*Interpretation. Ways of Thinking about the Sciences and the Arts*. Edited by Peter Machamer and Gereon Wolters. Pittsburgh: University of Pittsburgh Press, 2010, 111–129.

On Interpreting Leibniz’s Mill

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**1. Introduction.** In “The Interpretation of Philosophical Texts,” Nicholas Rescher outlines a coherentist theory of textual interpretation. At the heart of his theory lies an idea that he calls the “Principle of Normativity,” according to which “[t]he better (the more smoothly and coherently) an interpretation fits a text into its wider context, the better it is as an interpretation.” The principle implies that, as Rescher puts it, interpretations are not “born equal.” Although there can be several initially plausible interpretations of a given passage, these interpretations can be evaluated according to the degree to which they maximize contextual coherence. This insight underlies Rescher’s “First Law of Text Interpretation” according to which “[t]hat interpretation is optimal within the range of available alternatives which maximizes the extent to which it achieves systemic coherence within the setting of a larger context of other relevant texts and their factual stagesetting.” As Rescher emphasizes, the relevant context can be conceived of more or less narrowly, and in order to assess the relative merits of several competing interpretations it turns out to be helpful to widen the context that is taken into consideration. According to Rescher’s “Second Law of Textual Interpretation”, “The larger we spread the net of context—the more inclusive and extensive our reference to context, the smaller and more definite the range of really plausible interpretational alternatives becomes.” Rescher also explains why this law holds: “In matters of textual interpretation, increases in information generally function so as to decrease underdetermination.” Moreover, he distinguishes three levels of context: (1) immediate (other parts of the same text), (2) nearby or proximate (cognate discussions by the same author; cognate discussions of the same genre or in the writings to which the author is responding by way of development or opposition), and (3) distant or peripheral (general aspects of the state of information and opinion of the time; general linguistic and philological considerations, and so on).

The aim of this essay is to discuss how well Rescher’s first two laws of textual interpretation fare with respect to a concrete test case of textual interpretation. I will consider some strategies for interpreting the mill passage from G. W. Leibniz’s *Monadology*—a passage that poses notorious difficulties for commentators. This is what Leibniz writes:

Moreover, we must confess that perception, and what depends upon it, is inexplicable in terms of mechanical reasons, that is, through shapes and motions. If we imagine that there is a machine whose structure makes it think, sense, and have perceptions, we could conceive it enlarged, keeping the same proportions, so that we could enter into it, as one enters a mill. Assuming that, when inspecting its interior, we will find only parts that push one another, and we will never find anything to explain a perception. And so, one should seek perception in the simple substance and not in the composite or in the machine. Furthermore, this is all one can find in the simple substance—that is, perceptions and their changes. It is also in this alone that all the *interior actions* of simple substances can consist. (GP VI, 609/AG 215)

In a recent book, Rescher explains that “Leibniz here seeks to undo the idea of a purely mechanical model of mental operations by means of a vivid indication that nothing in the realm of purely mechanical interactions … can reasonably be considered as either constituting or producing thought” (Rescher 2005, 83). Nevertheless, the passage is in need of interpretation for two reasons: (1) Leibniz is shifting back and forth when he characterizes the activity that is inexplicable by means of the interaction of parts: is it perception or is it thought? As he makes clear in the contemporary *Principles of Nature and Grace*, perceptions include states that are devoid of reflective awareness (GP VI, 600/AG 208). Thought, by contrast, involves higher-order mental activities that have other activities as their object. Does the difference between the concepts of perception and thought matter for the argument that Leibniz has in mind? (2) Leibniz does not make explicit why exactly the interaction of parts is incapable of explaining either perception or thought. Or, to put it in other words, what exactly does the explanatory gap that the mill passage is meant to illustrate consist in? In these two respects, the mill passage exemplifies one of the reasons that Rescher mentions about why a text is in need of interpretation: its meaning is underdetermined.

Certainly there are some initially plausible interpretations that do not fare well on grounds that have to do with evidence that is purely internal to what Leibniz writes there. Some purely internal difficulties for some of these interpretations have been discussed in considerable detail by Paul Lodge and Marc Bobro,[[1]](#endnote-1) and I will not go into these matters here. Rather, I will consider the relevance of contextual considerations for interpreting *Monadology* 17. I agree with Rescher that widening the context provides additional information that helps to decrease underdetermination. Therefore, what follows does not amount to an objection against Rescher’s coherentist theory of textual interpretation; rather, I will suggest an extension of his theory. The case of the mill passage is a good example that shows that sometimes it is useful to add one more level of context. Let us call this level the “metaphilosophical context”. This level consists of a philosopher’s remarks that indicate what an author thinks about the nature of philosophical concepts, definitions, propositions, methods, modes of exposition, and the like. To be sure, one cannot assume from the beginning that every philosopher has definite views of this sort. But if such views are present, they add to the relevant context. And, as it turns out, some of Leibniz’s metaphilosophical views are particularly relevant for interpreting the mill passage.

**2. Contextualizing the Explanatory Gap.** Lodge and Bobro suggest contextualizing the mill passage with the help of some of the preceding paragraphs of the *Monadology*. According to their interpretation, using such a strategy of text-immanent contextualization shows that the explanatory gap relates to Leibniz’s concept of unity. In *Monadology* 14, Leibniz writes, “The passing state which involves and represents a multitude in the unity … is nothing other than what one calls perception” (GP VI, 608/AG 214). As Lodge and Bobro note, this characterization of perception is a definition and, hence, the point that Leibniz is making here is conceptual. Moreover, they emphasize that *Monadology* 1 makes clear that, according to Leibniz, nothing with parts could account for the existence of a unity. In Lodge and Bobro’s view, in the mill passage Leibniz explicates the consequences of his concept of perception: if perception is a state of a being that possesses unity, and a being that possesses unity does not have parts, perception cannot be a state of a being that possesses parts. If Leibniz describes any material system as exemplifying the structure of a mill—as having parts that push each other—this description clearly implies that any material system has parts. If perception cannot be a state of a being that possesses parts, perception cannot be a state of a material system (Lodge and Bobro 1998, 562-566).

Using the proximate context in this way seems very illuminating to me, and I agree that the notion of unity gives the clue to the mill passage. Nevertheless, one thing remains puzzling about Lodge and Bobro’s interpretation. According to their view, the mill passage tells us only what we already know once we have understood the definition of perception, namely that a material system does not display the unity characteristic of perception. I agree that the mill passage, in a sense yet to be explained, tells us something that we already know. Nevertheless, I find it puzzling that Lodge and Bobro do not make much out of the counterfactual nature of the situation described in the mill passage. Why does Leibniz ask us at all to imagine a situation that is possible but not actually realized (“If we imagine … Assuming that …”)? Paul Churchland characterizes the mill passage as a thought experiment (Churchland 1995, 191-192), and Rescher takes up this characterization (Rescher 2005, 83-84). Characterizing the mill passage in this way seems insightful since the possible situation that Leibniz asks us to imagine is not only not actually realized but also probably not physically realizable. Hence, what he asks the reader to imagine is not a possible physical experiment; rather, it is a situation that is possible in the sense that it is conceivable and hence, at best, can bring out some conceptual point.[[2]](#endnote-2) And typically, this is what thought experiments are meant to do. If this is the purpose of envisaging the possible situation described in the mill passage, Leibniz may not only explicate an implication of the definition of perception in *Monadology* 14 but also may add plausibility to his view of the conceptual connection between perception, thought, and unity.

As Rescher (2005, 90) points out, many thought experiments in philosophy have the function of refuting some general thesis. As he notes, the supposedly refuted generalization in the case of the mill passage is “Mechanical processes can account for thinking.” Moreover, he describes the overall formal of the aporetic complex at issue as follows:

1. *A*’s are (and have to be) *B*’s.
2. In certain … circumstances *X* there will be an *A* that is not *B*.
3. For aught we know to the contrary, *X* may actually be the case.
4. We are free to suppose that *X* actually obtains.
5. *A*’s do not have to be *B*’s.

Rescher comments: “Since theses (1)-(5) form a logically inconsistent group, one of them will have to be abandoned. And of course the proponent of a refutating thought experiment will automatically take this to be (1)” But, as he points out, “in principle it can always be argued that (3) is the weakest link—that it is simply false that *X* may actually be the case exactly because (1) obtains”. What prevents us from giving up (3) is the fact that it “will always be embedded in a plurality of contextually operative beliefs which can in principle be constituted in different ways and which, moreover, can be assessed differently in point of plausibility and fundamentality” (2005, 91).

Take this characterization of the logical structure of refutating thought experiments in philosophy as a starting point. Then one may ask, what are the contextually operative beliefs in the case of Leibniz’s mill, and how does Leibniz assess them in point of plausibility and fundamentality? Or take Daniel Dennett’s characterization of thought experiments as “intuition pumps” (Dennett 1995). Then one may ask, what are the intuitions that Leibniz wants to bring out by using this particular thought experiment? It is from the perspective of these questions that Leibniz’s metaphilosophical views become pertinent for understanding the nature of the explanatory gap involved in the mill passage.

In “Leibniz and the Concept of a System,” Rescher argues that Leibniz’s metaphysics is structured according to a Euclidean pattern, starting from a set of interrelated metaphysical definitions and principles, from which the remainder of metaphysical propositions is deduced (Rescher, 1981, 117-118). Yet, how should one think about the epistemological status of the definitions and principles themselves? One way of thinking about them would be to take them for merely hypothetical stipulations (see Brown 1984, 67-78). Indeed, Leibniz defends the usefulness of a hypothetico-deductive method in metaphysics. As he explains, the aim of such a method is the deduction of metaphysical propositions from a set of axioms of purely hypothetical character. The advantage of such a method is the reduction of the number of propositions whose proof still has to be given. In this way we reach a situation in which we can say that if the hypothetical principles are true, then all of their consequences are true as well (GP VII, 165; GP IV, 355; GP I, 381-382; A VI, 6, 5). Explanatory power and the reduction of the number of unproved propositions certainly are among the reasons why, in Leibniz’s view, a hypothetico-deductive method is attractive for philosophy. Moreover, there are elements of his metaphysics (such as his theory of the absolute spontaneity of the activities of simple substances) that can be best understood as forming part of the set of purely hypothetical axioms on which the system of his metaphysics depends.

However, suppose that the mill passage from the *Monadology* started from purely hypothetical stipulations. Then it remained puzzling why Leibniz uses a thought experiment to make his point. The fact that he uses a thought experiment rather suggests that he wants to bring out not only some consequences of his definition of perception but also some consequences of contextually operative beliefs or intuitions concerning the concepts of perception, thought, and unity. In fact, considering the metaphilosophical context of Leibniz’s remarks about unity will make clear that Leibniz maintains that some of the contextually operative beliefs behind the mill passage are nonhypothetical.

**3. Some Metaphilosophical Context.** Hans Burkhardt and Wolfgang Degen point out that Leibniz uses the Aristotelian distinction between parts that are prior to a whole and parts that are posterior to a whole (Burkhardt and Degen 1990, 7; see A VI, 6, 157). In the first case, parts can exist independently of the whole; in the second case, parts cannot exist independently of the whole (see Aristotle, Met., Z 1036 a 12-26; Met.,  1019 a 2-14). The instance of the distinction that Burkhardt and Degen have in mind stems from Leibniz’s philosophical theology. In what follows, I will suggest that this distinction is also relevant for the way in which material objects do not possess unity and mindlike entities do possess unity. While, according to Leibniz, material objects are composed of parts that can exist independently of the whole and of each other, in Scholastic terminology, they are composed of “parts external to parts” (*partes extra partes*). By contrast, the states of mindlike entities, using terminology that Leibniz originally derives from juridical contexts, are “connected” with one another in such a way that they form a genuine unity.

Leibniz’s technical notion of connection has both an epistemological and an ontological side. As to the epistemological side, Leibniz explains, “Connected are two things of which one cannot be understood without the other” (A VI, 3, 515).[[3]](#endnote-3) Thus, connection has to do both with the intelligibility of the things that are said to be connected: two things are connected when one of them cannot be understood independently of the other, and vice versa. But connection does not reduce to such an epistemological relation. Leibniz writes: “*Connection* is the necessity of the one thing for the other, connected are two things that are mutually required for each other” (A VI, 1, 102). The sense in which things are mutually required for each other becomes clearer in the following definition: “Connected [*connexa*] are two things when the existence of the one is involved in the existence of the other” (A VI, 4, 2769). Hence, connection in Leibniz’s technical sense is a relation of existential dependence: two things are connected when one cannot exist without the other, and vice versa. Both the epistemological and the ontological side of the concept of connection are brought together when he writes: “*Connected* are two things that are mutually consequences or requisites with respect to each other” (A VI, 1, 388). Most importantly for present purposes, Leibniz maintains that two things that are connected form a genuine unity: “*Several things that are connected are one individual*. For given A and B, if A would not exist, also B would not exist, and vice versa” (A VI, 1, 120). And as a corollary, he suggests, albeit in a somewhat critical form, that in such a case A and B are not parts at all (ibid.).[[4]](#endnote-4)

Why does Leibniz think that the connection relation applies to the states of mindlike entities but not to the constituents of material objects? Many of the relevant considerations have been developed in Leibniz’s early writings and then, in part, been integrated into his later thought. In this section, I will consider some passages from Leibniz’s early writings. In the following section, I will return to related passages from Leibniz’s later writings. Let us first consider what the early Leibniz says about the nature of matter. In the *Preface to Nizolius*, he states: “Prime matter is mass itself, in which there is nothing but *extension* and antitypy or impenetrability; it has extension from the space with it fills out; the nature itself of matter consists in its being something firm and impenetrable …” (A VI, 2, 435). As he explains, impenetrability “consists in the fact that, when another being of this kind arrives, it either has to cease or both of them have to come to rest.[[5]](#endnote-5) What is the rationale behind such a conception of matter? To be sure, using hypotheses plays a significant role in Leibniz’s early thought. In a letter to Jakob Thomasius, he writes: “[I]f we show that no other things are necessary besides mind, matter, space, and motion, this will itself make it clear that the hypotheses of those recent thinkers who use only these to explain phenomena are the better ones” (A II, 1, 22; L 100). In his view, one of the merits of these hypotheses is that they do not make any unnecessary assumptions (ibid.). But they have a further merit: “It must also be noted that those hypotheses are better which are clearer. The human mind can in fact imagine nothing other than mind … space, matter, motion, and things that result from the relations of these terms to each other” (ibid.). So, our mind’s supposed limitations in imagining basic constituents of reality favor one set of hypotheses over alternative sets of hypotheses. Moreover, it is crucial to note that Leibniz’s early conception of matter itself goes beyond merely hypothetical stipulations. Leibniz ascribes fundamental properties to matter on the basis of how he believes that every rational being distinguishes between bodies and nonbodies:

What men call a *body* must be investigated carefully, for a clear and distinct idea of this gives us access to demonstrations. First of all, men agree that only what is thought of as extended can be called a body … Men call *space* something which they think is extended by nothing else, unless it be immutable … However, *space and body are* distinct. For we perceive that we think of space as the same when bodies change, and what we perceive ourselves to be thinking or not thinking we perceive truly. The perception of thought is immediate to the thought itself in the same subject, and so there is no cause of error. Therefore it is true that we think of space remaining the same when bodies change and that we can think of space without a body which is in it. Now two things are diverse if one can be thought of without the other. Therefore space and body are diverse. (A VI, 2, 304-305; L 143)

Here, the theory of matter is connected with epistemic criteria for the distinction between bodies and mere appearances, which in turn lead to clear and distinct concepts for the construction of physics. Moreover, the epistemic criteria invoked by Leibniz are described as being commonly shared by rational human beings. To avoid misunderstandings, Leibniz explains that his reasoning “proceeds from an idea in our mind to the truth of things” (A VI, 2, 306; L 144). Hence, his view regarding extension and impenetrability as the essence of matter is deeply rooted in what he regards as our everyday conception of material objects. It is something that he believes any attentive person would regard as something that he or she clearly and distinctly understands.

The view that extension belongs to the essential properties of matter has dramatic consequences for the mereological structure of material objects. As Leibniz defines it, “*An extended thing* [*extensum*] is a continuum whose parts coexist …” (A VI, 4, 391). In a footnote, he explains: “*A continuum* is a whole whose parts can be assumed indefinitely and *have a position* with respect to each other. In this it differs from a unity as well as from an intensive whole, such as potency and heat” (A VI, 4, 390). Due to the difference in their position, the parts of a material object can be understood independently of one another and do not depend for their existence on other parts. In other words, due to their extension, material objects do not possess unity. This is why Leibniz characterizes extension as “what has parts external to parts [*partes extra partes*]” (A VI, 4, 1464-1465).

In Leibniz’s view, thoughts have an entirely different mereological structure. Again, his considerations go beyond a merely hypothetical framework. To be sure, for the early Leibniz using hypotheses plays a significant role in his view of the mind. In an axiomatic-deductive vein, the announces the plan “to compose Elements of the Mind, in the way Euclid made Elements of Magnitude and Figure, and Hobbes Elements of the Body or Motion” (A II, 1, 114). And he is explicit about the view that Hobbes’s metaphysics is an entirely hypothetical enterprise (A VI, 1, 22). As is well known, in this period Leibniz tries to derive a theory of the mind from specifically geometrical concepts and axioms. He declares that the doctrine of points, angles, instants, and conatus (in the sense of minimal motion in an instant within a point) contains the key for the explanation of the nature of thought (A II, 1, 111; 113). In this sense, he says that “geometry, or the philosophy of place, paves the way for the philosophy of motion or body, and the philosophy of motion for the science of the mind” (A II, 1, 172). This leads to a theory of the human mind, according to which the action of the mind consists in minimal motion within a point (A II, 1, 108).

Nevertheless, his early conception of the mind not only derives from geometrical axioms but also from the analysis of the structure of mental activities. Contrary to what the general characte­rization in Euclidean terms might lead one to expect, Leibniz in this period does not only apply an axiomatic-deductive method. Rather, he also emphasizes the importance of directing attention to something that—even though in an unreflective way—is already known. Whereas the geometrical account of the mind is derived from hypothetical presuppositions, the analytic side of Leibniz’s account of the mind is based on features of our mental activities that are accessible in a nonhypothetical way. Since we are acquainted with some structural features of our mental activities, the relevant kind of analysis brings to light a conception of mental activity that—at least implicitly—is common to all rational beings. For example, Leibniz describes the difference between bodies and minds as follows:

Every body is … a momentary mind, or one that lacks *memory*, because it does not retain for more than a moment its own striving and an alien one contrary to it (two factors, action and reaction, or the comparison and therefore *harmony*, are required for *sense*, and – without which there is no sense – for *lust* or pain): therefore it lacks memory, it lacks the sense of its own actions and passions, it lacks thought. (A VI, 2, 266)

This passage gives us the following picture of mental activities: Sensation requires the comparison between mental states. Comparison between mental states, in turn, requires the capacity to retain memories of the mental states compared. Moreover, having sensations involves experiencing this process of comparing mental states as pleasant or painful. Retaining previous mental states in memory, comparing them, and experiencing them as pleasant or painful implies that sensation involves some higher-order mental operations—operations that have the “actions and passions” of the mind as its object. In this sense, sensation involves a sense of the mind’s own actions and passions. And it is this structure of reflexive mental operations that Leibniz has in mind when he speaks of “thought”.[[6]](#endnote-6)

In another early piece he takes up these issues and carries them further in two directions:

Thought is nothing but the sense of comparison, or shorter, the sense of many at once, or one in many.

It is necessary that in what can be thought there is a reason why they are sensed, i.e. why they exist, and this is not in the thought of single things, it is therefore in a plurality. Therefore in all. Therefore in the mind, i.e. in one in many. Therefore in harmony, i.e. the unity of a plurality, or in a diversity compen­sated by identity. (A VI, 2, 282)

This passage provides a reason why sensation requires the comparison of mental states: a single mental state would not give rise to the complex contents of our sensations; hence, sensations must arise out of processing a plurality of mental states. What is more, the capacity of comparing mental states is linked with the view that minds are genuine unities.

But what is it about mental activities involving higher-order operations that makes minds genuine unities? Given Leibniz’s characterization of genuine unity in terms of the connection relation (understood as a relation of mutual existential dependence or a relation of mutual intelligibility dependence), it is plausible to ask whether the connection relation plays a role in his account of sensation and thought. Clearly, not everything he says when he describes sensation and thought implies that relations of mutual existential dependence obtain between mental activities. Thus, while an operation that has another mental activity as its object depends for its existence on this activity, the reverse does not hold: the mental activity may well exist without being the object of a higher-order operation. Nevertheless, there is at least one aspect of sensation and thought that instantiates a relation of mutual existential dependence. Consider the following passage:

*To think* is being the reason of change, or to change itself. Also being the reason of itself. *To think* is indefinable, in the same way as *to sense*, or rather *to act*. And nevertheless, once assumed they are reflected in themselves. Because *we think*, we know that we are ourselves, because *we act*, [we know] that there is something else. (A VI, 2, 282–283)

Leibniz’s view seems to be the following: sensation, like thought and acting, essentially involve higher-order operations by means of which we are aware of our sensations, thoughts, and actions. But by being aware of our sensations, thoughts, and actions, we are at the same time aware of ourselves (and also of the beings that are presupposed in our actions). The relation between self-awareness and awareness of our sensations and thoughts exemplifies the connection relation since the relation of existential dependence here seems to go in both directions. On the one hand, self-awareness does not occur independently of thought. In this sense, self-awareness depends on the awareness involved in thought (“Because we think, we know that we are ourselves”). On the other hand, our sensations and thoughts also do not occur independently of self-awareness. That this is Leibniz’s view is confirmed by a remark from his Paris years:

In our mind there is a perception or sense of itself, as of a certain particular thing. This is always in us, for as often as we use a word, we recognize that immediately. As often as we wish, we recognize that we perceive our thoughts; that is, we recognize that we thought a short time ago. Therefore intellectual memory consists in this: not *what* we have perceived, but *that* we have perceived – that we are those who have sensed. (A VI, 3, 509; PDSR 59-61)

Here, Leibniz maintains that awareness of our previous usages of linguistic expressions always carries with it an awareness of the self that has been using these linguistic expressions, and that something analogous holds with respect to our awareness of mental operations: being aware of previous thoughts and sensations is being aware of the self that has experienced these thoughts and sensations. In another early piece, Leibniz suggests an explanation for why the awareness of thought involves self-awareness:

*Being* is all requisites being sensed. A *requisite* is that which if it is not thought something else cannot be thought …

To think *something* is to think thought. To think a *being*, is to think a rational, harmonious, reconcilable sense. (A VI, 2, 283)

Given the characterization of thought as a process of comparing mental activities, the awareness of thought involves an awareness of what it takes to be a thinking being, namely the capacity of performing such comparisons. In this sense, awareness of thought implies awareness of the ontological requisites of a thinking being. And the awareness of the ontological requisites of a thinking being *is* the awareness of this being itself. If this is what Leibniz has in mind, the structure of thought involves two different kinds of higher-order mental operations—awareness of mental activities and self-awareness—that stand in the connection relation to each other: awareness of mental activities cannot exist independently of the self-awareness, and vice versa.

Finally, in a remark from his Paris years Leibniz connects the issue of the reflexive nature of thought with the question of how we form the notion of unity. He writes:

Extension is a state, thinking is an action … Everything that thinks, thinks something. The most simple thing is that which thinks that it thinks itself …

We perceive many things in our mind, such as thinking or per­ceiving, perceiving oneself, perceiving oneself to be the same, perceiving pleasure and pain …

The idea of existence and of identity does not come from the body, nor does that of unity. (A VI, 3, 518; PDSR 75–77)

In this remark, Leibniz comes back to the idea that first-order mental activities, higher-order mental activities that have first-order activities as their object, and higher-order activities that have the identical self as their object are distinguishable characteristics of minds. In particular, he uses the phenomenon of self-awareness to explicate the sense in which minds possess simplicity. What is more, he regards the concept of unity, like other metaphysical concepts, as something that we could not derive from our conception of material objects. By implication, he suggests that the concept of unity, like other metaphysical concepts, is something that we could derive from our conception of the structure of mental activities.[[7]](#endnote-7)

**4. The Explanatory Gap Reconsidered.** Now we have in hand Leibniz’s early distinction between extended material objects that are composed of “parts external to parts” and perceiving and thinking mindlike entities whose states are “connected” with one another. Moreover, it should be clear by now that this distinction involves an analysis of what Leibniz takes to be commonly shared beliefs about the essential properties of matter and the structure of thought. Let us return to the question of how to interpret the mill passage from the *Monadology*. The issue of the mill occurs rather late in Leibniz’s philosophical development. It occurs, rather sketchily, in a letter to Pierre Bayle (1702?) and again in the *New Essays* (1704). In the *New Essays* Leibniz argues that “thought cannot be an intelligible modification of matter, that is to say, that the sentient or thinking being is not a mechanical thing, like a watch or a mill, as if sizes, shapes, and motions could be conceived whose mechanical conjunction could produce something thinking, or even sensing, in a mass where there was nothing of the sort” (A VI, 6, 66-67/RB 66-67). Note that Leibniz in this passage, unlike in the mill passage from the *Monadology*, does not claim that a mechanical system is incapable of producing perception in general; he is only claiming that it is incapable of producing thought—a claim he also makes in the *Monadology*—and sensation. And as he maintained in his early years, what sensation has in common with thought is the presence of higher-order mental activities (the kind of activities that, from the 1680s onwards, he calls “apperceptions”).[[8]](#endnote-8)

But why is the nature of matter incapable of providing an explanation for the occurrence of mental operations that involve higher-order activities? The mill passage from the *New Essays*, when read in isolation, does not give much information about the exact nature of the explanatory gap.[[9]](#endnote-9) But in a preparatory piece to the *New Essays* Leibniz avers, “a material mass the parts of which are without perception cannot make a whole that thinks” (A VI, 6, 8). Strangely enough, in this remark Leibniz seems already to presuppose what the mill passage in the *Monadology* is meant to show, namely, that material objects and their parts do not have perception. Nevertheless, the remark is interesting because it indicates why Leibniz believes that material systems are incapable of producing thought: thoughts form genuine wholes, while systems of material parts do not. Consider from this perspective the mill passage in the 1702 letter to Bayle:

[I]f one had so penetrating eyes as one wanted to have, in order to see the smallest parts of the texture of bodies, I don’t see that one would have made any progress, and one will find the origin of perception there as little as one finds it now in a watch or in the parts of a machine that are all visible, or in a mill, where one can walk around among the wheels: for the difference between a mill and a more subtle machine is only one of more and less. One can conceive that the machine produced the most beautiful things on earth, but never that it apperceives it [*qu’elle s’apperçoive*]. (GP III, 68)

To be sure, Leibniz does not elaborate here on why the interaction of bodily parts is incapable of producing apperceptions (and one may wonder how much Bayle was able to figure out on the basis of this remark alone). Nevertheless, read in conjunction with Leibniz’s remark from the preparatory piece to the *New Essays*, plausibly what Leibniz has in mind is something along the line of argument developed in his early writings: Complex machines are incapable of producing apperception since mental activities involving apperception are wholes that are prior to their parts. If the unity of mental activities involving higher-order operations is what Leibniz has in mind in the mill passages from the letter to Bayle and the *New Essays*, imagining the enlarged mill is meant to bring out some of our everyday views concerning the unity of thought.

The mill passage from the letter to Bayle gives an important clue as to what Leibniz in the *Monadology* may have in mind when he claims that *thought* is inexplicable by the workings of material systems. It is an argument that goes back to his early writings and involves an analysis of our everyday conceptions of material objects and conscious mental activities. Nevertheless, the *Monadology* makes a more general claim: unity is not only characteristic of thought; rather, it is characteristic of perception in general. Such a claim has two interesting implications: unity is characteristic of unconscious mental activities, and unity is characteristic of the activities of simple substances incapable of apperception (see GP VII, 529). Both implications go beyond what our intuitions concerning the structure of thought could tell us. So, we are left with two problems: First, how can Leibniz extend his concept of unity from mental activities that involve apperception to mental activities that do not involve apperception? Second, how can Leibniz extend his concept of unity from minds to bare simple substances that he believes possess perception but not apperception? Obviously, a lot of hypothetical reasoning is involved in applying the concept of unity to the unconscious activities of minds and other simple substances (see Naert 1961, 57-60; Jolley 1984, 137-141). Nevertheless, some nonhypothetical considerations may be operative, as well. Let me explain.

(1) In the mill passage from the letter to Bayle, Leibniz seems to argue from the inexplicability of apperception by mechanical means to the inexplicability of perception by mechanical means. Even if we allow that Leibniz may have a good argument for the unity of apperception, the argument does not show anything about the unity of perceptions that do not involve apperception. Nevertheless, what Leibniz may have had in mind is the following. Suppose that the interaction of material parts cannot produce apperceptions since apperceptions involve genuine unity. Then apperceptions are not states of systems of material parts. In this case, apperceptions are an example of mental states that can be only states of immaterial substances. But then, how plausible is it to assume that other mental states (those that do not involve apperception) are states of systems of material parts? Thus, even if Leibniz may not have had an argument for the unity of perception in general based in a similar way on everyday intuitions as in the case of the unity of apperception, the argument for the unity of apperception is still relevant for undermining the plausibility of the claim that systems of material parts can produce perception.

(2) Consider the following passage probably from the mid-1680s:

Out of several parts no being that is truly one is composed, and every substance is indivisible, and what has parts is not a being but only a phenomenon. Therefore the ancient philosophers rightly attributed to those things, that they said make an *unum per se*, substantial forms, such as minds, souls or first entelechies, and denied that matter is by itself one being. (A VI, 4, 627-628)

This passage takes up the view, already familiar from Leibniz’s early writings, that the lack of unity is what distinguishes material objects from mindlike entities that are true unities. However, it also makes clear that the lack of unity of material objects is relevant for Leibniz’s phenomenalism about material objects. To be sure, his phenomenalism not only rests on the conceptual connection between extension and disunity but also on the further conceptual connection between being and unity. Taken together, these conceptual connections lead Leibniz to the view that, if there is something real about material objects, their constituents have to be individuated by immaterial entities that are true unities. But the connection relation is exactly what accounts for the unity of these immaterial beings. In a related, contemporary piece, he remarks, “matter in fact is nothing, the whole is not composed of parts but is connected [*connexum*]” (A VI, 4, 279). Hence, the structure of the true unities capable of individuating material objects has to be analogous to the structure of minds—they have to possess activities that form wholes that are prior to their parts even if they do not possess apperception. In this way, the category in terms of which the ultimate constituents of reality are described derives from the analysis of our everyday conception of conscious mental activities, while the plausibility of applying this category to the ultimate constituents of reality derives, in part, from the analysis of our everyday conception of matter.

**5. Conclusion.** The foregoing considerations fully confirm Rescher’s overall insight into the role of context in textual interpretation. Widening the context and then seeking to maximize coherence between the interpretation defended and the relevant textual findings is what renders one interpretation more plausible than another. In some cases, however, it can be useful to expand Rescher’s coherence theory of textual interpretation and integrate one more level of context—the level that I dubbed “metaphilosophical.” Obviously taking this level of context into account makes matters of interpretation more complicated—thus confirming also Rescher’s “Third Law of Textual Interpretation” according to which “[t]he more substantial an interpretation—the more extensively attuned to a larger manifold of contexts—the more elaborate and internally ramified it becomes.” However, in the case of the mill passage increased complexity of interpretation also brings two benefits. First, considering some metaphilosophical context makes clear that Leibniz’s concept of the unity is not a purely hypothetical stipulation. In particular, the concept of the unity of sensation and thought is based on an analysis of our everyday conception of conscious mental activities. Likewise, Leibniz’s concept of the disunity of material objects is partly based on an analysis of our everyday conception of extended bodies. And both the concept of the unity of sensation and thought and the concept of the disunity of material objects are relevant for extending the concept of unity to the realm of unconscious perceptions.

Second, widening the context in the way as suggested indicates that there is genuine work to be done by considering the counterfactual situation described in the mill passage. The mill passage genuinely works as a thought experiment since it brings out some contextually operative beliefs and indicates how they contribute to the explanatory gap that separates the mereological structure of material objects from the mereological structure of perception, sensation, and thought. In this way, considering the metaphilosophical context of the mill passage vividly illustrates how hypothetical and not-so-hypothetical elements work together in Leibniz’s philosophy.[[10]](#endnote-10)

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1. See Lodge and Bobro 1998, 554-561 for discussions of Searle 1983, 267-268, Churchland 1995, 191-192, and Wilson 1974. See also Rescher 2005, 84, for a short discussion of Cole 1984, 432. [↑](#endnote-ref-1)
2. Of course, Leibniz’s view of possibility as conceivability may carry with it difficulties of its own. For a recent discussion, see Yablo 1993. [↑](#endnote-ref-2)
3. Unless otherwise noted, translations are mine. Emphases are all those of the original texts. [↑](#endnote-ref-3)
4. The entire text of the relevant thesis runs: “*Si pars eius fit nulla.*” [↑](#endnote-ref-4)
5. On Leibniz’s early conception of matter, see Blank 2005, ch. 2. [↑](#endnote-ref-5)
6. Accordingly, in a contemporary piece Leibniz understands thought as “acting on oneself” and sensation as a particular kind of such immanent action (A VI, 2, 493). Similarly, he writes: “Whatever acts on itself, has some memory (for we *remember* when we sense that we have sensed); and consequently the perception of harmony or disharmony or of lust or pain, through the comparison of an old and a new sensory impression …” (A VI, 1, 483). [↑](#endnote-ref-6)
7. On Leibniz’s early view of metaphysical concepts, see Blank 2007. [↑](#endnote-ref-7)
8. For example, he writes: “Sensation … is perception that involves something distinct and is conjoined with attention [*attentio*] and memory [*memoria*]” (GP VII, 330; see Kulstad 1991, 31). [↑](#endnote-ref-8)
9. However, for some perceptive remarks on the relevance of Leibniz’s conception of miracles for the mill passage in the *New Essays*, see Adams 1994, 368-369. [↑](#endnote-ref-9)
10. I would like to express heartfelt thanks to Stephanie Härtel and Paul Lodge for their extremely helpful comments on earlier versions of this paper. [↑](#endnote-ref-10)