz declares that we can "grasp" the necessity of necessary truths, he does not mean, as the anti-realist believes, that when we "grasp" the necessity of necessary truths, we see simply that certain propositions were for us, and will always be for us, necessarily true, because we cannot see them any other way (without ever understanding the meaning of that necessity, as Kant says that we can never hope to comprehend any meaning in the concept itself of cause and effect; rather, the concept has meaning only as applied to sense experience). Rather, he intends that our minds are of such a nature as to be able to perceive significant
knowledge about the nature of the universe, that our minds possess such characteristics as are essential to both God's truth and our comprehension of it.

If something like what I propose to defend is Leibniz's view, and we have (at least tentatively) established that Leibniz has a concern similar to Descartes' with regard to the ground of the necessity of certain truths, the question arises how it is that we become aware of them. Once again, let us begin by consulting Descartes. In the third of his Meditations Descartes says of his innate idea of God

...it must not be thought strange that God, in creating me, put this idea in my nature in much the same way as an artisan imprints his mark on his work. Nor is it necessary that this mark be something different from the work itself. From the very fact that God has created me, it is very credible that he has made me, in some sense, in his own image and similitude, and that I conceive this similitude, in which the idea of God is contained, by the same faculty by which I conceive myself. (emphasis added)

Further, in response to the twelfth article of his programme in Notes Against a Promogramme Descartes states the following:

I never wrote or concluded that the mind required innate ideas which were in some sort different from its faculty of thinking...

And again, in the same work, responding to another critic:

...that these ideas are actual or that they are some kind of species different from the faculty of thought I never wrote nor concluded. On the contrary, I more than any other man, am utterly averse to that empty stock of scholastic entities...20

It seems reasonable to conclude from this that innate ideas for Descartes are intimately tied to the act of reflection, and we may perhaps go further and conclude that these ideas are the result of such reflection. Note, however, that this is reflection not on contents of the soul as entities distinct from the soul, but on the soul itself.21 The above passage suggests not that Descartes finds the innate idea of God tucked away, preformed in his consciousness (indeed, he declares emphatically his aversion to such entities), but rather that he draws that idea out
of the ideas he perceives of his own nature. If this reading is correct, then we have some historical basis for taking Leibniz to see innate ideas as ideas of reflection.

Leibniz himself lends credence to this understanding of his view when in the preface to his New Essays he makes an explicit claim of similarity to Locke:

Perhaps our gifted author will not entirely disagree with my view. For he admits at the start of his second book, and from there on, that ideas which do not originate in sensation come from reflection. But reflection is nothing but attention to what is within us, and the senses do not give us what we carry with us already. In view of this, can it be denied that there is a great deal that is innate in our minds, since we are innate to ourselves, so to speak, and since we include Being, Unity, Substance, Duration, Change, Action, Perception, Pleasure, and hosts of other objects of our intellectual ideas? And since these objects are immediately related to our understanding and always present to it (although our distractions and needs prevent our being always aware of them) is it any wonder that we say that these ideas, along with what depends on them, are innate in us? (RB p. 51)

And this is not the only place where Leibniz indicates that innateness for him is defined in terms of reflection on the soul. Many times, in fact, he refers to innate ideas as those ideas which are acquired from reflection. Consider the following:

Is our soul in itself so empty that unless it borrows images from outside it is nothing? Why could we not also provide ourselves with objects of thought from our own depths, if we take the trouble to dig there? Which leads me to believe that fundamentally [Locke's] view on this question is not different from my own or rather from the common view, especially since he recognizes two sources of our knowledge, the senses and reflection. (RB p. 53)

...intellectual ideas, or ideas of reflection, are drawn from our mind. I would like to know how we could have the idea of being if we did not, as beings ourselves, find being within us. (RB p. 86)

...we are so to speak innate to ourselves; and since we are beings, being is innate in us--the knowledge of being is comprised in the knowledge that we have of ourselves. Something very like this holds of other general notions. (RB p. 102)

It is my opinion that reflection enables us to find the idea of substance within ourselves, who are substances. (RB p. 105)

...Someone will confront me with this accepted philosophical axiom, that there is nothing in the soul which does not come from the senses. But an exception must be made of the soul itself and its states. Now the soul includes being, substance, one, same, cause, perception, reasoning, and many other notions which the senses cannot provide. That agrees pretty well with your author of the Essay, for he looks for a good proportion of ideas in the mind's reflection on its own nature. (RB p. 111)
From this abundance of examples it seems clear that Leibniz wants to tie innate ideas to reflection on the soul. Ideas, it seems for Leibniz, are not innate in virtue of their having always existed as ideas in some form of memory, but rather they are innate in virtue of the fact that they are not acquired through contact with objects outside the soul. The objects of this particular group of ideas has always been and always will be present in the soul and therefore are immediately available for reflection (Mark Kulstad, who has exhibited sympathy to this sort reading of Leibniz's views on innateness, notes that this tie of innateness to reflection does not mean that all acts of reflection will result in innate ideas; rather, since only truths of fact can be drawn from the "confused perceptions within us", only those acts which have as their objects what he calls 'enduring properties' of the soul will result in ideas which Leibniz would call 'innate'23), and thus these ideas can properly be said to have their source in the soul, and so be deemed innate.

On this reading, innate ideas are not for Leibniz, as has been suggested, "representations that lie ready in the mind, waiting to be noticed"24. In fact, nothing lies in the mind from birth or before according to Leibniz, any more than it does for Locke; there are no innate contents of the mind at all. The only thing innate to the mind according to Leibniz is the mind itself, and that is simply the commonly held, if unconsidered, notion, rendered explicit.

We are now in a position to answer an objection posed by Jolley to the view that Leibniz intended by 'innate' the "puzzling" thesis that the innate are those items of knowledge received through reflection. Jolley states that with innate ideas and knowledge we are supposed to be dealing with the mind's contents, but the objects perceived through reflection are categorical features of the mind itself. He can hardly believe that Leibniz failed to see the difference between these two things. Considering, however, that the conflation between ideas and their objects is prevalent everywhere in 17th century philosophy, it is not nearly as difficult to believe as Jolley perceives it to be. In the sense of contents of the mind, the ideas which are innate are just those ones which are acquired through reflection upon its own innate features.
Jolley goes further in his criticism, however, and offers in an attempt to elucidate Leibniz's position "a standard objection to the account of idea acquisition on which he is commenting". The standard objection in question is that the account "explains the acquisition of an idea only on the assumption that we already have the idea". This is one half of the objection put to Socrates in Plato's *Meno* that knowledge acquisition is impossible, since if you already know what you're looking for, then there's no need to look, and if you don't know, you couldn't recognize it when you found it. Jolley concludes that Leibniz may be responding to this kind of criticism with the view that certain concepts, such as substance, find use only in examinations of the soul (for that is the only place their objects exist). But this would not in any way make these ideas innate.

It is not exactly clear just what Jolley's point is with this criticism: there seem to be at least two possibilities. On the one hand, he could be pointing out to Leibniz the self-proclaimed innatist the old innatists' argument against empiricists that experience simply cannot provide an adequate account of knowledge acquisition. If Leibniz is any kind of self-respecting innatist, Jolley could be thinking, then he should at least accept his own view's strongest argument against empiricism. If Jolley intends to make this point, though, he equivocates on the term 'innate', for 'innatist' in the sentence above refers to those who understand innate ideas and knowledge to be contents of the mind, which is by his own argument not the kind of innatist Jolley believes Leibniz to be. If Leibniz's view of innateness is that certain ideas find use in examination of the soul, then he is making no claim about the innateness of a certain set of mental representations, and he is thus not self-defeating because his is not a view inspired by *Meno*.

Jolley may not, however, be making that mistake at all. It could be the case instead that his aim is to take up the ancient innatists' argument himself as a criticism of Leibniz's (empiricistic) attempt to account for acquisition of innate knowledge through experience. But if that is the case, then Jolley has appropriated an argument to use against Leibniz's view of innateness which has long been used to argue not only against a certain understanding of the acquisition of innate knowledge, but of any knowledge whatsoever, and an argument
which is itself anything but settled. In fact, the argument has been a continuous source of controversy at least since the time of Plato, and so although it certainly may be presented as an objection to understanding Leibniz's view of innateness in terms of reflection, it is hardly a fatal one.

Even if we were to accept the suggestion that innate ideas for Leibniz are those acquired through reflection, though, someone may point out that we still have the problem of explaining his view of innate knowledge of principles. For surely reflection on the soul would not offer consciousness knowledge of principles in the same way that it provides ideas of such things as substance, being, change, etc., for the soul does not possess things like the law of non-contradiction in the same way as it possesses being. Our task thus now seems to be to provide Leibniz with a doctrine of innate knowledge that coheres with his view of innate ideas.

Bracken's suggestion with regard to Descartes that the logical connections among primitive innate ideas and their derivatives may provide a way to understand innate knowledge seems a good place to begin our investigation. According to Bracken, Descartes' doctrine of innate ideas "is posed as a thesis with respect not only to ontological simples, but also to ontological structure". That is, Bracken believes that the very ideas themselves may for Descartes carry with them certain connections which can be determined, "ideally" by "exposing to the pure understanding the deductive ties between the primitive and the derived ideas."

Something similar to the reading outlined out by Bracken finds independent support in Descartes' own writing. Prior to authoring his Meditations, for instance, Descartes said in a letter to Marin Mersenne that from innate ideas "such as the idea of God, mind, body, triangle, and in general all those which represent true immutable and eternal essences" can be drawn out things which, although implicitly contained in them, were not previously
noticed. Thus, he says, he "can draw out from the idea of a triangle that its three angles equal two right angles, and from the idea of God that He exists."28 Certain principles, then, it seems from these statements can be seen on Descartes' view to count as innate in virtue of the fact that they are implicit in innate ideas, rather than being derived from those ideas via "deductive ties" (perhaps, as we will see suggested below with regard to Leibniz, both things are intended by Descartes).

Exactly what Descartes intended with his version of innateness and even that he continued later in his career to hold any favorable view of the doctrine at all is, however, open to considerable question. Bracken admits, and it seems in fact true, especially in his later work, that Descartes is "something less than expansive" in his account of what Bracken calls "the structural element"29; that is, the element in his view which accounts for the existence of innate knowledge. Nevertheless, the very fact that Descartes' work even suggests such an interpretation of innateness is helpful to our attempts at determining how Leibniz could have understood innateness.

Further aid is lent our consideration of these issues with specific regard to Leibniz by the work of Kulstad.30 Kulstad notes that Leibniz refers numerous times to the fact that intellectual truths depend upon the intellectual ideas,31 and that he moreover declares with regard to those ideas which are said to come from more than one sense, "such as those of space, figure, motion, and rest," that they actually have their source in the mind itself, for as ideas of the pure understanding, "they admit of definitions and of demonstrations." (RB, p. 128). Based on these admittedly "fleeting" remarks, Kulstad suggests that, similarly to what we have supposed might have been the case for Descartes, Leibniz holds that the mind "recognizes relations (immediately, without deduction) among simple ideas, [and] comes thereby to conscious knowledge of propositions expressing these relations."32 These immediately recognized truths constitute Leibniz's innate primitive truths, or "first truths", from which the mind is then able to derive other, derivative truths.

On this reading, then, some innate ideas on Leibniz's view are innate in virtue of their objects being perceivable upon reflection on the soul's "enduring properties", and some
truths are innate in virtue of the relations which exist and are recognizable among the innate primitive ideas. The derivative innate ideas and truths, in turn, are characterized as innate in virtue of their being derivable from the primary ones. Thus Leibniz makes the following distinction:

On peut encore diviser les idées et les vérités, en primitives, et dérivatives: les connaissances des primitives n'ont point besoin d'etre formées, il faut les distinguer seulement; celles des dérivatives se forment par l'intelligence et par les raisonnements dans les occasions.33

And with regard to the express nature of the primary innate truths, he states in Book IV of the New Essays that

...we can say in general that all the primary truths of reason are immediate with the immediacy of ideas. (RB, p. 361)

If, as it seems from the above, knowledge of the primitive ideas and of the primitive truths is immediate, requiring only to be distinguished in order to exist, then it seems that Kulstad is correct in his characterization of Leibniz's primitive truths not as deduced from the primitive ideas, but as expressive of the inherent relations between those ideas.

It seems, then, that we now have a plausible account of what Leibniz thinks makes innate ideas and truths innate. But what is their character? With regard to the truths at least, we can safely say that they are necessarily (in a special, analogous sense, in the case of moral ones, as we will see below) true, and that the proof of their truth has its source in the soul:

...the fundamental proof of necessary truths comes from the understanding alone, and other truths come from the experience or from the observations of the senses. Our mind is capable of knowing truths of both sorts, but is the source of the former; and however often one experienced instances of a universal truth, one could never know inductively that it would always hold unless one knew through reason that it was necessary. (RB, p.80)

And then, when responding to Locke's charge that his kind of view of innateness implies that all reasonable propositions will have equal right to the name 'innate', Leibniz says

I grant you the point...as applied to necessary truths or truths of reason, which I contrast with truths of fact. On this view, the whole of arithmetic and of geometry should be regarded as innate, and contained within us in a potential
way, so that we can find them within ourselves by attending carefully and methodically to what is already in our minds, without employing any truth learned through experience or through being handed on by other people. (RB, p. 77)

Thus it appears that the source of our knowledge of the necessity of necessary truths at least (knowledge of the truths themselves it seems may be gleaned from experience) must be the soul itself, and so that much at least must be innate. That is to say, that which supplies the proof that some things must be the case while other things cannot be must be something which is grounded in the very nature of the soul. Thus, the knowledge of certain truths, the ones Leibniz calls 'truths of reason' are capable of demonstration without reference to sense experience, while knowledge of other truths, the ones which he refers to as 'truths of fact', are capable only of the kind of proof that experience can provide.

Truths of reason (in accordance with what has been stated above) can be divided into two categories: primary truths of reason, which Leibniz calls 'identities' "because they seem to do nothing but repeat the same thing without telling us anything", and derivative truths of reason, which are those whose necessity can be proved through reducing them (via substitution of definitions) to identities. Form, then, is essential to this understanding of 'necessity', for an identity is defined by Leibniz as a proposition which is of the form 'A is A' or 'AB is A', and derivative truths of reason are thus truths which can be reduced to one of these forms by the substitution of definitions. So much for Leibniz's "positive" identities. There also exist for him "negative" identities, which, he says "derive from either the principle of contradiction or from disparities." (RB p. 362) That is, they derive from the principle that a thing cannot both be and not be something (a proposition about a thing must be either true or false, and it cannot be be both). Thus, it is intuitively certain that A cannot be not-A, and so the negative form of identity is 'A is not non-A'.

The necessity of Leibniz's 'disparities' is not nearly as clear as that of identities, and in fact critics often claim that Leibniz's theory of truth in terms of identities cannot account for their necessity (but as that is far afield of my argument I will forego further discussion
of it). Disparities, Leibniz claims, are "propositions which say that the object of one idea is not the object of another idea; for instance 'Warmth is not the same thing as color, Man and animal are not the same, although every man is an animal'. These, it seems, can be 'established with certainty, without any proof, i.e., without bringing them down to an opposition...when the ideas are well enough understood not to need any analysis."(NE p. 362)

It seems from this that although certainty of disparities can be gained without reducing them to identities, the basis of that certainty is their capacity to be so reduced, indicating that Leibniz intends the form of identity to be an essential characteristic of necessary truth.

This is not to say, however, that the necessity of Leibniz's necessary truths just is this form. We have seen that we must not suppose with Savile that the truths which the mind is set up to see as necessary are nothing more than propositions which possess either implicitly or explicitly a certain form, although in extension it appears that Savile's understanding of Leibniz's view of necessary truths is correct. Nevertheless, form alone does not capture the entire meaning of 'necessity' in Leibniz's view. From whence, if Savile's reading were accurate, would the necessity of necessary truths arise? If form were Leibniz's sole intention for 'necessary truth', then the question of their necessity would merely be pushed back a step (to "why is that form rather than some other necessarily indicative of necessity?")}, which seems an unlikely resting place for Leibniz, who holds fundamentally that there is a reason for everything.

Mere possession of the form (either explicitly or implicitly) of an identity, then, although a mark of it, does not alone constitute Leibniz's notion of necessary truth. Margaret Wilson notes that Leibniz perceives that 'necessary' has a meaning in addition to the sense that its falsehood is impossible. As Wilson points out, Leibniz also considers the principle of non-contradiction necessary on the old Aristotelian ground that "if there is to be meaningful discourse (reasoning), the affirmation of any statement must be taken to exclude the denial" of that statement. 35 That is to say, the principle is necessary in the sense that we cannot do without it.
Now, this is not to assert simply that the principle of non-contradiction is necessary if we are to perform this particular activity (and not otherwise), in the same way that certain principles must be held only if we are to maintain a particular doctrine. Rather, since the only framework within which a meaningful denial of the principle could take place is that of rational discourse, "an epistemologically indispensible truth, as the necessary condition of meaningful affirmation and denial, could not itself be meaningfully denied". Thus the ultimate necessary truth for Leibniz is necessary after the fashion of an absolute, rather than as a conditional, prerequisite, and so the necessity of the form of identity has a reason for its necessity.

In addition to the principle of non-contradiction, Leibniz says that we have (at least potential) knowledge of other, derivative, truths which are necessary as well. Specifically, he states that the general truths upon which all particular truths we encounter in experience are based are necessary as well. Even though it may perhaps not be easily perceived, these truths are necessary in both his senses. Leibniz declares that these general truths enter into our thoughts, serving as their inner core and as their mortar. Even if we give no thought to them, they are necessary for thought, as muscles and tendons are for walking. The mind relies on these principles constantly...(RB p. 84)

Thus we could not have any knowledge of (and perhaps could not even think of) the particulars in the world if we did not have previous (potential) knowledge of the general principles upon which those particulars are based.

Someone at this point might be prepared to object that if this reading is truly to give Leibniz a coherent view which moreover fits into his metaphysical system, it must be able to account for innate practical ideas and principles as well as innate speculative ones. Innate knowledge of ideas and principles derived from reflection upon our own souls may well be
believed for metaphysical principles, someone might say, and even be in some degree plausible for accounting (in conjunction with the ideas we receive through the senses) for our knowledge of the laws of nature. But to hold that our knowledge of the principles which delineate the good life, and which thus inform us what we should and should not do, has as its source reflection upon our own souls, is to stretch a good story entirely too far.

The first thing to note is that morality is not logic, and so the arguments offered concerning morality ought not be precisely those employed in the realm of logic. What we should seek instead is an analogous set of arguments paralleling those given for speculative knowledge. For instance, while speculative ideas arise immediately through apperception of their objects when we reflect upon our souls, it appears that we cannot expect to apperceive directly through reflection on our souls a set of moral ideas (Rightness and wrongness, for instance, are not structural parts of the soul, nor is immortality of the soul something directly observable\(^{37}\)). Directly observable upon reflection would of course be only the soul itself. Although there is virtually nothing in Leibniz's own work to aid us here, we might at least speculate that what we could hope to find in the moral realm is not that the soul is itself the object of our ideas of good, evil, etc. (as it is for our ideas of being, substance, action, etc.), but rather that the nature of the soul implies those things.\(^{38}\)

There is some evidence for just such (necessarily derivative) moral ideas. At least there is historical precedent. Recall that Descartes states concerning the possibility that his idea of God is innate that

...one certainly ought not to find it strange that God, in creating me, placed this idea within me to be like the mark of the workman imprinted on his work; and it is likewise not essential that the mark shall be something different from the work itself. For from the sole fact that God created me it is most probable that in some way he has placed his similitude upon me, and that I perceive this similitude (in which the idea of God is contained) by means of the same faculty by which I perceive myself...(Med III)

By perceiving his own nature (the nature of his soul), and at the same time perceiving what he lacks, Descartes comes up with an idea of God which is so certain that he "do[es] not think that the human mind is capable of knowing anything with more evidence and certitude."
Although God is not him, and is not perceived directly upon reflection, Descartes' idea of God is perceived through reflection upon his own soul with just as much clarity as is the idea of himself. If Descartes were to declare additionally that these ideas which are immediate but not observed directly through reflection exist in certain relations (and how could they not?), as was argued for other innate ideas, then we would have the basis for innate knowledge of the principles of morality. Unfortunately, Descartes does not carry this argument out for us into the realm of practical principles.

With Leibniz we have the opposite problem—he spends his time considering innate practical principles rather than their constituent ideas. In fact, although he states that he "always did and still do[es] accept the innate idea of God"(NE, p. 74), he does not give any argument as does Descartes for a particular way in which the idea is innate, except to note that, as is true with certain other ideas and truths, the idea of God operates in us although we may not recognize it. Thus although the interpretation of innateness as stemming from reflection is not precluded with regard to moral ideas by any of Leibniz's remarks, neither is there any evidence available in this area to support that reading.

Since we find in the New Essays no clear statement of Leibniz's view of the precise nature of innate moral ideas, perhaps we should begin our investigation of the moral realm at the level of principles, always remembering that innate moral knowledge is analogous, and not identical, to innate speculative knowledge, and that the terms and principles in the former realm, although comparable to those of the latter realm, will nevertheless possess their own unique character. Given that, it seems evident that for Leibniz innate moral principles are marked in the same way as the innate speculative ones, for he says in a remark concerning moral truths that "I deem all necessary truths to be innate, and I even add in the instincts"(RB p. 97). Thus although we can expect to find innate knowledge (in the sense of involving a kind of necessary truth) in the realm of morality comparable to that in the speculative realm, it appears that in the moral realm Leibniz wants to bring in an additional principle: instinct. Our explication of innate moral truth, then, will have to be even more extensive than our discussion of innate speculative truth.
Let us consider first, though, the more familiar pattern of innateness as marked by necessity. Early in the discussion of practical principles Leibniz makes clear the nature of innate knowledge of moral truths:

Setting aside instincts, like the one which makes us pursue joy and flee sorrow, moral knowledge is innate in just the same way that arithmetic is, for it too depends upon demonstrations provided by the inner light (RB, p. 92).

He adds later that his view with regard to innate practical principles is "in conformity" with what he has said about innate speculative ones, and that demonstrations of innate moral principles proceed in the same way as demonstrations of speculative ones:

...we must try to reduce them to first principles (i.e., to identical or immediate axioms) by means of definitions, which are nothing but a distinct setting out of ideas. (RB, p. 101)

Now, Leibniz says about the innate moral truths which can be "demonstrated through our ideas" that this "is what the natural light is" (RB, p. 91). Since he has already declared that the natural light "involves distinct knowledge" (RB, p. 84), we can assume that Leibniz intends that there is at least some innate knowledge of moral principles which can be perceived clearly enough to be shown necessary by tracing those principles down through definitions to first principles, that is, to "identical or immediate axioms". But now we are forced to inquire whether the immediately known axioms of morality are all and only those identities which guarantee the necessity of all necessary speculative truths.

Consider the following:

It is absolutely impossible that there should be truths of reason which are as evident as identities or immediate truths. Although it is correct to say that morality has indemonstrable principles, of which one of the first and most practical is that we should pursue joy and avoid sorrow, it must be added that that is not a truth which is known solely from reason, since it is based on inner experience---on confused knowledge; for one only senses (or 'one does not really know') what joy and sorrow are. (RB, p. 88)
It seems from this that in addition to identities, there are among the fundamental indemonstrable principles of morality other "immediate axioms" which are not known through reason alone, but which are constituted in part of empirical ideas. For Leibniz, then, we can gather that 1) there are first principles of morality to which other principles can be reduced, and 2) at least some of those first principles are not only not identities, but even contain confused knowledge.

The question then arises what these indemonstrable principles of morality are, if not identities. Leibniz makes it clear that there are propositions other than identities which count as immediate truths when he states that the proposition 'I exist' is "evident in the highest degree, since it cannot be proved through any other" (RB, p. 411). Thus, even though my knowledge of my own existence is affirmation of a proposition of fact and not one of reason, even though it "is not a necessary proposition whose necessity is seen in the immediate agreement of ideas", and even though "only God can see how these two terms, 'I' and 'exist' are connected", this proposition counts as an immediate truth, a primary truth of fact to which others can be reduced.40

The point is not that truths of fact cannot be immediate, but rather that their immediacy is different from that of truths of reason. While primary truths of reason are immediate with the "immediacy of ideas", Leibniz says that primary truths of fact are immediate with the "immediacy of feeling". (RB, p. 367) Innate moral principles, then, can be derived from principles which are not innate, but which are simply known with the "immediacy of feeling", together with ideas, such as that of God, which are innate. Since, however, the speculative realm concerns the purely rational, while the moral in essence additionally concerns feelings, we should not be surprised to find the indemonstrable truths of the two realms to be of different characters.

But even given a different set of indemonstrable truths to which moral principles gleaned through reason can be reduced, we have not exhausted all the principles Leibniz proposes. Let us now examine that other kind of principle mentioned briefly above: instinct.
Instincts according to Leibniz, although not illuminated by the natural light, follow from it. Thus Leibniz states that

...there are in us instinctive truths which are innate principles that we sense and that we approve, even when we have no proof of them—though we get one when we explain the instinct in question. (RB, p. 91)

Instincts, then, are principles which, although eventually explainable, incline us to certain things without our being clearly aware of why we are so inclined. They operate, it must be noted, not only in the realm of morality, but can be found at work in the realm of theoretical knowledge as well:

...some of them contain theoretical truths—the in-built principles of the sciences and of reasoning are like that when we employ them through a natural instinct without knowing the reason for them. (RB, p. 90)

Instincts are, however, for Leibniz much more essential in the moral arena than in the speculative, for our very souls depend upon proper living habits, regardless of the fact that it is difficult to do the demonstrations which show us the (moral) necessity of God's moral law. Thus Leibniz asserts that

...since morality is more important than arithmetic, God has given man instincts which lead, straight away and without reasoning, to part of what reason commands. Similarly we walk in conformity with the laws of mechanics without thinking about them; and we eat not only because it is necessary for us to, but also and much more because eating gives us pleasure. (RB, p. 92)

Then, in speaking of the fact that men naturally tend to value certain things and loath others, to be subject to remorse, etc., he states that

...these natural impressions of whatever sort they may be, are fundamentally no more than aids to reason and indications of nature's plan. (RB, p. 94)

Instincts for Leibniz, then, appear to be innate principles of action which impel us (as a sort of stopgap measure) in certain directions until such time as we can find through reason the proper things to do with explanations of why they are so. Thus we often do the
things which promote our true welfare without having any cognizance of the fundamental moral principle, until by dint of attention we discover the reason for our moral principles. Our instinct guides us to do what our reason can only much later tell us is right:

This is how we are led to act humanely: by instinct because it pleases us, and by reason because it is right. (RB, p. 91)

This is not to say, however, that nothing whatsoever follows rationally from instincts, or that we cannot learn anything from the study of them. Even though instinct is an innate principle of action (that is, a causal source of our action) which is based on an innate principle of truth which is not known with luminosity, Leibniz insists that "one can derive scientific conclusions from it." (RB, p. 89) Just how one would undertake this derivation from a principle of action which itself results from certain principles of truth, or what kinds of conclusions may be generated from this innate principle of instinct, Leibniz does not say. He does, however, give us enough evidence to generate some speculation.

Remember that Leibniz states that practical laws "are engraved in the soul...as necessary for our survival and our true welfare", so that instinct impels us to do out of pleasure what reason impels us to because it is right. And how else do we apperceive our instincts than through reflection upon the actions of our soul? And how else do we recognize that those instincts lead us to do what is truly (and necessarily right) than through pure reason, which uses no ideas from the senses, but only intellectual ones? Surely we would not be remiss in suggesting that the ideas we get through reflection upon the nature of our souls carry the implication that Actions X, Y, & Z (which we like and feel good about) serve to help us, and that Actions A, B, & C (which we feel negatively toward) are antithetical to our true welfare.

The information that we perceive in ourselves a tendency to approve of X, Y, & Z, and to loath A, B, & C could be the beginnings of our knowledge of moral truth, indicating which propositions hold promise of being moral truths, as certain principles of science and reasoning that we use indicate promising directions for theoretical and speculative
investigation. It seems plausible, then, that the moral instincts which are revealed to us through reflection may allow us to reach certain conclusions regarding moral law, conclusions which through further reflection can be demonstrated, given our primary principles. What other explanation than this kind of information presented through reflection can be offered for the certainty concerning moral rules that innateness is intended to give (that is, demonstrable certainty in terms of reducibility to undemonstrables)?

The analogy of the speculative realm to the moral persists: the necessity in the moral realm, like that of the speculative, is of two senses. Nevertheless, analogy is all there is--neither necessity of the moral realm carries the strength of that in the speculative realm. Recall that Leibniz declares that moral truths are engraved upon the soul "as necessary for our survival and our true welfare". While innate speculative truths are necessary in order for us to think about the world, and because of their peculiar nature cannot be meaningfully denied at all, moral truths are only required for our "survival and true welfare" which of course may be denied, albeit to our own detriment.

Of course, the active principle of instinct no less than knowledge of moral truth may be ignored, and in fact Leibniz makes the point that they

*do not irresistibly impel us to act: our passions lead us to resist them, our prejudices obscure them, and contrary customs distort them. (RB, p. 92)*

But, since instincts operate with regard to speculative knowledge as well as with regard to the moral, this point makes no distinction between the two arenas.

The other difference between our two analogous but not identical domains concerns 'necessary' in the sense of indubitability. While every innate truth in the speculative realm according to Leibniz can be proven to be positively indubitable, that is, it can be shown clearly that (and why) things simply could not be otherwise, moral principles reduce down through definitions to those truths which are known only with the "immediacy of feeling", which means according to Leibniz that only God can see their connections. Nevertheless, they are connected, and God can perceive what these connections are, and so moral principles
are not functions of our attitudes and desires, but are objective, just as are all other truths.

From the foregoing considerations of the moral and speculative realms of our knowledge, we can reasonably conclude that according to Leibniz we are determined by the nature of our souls to perceive the necessity or impossibility of certain propositions, but only probability of others. Further, the propositions of which we may gain knowledge are not, in spite of their source, only propositions that concern the objects of our internal reflections. Rather, they include as well propositions which concern the nature of the external world.

This last statement requires explanation. Consider, then, the following: if our minds are real "self-knowing substances" (RB, p. 78) to which we have special access, then reflection provides us with not only certain ideas of the nature of the soul, but, because it is real substance to which we are intimately related, of real ontological concepts and knowledge of their possible and necessary relations as well. This means, then, that contrary to the view for example of Kant, which holds that the structure of the mind provides a necessary form via a set of unanalyzable concepts, to which content must be added, with the result that knowledge can never be more than phenomenal, Leibniz maintains that the mind is capable of providing itself with not only the order of experience, but with its content as well, since reflection upon the soul gives not merely phenomenal ideas and principles describing the necessary appearances of things, but noumenal ideas of a real substance, and hence the very categories and relations constitutive of God's truth.

We now have, then, an explanation for Leibniz's view that coming to know the soul is in some ways the same thing as coming to know the Universe. For the same fundamental concepts and principles of necessity and impossibility which we gain through reflection upon the soul hold in the physical world. The ideas of being and substance, and the principles of necessity and impossibility remain what they are, regardless of whether they are considered with respect to entities to which we have noumenal access or to material bodies, which we
reach only phenomenally. All truths regarding all kinds of entities are necessary for God, and thus have their place in his ontology of truth, while for us only those truths derived from reflection are constituted of ideas understood sufficiently to perceive their necessary relations. Those few truths attainable through reflection upon our own souls are, however, enough to make knowledge of the world possible, and to provide us with it. Leibniz notes in this regard that

...quite often a 'consideration of the nature of things' is nothing but the knowledge of the nature of our mind and of these innate ideas, and there is no need to look for them outside oneself. Thus I count as innate any truths which need only such 'consideration' in order to be verified. (RB p. 84)

Let us suppose, then, that we have accurately conceived of his position, and that innateness for Leibniz in the case of both moral and speculative knowledge means something like "stemming from reflection on the soul's enduring properties". Do we gain anything in our understanding of Leibniz from the employment of such a reading? Are any bothersome questions answered? Are we left with new difficulties?

One notable advantage of this reading is that it gives an ontological grounding for the dispositions which Bolton astutely perceives to lie at the center of Leibniz's doctrine of innateness. Having an active tendency to affirm certain propositions and not others based upon certain perceptions is now explained in terms of the nature of the soul. This explanation fulfills Leibniz's requirement for a sufficient reason for everything--we have certain dispositions because we experience certain unconscious perceptions (Leibniz's "petite perceptions"). We experience those particular perceptions because we always (at some level) perceive the soul itself, which has a particular nature, and the soul has precisely the nature it does because of the infinite wisdom of our creator.

Now, if it is true that the actions which always accompany our dispositions and correspond to them are for Leibniz the soul's continual petite perception of its own Being, Duration, Action, Substance, etc. (and not, as Jolley suggests, unconscious affirmations of such propositions as the principle of identity), then we have an explanation of how the soul
provides itself with the prerequisite for actualizing its disposition to apperceive those things. Petite perceptions are in fact for Leibniz a prerequisite for apperceiving anything, because according to his doctrine that nature makes no leaps\footnote{41} apperception could not occur unless the soul experienced constant petite perceptions. Thus if innate knowledge for Leibniz truly is knowledge gleaned through reflection upon the soul, he would have no justification for his claim that we use innate knowledge before we possess it actually, were not perception taking place constantly at some level.

It appears, then, that the reading of Leibniz's innateness as grounded in the structure of the soul may be able to help Bolton's dispositional reading to explain fully Leibniz's doctrine that "[t]he fundamental proof of necessary truths comes from the understanding alone." (RB p. 80) It does not seem a proof of the necessary truth of a proposition that the soul has a disposition to affirm it (however consistently) and to deny its negation, and so it hardly seems likely that Leibniz would rest with such dispositions, although he certainly seems to believe that we have them. Rather, since dispositions do not cause themselves, the proof of such truths surely must be something which causes the dispositions to affirm them and to deny their negations. The proof we seek thus must be the source of the dispositions, and the structure of the soul itself seems a good place to look for such proof.

Perhaps now it can be seen why I claimed at the beginning that although Leibniz's metaphysical sense of innateness is distinct from his epistemic use of the term, the two are not completely separate. Although the epistemic sense of 'innate' is worked out in terms of necessary truths, which can be characterized in a purely logical fashion, since those truths possess content as well as form, real information about the nature of the universe can be gleaned from them. Innate knowledge, since it is knowledge of the soul, cannot avoid being metaphysical; it can, however, be distinguished from other knowledge on epistemic criteria alone.

Further, we can now perceive the legitimacy of sidestepping Savile's charge that Leibniz's epistemological and metaphysical senses of 'innate' are incompatible on the grounds that the former requires universality of innate possessions while the latter requires their
uniqueness. Innate ideas and truths in the epistemic sense elaborated in the New Essays are the necessary ones, the universally undeniable and indispensible ones (with an analogous situation holding for the moral ones), the ones stemming from reflection upon the enduring properties of the soul. This in no way precludes a deep metaphysics according to which all the particular ideas and thoughts which render individuals unique are in some way pre-programmed into each soul at its creation. A soul is not a static entity, and is immaterial, characterized by change. Thus what reflection upon a particular soul reveals is a continuum of states; but at the same time, that reflection will reveal that all those states have certain constants, which reason perceives do and must exist universally.

Bracken has shown that Descartes as well made distinctions between psychology and ontology. With his claim that for Descartes the role of innate ideas is ontological, and not psychological, Bracken offers one explanation for the commitment Descartes had to the discipline of mathematics and its eternal truths. It was not, according to this reading, the fact that one might feel certain about such truths that intrigued Descartes: indeed, one might feel equally certain that one is seated by the fire, wearing one's dressing gown, etc. Rather, it was the special logical kind of certainty such truths in their ready proofs provide which so pleased Descartes about mathematics.

Support for Bracken's understanding of Descartes as concerned in his doctrine of innateness with the ontology of truth rather than with our feelings of certainty about it can be found in the fact that followers of Descartes "were singularly unimpressed with attacks on innate ideas based on the facts of learning." The mere fact that we come to knowledge of some truths held to be innate only gradually, and that even then such knowledge in most cases arises only after learning many other truths which are not innate, is no proof that the former are not innate, any more than is the fact that certain individuals never come to agree to the eternal truths of, for example, mathematics. Thus Bracken declares that although the function of innate ideas as bearers of self-evidence is often taken to be their primary reason for being, and as such constitutes the primary consideration for critics of the doctrine of innateness, such a role was never Descartes' intention for them.
The same may be correctly asserted regarding Leibniz's understanding of innate ideas and truths. Although in many cases innate truths (and ideas as well, I suppose, although then it is difficult to understand what is meant by 'self-evident') may well be self-evident, it is not their self-evidence that makes them innate, for some things which are self-evident need to be reduced through substantial effort to identities in order to be shown innate, (such as that two and two are four), and some things which count for Leibniz as innate (all the more complicated truths of geometry and arithmetic, for instance) are in no usual sense self-evident.

Thus some principles may feel as certain as anything ever does and not be according to Leibniz's account innate, while other things which are particularly difficult to grasp may prove to be innate. It seems, then, that feeling certain and their being certain are not the same thing, and evidently do not even apply to the same propositions. This may give us a clue as to why Leibniz finds it necessary to demonstrate principles as simple as that two and two are four.

Margaret Wilson argues that with his response to Philalethes that the proposition that two and two are four is known "without the aid of any proof", Leibniz shows not that the degree of certainty one has regarding the proposition is increased (for in his case the proposition is indubitable already) through such proofs, but rather that he can demonstrate its status as innate in this way (that is to say, he can show that it is provable by principles which lie within). Leibniz has Philalethes say

This demonstration, as little necessary as it may be with respect to its well-known conclusion, serves to show how truths depend on definitions and Axioms (RB, p. 405)

Thus Leibniz asserts his distinction between the psychological and logical grounds of our certainty. At times we may choose to prove the (logical) certainty or the innateness of things of which we are already certain psychologically. Naturally, though, if we are not certain psychologically, we can rest assured that we have not perceived the logical grounds which
make a truth certain. That does not mean that the logical grounds are not there, though, for a truth's certainty, as we have already seen, is independent of our mind's relation to it.

In line with this distinction between logical and psychological certainty, Leibniz distinguishes between logical and temporal orders of our knowledge. That is, he points out that the order in which we learn truths is not the same as the order of their existence. Thus general truths, which are the logical grounds of all truths, are on Leibniz's view prior to all particular instances, even though we learn them in the reverse order. Leibniz thus remarks:

The truths that we start by being aware of are indeed particular ones, just as we start with the coarsest and most composite ideas. But that doesn't alter the fact that in the order of nature the simplest comes first, and that the reasons for particular truths rest wholly on the more general ones of which they are mere instances (RB, p. 83)

We can see from this that the order of the existence of notions and truths is independent of the order in which we come to apperceive them, and so we need not be aware of the proof of a principle in order for it to be necessarily true, or for other of our knowledge to depend upon it.

Leibniz proposes the same sort of logical hierarchy or order with regard to truths of fact as we have just seen in relation to truths of reason. He says that

the immediate awareness of our existence and of our thoughts provides us with the first a posteriori truths or truths of fact, i.e. the first experiences; while identical propositions embody the first a priori truths of reason, i.e. the first illuminations (RB, p. 434, original emphasis)

Thus although I may never question my existence, never consciously affirm the proposition 'I exist', that proposition is just as much required for my knowledge that I am cold as 'A is A' is required for my knowledge that sugar is sweet. Of course my knowledge of the former proposition is not on Leibniz's view innate, however, while my knowledge of the latter is.44 This, as we now know, is because my knowledge of the former has its source in experience while my knowledge of the latter has its source in reason alone. Nevertheless, it is a defining characteristic of Leibniz's view that every piece of knowledge we may possess, parallel to
every truth that may exist, has its reason in a whole system which is determined by God.

From the foregoing it seems apparent that Leibniz, far from being confused and vague on the subject of innateness, possesses a coherent, although admittedly complex, doctrine on the issue which ties together metaphysical, epistemological, and ethical issues into one cohesive bundle. He establishes criteria for innateness of both speculative principles and for the analogous principles of morality. The view he elaborates is one in which epistemology is intimately connected to ontology, but one wherein the epistemic sense of 'innate' is sensible independently of its metaphysical sense. This work accomplished, then, we are finally prepared to examine the relation of these views of Leibniz's to those we have attributed to Locke, in order to discover to what extent and in what ways these thinkers agree about the nature of the mind, knowledge, and its acquisition. That will be the task of Chapter 4.


3. Although one might suggest that minds come into existence only upon having sense experience, since from Leibniz's non-interactive perspective they certainly couldn't be caused by the sense experience, that line of argumentation seems unpromising.


5. I will show later in this chapter that the two senses in fact may well be reconcilable in Leibniz's overarching theory.


8. Jolley p. 172

9. At least this is my understanding of Jolley, and evidently Martha Brandt Bolton's. She discusses this point in the 10th footnote to her article "Leibniz and Locke on the Knowledge of Necessary Truths" in *Central Themes in Early Modern Philosophy*, ed. J. A. Cover and Mark Kulstad (Indianapolis: Hackett, 1990), pp. 195-226.


11. Bolton, pp. 200-201. She points out that affirmations, conscious or not, are actions on Leibniz's account, while innate truths are quite clearly not perceived by him as such.

12. It should be noted that Leibniz's statement ends with the words "although these potentialities are always accompanied by certain actions, often insensible ones, which correspond to them." I will argue below that these actions, rather than unconscious affirmations of certain principles, are simply the continual and unconscious perceptions of the soul which have already been introduced.

13. In addition to the examples cited in the text, see Leibniz's famous analogy on p. 80 of the *New Essays* of innate knowledge to the veins in a block of marble, as well as mentions made on pages 84 and 106, and his objection against the notion of "bare faculties" on p. 110.

14. See, for just one instance, NE p. 179.

15. Bracken says that Descartes' emphasis is on "the question of the nature of the constituent elements in eternal truths, not on how we may have come to learn them

17. Leibniz makes a number of statements to this effect. See for instance his statement at NE p. 79 that if all the mind had was "the mere capacity to receive those items of knowledge--a passive power to do so, as indeterminate as the power of wax to receive the shapes or of a blank page to receive words--it would not be the source of necessary truths, as [he has] just shown that it is", and at p. 80, where he states that the mind is "capable of knowing truths of both sorts, but it is the source of the former".

18. Savile, p. 117

19. Leibniz makes similar statements in numerous places. In addition to the passage quoted, see for instance RB, p. 149.


21. I recognize that there is a conflation here between ideas and objects of ideas. As this conflation is a common one in the 17th century, however, I do not believe it is an error I am unjustified in attributing to Descartes. This conflation will be the object of more discussion in Chapter 4.

22. His powers, for instance, and their limitations, his imperfection, his similitude to something which is yet unlike him in its perfection, etc.


25. Jolley, Leibniz and Locke, p. 176

26. This is an argument against any empiricistic account of knowledge, and as such can be employed against any epistemic position which does not include a representational type of innateness. Thus it cuts against Leibniz no more than it does against virtually every other epistemic view, and is therefore seems fairly insignificant as a criticism against him in particular.

27. Bracken, p. 337.


30. See, for instance the paper cited earlier, "Leibniz's Theory of Innateness in the New Essays".

31. See for instance, RB p. 52, and RB p. 81.


36. Wilson, p. 407

37. There is an interesting interplay in Leibniz between immortality generally, which would fall into the metaphysical realm according to the dichotomy I have set up, since it pertains to all substances, and personal immortality, which would fall into the moral. For a discussion of the distinction between the "incessancy" of a beast's soul and the immortality of human souls, see NE p. 236.

38. My understanding of the innate moral ideas as derivative from the ideas perceived immediately upon reflection admittedly raises the question of how the moral ones are different from derivative innate metaphysical ideas. Although it is my view that they are not the same, it is very difficult to support my claim, since Leibniz says precious little on the subject. Refer, however, to pp. 14–15 of the Academy edition of his works for a few brief remarks on the subject.

39. This occurs through instinct, a full discussion of which will be presented below.

40. Leibniz says in fact of this proposition that "we can be confident that it is a primary truth, and indeed...one of the first known statements—in the natural order of our knowledge, that is, since it may never have occurred to a man to form this proposition explicitly, even though it is innate in him." (RB, p. 411, emphasis added) Thus although it does not meet innateness's criterion of necessity in the sense of inevitability, this proposition does appear to meet the criterion of necessity in the other sense, that is of indispensability, and so may well count in Leibniz's estimation as innate knowledge of an analogous sort.

41. See for example NE p. 54–8, 113–115, 164, 188, and 239.

42. Bracken, p. 337.


44. Except, perhaps, in that analogous way mentioned earlier with regard to the demonstration of moral truths. The support for possibly interpreting such primary truths of fact as in a sense innate is found on p. 411 of the New Essays.
Chapter 4

We are finally prepared to investigate the relation between our two philosophers’ views of innateness. In light of our analyses of the individual systems, it may seem that there is little room for discussion between this particular pair, since all of Locke’s opinions stem from his fairly strict understanding of knowledge as distinct events of perception\(^1\), while Leibniz’s views are shaped by his conception of knowledge as something permanently possessed\(^2\) and dependent ultimately upon the metaphysics of the soul\(^3\). Resulting from these differences in foundational assumptions, as we have seen, is on the one hand, Leibniz’s view that the existence of innate ideas and knowledge is necessitated by the very nature of knowledge, while on the other hand such innate possessions are precluded by Locke’s understanding of what it means to know.

These radical differences in assumptions may lead one to either of two extreme conclusions: one might surmise, on the one hand, that Locke and Leibniz are so completely different in their thoughts regarding knowledge that their views are incapable of any comparison at all, or, on the other, that the differences between the respective views as presented are purely, or at least largely, semantic, so that they are not only comparable, but are in fact quite similar. Since the first of these two possibilities would not only put an end to any further discussion if true, but would moreover in the meantime require demonstration, let us put it aside at least temporarily and investigate the second, and more promising, possibility.

To begin, then, let us consider the view furthest from the first of our possibilities. One could argue, it seems, that the differences between Locke and Leibniz are not only discoverable, but are in fact purely semantic. In spite of the apparently vast differences between Locke’s and Leibniz’s knowledge theories as put forth in Chapters 2 and 3, especially on the topic of innateness, such an argument might go, once Leibniz’s talk about knowledge as arising out of the structure of the mind is translated into Lockean knowledge acquired
through the natural operations of the mind's (admittedly innate) faculties, nothing significant divides the two.

I, however, do not wish to go that far. Rather, it is my view that the prima facie incompatibility of Locke's and Leibniz's epistemological views, although dissolving in large part upon closer examination of those views, is not purely semantic in nature, but reveals fundamental differences in their respective assumptions and approaches to the question of knowledge acquisition. Ultimately, then, and perhaps unsurprisingly, I will argue that while there are many more similarities between Locke and Leibniz on the question of our acquisition of knowledge than might appear at first glance, the remaining differences are real and substantial, and can be traced to very basic differences in the concerns and assumptions underlying and prompting their respective theories.

Let us begin our comparison with an examination of each philosopher's broadest characterizations of the phenomenon of knowledge. As we have said, Locke defines knowledge as the perception of the agreement or disagreement between ideas. Leibniz, though, it immediately becomes apparent, finds Locke's definition too restrictive. In the first place, we have seen that 'knowledge' according to Leibniz can be taken in a sense broader than is admitted by Locke's propositional definition, "so that it is involved in ideas and terms before we come to propositions and truths". He will grant Locke, though, that if we narrow our conception, and consider only knowledge of the truth, "it is true indeed that truth is always grounded in the agreement or disagreement of ideas". Even then, though, Leibniz protests that Locke's requirement that we actually be "aware of the connection or opposition", before knowledge can be said to exist simply "cannot be granted". (NE, p. 357)

According to Leibniz, as we have seen, actually perceiving the agreement or disagreement between ideas entails being able to trace their relation to the first principle(s). But this does not occur in the great majority of cases; most of what we call 'knowledge' Leibniz maintains we know in the manner of empirics. That is, we acquire ideas and make judgments based upon experience of instances "without knowing how things are connected or what principles are at work in what we have experienced". Thus Leibniz declares that
Locke's requirement that we 'perceive the agreement or disagreement' between ideas before we can possess knowledge is too strong. Unless, Leibniz allows, what Locke means when he says that we perceive the agreement or disagreement between ideas is that we perceive them "confusedly without being aware of it." (NE, p. 357)

Locke, however, would of course be completely mystified by this last phrase of Leibniz's. For him it would seem nonsensical to speak of perceiving without being aware of it, since perception precisely is a state of consciousness. In cases where knowledge is possible, when one perceives juxtaposed ideas, their agreement and connection or disagreement and repugnance is on Locke's account either evident immediately, or can be "shewn to the Understanding, and the Mind made to see that it is so" through the intervention of certain other ideas ("one or more, as it happens"). (IV ii 3) All mental events, thus all parts and all kinds of knowledge are by definition for Locke conscious. Thus although Locke and Leibniz both recognize the limitation of our knowledge to such truths as can either be intuited immediately demonstrated through intervening ideas to the understanding, so that much of the world of sense experience necessarily remains outside the domain of our knowledge, the lack of a role in Locke's view for the operation of innate knowledge of the general principle of identity renders the actual perception of agreement or disagreement between ideas for him a much less complex process than it is for Leibniz. None of our knowledge on the former's view, but all of it on the latter's, depends upon the use of innate knowledge of a principle of which we are not usually aware.4

On Locke's account all that is required for knowledge are clear perceptions. Knowledge for Locke amounts to one of two things5 (it comes in two degrees, he would say): it is either the immediate perception of the agreement or disagreement of two ideas, which he terms 'intuition', or it is a derived perception of this agreement or disagreement. This latter type of knowledge he calls 'demonstrative', by which he means that the mind is made to see the agreement or disagreement of two ideas via mediating ideas, in a sort of chain of intuitions. In both cases knowledge is a conscious, certain perception of the connection or repugnance of two ideas.
Leibniz willingly adopts Locke's language of intuition and demonstration in his description of our knowledge. The truths which we know by intuition Leibniz agrees are those primary truths from which all others are derived. So far, then, were we able to forget the fundamental difference between his view and Locke's on the role of consciousness in knowledge, and the related fact that Leibniz makes a distinction which Locke does not between the primary truths of fact and those of reason, we might be persuaded that his conception of intuition is quite similar to Locke's. In both thinkers' minds this primary kind of knowledge accounts ultimately for everything we know. Leibniz would then wholeheartedly agree with Locke's remark that "'Tis on this Intuition that depends all the Certainty and Evidence of all our Knowledge." (IV ii 1)

The certainty and evidence of all our knowledge does not, however, depend upon intuition in the same way for Locke as it does for Leibniz, and it is the role of consciousness which is central to that difference. For Locke, on the one hand, the relation of our certainty about the truth or falsity of a proposition to intuition is a clear and conscious one. In fact 'certainty' on his view just means this clear perception which forces itself "like the bright Sun-shine" to be seen. Anyone who demands more of certainty than this Locke charges "demands he knows not what." (IV ii 1)

The nature of intuition as a conscious perception is thus for Locke so central to our certainty that the only time we can have certainty about any truths not intuited is when the mind is made to see their agreement or disagreement by the explicit linking together of intuitions. Intuitions for Locke, then, are used in a temporal fashion as building blocks to establish further, less obvious truths and consciousness of them is essential to their role in constructing a body of knowledge.

For Leibniz, on the other hand, some of the truths we term 'intuitive' (ultimately, a single truth--the principle of identity) not only make possible the knowledge of all other truths through a process which is neither conscious nor temporal in the way that Locke suggests, but they moreover render possible the very existence of the other truths. Among the intuitive truths according to Leibniz are both primary truths of reason and primary truths
of fact. These primary truths known intuitively in turn render possible our knowledge of
the derivative truths of both sorts. In the case of intuitive truths of reason, those which
Leibniz terms 'primary' are identities, those innate principles of reason which have their
reason in (that is, their truth is directly dependent upon) the general principle of identity,
which sets the foundation for the structure of our minds and indeed of all reality.

The 'primary truths of fact' of which we also have intuitive knowledge, we have seen
Leibniz say are those "inner experiences which are immediate with the immediacy of feeling."
That is, although they are not, as are primary truths of reason, immediate illuminations, since
there is not to be perceived in them logical necessity, these perceptions are nevertheless
intuitions, as they neither require nor admit of proof. The reason these principles do not
according to Leibniz admit of proof is that they are immediate to our minds: "nothing comes
between the subject and the predicate." (RB, p. 434) Thus these intuitive truths of fact are
the undeniable perceptual states which make possible our experience of the world. In the case
of the immediate truths of fact, then, intuition for Leibniz as well as for Locke is a clear
perception which has no connection to or need of innate knowledge or ideas.

Our knowledge of other, derivative truths of fact, is, however, dependent upon innate
knowledge. But it is not dependent upon any innate knowledge of other truths of fact.
Rather, it depends upon innate knowledge of the most primary truth of reason, the principle
of identity. Knowledge that sweet is not bitter, for example, Leibniz remarks "is not 'innate'
in the sense we have given to the term 'innate truth,'" since the sensations of sweet and bitter
come through experience. Rather, it is "a mixed conclusion (hybrida conclusio) in which the
axiom is applied to a sensible truth." (RB, pp. 82-3) Thus although our intuitive knowledge
of such a proposition is gained in part through sense experience, intuition of its truth
according to Leibniz depends upon our innate knowledge of the principle of identity.

The difference between Locke and Leibniz on the question of the relation of certainty
and evidence to intuition thus seems to lie in the issue of the relation of our knowledge to the
structure of logic. When Leibniz points out in Book I Chapter i of The New Essays Locke's
failure to distinguish truths of reason from truths of fact, far from making a hair-splitting
distinction, the former directs attention to an element which he finds essential to adequately explaining human knowledge, but which is lacking from the latter's account. With the addition of the role Leibniz sees for his truths of reason, that is to say the structure of logic, Leibniz evidently intends to add the foundation and cement of our knowledge, precisely the things he finds missing in Locke's epistemology.

Knowledge thus seems to be an enormously simpler enterprise as conceived by Locke than it is for Leibniz--for the former sees no need for a preexisting foundation of innate knowledge in order to explain the knowledge that we acquire. According to Locke we merely perceive, either immediately or mediately, the agreement and connection or the disagreement and repugnance of two ideas in an intellectual act. Past perceptions of agreements and disagreements can be employed in the form of habitual knowledge in building a body of knowledge, but nothing is determinable before these individual perceptions about the structure of that body. That structure is determined only by the ideas which are perceived. For Locke there simply is neither any reason nor any motivation for supposing a role for unconscious knowledge of the laws of logic in perceiving the agreement or disagreement between our ideas.

Simplicity does not, however, for Locke imply expansiveness or ease; he does not propose that we can perceive the necessary agreements or disagreements (a component of knowledge for him as well as for Leibniz, remember) between any ideas we wish simply by turning our gaze to those ideas. On the contrary, perceiving agreements or disagreements depends upon a clear perception of the ideas involved; but since this is itself in no sense easy, Locke declares that our ignorance is "infinitely larger than our Knowledge" (IV iii 22), and that there are only a few areas in which we can hope to have knowledge at all.

Recall that Locke is optimistic about our being able to achieve general knowledge of only two of the four types he distinguishes: identity or diversity, and relation. He says that we can achieve the highest degree of certainty of the first kind of agreement or disagreement:
A Man infallibly knows, as soon as ever he has them in his Mind that the Ideas he calls White and Round, are the very Ideas they are, and that they are not other Ideas which he calls Red or Square...And if there ever happen any doubt about it, 'twill always be found to be about the Names, and not the Ideas themselves, whose Identity and Diversity will always be perceived, as soon as clearly as the Ideas themselves are, nor can it possibly be otherwise (IV i 4)

Not only is knowledge of identity or diversity certain, according to Locke; it is moreover on his view "as far extended as our Ideas themselves." (IV iii 8)

About our ability to perceive the specific agreement or disagreement he calls 'relation', Locke seems to be almost equally positive. And indeed he ought to be, for he declares this perception to constitute the largest part of our knowledge, and, moreover, necessary to the very existence of the phenomenon of knowledge:

For since all distinct Ideas must eternally be known not to be the same, and so be universally and constantly denied one of another, there could be no room for any positive Knowledge at all, if we could not perceive any Relation between our Ideas, and find out the Agreement or Disagreement, they have one with another, in several ways the Mind takes of comparing them. (IV i 5)

It is because knowledge of relation requires nothing but the perception and comparison of ideas (nothing outside us need match our ideas, or indeed even exist) that Locke maintains that we can have such extensive knowledge of this sort. In fact, he asserts that "as it is the largest Field of our Knowledge...it is hard to determine how far it may extend." (IV iii 18) Certainly all the relations of ideas of quantity, at least, are capable of demonstration and knowledge. But these are only the beginning, for Locke believes that even "the measures of right and wrong might be made out," if we were to sufficiently apply ourselves "with the same Indifference and Attention" to those matters that we use with mathematics. (IV iii 18) About any entities which have their existence in our minds alone, then, Locke is optimistic about the possibility of knowledge.

Of necessary connection, or coexistence in the same substance, and of real existence, however, Locke believes us mostly ignorant. Recall that he remarks that concerning the
Agreement, or Disagreement of our Ideas in Co-existence, in this our knowledge is very short, though in this consists the greatest and most material part of our Knowledge regarding Substances...(IV iii 9)

This, how weighty and considerable a part soever of Human Science, is yet very narrow, and scarce any at all. (IV iii 10)

The source of the problem with this kind of agreement or disagreement is, as we have seen, that our complex ideas of substances are those of their secondary Qualities; which depending all...upon the primary Qualities of their minute and insensible parts; or if not upon them, upon something yet more remote from our Comprehension. (IV iii 11)

Locke reasons that since we do not have sufficient ideas of whatever it is that causes the qualities we experience, we surely have no way of perceiving any necessary connections between those causal sources and the qualities which result from them, nor can we perceive the necessary connections among (at least the secondary) qualities themselves. Thus he says that because of this paucity of ideas regarding the qualities we experience "tis impossible we should know, which have a necessary union or inconsistency one with another." (IV iii 11) Since we only know about substances what we can perceive of them, and since we thus cannot acquire a completely clear, or determinate, idea of those substances, as we naturally can for those things which exist within our own minds, our knowledge about necessary connections between the various ideas we do have of substances is severely curtailed.

The situation is even dimmer for Locke's fourth category of knowledge, that of the real existence of things. According to Locke,

...we have an intuitive Knowledge of our own Existence; a demonstrative Knowledge of the Existence of a God; of the Existence of any thing else, we have no other but a sensitive Knowledge which extends not beyond the Objects present to our Senses. (IV iii 21)

Knowledge of this last, although extremely limited and evidently not for Locke highly satisfactory, nevertheless "passes under the name of Knowledge" in virtue of its "going beyond bare probability." (IV ii 14) The senses, then, although they "serve to our purpose
well enough, if they will but give us certain notice of those Things, which are convenient or inconvenient to us," (IV xi 8) offer us very little with regard to certainty. Nevertheless, sensitive knowledge offers an "assurance that deserves the name of Knowledge" (IV xi 3), and so even though it "extends as far as the present Testimony of our Senses, employ'd about particular Objects, that do then affect them, and no farther," (IV xi 9) so that one cannot on his view claim knowledge that a particular thing presently exists based upon one's having seen it a moment ago, it is sufficient to guide our daily lives.

The extent of our knowledge, then, we may say, is for Locke completely decided by the extent and determinateness of those perceptions which he calls ideas and the concomitant possibility of perceiving a necessary agreement or disagreement between them. Thus, far from being practically limitless, as his unstructured picture of knowledge as comparison of ideas might at first suggest, its bounds are sharply delineated. Where the ideas are completely determinable in themselves, not depending on incompletely knowable sources, we can be optimistic about the possibility of knowledge; but where the ideas we have are connected to material substances outside ourselves, and thus according to Locke are necessarily not fully penetrable by our minds, knowledge eludes us.

Since our knowledge of the existence of things outside ourselves and of the natures and operations of substances is thus so severely limited, "since our Faculties are not fitted to penetrate into the internal Fabrick and real Essences of Bodies," Locke declares that "our proper Employment lies in those Enquiries, and in that sort of Knowledge, which is suited to our natural Capacities". Having little reason to believe that we can have much success in penetrating into the secrets of the universe, the practical Locke advises us to curtail those speculative operations so popular with the Scholastics and concentrate on study which is appropriate to us. In short, he concludes that since we are moral beings which can have knowledge of the (completely determinable) modes of ethics and very little knowledge of bodies, "Morality is the proper Science and Business of Mankind in general." (IV xii 11)

Leibniz, on the other hand, despite his much more structured conception of knowledge, and despite his much more strictly defined understanding of 'perception of the
agreement or disagreement of ideas' is not nearly as conservative as Locke on the question of the possible extent of our knowledge. Of course in one way this is to be expected, since Leibniz's criteria for knowledge are less narrow than are Locke's. The latter's definition of knowledge as the perception of the agreement or disagreement between ideas, in addition to possessing the relatively stringent (on Leibniz's view) requirement that we actually perceive the relation, Leibniz charges only fits "categorical truths, in which there are two ideas, the subject and the predicate." But, Leibniz declares,

...there is also knowledge of hypothetical truths and of what can be reduced to them—disjunctions and others—in which there is a connection between the antecedent and consequent propositions; and so more than two ideas may be involved. (NE, p. 357)

Although this may be nit-picking on Leibniz's part, and although Locke may well have been willing to allow for inclusion of these kinds of cases into his conception of 'agreement or disagreement', as long as he rests with as strict a definition of knowledge as he does, he is open to Leibniz's criticism of its narrowness.

With regard to the four ways of agreement or disagreement Locke outlines, Leibniz admits that "[t]here are confused ideas where we cannot expect complete knowledge, such as the ideas of some sensible qualities," and agrees with Locke that "with distinct ideas there is reason to hope for everything." (RB, p. 376) Leibniz adds, however, to the three degrees of knowledge Locke claims we can have about these things a fourth, which once again broadens the scope of possible knowledge. The added category is probabilistic knowledge, which is for Locke definitionally excluded from the category 'knowledge'. Leibniz declares, however, that to intuitive, demonstrative, and sensitive knowledge "you could add knowledge of likelihood. So that there will be two sorts of knowledge, just as there are two sorts of proof: one results in certainty and the other leads only to probability." (RB, p. 374) Since, however, the role of innate truths is not fundamentally different this case from their general role, as all demonstration for Leibniz, whether of probability or of certainty, reduces to definitional substitution to the principle of identity, it will not be necessary for our purposes to treat this
kind of knowledge independently. Whatever we say about the role and implications of innate knowledge with regard to certain knowledge will hold as well for probabilistic knowledge.

Aside from these conceptual distinctions, though, there exist significant differences between Locke and Leibniz on the possible extent of our knowledge as based upon three determining factors. Those factors, in the language of Locke, include the ideas we have, the existence of a "discoverable Connection" between those ideas, and the work involved in "tracing" our ideas through intermediate ones in order to reveal their "Relations and Agreements or Disagreements one with another." (IV iii 22-30) Although Leibniz does not in the New Essays suggest a different set of contributory factors or add to this one, when placed within the context of his system the set outlined by Locke has quite different implications.

First of all, Locke declares that our knowledge is limited by the extent of our sensation and reflection, since these are the only sources of our ideas. A quick recollection will provide us with understanding of why Leibniz's claims about the possibility of our knowledge based upon these factors are so much more extended than are Locke's. Whereas for Locke all ideas of reflection are ideas of the mind's operations upon other ideas, and so evidently dependent ultimately upon sense experience⁹, Leibniz maintains that ideas of reflection have as their object all the enduring properties of the soul, and not merely the idea of action. This appears to have important implications.

Since reflection on Leibniz's view provides us with ideas other than those of the mind's operations, it offers us a basis of knowledge that is independent of sense experience: the ideas of being, substance, duration, etc. These ideas, as we have seen, are for Leibniz infinite in their potential for generating knowledge, in that it is the necessary relations between them which ground all truths of reason.¹⁰ Thus Leibniz can claim nothing other than sensation and reflection as sources of our ideas and yet end up with an abundance of knowledge which Locke's system cannot yield. The soul's enduring properties and the necessary relations between them offer for Leibniz a framework of knowledge which takes
us far beyond the consciously-perceived agreements and disagreements between ideas that on Locke's view constitute the whole of our knowledge.

Next, consider the fact that what we perceive of objects (that is, the ideas we have of them) are its colors, sounds, tastes, and other secondary qualities, which Locke says evidently have "no affinity at all" with the "bulk figure, and motion" which produce them. Since, as we have noted, according to Locke the connection of these qualities of substances is not "discoverable in the Ideas themselves," he declares that "we can attribute their connexion to nothing else, but the arbitrary Determination of that All-wise Agent, who has made them to be, and to operate as they do, in a way wholly above our weak Understandings to conceive."(IV iii 28) Thus, as we have seen, for Locke our knowledge of bodies is severely limited—we can see that certain qualities are connected (we can have what Locke calls "experimental knowledge"), but we cannot perceive why they are.

Leibniz once more proves much more optimistic than Locke. In fact, he sees us virtually limitless in our capacity (although perhaps not in our willingness) for discovering the connections between our ideas. Although he admits, as we remarked above, that some ideas, such as those of some sensible qualities, are confused, so that we cannot expect complete knowledge with regard to them, he believes this to be of much less import than does Locke. Since on Leibniz's view "sensory phenomena are linked together in just the way required by truths of the intellect," (RB, p. 392), scientific knowledge about physical objects is made possible by our innate knowledge. Since all bodies are ultimately immaterial substances modified by God, "the supreme reason, and with whom everything is connected," (RB, p. 382) and thus must according to Leibniz be qualified "according to the natural order," there is no reason in principle why we cannot know them.11

From the study of bodies as aggregates of simple substances, then, we are, Leibniz maintains, "transported into another world, so to speak...the intelligible world of substances," (RB, p. 379) which opens those very areas to our knowledge that are on Locke's account closed. Because the "whole of nature" according to Leibniz is "a perfect work of God's making"12, and since "God has been determined by reasons of wisdom and order" to give the
world the order it has,"¹³ all of nature necessarily exists in accordance with reason. We have
seen moreover that on Leibniz's view God has supplied human beings with innate knowledge
of the principles of reason. Thus provided with these special tools, human minds have the
capacity to understand far beyond their experience that (and why) certain things must be true
of the world, while others cannot be. What is more, since God's created world as Leibniz
understands it does not include, as it does on Locke's view, impenetrable brute matter, which
constitutes the main barrier to our knowledge according to the latter, there is for Leibniz no
limitation in principle to our knowledge of substance as there is for Locke.

But perhaps there is no limit in principle to our knowledge of substance for Locke
either. Louis Loeb has pointed out¹⁴ that according to Locke, were we to achieve as clear
ideas of what makes physical things what they are (this Locke terms a thing's "real essence")
as we have of those things whose existence is purely mental, such as triangles and ethical
concepts such as 'murder' and 'good', we could attain demonstrative certainty of their
manners of action and reaction. Loeb uses the following passage from Locke's Essay in
support of his view:

I doubt not but if we could discover the Figure, Size, Texture, and Motion of
the minute Constituent parts of any two Bodies, we should know without Trial
several of their Operations one upon another as we do now know the
Properties of a Square, or a Triangle. (IV iii 25)

Knowledge, then, of the real essences of things evidently would according to Locke make
their actual existence a moot point in our consideration of them, just as the existence of any
instance of a triangle is absolutely inessential to our knowledge of its properties and relations:

Had we such ideas of substances, as to know what real constitutions produce
those sensible qualities we find in them, and how these qualities flowed from
thence, we could, by the specific ideas of their real essences in our own
minds, more certainly find out their properties and discover what qualities
they had, or had not, than we can now by our senses; and to know the
properties of gold, it would be no more necessary, that gold should exist, and
that we should make experiments upon it, than it is necessary for the knowing
the properties of a triangle, that a triangle should exist in any matter, the idea
in our own minds would serve for the one, as well as the other. (IV vi 11)
It thus seems indubitable, given the expansiveness of Locke's claims about the possibility of knowledge with regard to modes, that transporting ourselves from the domain of empirically gathered sense data to the domain of the understanding via complete ideas of real essences of bodies would render him as optimistic regarding the possibility of our knowledge of substances as is Leibniz. Anything of which we have adequate ideas is for Locke completely knowable, so that if we could move entirely into the domain of ideas and merely consider their relations, the possibility of our knowledge would be virtually limitless, at least in principle. The question, however, is whether such a move is on his view possible. We saw in Chapter 2 that Loeb insists that it is, invoking in support of his claim Locke's many complaints that we cannot perceive the shapes and motions of the 'insensible particles' constituting objects as evidence that in principle, at least, knowledge of real essences of objects could be gained through the senses, thus rendering a complete demonstrative science of them possible.

Loeb's argument on this point is, however, as we suggested in Chapter 2, far from conclusive. It is true that one problem Locke cites against our ability to know real essences is that "we know not the Real Constitutions of Substances on which each secondary Quality particularly depends." But developing more acute senses or more powerful microscopes it seems would not necessarily open knowledge of nature for Locke, as Loeb argues it would, for in addition to the possible problem noted in my earlier chapter with regard to the very idea of substance, there exists a further problem.

The problem is that knowledge on Locke's view requires a perception of universal and necessary connections, which we cannot have with regard to substances, unless we can discover the "natural dependence" of the qualities upon one another. About this discovery, however, Locke is not hopeful; he says that

in their primary Qualities, we can go but a very little way in; and in all their secondary Qualities, we can discover no connexion at all..." (IV vi 7)
Locke thus maintains that even if we did know the inner constitution of a substance, and knew as well all of the secondary qualities that flowed from that constitution, this information would serve us only for experimental (not universal) Knowledge; and reach with certainty no farther than that bare instance. (IV vi 7)

Even if we could, then, know the inner constitution of a substance, upon which each of its secondary qualities depended, Locke denies that we could acquire universal knowledge of connections between that particular arrangement and motion of particular shapes and sizes of corpuscles and those secondary qualities. We could not on Locke's view, that is, know from perceiving a particular inner constitution and its resulting secondary qualities that every time certain arrangements of particular shaped, sized, and moving or resting corpuscles occur, that certain secondary qualities would also occur. It seems, then, that we could never in the case of secondary qualities, and rarely in the case of primary qualities, perceive the kind of certain and general connection required by Locke for knowledge.15

The main reason for this lack of knowledge, as we remarked in Chapter 2, is that the senses cannot tell us why things are the way they are, and why certain constitutions will necessarily result in certain properties.16 The most that could ever be gleaned from sense experience would be constant correlations of configurations and secondary qualities (conjoined on Locke's view, remember, according to the arbitrary will of our maker), so that we could justifiably depend in practice upon their continued correlation. But practical reliability is not sufficient, according to Locke, to warrant knowledge claims. "Because the highest Probability, amounts not to Certainty; without which there can be no true Knowledge." (IV iii 14)

Leibniz, on the other hand, does not rely upon sensory information to ground the possibility of a demonstratively certain science of nature, even though he freely admits that we no doubt would never think of the truths constituting such a science without the information of the senses. Sensory information for Leibniz, no less than for Locke, "does
not provide absolutely certain truths, free from all risk of illusions." (RB, p.412) Rather, the
certainty of a demonstrated science, like all certainty, for Leibniz rests upon the infallible
and eternal principles of logic which grounds all of our certainty.

The truth of our sensible experience, he notes, "consists only in the linking together
of phenomena." But for this linking, as for everything, "there must be a reason." Thus
although it is metaphysically possible for a dream to be as coherent and prolonged as a man's
life, for Leibniz "this would be as contrary to reason as the fiction of a book's resulting by
chance from jumbling the printer's type together." On Leibniz's view

the linking of phenomena which warrants the truths of fact about sensible
things outside us is itself verified by means of truths of reason, just as optical
appearances are explained by geometry. (RB, p. 374)

Ultimately, scientific truths, no less than any other truths, must conform to rational
principles, which constitute the very structure of our minds. Since the linking of phenomena
from which we generate our science of nature "is itself verified by means of truths of
reason," we should in principle at least be able to come to demonstrative knowledge of
scientific truths.

According to Leibniz, then, the world of our experience is a rational one whose
necessary connections neither can be nor need be gleaned from experience.17 These rational
connections are built into the very nature of the created world (and into us, as part of that
creation), since that world comes from God, who necessarily operates according to principle.
The 'good pleasure,' according to which God brings into being contingent reality Leibniz
states "would indeed be neither good nor pleasure if God's power did not perpetually run
parallel to his wisdom." (RB, p. 382) Thus we are not limited in our knowledge of substances
to what we can perceive in sense experience, for God

produces and conserves in them only what is suitable to them and can be
explained through their natures; explained in a general way, at least, for often
the details are beyond us, just as we lack the diligence and the power to
arrange the grains in a mountain of sand according to their shapes, although
apart from their sheer multiplicity there is nothing difficult to understand
about that. (NE, p. 381)
Although it may be difficult to achieve, then, and although perhaps possible only in a general way, because on Leibniz's account all bodies' qualities and powers must exist in accordance with their natures, which exist in accordance with God's reason, knowledge of those bodies and their powers and qualities must be admitted at least possible.

Because Leibniz maintains that we possess innate knowledge of all the principles of reason which form the necessary structure of all reality, although "[t]here are confused ideas where we cannot expect complete knowledge," as is the case with our ideas of some sensible qualities, it is never the case in his opinion that we are incapable in principle of attaining any knowledge. Since even contingent truth ultimately is linked according to the principles of reason, the soul on Leibniz's view is perfectly suited for gaining knowledge of the created world. As a matter of fact, the soul does not merely possess knowledge of these underlying principles; as we have seen, it uses it all the time. Knowledge of the principle of identity, for instance, is at work within us in combination with sensory knowledge when we are children begging for a sweet while refusing quinine. The source of our ignorance quite often, then, is that we simply will not trouble ourselves to seek connections.

Locke, in contrast to these opinions espoused by Leibniz, would find having, much less using, knowledge of which we have never been aware inconceivable, since the very meaning of the term 'know' for the former implies consciously perceiving. Locke insists that "[c]onsciousness is the perception of what passes in a Man's own mind," so that it is as intelligible to say "that a body is extended without parts, as that any thing thinks without being conscious of it, or perceiving, that it does so." (II i 19)

Since, then, Locke makes no distinction similar to Leibniz's between perceptions and actual thoughts, it appears, that Locke would have difficulty even making sense of Leibniz's claim that we use certain portions of our knowledge without being aware of it. For Locke, using knowledge, as we do with habitual knowledge, in the endeavor to perceive the agreement or disagreement between two ideas whose relation is not immediately clear, means, according to our analysis in Chapter 2, recollecting (having the perception) that an agreement or disagreement was once perceived. Even in this case, then, which is the closest Locke ever
comes to Leibniz's view, knowledge cannot be used without awareness of the fact that it is being used.

Before we settle ourselves too comfortably on the view that Locke has nothing to compare to Leibniz's (highly productive) innate knowledge, however, let us return for a moment to Leibniz's intention when he says that we have and use knowledge of which we are unaware. What he seems to be referring to are the implications of his belief that upon reflection the soul apperceives in itself a certain structure. This structure carries implicitly the principles according to which the soul can and does operate. It reveals itself in our experience as predispositions to agree to certain propositions (and to deny others) in both their general form and in particular instances once consciousness is presented with them and they are understood. The unconscious use that Leibniz refers to, then, is the actual agreement or disagreement that we exercise based on these tendencies, and has nothing, as we have seen$^{20}$, to do with unconsciously affirming or denying certain principles.

All of what Leibniz terms our innate knowledge and our use of innate knowledge, then, refers ultimately to the enduring properties of the soul. According to Leibniz the soul (real substance to which we have noumenal access) is structured in accordance with the rational creativity of God, embodying in both its existence and its manner of operation the fundamental concepts and the laws of reason involved in God's ontology of truth. Due to this structure and our access to it we can be said to have both innate ideas and innate knowledge. Our innate knowledge thus does not for Leibniz amount to the possession of a stored set of propositions, although the principles innate to the soul can become formalized through making explicit the observations of our reflection.

But surely the soul on Locke's view as well must possess some structure; for even a tabula rasa has the structure requisite to receiving writing. Certainly there must be for him some determinate nature of the soul which limits and shapes the abilities of the soul. If not, it would appear unreasonable for him to make as he does the claim that the soul has determinate faculties. Indeed, not only does he claim we have them; what is more, he maintains that the faculties of the mind are responsible for the very possibility of knowledge,
and determine the ways in which humans can know, in a manner which seems to parallel the role of Leibniz's mental structures. Remember the way in which Locke describes the mind's ability to perceive distinct ideas:

'Tis the first Act of the Mind, when it has any Sentiments or Ideas at all, to perceive its Ideas, and so far as it perceives them, to know each what it is, and thereby also to perceive their difference, and that one is not another. This is so absolutely necessary, that without it there could be no Knowledge, no Reasoning, no Imagination, no distinct Thoughts at all. By this the Mind clearly and infallibly perceives each Idea to agree with itself and to be what it is; and all distinct Ideas to disagree, i.e., the one not to be the other: And this it does without any pains, labour, or deduction; but at first view, by its natural power of Perception and Distinction. (Essay, IV i 4)

Not only, then, does Locke believe that the mind has specific abilities determined by its structure: what is more, he claims that without its particular "power of Perception and Distinction" no knowledge, and indeed no thoughts at all, could arise. Thus he who rejects the notion of innate principles of which we are unconscious relies heavily upon the existence of quite determinate faculties of which we are completely unaware prior to reflection. Moreover, we have seen Locke declare that the mind through its faculties constantly performs a very precise set of functions in shaping our experience, "without any pains, labor, or deduction." Indeed he says it performs them automatically, "at first view, by its natural power[s]."

It seems, then, that although Locke explicitly denies the existence of innate ideas and principles, his own conception of the mind's operation according to "its natural powers" seems significantly similar to what Leibniz calls our innate knowledge of the principle of identity. Locke's automatically-operating faculties of perception and distinction, which operate every time we perceive through the senses, seem to carry practical import quite similar to what Leibniz intends with his innate ideas when he says that we know such things as the principle of identity 'virtually', that we 'use' it constantly, without being aware of it. In both cases the mind automatically and consistently perceives each of its ideas as distinct from all others, and in both cases all of our knowledge depends fundamentally upon this particular mode of operation.
This similarity between the views of Locke and Leibniz is not so surprising if one accepts the reading of Leibniz's innateness as ideas and principles which come to consciousness through reflection. The knowledge that Leibniz chooses to call innate we now know is so called on the grounds that the objects of the ideas and principles of which it consists are inbuilt, not because Leibniz believes certain representations to be tucked away in consciousness. He no more than Locke takes there to be formed representations existing in the mind which can be brought to consciousness even though their objects may never have been experienced. The knowledge called 'innate' on Leibniz's view is thus just as acquired as any other knowledge.\textsuperscript{21} The distinction he makes is not between acquired knowledge and knowledge which does not need to be acquired; rather, it concerns the ultimate source of the acquisition. Knowledge which can be acquired through reflection upon the "enduring properties" of the soul alone is innate; other knowledge is not.

It seems evident, then, that Leibniz is not an innatist of a traditional sort. That is, he is evidently not motivated by the problem concerning the possibility of knowledge which has prompted many theories of innateness in the history of philosophy since it was first presented in Plato's "little gem", \textit{Meno}. According to this paradox, knowledge acquisition appears incapable of account:

\begin{quote}
And how will you try to find out something, Socrates, when you have no notion at all what it is? Will you lay out before us a thing you don't know, and then try to find it? Or, if at best you meet it by chance, how will you know this is that which you did not know?\textsuperscript{22}
\end{quote}

For Plato, as for many other innatists, the only way in which to escape this paradox, to account for our ability to learn new things, is to postulate that they are not really new to us.\textsuperscript{23} For Plato, of course, this is accomplished by the theory of recollection, according which has all knowledge is in our souls prior to our birth. Although it is obscured upon our acquiring physical bodies, that knowledge remains lodged in a type of memory, needing only the stimulus of the proper questions in order to be brought forth.
For Leibniz, however, it is not the case that we possess this type of actual knowledge of which we are somehow unaware. Rather, as we discovered in Chapter 3\textsuperscript{24}, he maintains that knowledge is in us in a potential way, as "inclinations, dispositions, tendencies, or natural potentialities" (NE, p. 52). So his understanding of innateness seems more likely motivated by a concern for the existence and peculiarly certain nature of our knowledge of a particular set of truths (the necessary ones), for which experience cannot account, than by the paradox which appears to preclude the possibility of gaining any new knowledge. This distinct motivation underlying Leibniz's epistemology has as one consequence that he, although an innatist, is as vulnerable to Meno's knowledge paradox as is any empiricist. It has the result in fact that in at least one relevant sense, Leibniz is an empiricist.

Thus we find at least part of the solution to the puzzle of why Leibniz perceives his innatist view to be so similar to Locke's empirical theory of knowledge acquisition, even though he well knows that innatism is the very view against which Locke contrasts his own theory. Leibniz in his particular conception of innatism quite agrees that "we learn innate ideas and innate truths..." (RB, p. 85) So, if one takes empiricism to be the view that all knowledge is learned, which seems to be point of Locke's tabula rasa metaphor, then Leibniz is as much an empiricist as Locke himself.

For Leibniz as well as for Locke, then, there are no sources of knowledge other than sensation and reflection. Leibniz declares in fact that Locke "admits" from the beginning of his second book "that ideas which do not originate in sensation come from reflection." (NE p. 51) But Leibniz's view of innateness as grounded in reflection upon the soul, we have remarked, depends upon the characterization of innate ideas as those whose objects are innate to the mind, and innate principles as those principles derivable from those innate ideas. He never makes any claims, we said, about the innateness of any mental representations.

Leibniz's criterion for innateness, then, someone will no doubt now point out, rests upon that seventeenth-century conflation between ideas and their objects with which we have become familiar. Someone might thus argue that when Leibniz speaks of innate ideas, which term usually refers to mental perceptions, he actually intends the innate characteristics
of the soul, and so, since Locke would never deny that the soul has certain characteristics, the dispute between the two thinkers over innateness is merely a verbal one. Locke too, we have seen has often been accused of this conflations, and so the existence or absence of such a mistake in Leibniz's alone would not constitute sufficient reason to dismiss as merely semantic the difference between his view and Locke's on the issue of innate ideas and knowledge. The role of such a confusion in each thinker's system and its implications would have to be investigated independently before such a judgment could be made.

Such an endeavor will not be necessary, though, since it seems that both of these philosophers can be fairly convincingly defended against the charge of falling into the conflations between ideas and their objects. For Leibniz the solution is simple: he does not confuse innate ideas with innate objects; rather he defines innate ideas as those whose objects are the enduring properties of the souls:

...can it be denied that there is a great deal that is innate in our minds, since we are innate to ourselves, so to speak, and since we include Being, Unity, Substance, Duration, Change, Action, Perception, Pleasure, and hosts of other objects of our intellectual ideas? And since these objects are immediately related to our understanding and always present to it (although our distractions and needs prevent us being always aware of them), is it any wonder that we say that these ideas, along with what depends on them, are innate in us? (RB, p. 51)

These sentences clearly recognize the difference between ideas and their objects. Leibniz's defense, then, against the conflations charge would simply be that he well recognizes the difference between ideas and their objects, and that he chooses, given that distinction, to call a certain set of ideas innate in virtue of the fact that their objects are innate characteristics of the soul.

Neither is Locke guilty of mistakenly conflating ideas and their objects, although that error is always hovering on the edges of his thought. He spends a great deal of effort on the issue, in fact, pointing out that this conflation is an error that others often make, and one of which he is well aware. That he recognizes the pervasiveness of the confusion between ideas and objects of ideas in philosophical writing comes out most obviously in his discussion of
primary and secondary qualities of objects. His arguments on that topic have given rise to much criticism and discussion, most of which is obviously outside the scope of the present discussion. But one sample of his language in this area would lend much to our investigation of his connection to the 17th century tendency to conflate ideas and their objects. He says in a discussion of the sources of our ideas that

To discover the nature of our Ideas the better, and to discourse of them intelligibly, it will be convenient to distinguish them, as they are Ideas or Perceptions in our Minds; and as they are modifications of matter in the Bodies that cause such Perceptions in us. (II viii 7)

It seems from this that Locke calls both perceptions in our minds and qualities of objects 'ideas'. In another place, however, he makes it clear why he uses such language:

For though Fire be call’d painful to the Touch, whereby is signified the power of producing in us the Idea of Pain; yet it is denominated also Light, and Hot; as if Light and Heat, were really something in the Fire, more than a power to excite these ideas in us; and therefore are called Qualities in, or of the Fire. But these things being nothing, in truth, but powers to excite such Ideas in us, I must, in that sense, be understood, when I speak of secondary Qualities, as being in Things; or of their Ideas, as being in the Objects, that excite them in us. Such ways of speaking, though accommodated to the vulgar Notions, without which, one cannot be well understood; yet truly signify nothing, but those Powers, which are in Things, to excite certain Sensations or Ideas in us. (II xxxi 2)

From his repeated explanations and justifications of his own practice of clearly distinguishing ideas as in minds, and the qualities which are those ideas' objects in bodies, it seems apparent that Locke pictures himself as contravening some commonly accepted practice\textsuperscript{25}. In communicating his ideas, Locke evidently feels compelled to use the "vulgar notions" of his contemporaries, speaking often of ideas as though they were themselves the objects of which they are actually the perceptions.

Locke, then, although his writing is steeped in the language of the conflation of ideas and objects of ideas, does not himself fall into the conflation as one falls into error, but rather seems to recognize and use it in order to be understood by those contemporaries who have not yet cognized the distinction between ideas and their objects. The conflation thus
is not to be found in his own, new, work on reflection. If it were, however, one might be tempted to some interesting, although insupportable, conclusions. Consider the following passage in which Locke states the nature of reflection and the ideas it produces as he sees them:

By Reflection, then, in the following part of this Discourse, I would be understood to mean, that notice which the Mind takes of its own Operations, and the manner of them, by reason whereof, there come to be Ideas of these Operation in the Understanding. (II i 4)

Reflection itself is thus defined as a turning of one's attention (a taking notice) of the mind's own operations ("Perception, Thinking, Doubting, Believing, Reasoning," etc.) and their manner, and the ideas of reflection are the ideas acquired through this second-order operation of the mind.

If Locke's thought did prove to involve a conflation between ideas and their objects, he evidently could be interpreted as promoting a view very similar to that which Leibniz characterizes as the innatist position. Consider Locke's clear statement that perceiving ideas as identical to themselves and different from all others is the "first exercise" of the mind's operation of its "natural power of Perception and Distinction." (IV i 4) Recognizing each idea as itself and as not any other, "without any pains, labor or deduction; but at first view" is thus the manner of operation of the faculty of perception which the mind perceives when it turns its attention on itself. The principle of identity, then, according to Locke apparently would be one of the things observed at work when the mind reflects on its own operations. That principle, in short, constitutes the "manner" of one of the mind's natural operations.

It seems as though we could say with some reason, then, that on a conflated reading of ideas (or knowledge) and their (its) objects that the principle of identity would be innate for Locke. Could we go further, then, and claim that given such a confused reading knowledge of the principle of identity for Locke would be innate as well, thereby aligning his position with Leibniz's? It seems not. Locke states that what consciousness reflects upon is the operations of the mind upon its particular ideas (sensory or reflective perceptions), and
not on its own properties, as is the case for Leibniz. Thus, although reflection results for Leibniz as well as for Locke in perceptions of certain operations\(^\text{26}\), the difference between the two views is significant. When Leibniz says we can acquire knowledge through reflection, the examples he uses are "Being, Unity, Substance, Duration,..." and "hosts of other objects of our intellectual ideas, from which necessary truths arise," (RB, p. 81) indicating that perceivable upon reflection are certain general ontological categories, which in their relations imply certain logical truths.\(^\text{27}\) These truths consciousness can thus distinguish are necessarily and therefore universally true, and not simply the perception of a particular action of a particular consciousness upon particular ideas of sensation or reflection.

For Locke, on the other hand, the mind upon reflection would perceive itself recognizing certain perceptions as, for example, identical with themselves and different from other of its perceptions. Reflection on Locke's view thus evidently provides no information of a universal and necessary nature about the structure of reality; that is, reflection for him carries no guarantee that the object of his reflection--the operations of a particular mind upon the particular ideas of its experience--indicates anything about the general nature of reality. For Leibniz, by contrast, the truths established through reflection are perceived to be necessarily true, and so say something beyond the individual cases of operation perceived. By their very nature as necessary, these truths in fact say something about the structure of reality itself.

Thus it becomes evident that even assuming confusion in Locke's thought between ideas (or knowledge) and their (its) objects, his view of reflection would not turn out to be the same as Leibniz's. For Leibniz, on the one hand, the mind gathers through reflection ideas of the basic ontological categories, from which it is then possible to derive the logical principles which outline how the world can be. Since the mind is perceiving real being, substance, etc., and not just their appearances, these ideas thus reveal not merely how the mind happens to work, but how in fact the world must be. They reveal, that is the ontological structure of truth.
For Locke, on the other hand, reflection only provides ideas of the mind’s particular manner of acting. That is, reflection reveals how the mind according to its particular through its determinate faculties deals with its perceptions. But derivable from this information is simply how the mind perceives the world; one cannot gather from an examination of the manner of the mind’s perceptions, as Kant has taught us, the truth about things in themselves. In fact, continuing in the use of Kantian language, one could say that for Leibniz, upon reflection the mind, because of the "special affinity" it has with itself, perceives its noumenal self, that is, perceives its concepts in themselves, together with the necessary truth of the relations between those concepts, that is, the necessary truth of the innate knowledge which informs its dispositions. For Locke, on the other hand, what the mind perceives upon reflection are merely the actions which the mind in fact performs. No guarantee is given through reflection of the trustworthiness of the mind’s manner of perception.

Furthermore, the principles according to which the mind acts would on Locke’s view have to be abstracted from the variety of particular actions one might perceive through reflection before they would be suitable for knowledge as he conceives it. These principles as general principles would thus have to be constructed by the mind; reflection in itself simply cannot on Locke’s model reveal general principles. Once again, then, his definition of knowledge prohibits aligning his view with Leibniz’s, for as Locke would see it, even though we reflected upon nine hundred instances of the mind’s perceiving things to be themselves and not other things, until we were equipped with the general ideas of "thing," "other," and "identity" in general, we could never have knowledge of the general principle of identity. Until we had acquired those ideas, then, through abstraction from particular ideas acquired through experience (as he says we can in fact do), we could not on his view formulate the general principles. Thus although the application of general, unconsciously employed principles may qualify as knowledge for Leibniz, they cannot on Locke’s view be conceived as belonging under that rubric.
But, someone might object, the disagreement at this point is merely verbal. Whereas Locke simply limits his definition of knowledge to propositions of which one is conscious, Leibniz expands his definition to include among the knowable such things as ideas and implicit principles which one perhaps has never actually affirmed. The fundamental difference between these two theories, one might thus say, is in definitions, and so regardless of whether Locke is willing to put the name 'knowledge' on the ideas and principles which can be derived from reflection on the soul's actions, in manner of operation his system of knowledge acquisition is not effectively different from Leibniz's.

This objection, however, fails to recognize the significance of definitions in these two theories. Clearly Locke and Leibniz do define terms differently; the point essential to understanding this debate, though, is that the reason they define their terms differently is that they are working within fundamentally different conceptual schemas. Not just one or a few terms are different between them; rather, their philosophical worlds are different. The whole fabric of Locke's thinking, that is, is divided differently than is Leibniz's. In such a case as we are now considering, then, the difference between two thinkers' definitions and uses of terms does not indicate mere semantic disagreement, but instead points to significantly different ways of thinking about philosophical questions. (Indeed, as we will see at the end of this chapter, it points to different questions altogether.)

In order to begin to understand the depth of difference between Locke and Leibniz, consider for instance that for Leibniz reflection involves not only conscious perceptions of mental structures and their relations, but, because of the special requirements of his metaphysics, necessarily brings in continual unconscious perceptions as well. Recall that according to Leibniz's Law of Continuity nature makes no leaps, so that "any change from small to large, or vice versa, passes through something which is, in respect of degrees as well as of parts, in between..." (RB, p. 56) Since conscious perceptions of the soul (or of anything, for that matter) thus cannot come out of nowhere, but rather according to this principle can only come to be from a lesser degree of perception, one essential feature of Leibniz's view
of innateness is its foundation in his particular understanding of the operation of mind, which involves the assumption that the soul always thinks.

In contrast to Leibniz's way of thinking, Locke, who confesses to having "one of those dull Souls, that doth not perceive it self always to contemplate Ideas" sees no reason to accept such a doctrine, and presents several objections against it. First of all, we have seen that it just simply does not make sense on Locke's conception of 'think' to have it occur unconsciously. One thing he says about those who maintain that the mind does always think, even when we are not conscious of it, is that

[...] they who talk thus, may, with as much reason, if it be necessary to their Hypothesis, say, That a Man is always hungry, but that he does not always feel it: Whereas hunger consists in that very sensation, as thinking consists in being conscious that one thinks. (II i 19)

Thus, in what appears to be a case of question-begging, Locke declares that the very essence of thinking includes consciousness, so that it simply does not make sense to assert that the soul is always involved in thinking, even when it is not aware of being so involved.

Furthermore, although easily admitting that the soul indeed has as one of its operations thinking, Locke himself finds no evidence for the existence of continual thought, and is unpersuaded by the arguments of others. For to claim with Descartes and other essentialists that thinking is the soul's essence, and hence must always occur if the soul is to be what it is Locke declares is "to beg, what is in Question, and not to prove it by Reason."(II i 10) Since it is neither necessary nor impossible that the soul always thinks, and since it is on Locke's view

...much more probable that it should sometimes not think, than that it should often think, and that a long while together, and not be conscious to it self the next moment after, that it had thought (II i 18)

the burden is on the shoulders of the essentialists to show "how they come to know, that they themselves think, when they themselves do not perceive it." (II i 18) Locke thus looks to those who claim that the soul always thinks to provide an answer to the question of where
they might become provided with such information, since it obviously cannot come from experience.

Locke's conservatism has thus put a major tenet of Cartesianism into dispute, and Locke believes that the evidence which does exist supports his side of it. First of all, there is the argument from utility. According to Locke, if it is the essentialists' opinion that the soul always thinks, but soon (or immediately) forgets much of what it has thought, the thinking would be of little use to the thinker. But, he argues that

[n]ature never makes excellent things, for mean or no uses; and it is hardly to be conceived, that our infinitely wise Creator, should make so admirable a Faculty, as the power of Thinking, that Faculty which comes nearest the Excellency of his own incomprehensible Being, to be so idly and uselessly employ'd, at least 1/4 part of its time here, as to think constantly, without remembering any of those Thoughts, without doing any good to it self or others, or being any way useful to any other part of the Creation (II i 15)

Much worse for the essentialists, however, Locke believes, are the implications that the notion of a continually-thinking soul have for personal identity. According to Locke, if the soul has conscious experiences of its own (which it does not immediately forget) apart from the awareness of the man to whom that soul belongs "it will be hard to know wherein to place personal Identity." (II i 11) Are the soul and the man the same entity? If so, why does the soul possess a whole set of perceptions to which the man is not privy? On Locke's view, "they make the Soul and the Man two Persons, who make the Soul think apart, what the Man is not conscious of" (II i 12), which surely is an unacceptable consequence.

It thus appears that for Locke consciousness is key not only to the mere definition of knowledge, but to the question of the nature of our very identity as well. Although he professes to refrain from making knowledge claims concerning the nature of the soul, citing the "ignorance we are in of the Nature of that thinking thing, that is in us, and which we look on as our selves." (II xxvii 27) Locke nevertheless states that as far as the soul matters to us, as far as it can be said in any reasonable way to be a self, it must be tied to consciousness, for
Nothing but consciousness can unite remote Existences into the same Person, the Identity of Substance will not do it. For whatever Substance there is, however framed, without consciousness, there is no Person... (II vii 23)

With regard specifically to the immaterial soul Locke once again brings the necessity of consciousness to the soul as far as it means anything to us:

...in reference to any immaterial Substance, which is void of that consciousness whereby I am my self to my self: If there be any part of its Existence, which I cannot upon recollection join with that present consciousness, whereby I am now my self, it is in that part of its Existence no more my self than any other immaterial Being (II vii 24)

As he is willing to adopt into his view, then, only those claims which experience will support, Locke could never even consider, much less agree with, Leibniz's understanding of the operation of the mind as dependent upon constant unconscious perceptions.

Leibniz, on the other hand, cannot perceive what prompts Locke to such conservatism. For one thing, Leibniz feels compelled to point out to Locke that "when you contend that there is nothing in the soul of which it is not aware, you are begging the question." (RB, p. 118) Consciousness, as we have already seen argued, cannot be proven an essential component of perception by simply defining it into the term. What is more, Leibniz declares, the commonest everyday experience supports the notion of unconscious perceptions:

...we become so accustomed to the motion of a mill or a waterfall, after living beside it for a while, that we pay no heed to it. Not that this motion ceases to strike on our sense-organs, or that something corresponding to it does not still occur in the soul... but these impressions in the soul and the body, lacking the appeal of novelty, are not forceful enough to attract our attention and our memory, which are applied only to more compelling objects (RB 54)

Thus Leibniz maintains that we should always observe the distinction between "thoughts in general and noticeable thoughts," for although we by definition of 'notice' are incapable of noticeable thoughts of which we are unaware, we experience an abundance of thoughts every day which are not sufficiently novel or forceful to bring them to our awareness. Like hunger, Leibniz says, thoughts do not draw our attention until they are strong enough. (RB, p. 118)
Not only does Leibniz provide experiential evidence for unconscious perception; he moreover provides a logical argument. Citing Boyle's attack on the notion of absolute rest for support, Leibniz claims that

any change from small to large, or vice versa, passes through something which is, in respect of degrees as well as of parts, in between; and that no motion ever springs immediately from a state of rest, or passes into one except through a lesser motion... (RB p. 56)

Thus, in sidestepping Zeno's famous paradox purporting to prove the impossibility of motion, Leibniz concludes that there never is a transition from motion to rest, but only degrees of the former. In short, as we now know, "it is one of [Leibniz's] great and best confirmed maxims that nature never makes leaps." (RB, p. 56) Specifically, with regard to consciousness, this principle is easily perceived to be operating even in the dreamlessly sleeping person whom Locke would claim is unconscious, unperceiving. According to Leibniz, if perception were not occurring to some degree, people would be impossible to awaken, and

the easier someone is to awaken, the more sense he has of what is going on around him, though often this sense is not strong enough to cause him to wake." (RB, p. 115)

Since people are not impossible to awaken, and some are even easily awakened, Leibniz believes he has significant support for his conclusion that unconscious perception is not only possible, but is an actual, even a familiar, occurrence.

This difference in views in an area which on the surface appears unrelated can now be seen to indicate a, or perhaps even the, crucial difference between the views of Locke and Leibniz on the question of the innate knowledge. The disagreement to which I refer is that unconscious perceptions, which have a place in Leibniz's conceptual schema, and are in fact essential to his account of innate knowledge, are impossible within Locke's system. This disparity in views, we can now see, rather than indicating mere semantic differences, implies in fact that the two thinkers differ at the very foundations of their systems.
Upon this fuller examination of the differences between Locke's and Leibniz's views of consciousness, it becomes apparent that even the fundamental notion of 'idea', although perhaps prima facie similar in the minds of the two philosophers, actually comes in context to refer to two completely different phenomena. Leibniz makes a distinction which may help us to perceive this difference. He agrees with Locke that an idea is the object of thinking, provided that you add that an idea is an immediate inner object, and that this object expresses the nature of qualities of things. If the ideas were the form of the thought, it would come into and go out of existence with the actual thoughts which correspond to it, but since it is the object of thought it can exist before and after the thoughts (RB, p. 109)

One can, and indeed everyone does, have ideas, then, according to Leibniz, even when no thoughts of them occur. Ideas are thus never actually gone for Leibniz. Remembering is recalling an object that never goes out of existence, regardless of what perceptions we happen to have at any given time. Recall that for Locke, however, memory just is the capacity for having certain perceptions, based upon the fact that one has had certain perceptions in the past. There is nothing to "store away" or "bring up" in memory on Locke's view, for ideas cease to exist as soon as they leave consciousness. Mental entities only exist as perceived. The metaphysical status of ideas is thus different on Locke's understanding than it is within Leibniz's theory.

Yet another set of items which possesses a completely different significance in the respective contexts of each of these two systems is identities. Identical truths, while they are central to Leibniz's epistemology, are considered by Locke to be "trifling." The latter portrays them, in fact, in a rather unflattering light:

It is but like a Monkey shifting his Oyster from one hand to the other; and had he had but Words, might, no doubt, have said, Oyster in right hand is Subject, and Oyster in left hand is Predicate: and so might have made a self-evident Proposition of Oyster, i.e. Oyster is Oyster; and yet, with all this, not have been one whit the wiser, or more knowing: and that way of handling the matter would much at one have satisfied the Monkey's Hunger, or a Man's Understanding; and they two would have improved in Knowledge and Bulk together. (IV viii 3)
Identities, Locke says, although "boasted to be the foundation of Demonstration" (IV viii 2) because they tell us nothing about the idea involved, other than affirming it of itself, offer no instruction, and so, far from being worthy of the acclaim that many have given them, simply state that which "no body will so openly bid defiance to common Sense" as to deny. (IV viii 2)

Leibniz, of course, is one of those admirers of identities, finding them highly valuable for the procedure of demonstration. Since for him being true implies fitting into the system of all truth, demonstrating the unquestionable truth of propositions is not only a possible but a necessary part of gaining knowledge. Thus he declares that, contrary to Locke's disparaging opinion, identities are very useful, for "showing that other truths which one wishes to establish can be reduced to them by means of deductions and definitions" (RB, p. 429)

Moreover, those propositions which Leibniz calls "semi-identicals" have added usefulness, for they may often remind us of essential facts in certain situations. He states in this regard that

A good proportion of moral truths and of the finest literary aphorisms are of that nature: quite often they teach one nothing, but they do make one think at the right time about what one knows already. (RB, p. 429)

For example, Leibniz states that the statement 'A wise man is still a man' tells us "that he is not infallible, that he is mortal, and so on." (RB, p. 429) These kinds of implications may, of course, prove to be of great value in certain kinds of discussions and arguments by pointing out facts which are relevant but perhaps unnoticed by one or more of the parties involved.

Much more important than either of these uses, of course, is the (onto)logical role that identities play in constituting all truths of reason in Leibniz's hierarchy of truth, especially in the case of the principle of identity, upon which all other truths of reason depend, and upon which meaningful discourse generally depends. On Leibniz's account of knowledge, we should remember, the principle of identity is not only necessarily true; it is indispensable as
well. Knowledge of general truths, albeit unconscious, is, we have said, logically prior to knowledge of their instances, and knowledge of the principle of identity is a prerequisite to knowledge of any other general truths. Indeed, we have seen that the principle of identity is so fundamental to Leibniz's epistemology that it cannot be meaningfully denied.

Locke, it must be noted, evidently does not fail to note this necessity of operating according to the principle of identity, at least, for he asserts even as he is railing against the importance of identities that

I grant as forwardly as any one, that they are all true and self-evident. I grant farther, that the foundation of all our Knowledge lies in the Faculty we have of perceiving the same Idea to be the same, and of discerning it, from those that are different...(IV viii 3)

Nevertheless, how that fact absolves identities "from the imputation of Trifling" as far as they are concerned in improving our knowledge, he cannot see. For Locke, as has been shown, in defining knowledge as the conscious comparison of ideas ignores Leibniz's distinction between "the sequence of our discoveries, which differs from one man to another" and "the connection and natural order of truths, which is always the same." (RB, p. 412) The logical priority of general principles which Leibniz finds so significant thus plays no active role in Locke's epistemology.

On Locke's view, as we know, "general rules are but the comparing our more general and abstract Ideas." Far from grounding our knowledge of instances, he says that general truths "are not the Truths first known to the mind," for since knowledge of truths depends upon possessing clear ideas, the truths "must be first known, which consist of Ideas that are first in the Mind: and the Ideas first in the Mind, 'tis evident, are those of particular Things." (IV vii 9) Our knowledge of general truths is, then, for Locke dependent upon general ideas, which, as we have seen are on his view the "workmanship of the understanding." General ideas we have said are on Locke's view constructed from particular ones, and if we are not currently conscious of the particulars from which we have derived our ideas of such things as being, substance, or identity, that is simply because it is "natural for the mind" to lay up
and use general notions in order to "disburden the Memory of the cumbersome load of Particulars." (IV xii 3)

Locke's view of general principles as the comparison of general ideas which are themselves abstracted from our experience of particulars offers an explanation of why his model of the mind precludes agreement with, indeed even an understanding of, Leibniz's epistemology. For Locke there can be no fundamental, foundational role for the general principle of identity as there is for Leibniz, since there can be no knowledge of such a principle for the former without previous conception of general ideas, and thus much experience. For Leibniz, on the other hand, the general principle of identity is in us implicitly, that is, it operates in us as a disposition, it is used, long before we ever conceive any of the general ideas upon which the formulation of its representative proposition depends. Since we can on Leibniz's account be said to know the general principle of identity (at least) in this very special way, it is possible on his view to have as a requirement for all knowing previous knowledge of a principle which simply cannot exist on Locke's account of the mind.

Because of the special link to metaphysics inherent in Leibniz's epistemology it is possible for him to propose, with regard to the general principle of identity at least, something which might be termed a functional conception of knowledge, wherein to know something means to have the disposition to operate in certain ways. Locke's epistemology, by contrast, with its utter unwillingness to accept any claim not justified by experience, has no place for knowledge which is not the consciously recognized agreement or disagreement between ideas. As a result, his conception of knowledge positively precludes any possibility of an instructive role for Leibniz's foundational identities, and would indeed find unacceptable the whole structure of Leibniz's system.

The factor which underlies this difference in Locke's and Leibniz's views on the issue of identities thus seems to underlie as well all the other differences we have discovered to exist between them on the questions as (seemingly) diverse as innate ideas and knowledge and personal identity. That factor, which has confronted us at every turn, on every issue, is the
foundational structure of reason which Leibniz, based upon his understanding of God, concludes necessarily exists within all creation, independently of our consciousness of it, shaping all truth and the possibility of our knowledge of that truth, but which is by the very nature of his approach necessarily absent from Locke's basic set of assumptions. Barring that most fundamental difference, the two philosophers' conceptions of knowledge acquisition, at least in practical operation, are not very far apart: both thinkers hold that we acquire ideas through sensation or reflection, and, operating in certain determinate ways (i.e., according to the principle of identity, etc.), the mind judges them relative to one another.

These general outlines, of course, rather than hinting at further similarities, delineate the limits of the similarity between Locke's and Leibniz's epistemologies, for that single difference of Leibniz's assumption of a foundational metaphysical structure renders the two views irreconcilable. It accounts for the fact that reflection, which was not primary for Locke, becomes for Leibniz the key to all knowledge. Moreover, it explains how the manner of operation of what were for Locke simply inferred faculties becomes innate knowledge for Leibniz, which in turn renders all logically provable knowledge innate on the latter's view, and ultimately, by extension, renders all knowledge innate.

What, someone will now no doubt be prompted to ask, underlies these metaphysical assumptions of Leibniz's which make all the difference between his and Locke's epistemological systems? What accounts for the hierarchy of truths that for him is so essential to explaining knowledge and is so extraneous to that explanation according to Locke? Some scholars, Bertrand Russell and Louis Couturat, to name two, have argued that the source of these assumptions is Leibniz's logic (in which case they would of course not be unproven assumptions, but rather necessary truths). According to Couturat, "Leibniz's metaphysics is based solely upon the principles of his Logic, and arises entirely from them." Russell found Couturat "completely successful" in establishing this thesis, declaring that "the general conclusion, that Leibniz's logic was the true foundation of his whole system, seems...to be once for all demonstrated."
Since the offering of these proposals, others naturally have argued that Russell and Couturat have not succeeded in making their point, some going so far as to declare that the relationship put forth by Russell and Couturat is backwards. Baruch Brody, for instance, and Louis Loeb have attacked what Loeb refers to as the "Russell-Couturat thesis" as completely overturning the relation between metaphysics and logic in Leibniz's thought. This side of the dispute argues, in Loeb's language, that "indeed, the truth is quite the opposite—Leibniz's "logic" was tailored to his metaphysics."

No less contended, though, we should remember, is the relation between Locke's epistemology and his attack on innatism. Recall from Chapter 2 that some critics have maintained that Locke offered his critique of innatism more or less as an afterthought, as a tool of rhetoric used to render his audience friendly to his own epistemic position. On the other hand, we encountered those who argued that the attack is itself most significant, because it reveals the ultimate sources of Locke's work in the theory of knowledge, the underlying concerns which prompted this broad thinker to examine that field at all.

Recall, for instance, Lamprecht's suggestion that Locke was worried about the capricious dogmatism and resulting religious intolerance which stemmed from the Cambridge Platonists' assumption of the doctrine of innatism. Gibson and Aspelin, on the other hand, we discovered view Locke's efforts in a more secular light, suggesting that innatism supports the scholastic principles that Locke found so stifling to learning. We saw moreover that Yolton marks as the source of Locke's Essay an intention to show that a separation of epistemology and theology was not only possible, but was possible without causing any injury to religion or morality. The source of Locke's work on this reading was thus to loosen the constraints on knowledge acquisition by removing theological obstacles.

Most immediately significant for our own investigation of the relation between the views of Locke and Leibniz, we encountered Nicholas Jolley, who seeks the source of the incompatibility between Locke and Leibniz on a number of metaphysical and epistemological questions. Although he does not attempt to locate the source of Locke's attack on innatism, nor does he argue either that the source of Leibniz's metaphysics is his or logic or the
converse, Jolley does make the claim that Leibniz's response to Locke's epistemology, as well as to the positive view which prompts that response, stems from a single metaphysical concern. That concern, Jolley says, was to establish a system which supports the notion of the soul's natural immortality. According to Jolley, Leibniz's whole purpose in writing the New Essays was to defend the doctrine of the immortality of the soul against the attack against it implied by Locke's Essay. Says Jolley:

From a Leibnizian perspective the central issue between Locke and himself is not epistemological at all; it is metaphysical. The chief focus of Leibniz's hostility to Locke's philosophy is what he takes to be its perversely materialist tendency and this conviction carries over into his critique. For all its apparent randomness and lack of direction, the New Essays on Human Understanding is a book dedicated to defending the idea of a simple, immaterial and naturally immortal soul.  

According to Jolley, then, an attack on innatism from Leibniz's perspective was tantamount to an attack on some of the most important doctrines of the Christian religion. Explaining knowledge acquisition in terms of corpuscularian science and sense experience alone was inextricably tied in Leibniz's mind to materialism, which in turn carried implications for the doctrine of natural immortality. It seems, then, that if Locke was in his Essay, as Yolton suggests, attempting to show that epistemology could be separated from theology without any harm being done, Leibniz remained unconvinced, and attempted in his own work to argue to the contrary.  

Regardless of whether religious concerns, or academic practices, or some completely overlooked practical issue underlies the different positions Locke and Leibniz take on the issue of innateness, it cannot be denied that the disparity between Locke and Leibniz in their conceptions of the issues in and surrounding epistemology is fundamental. As we noted in the very beginning of our investigation, it is easy to see that Locke and Leibniz often seem to argue at cross purposes. Jolley, for example, makes the point that Leibniz appears "insensitive to the genuinely philosophical grounds for Locke's scepticism about the prospects of speculative metaphysics," utterly failing to see that there could be any real reason for limiting metaphysical discussion. He notes further that Leibniz expresses in correspondence
to Remond a decided lack of surprise toward Locke's criticism of the *New Essays*, stating that "we were a little too different in principles, and what I advanced appeared to [Locke] as paradoxes."36

What, one is prompted to then ask, causes this kind of intellectual impasse? What could cause two thinkers who agree at least in general terms about the current state of our knowledge and its practical potential for growth to have such drastically diverging attitudes about the possibility of the extent of our knowledge and the future of metaphysics? Could different contexts for their questions make the difference? Or are their questions perhaps different? Surely something is behind Locke's view that the "clearest, and most enlarged Understandings of thinking Men find themselves puzzled, and at a loss, in every Particle of Matter," (IV iii 22), so that he suspects "that natural Philosophy is not capable of being made a Science," (IV xii 10) and thus concludes that, considering the weakness of our faculties, "Morality is the proper Science, and Business of Mankind in general." (IV xii 11) Some fundamental prejudice or concern must underlie this evidently open-minded and wide-ranging thinker's epistemic conservatism on questions as diverse as those regarding God's purposes and the natures of the physical things in the world around us.

On the other hand, there must be some reason why Leibniz is not persuaded to Locke's position, why Leibniz indeed evidently fails even to understand him on a number of points. In the face of Locke's sustained argumentation on some of these issues, Leibniz continues undaunted in his discussions of such things as entelechies, the differences between the souls of men and those of beasts, and the "living fires or flashes of light hidden inside us" which reveal "something divine and eternal."(RB, p. 49) Additionally, even though he is well aware of Locke's admonitions against using 'insignificant terms', words which, although bandied about regularly in conversation, are "without any distinct meaning at all" (III x 3), Leibniz persists in making proclamations regarding 'God's infinite wisdom,' and metaphysical 'preestablished harmony'. Leibniz even goes so far, although he does not make the statement directly to Locke, to claim that in his own opinion "[a]s regards the ends which God proposed
to himself," he is "convinced that we can know them and that it is of the greatest usefulness to investigate them."\textsuperscript{37}

In spite of how his apparent inattention to Locke's cautions may make it appear, however, Leibniz was not oblivious to the differences between his views and Locke's, or to Locke's likely dismissal of his arguments. From the beginning of the \textit{New Essays} it is clear that Leibniz saw that his system and Locke's possessed deeply rooted differences:

His is closer to Aristotle and mine to Plato, although each of us parts company at many points from the teachings of both of these ancient writers. He is more popular whereas I am sometimes forced to be a little more esoteric and abstract... (RB, p. 48)

What precisely, though, could Leibniz intend with this separation of himself and Plato (and Malebranche as well) from such thinkers as Aristotle and Locke? Could he be making a distinction between rationalists and empiricists? If we are going to rest with that, we may be in an inescapable quandary, for if it even exists (and the very idea has suffered much criticism), what that distinction is decidedly difficult, if not impossible, to make out even today. And with regard to Leibniz and Locke in particular it appears even more difficult, for we have seen Locke assert that, could we know the real essences of substances, we could have a demonstrative science of nature (surely this is a 'rationalist' doctrine, if anything is) while Leibniz's particular brand of innatism looks distinctly empiricistic from the perspective of Meno's paradox.

The difference Leibniz was referring to seems to me best understood when considered in terms of the concepts of wholes and parts. Consider for a moment a chain. What is it? A unit constituted of individual entities linked together. Some individuals will perceive the chain's essence to be its interlocking connectedness, while for others what constitutes the chain is a certain number of individuals, which happen to be linked together in certain ways. Although both of these statements are obviously true and point out the same object, they are not interchangeable.
Conceiving of the chain in its unity of connection carries one set of implications for the approach and degree of optimism appropriate to the question of knowing it; focusing upon it as a plurality of parts has another set. Those who conceive of the chain as a whole, linked by a particular principle or principles, would tend, it seems, to be optimistic about their ability to see what kind of thing must be next in the line, and how it must fit, because they would be more likely to have views about the principles of linkage (that is, would speculate about metaphysics) than would those who felt that their knowledge was dependent upon understanding each link. The latter group might well attempt to gather the principles which link the individuals, and might even be willing to claim the possibility of a complete understanding of the chain once given those principles, but since these individuals would be limited in their principles to what could be determined through examinations made upon the individual links, they could never make claims about why a particular link must be the way it is rather than some other way.

The analogy is admittedly rough, but the general idea it suggests seems at least somewhat promising. Locke, together with Aristotle, Gassendi and the atomists, and Hume, seems interpretable as one who places priority upon the individuals which are linked. Locke with his theory of ideas appears to want us to be sure we have the necessary pieces in our possession before we attempt to discover how they relate to one another to make up a world. If we don't have clear perceptions (ideas) to begin with, we may as well not trouble ourselves to attempt to find connections.

Remember that for Locke the three contributors to our ignorance are 1) want of ideas, 2) want of a discoverable connection between those ideas, and 3) want of tracing the ideas we do have to find their connections. "That which has most contributed to hinder the due tracing of our Ideas," Locke declares, is "the ill use of Words" (IV iii 30), which he is at great pains in Book III to point out: we talk and argue about whole areas in which we have not even the fundamental possessions requisite for knowledge. Unless we have the building blocks, adequate ideas, we cannot on Locke's view hope for knowledge, and as we saw in our discussion of our knowledge of substances, it is because we are so insufficiently supplied
with those building blocks that our knowledge of this science is so "very narrow, and scarce any at all."

For Plato, on the other hand, as well for Leibniz and other great connectors (Hegel comes quickly to mind), it is because "all nature is akin," that one bit of knowledge remembered (or for the others, learned) can lead at least in principle to all knowledge of reality. As for Leibniz in particular, just a few considerations will make it clear that he is definitely one who focuses on interconnections. First of all, of course, there is the doctrine of innateness, the issue motivating this whole discussion. It is because all truth is related according to the principles of reason that Leibniz's special sort of reflection can give us the ideas requisite to knowing, without sense experience, all necessary truths.

Even more clearly indicative of Leibniz's proclivity for seeking connections is the general law which in his view deems petites perceptions necessary for the existence of reflection, the Law of Continuity. In this principle Leibniz states outright that all of nature as he sees it is connected--it "makes no leaps." This law, as we have seen, accounts for a number of Leibniz's views, including his explanation of awakening from sleep, as well as for his particular conception of death, which according to that law could never be, or at least could never be final. Leibniz says about our naturally immortal souls that "[t]heir changes of state never are and never were anything but changes from more to less sensible, from more perfect to less perfect, or the reverse..." (RB, p. 5)

Even God's will cannot on Leibniz's view be capricious or unconnected, you will recall, due to God's infinitely powerful and perfect nature. For God would not be good on Leibniz's view if he did not obey reason, the supreme linking mechanism to which even the creator is subject. Leibniz goes beyond even Descartes, another thinker whose focus is on connections (clearly evidenced by his belief that a complete science of nature is possible through the use of correct methodology) when he claims that the eternal truths are not established by God's will, but rather characterize the way God in his infinite wisdom naturally and necessarily will create. To claim that God's will works in accordance with anything other than the laws of reason Leibniz declares, as we have noted, "appears hardly
worthy of him who is the supreme reason, and with whom everything is orderly, everything connected." (RB, p. 382)

Leibniz does then lend himself to interpretation as one who focuses upon the connections which hold all of truth together. He thus sees relation as the key to knowing, whereas Locke on the other hand views the related as central. Perhaps this is traceable to a fundamental difference in our thinkers' approaches to the question of knowledge: whereas Leibniz, like Plato and Descartes appear to be concerned with developing the ontology of truth, Locke, with Aristotle, Gassendi, and Hume, seems instead to perceive the proper question of knowledge to be one of acquisition.

Recall from Chapter 3 Bracken's statement that Descartes' doctrine of innateness was one of ontological structure as well as an epistemic one. Bracken says that

...for Descartes, the role assigned innate ideas is ontological, not psychological. His emphasis is on the question of the nature of the constituent elements in eternal truths, not on how we may have come to learn them.39

Perhaps the reason Leibniz and those I have grouped with him are so optimistic about the possible extent of our knowledge and concern themselves with the connections between the bits of information at our disposal rather than with the individual pieces themselves is that their focus is upon describing the ontology of truth as they take it to exist.

Surely Plato exhibits ontological concerns with his theory of Forms and his view that it is the fact that "all nature is akin" which accounts for our ability to achieve knowledge through thinking alone. While it is not possible to forget the fact that Plato's theory of recollection is presented in the context of responding to Meno's paradox about knowledge acquisition, we should also bear in mind that it is Aristotle, not Plato, who finds the theory of forms unsuccessful as a response to that particular problem. Plato simply assumes that if truth exists as a rationally organized body which is within our reach, there will be no difficulty in explaining how, given just one piece of knowledge, we can bring ourselves to conscious awareness of at least much of the rest. He thus spends a great deal of effort in describing the ontology of truth he proposes, elaborating at length in later dialogues (most
explicitly, of course, in the Republic) the outlines of both the structure of truth and the paralleling structure of our knowledge. The degrees of our possible knowledge as described in his system are, it is important to note, determined in terms of the paralleling ontology of truth.

Leibniz as well shows much less concern for the manner or the order in which we come to know the truth than for the nature of the truth itself. He grants Locke without objection, for instance, that explicit knowledge of truths is temporally subsequent to the explicit possession of ideas. (RB, p. 81) But the crucial point, the point which according to Leibniz Locke misses, is that the temporal order of our (explicit) knowledge of truths must be distinguished from the logical order of our knowledge of those truths. Leibniz readily admits, as we noted in Chapter 3, that Locke is right that the truths we become aware of first are particulars. "But," Leibniz declares,

that doesn't alter the fact that in the order of nature the simplest comes first, and that the reasons for particular truths rest wholly on the more general ones of which they are mere instances." (RB, p. 84)

The really important fact for Leibniz, then, seems to be that truth possesses a precise structure, a hierarchy, as we now know, in which certain truths are dependent upon certain others. Knowledge of truth, he further seems to suppose, must parallel the organization of truth itself. Thus, although we come to our explicit knowledge in pretty much the way that Locke outlines, Leibniz maintains that in order to account for our explicit knowledge, we must suppose as well that we possess non-acquired knowledge of 'the simplest' principles, the logically prior ones. With Leibniz once again, then, as with Plato, it is the ontological structure of truth and knowledge, the accounting for the very possibility of knowledge, rather than the process of acquisition which occupies the majority of the thinker's attention.

The objection Aristotle poses to employing a metaphysical structure as Plato does in the endeavor to account for our knowledge concerns how it is that we acquire knowledge of that structure to begin with. Explaining our present knowledge as the result of recollecting previously held knowledge only pushes back the question for those whose primary interest
is in the generation of knowledge, and so Plato's solution to Meno's paradox is from this point of view no solution at all. Likewise (although as we know Locke did not respond to Leibniz), the sort of complaint one would expect from Locke regarding such a project as Leibniz's has to do with the generation, rather than with the structure, of our knowledge. As we have seen, he steadfastly maintains his focus upon the order of our coming to know, always checking his opinions against the facts of the learning of children. The ontological structure of truth itself matters very little to a person who is fundamentally concerned with the steps involved in coming to have ideas and knowledge about them.

It might be said, then, that the essential differences between Locke and Leibniz epistemic views stem from their focusing upon different questions, or at least upon different aspects of the same basic question. While Leibniz's appears concerned to further Descartes' efforts at accounting for knowledge of necessary truth by grounding it in an ontological structure, Locke's questions focus upon the process whereby we come to know. Although Locke does show appreciation for the fact that experience cannot provide certainty, he exhibits that acknowledgement through limiting knowledge with certainty to those things which are capable of complete mental appropriation. Locke thus accepts the fact of our knowledge, and chooses to spend his time showing how it came to be. Leibniz's central concern, on the other hand, appears to reside in the fact that we possess certainty which could not have been provided through our experience. Accordingly, his attention is focused upon providing an account which explains that circumstance.
1. See Chapter 2, pp. 45-47.

2. See Chapter 3, pp. 88-94.


4. Bolton states in her "Leibniz and Locke on Necessary Truths" [in Central Themes in Early Modern Philosophy, ed. J. A. Cover and Mark Kulstad (Indianapolis: Hackett, 1990)] regarding this point that "[w]hat turns out to be crucial to Leibniz's defense of his position against Locke is the thesis that we must use certain logical principles in all our thinking and we do use them before we have entertained and affirmed them." (p. 207) Also see her comments on pp. 212-214 of this article for a discussion of Leibniz's emphasis on and Locke's denial of the epistemic value of the logical forms of propositions.

5. The case of sensitive knowledge will be dealt with below, for it requires some preliminary work and explanation which is not appropriate just yet.

6. RB, p. 361.

7. That is, they do not admit of proof to finite human minds. God of course can see the a priori reason for every truth, including primary truths of fact. These truths can be "proven" by God's understanding through an infinite analysis approaching identity.

8. We can, though, have some knowledge of necessary connections between primary qualities and their sources, according to Locke. See p. 159 below for further mention of this issue.

9. Since one of the sources of our ideas, reflection, is the defined as the perception of the mind's operations (with regard to its ideas), and since those ideas upon which the mind is operating must themselves have been acquired through either sensation or reflection, it seems that in order to avoid an infinite regress of reflection, Locke is obligated to hold that in one sense at least even ideas of reflection are ultimately dependent on the mind's having some ideas or other of sensation.

10. Ultimately, of course, these principles even ground all truths of fact, although we could not prove them in our current state, in which ideas of experience are always confused.

11. The topics this paragraph raise are, I recognize, in themselves deep and complex, and indeed worthy of separate investigation of their own. Their treatment for my purposes thus is necessarily general. For further discussion of the issues touched upon here, see Jolley's translation of Leibniz's essay "Ad Christophori Stegmanni Metaphysicam Unitariorum", appended to his Leibniz and Locke: A Study of "The New Essays on Human Understanding" (New York: Clarendon Press, 1984), especially pp. 194-197.


13. "What is nature?", p. 98.

15. Although we could have this kind of universal knowledge with regard to certain primary qualities (one thinks of insensible-length corpuscles strung out end to end, resulting in an object of a sensible length, for instance), we have seen that Locke admits that this knowledge goes "but a very little way".

16. I would like here to express my gratitude to Susanna Goodin, whose study of Locke has provided invaluable assistance to my view of Locke on these and other points. See her as yet unpublished dissertation *Locke's Scepticism Concerning Natural Science* (Rice University, 1990) for a much more complete (and complex) refutation of Loeb's claims about the possibility of an a priori demonstrative science for Locke, based upon examinations of Locke's views regarding inner constitutions, real essences, and sorting.

17. This is not to say that Locke believes we have no knowledge of rational connections, or that he understands that knowledge to be a posteriori (to use an anachronistic term). Locke of course holds that we can gain intuitive and demonstrative knowledge of mathematics, for example, which does not depend entirely, or even largely, upon sensory information. But for him knowledge of nature is dependent upon sensory information, and this fact limits our possible knowledge in his view much more than Leibniz believes necessary.

18. RB, p. 376, emphasis added.

19. He does note, however, that there may be "things which are higher than any we can know in our present course of life." Even these, though, he states "may unfold in our souls some day when they are in a different state." (RB, p. 79)

20. See the discussion of these issues in Chapter 3, pp. 92-94.

21. Recall my claim that Leibniz is not inspired by Meno's problem, and so does not claim that the innate knowledge as mental representations always exists within the soul. Prior to reflection, all we have is a particular mental structure which results in certain dispositions. The causal source of the knowledge we acquire, rather than the question of whether we acquire it, is thus the criterion for distinguishing innate knowledge from that which is non- innate. See discussion pp. 102-106 for my analysis.


23. Chomsky and friends show a similar concern when they postulate innate knowledge of deep language structure in order to account for the ease with which children learn any language they are exposed to.

24. See the discussion on pages 92-94.

25. Locke explains his practice numerous times in various discussions of primary and secondary qualities and their ideas. The impetus for his efforts appears to be to distinguish his and the "new scientists" corpuscularian understanding of secondary qualities as powers resulting from certain patterns of particles from the old Aristotelian "occult" qualities, such as whiteness, which were conceived as entities in themselves.

26. Indeed, the idea of action is one which Leibniz counts as innate, received as it is through reflection.

27. See the discussion of this point in Chapter 3, pp. 109-110.

29. This claim is made in the preface to his *La logique de Leibniz d'apres des documents inedits.*

30. The first statement can be found on p. 366 of "Recent Work on the Philosophy of Leibniz," and the second on p. 385.


33. Loeb, p. 277)

34. Jolley, p. 7


37. "Critical Remarks Concerning Descartes' Principles" in *Leibniz: Monadology and Other Philosophical Essays,* trans. Paul Schrecker and Anne Martin Schrecker (Indianapolis: Library of Liberal Arts, 1965), p. 30. As Leibniz was revising this work as late as 1697, having already been engaged in reading and writing critical remarks on Locke's essay, we can reasonably assume that he made these remarks with cognizance of Locke's opposing views.


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