

modifications are explicable by the natures they modify and this power is not so explicable), it would be independent of matter.

*Preface to the New Essays (1703–05)*<sup>391</sup>

*Leibniz became acquainted with the outline of John Locke's Essay Concerning Human Understanding before it was actually published, through an abstract of the book, written by Locke, translated into French, and published in Le Clerc's Bibliothèque Universelle (1688). When the Essay was published in 1690, Leibniz read it in English and sent some criticisms of it to Locke through Thomas Burnet (ca. 1635–1715) and Lady Masham (1658–1708). When, in 1700, Pierre Coste's French translation of the Essay was published, Leibniz was able to make a thorough study of it; he planned to publish his critique under the title New Essays on the Understanding. When Locke died in 1704, Leibniz abandoned his project to publish the work.*

SINCE THE *Essays on the Understanding*, published by an illustrious Englishman, is one of the finest and most esteemed works of our age, I resolved to comment on it, insofar as I had given sufficient thought for some time to the same subject and to most of the matters touched upon there; I thought that this would be a good opportunity to publish something entitled *New Essays on the Understanding* and to procure a more favorable reception for my thoughts by putting them in such good company. I further thought that I might profit from someone else's work, not only to make my task easier (since, in fact, it is easier to follow the thread of a good author than to work out everything anew), but also to add something to what he has given us, which is always easier than starting from the beginning. It is true that I often hold an opinion different from his, but far from denying on that account the merit of this famous writer, I bear witness to it by showing in what and why, I differ from his view, when I deem it necessary to prevent his authority from prevailing against reason on some important points.

In fact, although the author of the *Essay* says a thousand fine things of which I approve, our systems are very different. His bears more relation to Aristotle's and mine to Plato's, although we both differ in many ways from the doctrines of these two ancients. He is more popular while I am forced at times to be a little more esoteric and abstract, which is not an advantage to me, especially when writing in a living language. However, I believe that by making two characters speak, one of whom presents the views of the author of the *Essay*, while the other adds my observations, the parallel will be more to the liking of the reader than some dry remarks, whose reading would have to be interrupted at every moment by the necessity of having to return to the author's book in order to understand mine. Nevertheless, it would be good

391. A VI, 6, 43–68; G V 41–61. French.

to compare our writings from time to time, and to judge his views by his work alone, even though I have usually retained his expressions. It is true that the constraint of having to follow the thread of someone else's discourse in making my remarks has meant that I could not think of capturing the charm of which the dialogue is capable, but I hope that the content will make up for the defect in style.

Our differences are about subjects of some importance. There is the question about whether the soul in itself is completely empty like tablets upon which nothing has been written (*tabula rasa*), as Aristotle and the author of the *Essay* maintain, and whether everything inscribed on it comes solely from the senses and from experience, or whether the soul contains from the beginning the source [*principe*] of several notions and doctrines, which external objects awaken only on certain occasions, as I believe with Plato and even with the Schoolmen, and with all those who find this meaning in the passage of St. Paul (Romans 2:15) where he states that the law of God is written in our hearts. The Stoics call these principles *Prolepses*, that is, fundamental assumptions, or what is taken as agreed in advance. Mathematicians call them *common notions*, (*koinai ennoiai*). Modern philosophers give them other fine names, and Julius Scaliger in particular called them the seeds of eternity, and also *zopyra*, meaning living fires, or flashes of light hidden inside us but made to appear through the contact of the senses, like sparks that can be struck from a steel. And it is not unreasonable to believe that these flashes reveal something divine and eternal, something that especially appears in necessary truths. This raises another question, namely, whether all truths depend upon experience, that is, upon induction and instances, or whether some of them have another foundation. For if some occurrences can be foreseen before they have been tested, it is obvious that we contribute something of our own here. Although the senses are necessary for all our actual knowledge, they are not sufficient to give us all of it, since the senses never give us anything but instances, that is, particular or individual truths. Now all the instances confirming a general truth, however numerous they may be, are not sufficient to establish the universal necessity of that same truth, for it does not follow that what has happened before will always happen in the same way. For example, the Greeks, Romans, and all other people of the earth have always observed that before the passage of twenty-four hours, day changes into night and night into day. But they would have been mistaken if they had believed that the same rule is observed everywhere, since the contrary was observed during a visit to Nova Zembla. And anyone who believed that this is a necessary and eternal truth, at least in our climate, would also be mistaken, since we must recognize that the earth and even the sun do not exist necessarily, and that there may be a time when this beautiful star will no longer exist, at least in its present form, and neither will its whole system. As a result it appears that necessary truths, such as we find in pure mathematics and particularly in arithmetic and geometry, must have principles whose proof does not depend on instances nor, consequently, on the testimony of the senses, although without the senses it would never occur to us to think of

them. This is a distinction that should be noted carefully, and it is one Euclid understood so well that he proves by reason things that are sufficiently evident through experience and sensible images. Logic, together with metaphysics and morals, of which the one shapes natural theology and the other natural jurisprudence, are full of such truths, and consequently, their proof can only arise from internal principles, which are called innate. It is true that we must not imagine that we can read these eternal laws of reason in the soul from an open book, as the edict of the praetor can be read from his tablet without effort and scrutiny. But it is enough that they can be discovered in us by dint of attention; the senses furnish occasions for this, and the success of experiments also serves to confirm reason, a bit like empirical trials help us avoid errors of calculation in arithmetic when the reasoning is long. Also, it is in this respect that human knowledge differs from that of beasts. Beasts are purely empirical and are guided solely by instances, for, as far as we are able to judge, they never manage to form necessary propositions, whereas man is capable of demonstrative knowledge [*sciences démonstratives*]. In this, the faculty beasts have for drawing consequences is inferior to the reason humans have. The consequences beasts draw are just like those of simple empirics, who claim that what has happened will happen again in a case where what strikes them is similar, without being able to determine whether the same reasons are at work. This is what makes it so easy for men to capture beasts, and so easy for simple empirics to make mistakes. Not even people made skillful by age and experience are exempt from this when they rely too much on their past experiences. This has happened to several people in civil and military affairs, since they do not take sufficiently into consideration the fact that the world changes and that men have become more skillful in finding thousands of new tricks, unlike the stags and hares of today, who have not become any more clever than those of yesterday. The consequences beasts draw are only a shadow of reasoning, that is, they are only connections of imagination, transitions from one image to another; for, when a new situation appears similar to the preceding one, they expect to find again what was previously joined to it, as though things were linked in fact, just because their images are linked in the memory. It is, indeed, true that reason ordinarily counsels us to expect that we will find in the future that which conforms to our long experience of the past; but this is not, on that account, a necessary and infallible truth, and it can fail us when we least expect it, when the reasons which have maintained it change. This is why the wisest people do not rely on it to such an extent that they do not try to probe into the reason for what happens (if that is possible), so as to judge when exceptions must be made. For only reason is capable of establishing sure rules and of providing what uncertain rules lack by formulating exceptions to them, and lastly, capable of finding connections that are certain in the compulsion [*force*] of necessary consequences. This often provides a way of foreseeing an occurrence without having to experience the sensible links between images, which the beasts are reduced to doing. Thus what justifies the internal principles of necessary truths also distinguishes humans from beasts.

Perhaps our able author will not entirely disagree with my opinion. For after having devoted his whole first book to rejecting innate illumination, understood in a certain way, he admits, however, at the beginning of the second book and in what follows, that the ideas which do not originate in sensation come from reflection. Now, reflection is nothing other than attention to what is within us, and the senses do not give us what we already bring with us. Given this, can anyone deny that there is a great deal innate in our mind, since we are innate to ourselves, so to speak, and since we have within ourselves being, unity, substance, duration, change, action, perception, pleasure, and a thousand other objects of our intellectual ideas? And since these objects are immediate and always present to our understanding (though they may not always be perceived consciously [*apperçus*] on account of our distractions and our needs), why should it be surprising that we say that these ideas, and everything that depends upon them, are innate in us? I have also used the comparison with a block of veined marble, rather than a completely uniform block of marble, or an empty tablet, that is, what the philosophers call a *tabula rasa*. For if the soul were like these empty tablets, truths would be in us as the shape of Hercules is in a block of marble, when the marble is completely indifferent to receiving this shape or another. But if the stone had veins which marked out the shape of Hercules rather than other shapes, then that block would be more determined with respect to that shape and Hercules would be as though innate in it in some sense, even though some labor would be required for these veins to be exposed and polished into clarity by the removal of everything that prevents them from appearing. This is how ideas and truths are innate in us, as natural inclinations, dispositions, habits, or potentialities [*virtualités*] are, and not as actions are, although these potentialities are always accompanied by some corresponding, though often insensible, actions.

Our able author seems to claim that there is nothing *potential* [*virtuel*] in us, and even nothing that we are not always actually conscious of perceiving [*aperceptions*]. But he cannot hold this in all strictness; otherwise his position would be too paradoxical, since, again, acquired habits and the contents of our memory are not always consciously perceived [*apperçues*] and do not even always come to our aid when needed, though often we easily recall them to mind when some trivial occasion reminds us of them, as when we need only the beginning of a song to make us remember the rest. He also limits his thesis in other places, saying that there is nothing in us that we did not at least previously perceive consciously [*apperçu*]. But no one can guarantee by reason alone how far back our past and perhaps forgotten apperceptions can go, especially in view of the Platonists' doctrine of reminiscence, which, fabulous though it is, is not at all incompatible with pure reason. Furthermore, why must it be that everything is acquired by apperceptions of external things and that nothing can be unearthed from within ourselves? Is our soul in itself so empty that, without images borrowed from the outside, it is nothing? This is not, I am convinced, a view our judicious author could approve. Where could one find some tablets which do not have a certain amount of variety in themselves? Will we ever see a perfectly homogeneous and uniform surface?

Then why could we not also provide ourselves some object of thought from our own depths, when we are willing to dig there? Thus I am led to believe that, fundamentally, his view on this point is no different from mine, or rather from the common view, insofar as he recognizes two sources of our knowledge, the senses and reflection.

I do not know whether it will be as easy to reconcile him with me and with the Cartesians when he maintains that the mind does not always think, and in particular, that it is without perception during dreamless sleep, and when he objects that since bodies can be without motion, souls can just as well be without thought. But here I reply somewhat differently from what is customary. For I maintain that a substance cannot naturally be without action, and that there is never even any body without motion. Experience already supports me, and to be convinced of this, one need only consult the book of the illustrious Mr. Boyle against absolute rest.<sup>392</sup> But I believe that reason also supports this, and it is one of the proofs I use for refuting atoms. Moreover, there are a thousand indications that allow us to judge that at every moment there is an infinity of perceptions in us, but without apperception and without reflection—that is, changes in the soul itself, which we do not consciously perceive [*appercevons*], because these impressions are either too small or too numerous, or too homogeneous, in the sense that they have nothing sufficiently distinct in themselves; but combined with others, they do have their effect and make themselves felt in the assemblage, at least confusedly. It is in this way that custom makes us ignore the motion of a mill or of a waterfall, after we have lived nearby for some time. It is not that this motion ceases to strike our organs and that there is nothing corresponding to it in the soul, on account of the harmony of the soul and the body, but that the impressions in the soul and in the body, lacking the appeal of novelty, are not sufficiently strong to attract our attention and memory, which are applied only to more demanding objects. All attention requires memory, and when we are not alerted, so to speak, to pay heed to some of our own present perceptions, we let them pass without reflection and without even noticing them. But if someone alerts us to them right away and makes us take note, for example, of some noise we have just heard, we remember it, and we consciously perceive that we just had some sensation of it. Thus there were perceptions that we did not consciously perceive right away, the apperception in this case arising only after an interval, however brief. In order better to recognize [*juger*] these tiny perceptions [*petites perceptions*] that cannot be distinguished in a crowd, I usually make use of the example of the roar or noise of the sea that strikes us when we are at the shore. In order to hear this noise as we do, we must hear the parts that make up this whole, that is, we must hear the noise of each wave, even though each of these small noises is known only in the confused assemblage of all the others, and would not be noticed if the wave making it were the only one. For we must be slightly affected by the motion of this wave, and we must have some perception of each of these noises, however

392. Robert Boyle, *Discourse about the Absolute Rest in Bodies* (1669).

small they may be, otherwise we would not have the noise of a hundred thousand waves, since a hundred thousand nothings cannot make something. Moreover, we never sleep so soundly that we do not have some weak and confused sensation, and we would never be awakened by the greatest noise in the world if we did not have some perception of its beginning, small as it might be, just as we could never break a rope by the greatest effort in the world, unless it were stretched and strained slightly by the least efforts, even though the slight extension they produce is not apparent.

These tiny perceptions are therefore more effectual than one thinks. They make up this I-know-not-what, those flavors, those images of the sensory qualities, clear in the aggregate but confused in their parts; they make up those impressions the surrounding bodies make on us, which involve the infinite, and this connection that each being has with the rest of the universe. It can even be said that as a result of these tiny perceptions, the present is filled with the future and laden with the past, that everything conspires together (*sympnoia panta*, as Hippocrates said), and that eyes as piercing as those of God could read the whole sequence of the universe in the smallest of substances.

*The things that are, the things that have been, and the things that will soon be brought in by the future.*<sup>393</sup>

These insensible perceptions also indicate and constitute the individual, which is individuated [*caractérise*] by the traces which these perceptions preserve of its previous states, connecting it up with his present state. They can be known by a superior mind, even when the individual himself does not sense them, that is, when he no longer has an explicit memory of them. But these perceptions even provide a way of recovering the memory, as needed, through periodic unfoldings which may occur one day. That is why death might only be a state of sleep, and might not even remain one, insofar as the perceptions merely cease to be sufficiently distinct and, in animals, are reduced to a state of confusion which suspends apperception, but which cannot last forever; I shall not speak here of man, who ought to have great prerogatives in this matter in order to retain his personality.

It is also by means of these insensible perceptions that I explain the marvelous pre-established harmony between the soul and the body, and also between all the monads or simple substances, which takes the place of that untenable influence of the one on the others, and which, in the judgment of the author of the finest of dictionaries,<sup>394</sup> raises the greatness of divine perfections beyond anything ever conceived before. After this I would add little if I said that it is these tiny perceptions which determine us in many situations without our thinking of them, and which deceive the common people by giving the appearance of an *indifference of equilibrium*, as if it made no difference to us, for example, whether we turned right or left. Nor is it necessary for me to

393. Virgil, *Georgics* IV 393.

394. Pierre Bayle. The reference is to Bayle's discussion of Leibniz in notes H and L to the article "Rorarius" in his *Dictionary*. Bayle's point is that Leibniz's pre-established harmony puts implausibly severe demands on God's power.