

## *Space and Time in Leibniz's Early Metaphysics*<sup>1</sup>

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### *Abstract*

In this paper I challenge the common view that early in his career (1679-1695) Leibniz held that space and time are well-founded phenomena, entities on an ontological par with bodies and their properties. I argue that the evidence Leibniz ever held that space and time are well-founded phenomena is extremely weak and that there is a great deal of evidence for thinking that in the 1680s he held a position much like the one scholars rightly attribute to him in his mature period, namely, that space and time are merely orders of existence and as such are purely abstract and occupy an ontological realm distinct from that of well-founded phenomena. In the course of arguing for this interpretation, I offer an account of the nature of Leibnizian phenomena which allows Leibniz to hold the view that space and time are phenomena, while at the same time thinking of them as abstract, ideal orders of existence.

### **I. Introduction**

**I**n his mature philosophical writings, Leibniz is careful to distinguish two ontological realms: the realm of well-founded phenomena such as bodies and their properties, and the realm of purely ideal things such as space and time. Ideal things, he insists, are abstract, imaginary, indeterminate and continuous, whereas well-founded phenomena are real, completely determinate, and discrete. In his earlier metaphysical writings, however, he sometimes says that space and time are phenomena akin to rainbows and parhelia, and he suggests that in this respect they are in the same ontic category as extension and motion. Commentators have taken this as evidence that in this period (roughly 1679-1695) Leibniz conceived of space and time not as purely ideal but rather as well-founded phenomena, entities on an ontological par with bodies and their properties.<sup>2</sup>

I believe this interpretation is mistaken. In my view, the evidence Leibniz ever held that space and time are well-founded phenomena is extremely weak, and there is a great deal of evidence for thinking that in the 1680s he held a position much like the one scholars rightly attribute to him in his mature period, namely, that space and time are merely orders of existence and as such are purely abstract and occupy an ontological realm distinct from that of well-founded phenomena.<sup>3</sup> To be sure, the early Leibniz does not spell out the distinction between ideal entities

and well-founded phenomena as clearly as he eventually will in the mature period. But I think there is no doubt that all the elements of his mature view are already in place by the early 1680s.

I begin the paper by identifying the main elements of the interpretation of space and time according to which they are well-founded phenomena, and then argue that there is very little textual support for it. In the second section, I argue that most of Leibniz's remarks about space and time in the early period suggest his view is very much like the account he will defend later in his career. In the third section, I consider two potential problems with my interpretation of Leibnizian space and time, both of which arise from Leibniz's willingness to refer to space and time as phenomena. My response to these objections involves a careful examination of what Leibniz means when he calls something a phenomenon. I argue that what is essential to being a Leibnizian phenomenon, whether well-founded or not, is that it involves, at least to some extent, the imagination. Since Leibniz thinks the representations of space and time involve the imagination, there is thus no inconsistency involved in his calling them phenomena and thinking of them as abstract orders of existence. Before concluding, I consider four potential objections to my account of Leibnizian phenomena.

## **II. Space and Time: Well-Founded Phenomena?**

Given how much attention scholars have paid to Leibniz's views of substance and matter in the 1680s, it is remarkable how little attention has been paid to his early views on space and time.<sup>4</sup> Of the commentators who have considered these early views, most think that space and time are well-founded phenomena and thus have an ontological status similar to that of matter, body and phenomenal motion.<sup>5</sup> Stuart Brown, for example, says that somewhere between 1682 and 1686 Leibniz's views on space and time move in a "phenomenalistic" direction: "material substances are reduced to well-founded phenomena as also are space and time."<sup>6</sup> Nicholas Rescher offers a similar assessment, claiming that Leibnizian space and time "are (well-founded) phenomena, and as such their existence is secondary, since it is derivative from the substances (and their properties) which they 'contain'."<sup>7</sup> Like bodies and their properties, he claims, they are in the "realm of everyday experience, the phenomenal world, which forms the object of study of the sciences...."<sup>8</sup> These commentators seem to making two points about the similarity between bodies and space and time. The first is that space and time, like coffee cups and groundhogs,

are objects of actual and possible experience. The second point is that like bodies they are well-founded. But what is it about the objects of everyday experience such as bodies in virtue of which they are said to be well-founded phenomena? This is a difficult question, and there may be insufficient textual evidence to answer it conclusively.<sup>9</sup> Leibniz's few comments about well-foundedness suggest two logically independent accounts.<sup>10</sup> The first is that things are well-founded in virtue of a dependence relation they bear to the external reality of genuine substances. As phenomena, well-founded things are of diminished reality; they are not absolutely real, and their existence is dependent upon a perceiving mind. Nevertheless, they have some degree of reality that they derive from the substances that ground or well-found them. Leibniz suggests this sort of account in a letter to Des Bosses:

From many monads there results secondary matter, together with derivative forces, actions and passions, which are only beings through aggregation, and thus semi-mental things, like the rainbow and other well-founded phenomena. (G II, 306 [LR 35]; see also G III, 622; G VII, 564; AG 182, 319; L 659)

Although this text is not free from ambiguity, it seems Leibniz is suggesting that well-founded phenomena are semi-mental, which in turn suggests that he thinks their existence is at least partially dependent upon an extra-mental reality, analogously to the way in which the existence of an actual rainbow is partially dependent upon water droplets.<sup>11</sup> It is this relation to an extra-mental reality that distinguishes dreamed or hallucinated phenomena such as bodies or rainbows from "real" bodies or rainbows. Since Leibniz does not offer an explicit account of the sort of dependence relation that is required for something to be well-founded, and since bodies are clear examples of well-founded phenomena, it is worth considering what sort of relation Leibniz thinks exists between genuine substances and corporeal phenomena. Leibniz suggests two different, and apparently incompatible, accounts of the relation between genuine substances and bodies. Sometimes he says that bodies simply *are* aggregates of substances (G II, 195, 444, 520; G III, 262, 367, 545; G VII, 561-2, 564), whereas other times he says they are the phenomena of percipient beings that are in harmony or agreement with the phenomena of other perceiving substances (G II, 264 [L 535], 270 [L 537], 281 n.; G III, 567). On the first account, actual bodies are dependent on substances in the same way that an actual herd is dependent upon real cows. This is not to deny that herds are partially mental, since according to Leibniz aggregation is always an act of the mind (G II, 517 [AG 263]; G VI 586, 625 [AG 263, 227]; NE 226).<sup>12</sup> But what makes a herd real as opposed to dreamed or hallucinated is the fact that the cows

are real. This is the sense in which the reality of an aggregate is derived from the reality of the things which are aggregated.<sup>13</sup> On the second account of the relation between corporeal phenomena and substances, things are a bit more complicated, primarily because Leibniz often accompanies this account with an explanation of the reality of phenomena that seems to make no reference to an extra-mental world of substances from which matter results.

Indeed, considering the matter carefully, we must say that there is nothing in things but simple substances, and in them, perception and appetite. Moreover, matter and motion are not substances or things as much as they are the phenomena of perceivers, the reality of which is situated in the harmony of the perceivers with themselves (at different times) and with other perceivers. (G II, 270 [AG 181])

As it stands, this view seems inconsistent with thinking of well-founded things as semi-mental. For, given what Leibniz says in this text, body seems completely mental. And even though the account of the reality of phenomena makes reference to some external substances (other percipient beings), those phenomena clearly do not inherit their reality from external things in the way in which a rainbow derives some reality from water drops in the sky or a herd inherits reality from actual cows. However, for many scholars there must be more to the story than this. Although some contemporary commentators have attributed a straightforwardly phenomenalistic account of body to the mature Leibniz, most recent commentators recognize that even if Leibnizian bodies are perceptual beings or appearances, there must be some sense to be made of Leibniz's claims that bodies are aggregates and that they are grounded *in* things.<sup>14</sup> A common strategy for accounting for these claims is to see the relation between corporeal phenomena and substances as one of expression or representation.<sup>15</sup> On this view, corporeal phenomena are real (as opposed to illusory or dreamed) in virtue of the fact that they represent or express an aggregate of genuinely real substances. In other words, the existence of real bodies is dependent on a representation relation between the appearances or perceptions of a mind and an external world of genuine substances which are represented as unified and corporeal.

On the account we have been considering, things such as bodies are well-founded in virtue of a relation they bear to other, more real, things. Such phenomena are "grounded *in* things," things which are "the foundations of phenomena" (AG 179; emphasis added). But Leibniz sometimes suggests an alternative account of well-foundedness, one which does not make any reference to an external realm of

genuinely real things. In a 1712 letter to Des Bosses he says the following:

If the substantial chain [*vinculum substantiale*] for monads did not exist, all bodies, together with all of their qualities, would be nothing but well-founded phenomena, like a rainbow or an image in a mirror, *in a word, continual dreams perfectly in agreement with one another*, and in this alone would consist the reality of those phenomena. (G II, 435-6 [AG 198-9]; emphasis added; see also G III 622-3)

According to this account, the well-foundedness of something consists not in a relation it bears to some external reality, but rather in the fact that the phenomena are in agreement with one another. Furthermore, Leibniz suggests in this text that the reality of phenomena is not at all parasitic on the existence of any extra-mental reality. Phenomena are thus not founded on or grounded in other things, on this account. Rather, their being well-founded consists only in their agreement with other phenomena.

Attempting to reconcile these distinct accounts of well-foundedness, and these distinct account of the reality of corporeal phenomena, is well beyond the scope of this essay.<sup>16</sup> Furthermore, I think that on the basis of the texts in which Leibniz employs the notion of well-foundedness, it is impossible to be sure what the essence of well-foundedness is. Nevertheless, having some grasp of what Leibniz says about well-foundedness will be useful in that it gives us a place to start in assessing the claim that space and time are well-founded. My suspicion, on the basis of both texts in which he uses the term “well-founded” and things he says about uncontroversial examples of well-founded phenomena, is that whatever the essence of well-foundedness is, well-founded entities are things which are *both* in agreement with other phenomena and semi-mental (i.e. dependent for their existence on external things that are more real than the phenomena). In other words, it seems to me that Leibniz would maintain that both are necessary conditions. And as I shall argue, the early Leibniz (and the mature Leibniz) does not think that space and time satisfy either of these conditions.

Perhaps more important than my views about well-foundedness, however, are the views of commentators who claim that the early Leibniz thinks space and time are well-founded phenomena. As I have pointed out, Leibniz offers two general accounts of well-foundedness, one which appeals to a relation phenomena bear to some external, real entities, and one which appeals only to agreement among phenomena. Most commentators who read Leibniz as holding the view that space and time are well-founded, either in the early period or the mature period,

understand well-foundedness in the first way, namely, as having to do with a relation phenomena bear to aggregates.<sup>17</sup> Brown, for example, says that Leibniz “generally regarded matter ... as well-founded because although, like a rainbow, it was no more than a phenomenon, it was an appearance which reflected underlying realities.” “They are ‘well-founded’ in that, unlike *mere* phenomena, they result from substances.”<sup>18</sup> According to Rescher, “a *phenomenon* arises when something *appears* to a monad...” This appearance is well-founded “if the conditions of things thus to be found in a monad’s state corresponds to the conditions actually obtaining in the “external world,” i.e., the remaining system of monads...”<sup>19</sup> And while they do not offer an account of well-foundedness, Hartz and Cover make the point that bodies derive their reality from the monads that well-found them.<sup>20</sup> Each of these commentators emphasize the point that the existence of a real or well-founded phenomenon is dependent upon the existence of some external substances from which the phenomenon results. And it is also worth noting that at least Brown and Rescher take phenomena to be appearances.

Commentators have differing reasons for reading the early Leibniz as advocating a view of space and time according to which they are well-founded. Rescher and Brown, for example, assume Leibniz’s views do not change significantly over the course of his career and read the mature writings as advocating a view of space and time as well-founded.<sup>21</sup> Hartz and Cover, who claim Leibniz only held this type of view in his early writings, think there is some direct textual evidence from the 1680s. They cite two passages.<sup>22</sup> The first is from a paper tentatively dated 1689 that Loemker translates as follows:

Space, time, extension, and motion are not things but well-founded modes of our consideration. Extension, motion, and bodies themselves, insofar as they consist in extension and motion alone, are not substances but true phenomena, like rainbows and parhelia. (L 270)

This seems like fairly solid textual support for the claim that Leibniz held that space and time are well-founded phenomena. However, the evidence is weaker than it appears. For one thing, the translation is questionable. The Latin for the first sentence is: “*Spatium tempus extension et motus non sunt res, sed modi considerandi fundamentum habentes*” (C 522). And it seems to me that a more plausible translation of the sentence is that offered by Ariew and Garber: “Space, time, extension and motion are not things, but modes of contemplating things that have a foundation” (AG 34). Interpreted in this way, the first sentence of the passage seems to express something quite different. It suggests that space, time,

etc. are ways of thinking about well-founded phenomena, rather than actually being well-founded phenomena. But even if Loemker's translation is correct, we still cannot infer much from the sentence because Leibniz deleted it from the final version of the paper. Taking this into consideration, space and time are not even in play in this text, and nothing is characterized as having a foundation. All that is claimed is that extension, motion and bodies regarded in a certain way are true phenomena.

The second text Hartz and Cover mention seems to provide better evidence for the well-founded view of space and time:

Matter considered as mass in itself is only a pure phenomenon or well-founded appearance [*appareance*], as are also space and time. (G II, 118-19 [LA 152]; see also G II, 126 [LA 161])

What is especially significant about this text is the suggestion that space and time are not only well-founded, but are also appearances. And if Leibniz takes matter considered as mass in itself to be equivalent to body insofar as it consists of extension and motion alone, then we can infer from the two texts taken together that space, time and matter conceived of in Cartesian terms are "true phenomena, like rainbows and parhelia," which are obviously appearances. On the face of it, this seems to be a somewhat odd claim. Specifically, it is odd to think that matter *considered in a certain way*--namely, purely geometrically--would count as an appearance. For, matter considered purely geometrically is matter considered as abstracted from all sensible qualities. But when something is referred to as an appearance, this very often implies that the thing is both immediately present to consciousness and sensuous or sensory in character.<sup>23</sup> The apparent oddness of this claim notwithstanding, it nevertheless appears that in this text Leibniz is claiming that space and time are well-founded appearances. And his suggestion that space, time, extension, etc. are like rainbows and parhelia is further suggestive of the well-founded view. For unlike dreams or hallucinations the appearances of rainbows and parhelia are grounded in external conditions, and he sometimes makes analogical use of rainbows to make just this point. Despite this apparently strong textual evidence, however, I think there is a plausible interpretation of these texts according to which space, time, matter considered as pure extension, etc. are neither well-founded nor appearances. The details of this interpretation will emerge towards the end of the paper after we have looked at the textual evidence for the claim that Leibniz held a more sophisticated view of space and time in the 1680s. For now, let me merely make some brief remarks that might serve as a preview of

what I shall argue below.

First, seeing these texts as supporting the well-founded view of space and time assumes that Leibniz is taking “pure phenomenon” and “true phenomenon” to be equivalent to “well-founded appearance.” But it is not clear whether the claim is that matter is *either* a pure phenomenon or well-founded appearance, or that matter is a pure phenomenon, *that is*, a well-founded appearance. This will turn out to be significant since Leibniz recognizes a distinction between kinds of phenomena, only some of which are well-founded, and on the first reading he would be leaving it open whether space, time and mass are *well-founded* phenomena. In the end, I shall argue that Leibniz does think that space and time are phenomena, but that he has a conception of phenomena that is broad enough to include things such as space, time and other abstract entities that are neither well-founded nor appearances. Second, as suggestive of the well-founded view as the analogy with rainbows might be, there is sufficient equivocation in his use of the rainbow analogy to cast doubt on whether his use of the analogy constitutes evidence for this view. In some cases, he uses the analogy to draw attention to something’s status as imaginary, whereas other times he uses it to draw attention to the existence of a founding relation between external conditions and mental representations. Obviously, then, the rainbow analogy can only be offered as support of the well-founded view if it is clear that Leibniz is using the analogy in the second way. As we will see in the next section, however, there are many texts from the early period that suggest he sees space and time as purely mental or imaginary. And this suggests to me that Leibniz is employing the rainbow analogy to draw our attention to the imaginary nature of space and time rather than to its well-foundedness.

### III. Space and Time as Purely Ideal

As we saw in the previous section, the textual evidence that in the early period Leibniz conceives of space and time as well-founded phenomena is quite thin. The primary purpose of this section is to show that Leibniz’s early account of space and time is very much like his mature account, according to which space and time are purely ideal orders of existence. I begin by reviewing some the relevant details of Leibniz’s mature ontology, especially his views about the distinction between ideal entities and “real” things such as phenomenal body and motion. I then provide specific reasons for rejecting an interpretation according to which the mature Leibniz takes space and time to be well-founded. This is important because scholars such

as Rescher and Brown think both that the early views of space and time are similar to the mature views *and* that Leibniz believes throughout these two periods that space and time are well-founded phenomena. After discussing the central features of the mature view of space and time, I turn to the early texts and argue that every feature of the mature view can be found in these earlier writings.

As several commentators have recognized, the mature Leibniz recognizes a distinction between three ontological tiers or levels.<sup>24</sup> At the lowest level are individual substances: the monads. These entities are the only things that are fully and genuinely real.<sup>25</sup> At the middle level are “real” entities such as matter, individual bodies and the properties of material things. And finally, at the highest or ideal level are *entia mentalis* such as space and time. Of central interest to us are the features that distinguish entities at the middle level from those at the ideal level. For, according to some scholars (e.g., Hartz and Cover), Leibniz did not recognize such a distinction in the early period; and according to other scholars (e.g., Rescher and Brown) he recognized differences between these types of entities but did not see these differences in terms of a distinction between well-founded and non-well-founded entities.

There is a great deal of textual evidence that Leibniz intended to draw a sharp distinction between real (albeit phenomenal) things such as bodies and ideal things such as space and time. Consider, for example, the following 1704 remark to de Volder:

From the fact that a mathematical body cannot be resolved into first constituents we can, at any rate, infer that it isn't real, but something mental, indicating only the possibility of parts, not anything actual. Indeed, a mathematical line is like the arithmetical unit: for both, the parts are only possible and completely indefinite.... But in real things, namely in bodies, the parts are not indefinite (as they are in space, a mental thing), but are actually assigned in a certain way, in accordance with how nature has actually instituted divisions and subdivisions as a result of various motions; and although these divisions might proceed to infinity, nonetheless, everything results from certain first constituents, that is real unities, though infinite in number. (G II, 268-9 [AG 178-9])

The ideas expressed in this short passage are reflected in a variety of texts dating from 1696 to 1709 (e.g., G IV, 562-4, 568-9; G II, 268-9 [AG 178], 278-9, 282 [AG 185], 336 [LR 93], 379 [LR 141]): Bodies are real or actual and result from genuine unities, whereas mathematical things such as space or a line are merely mental, and do not result from genuine units. On the basis of these texts, Hartz

and Cover discern several characteristics that Leibniz uses to distinguish these two ontological levels.<sup>26</sup> First, Leibniz says that entities such as space and time are ideal or mental (*res mentalis*), whereas phenomena such as bodies and their properties are real or actual.<sup>27</sup> In saying that corporeal phenomena are real, Leibniz is not, of course, claiming that they are absolutely real. As we saw above, Leibniz takes simple substances to be the only genuinely real entities. Nevertheless, insofar as corporeal phenomena result from genuine substances, they derive some reality from those substances. Thus, although as phenomena they are to some extent mental, they are also partially real; they are “semi-mental beings [*entia semimentalia*]” (G II, 304, 306 [LR 31, 33]). Purely ideal entities, on the other hand do not have this sort of derivative reality. Leibniz never claims that space or time result from simple substances; he never claims that space and time have simple substances as constituents or elements; and he never claims that space and time are ontologically grounded in simple substances. In fact, as we have already seen in the 1704 letter to de Volder, he explicitly denies that they result from simples, and he claims that this shows they are not real. They are instead mere *entia rationis* (NE 226-7), things which are abstract (e.g. G II, 195 [L 523], 249 [AG 175]; G VI, 584 [AG 261]; NE 110) or imaginary (e.g. G IV, 436 [AG 44]; AG 329, 38-9). A second difference between ideal entities and semi-real entities, which is also in evidence in the 1704 letter to de Volder, concerns the internal structure of entities which are, or can be thought of as, extended in some way. Leibniz says that the parts of ideal things such as space and time are indefinite and indeterminate; they are arbitrarily divided or divisible, and as such the whole is prior to the parts. In semi-real things, on the other hand, the parts are not indefinite but are rather “assigned in a certain way” in virtue of their resulting from an infinitude of qualitatively diverse simple substances. A third difference is that ideal quantities are continuous in structure, whereas semi-mental things are “discrete” and actually divided in virtue of the motions of their parts. This distinction too seems to apply specifically to things that can be thought of as extended or having parts.<sup>28</sup>

Having isolated the key characteristics of ideal entities, I am now in a position to summarize Leibniz’s mature views of space and time. According to several texts from the mature period, space and time are orders of actual and possible existence (G II, 268-9 [L 535-36], 278-9, 336, 379; G IV, 568-9 [L 583]; GM VII, 242; AG 307). These orders are ideal, abstract and imaginary. Insofar as they are thought of as quantities, their parts are completely indefinite, indeterminate, arbitrarily divisible and continuous in structure. Finally, Leibniz believes that we come to form the

idea of space and time by a process of abstraction from corporeal phenomena (G II, 195[L 523], 249 [L 529]; AG 338-9).<sup>29</sup> Each one of these features of Leibniz's mature account of space and time can, I think, be found in Leibniz's early writings. And I believe this shows that Leibniz's views are roughly the same in the 1680s as they are in the mature period. But before turning to the early texts, I must provide an answer to a question I raised at the beginning of this section: Is the account of space and time I have just characterized consistent with those entities' being well-founded phenomena? This is an important question because if the notion of well-foundedness is inclusive enough to embrace space and time as understood by the mature Leibniz, then Rescher and Brown may be correct in claiming that Leibniz's views are settled in the early period *and* that Leibniz's settled view is one according to which space and time are well-founded phenomena.

Because Leibniz never offers us an explicit definition of well-foundedness, it is not possible to definitively rule out an interpretation according to which Leibniz thinks there is a sense in which ideal entities such as space and time are well-founded. Nevertheless, given what he does say about well-foundedness, I believe there are several reasons such an interpretation is unlikely to be correct. First, with the exception of the ambiguous text from the early period we have already discussed, there are no texts (at least none of which I am aware) in which Leibniz says that space and time are well-founded phenomena or grounded in substances. As we will see, Leibniz does sometimes call space and time phenomena; but in these texts there is never the suggestion that they are well-founded. Second, the examples of well-founded phenomena he does give are almost always things that either are or result from aggregates of more real things: bodies, secondary matter, rainbows, mirror images and properties of corporeal phenomena. Leibniz never, however, characterizes space and time as aggregates of more real things or phenomenal results of such aggregates. In fact, his claims that they are arbitrarily divisible seem to constitute a denial that they are aggregates; and he explicitly denies that space and time result from substances: "Mass and its diffusion result from monads, but not space. For space, like time, is a certain order...which includes not only actual things but also possibles. It follows that it is something indefinite" (G II, 379 [LR 141]; see also G II, 336 [LR 93]). This point is quite significant. If space and time are well-founded they have to be ontologically grounded in some way in things that are more real. And the relation to real beings that is usually appealed to in the case of corporeal phenomena is "resulting." But Leibniz never suggests an alternative grounding relation that might exist between space (and time) and beings

with a greater degree of reality. Of course, Leibniz does say that our ideas of space and time are abstracted from corporeal phenomena, which are in turn grounded in substances. But I think it is a mistake to take an explanation of how we abstract an idea of space from phenomena as an explanation of ontological grounding. However we are supposed to understand the relation between well-founded things and substances, it is supposed to be an account of how despite the ideality of the entity, it is also real; and Leibniz explicitly denies that space is real. Third, as we saw above, Leibniz sometimes suggests that being well-founded consists in being a phenomenon that is an agreement with other phenomena. In the case of corporeal phenomena, this suggestion is easy to comprehend. The cup on the table, for example, agrees with other phenomena in the sense that other people would perceive the cup if they walked into the room, that it would meet my expectations of what should happen when I try to pick it up, that it acts in accordance with physical laws, and so forth. A hallucination of a cup floating six inches above the table, on the other hand, would not be well-founded (at least in the “agreement” sense) because it would fail to agree with other phenomena in these ways. If space and time are abstract, ideal notions, however, it is hard to know how we might formulate an analogous sense in which they agree with other phenomena. This is not to deny that there may be some sense to be made of the idea that phenomenal or apparent spatial relations among actual corporeal phenomena are consistent with other phenomenal or apparent relations. But space is not simply the set of spatial relations actual phenomena bear to one another. Rather it is an abstraction from those relations, one which embraces “not only actual things but also possibles” (G II, 379 [LR 141]; G IV, 569 [L 583]). One final reason for doubting that the mature Leibniz thinks space and time are well-founded phenomena is that Leibniz denies that space and time are real. As I mentioned above, the very same accounts that Leibniz offers of well-foundedness, namely, agreement with other phenomena and semi-reality, he also offers as accounts of the reality of phenomena.<sup>30</sup> In fact, a case could be made that Leibniz thinks that the term “well-founded phenomena” just means “real (or actual) phenomena.” If this is correct, then Leibniz’s denials that space and time are real constitute good evidence that he does not think they are well-founded.<sup>31</sup>

Given the above sketch of Leibniz’s views on space and time, we are now in a position to examine Leibniz’s early remarks about space and time. In comparing these earlier views with his mature views, it will be helpful to use the specific features of the mature account that I discussed above as points of reference. So,

let us begin by recalling the first feature:

1. Space and Time are ideal, wholly mental, imaginary, beings of reason (as opposed to partially real, semi-mental phenomena).

There are several texts from the early period that suggest Leibniz held a view according to which space and/or time are wholly imaginary and ideal, rather than semi-real or well-founded. Consider, for example, the following text from 1685: "Time is an imaginary entity [*Ens imaginarium*], just like place, qualities, and many other things" (A VI, iv, 147 [RA 275]). This text seems to provide good evidence that the early Leibniz conceives of time as something that lacks reality, as opposed to being real or semi-real. It is not conclusive because it is possible Leibniz is claiming merely that time is partially imaginary.<sup>32</sup> Nevertheless, there are good reasons for thinking that he has the stronger claim in mind. Earlier in the same essay he offers an account of temporal notions such as "before", "later" and "simultaneous" in terms of relations among states. For example, he says that simultaneous things are those which are "by supposition co-necessary," and that one thing is earlier than another if "the first is the condition of the second by an intervening change" (A VI, iv, 147 [RA 275, 25]). In other words, if we assume a series of things, whether actual or possible, has been posited, the simultaneity of two events or states consists in nothing more than their co-existence; and one state's preceding another is nothing more than its being, by hypothesis, a condition of the other. Importantly, this is not yet an account of time in general, and beyond saying that it is imaginary Leibniz does not offer an account of time in this text. But what he says is consistent with other texts from this period in which he characterizes time and space as systems of relations, or orders of existing. For example, in a paper dated roughly between 1679 and 1681, he says that "This relation of things with each other is called time, which is also generic" (A VI, iv, 267 [RA 243]).<sup>33</sup> And in a later text (c. 1686?), Leibniz makes a similar remark: "Time and place, or, duration and space, are real relations, i.e. orders of existing" (A VI, iv, 321 [RA 335]). That Leibniz understands space and time as relations is significant because he thinks that insofar as they are relations they are not things: "Space and time are not things, but real relations. There is no absolute place or motion, since there are no principles for determining the subject of motion" (A VI, iv, 312 [RA 313]). This is important because although he thinks well-founded phenomena such as bodies are partially mental or imaginary, Leibniz never denies that they are things. Furthermore, he never denies well-founded phenomena are real, though their reality is in some sense derivative from the genuine substances that well-found them.

He does, however, deny that space is real: “Nor is a vacuum in accordance with the reasons for things, not to mention the fact that space is nothing real” (A VI, iv, 312 [RA 317]). Unfortunately, Leibniz never explains in the early period why relations are neither things nor real. But it is worth noting that his remarks are at least consistent with his mature views concerning the ideality of relations. One prominent reason the mature Leibniz has for claiming that space and time are ideal or imaginary (as opposed to real or semi-real) is that they are orders of existing that express relations, and relations, being neither subjects nor accidents must be ideal (e.g. AG 338-9). Given that, as we have just seen, Leibniz says explicitly in (roughly) 1686 that space and time are imaginary orders of existence, and that he also denies they are real, it is not a stretch to think his early views concerning the ideality of relations are the same as his mature views. But whether or not they are the same, his denial that space and time are things, and his denial that space (and presumably time also) is real, strongly suggests that when Leibniz says time is an *ens imaginarium* he is claiming that time is wholly imaginary, as opposed to merely semi-mental. That is to say, these texts provide good evidence that in this period Leibniz takes space and time to have an ontological status distinct from that of semi-real phenomena such as corporeal objects.

Before turning to the next two features of the mature account, it is important that I say something about Leibniz’s claims in the above quotes that entities such as space and time are “real” relations. For on my view Leibniz thinks space and time are purely imaginary as opposed to real or semi-real; and the claim that space and time are real relations could be taken as evidence that they are well-founded in relations among actual phenomena. The first thing to note is that at least Leibniz thinks that the view that space and time are “real relations” is consistent with his view that “space is nothing real.” For in the very same text in which he says that time is imaginary, he goes on to suggest that God is the cause of what is real in space and time:

The root of time is the first cause, potentially containing in itself the successions of things, which makes everything either simultaneous, earlier or later....

Therefore, whatever is real in space and time consists in God comprising everything. (A VI, iv, 147 [RA 275]; see also G VII, 564)

A suggestion about how the claim that there is something real about time can be reconciled with the claim that it is ideal or imaginary can be found in a well-known passage from the fifth paper in the correspondences to Clarke, which was written shortly before Leibniz’s death. Here, he explains the relational nature and

ideality of space by comparing it with an order made up of lines in a genealogical chart. Part of the point of the analogy is to illustrate the way in which a relation understood as something external to the *relata* is ideal since it is neither a subject nor an accident. In thinking of spatial position or place as something real, we make the same mistake we would if we were to think of the lines on a genealogical chart as real. Nevertheless, Leibniz says, “those genealogical places, lines, and spaces, *though they should express real truths*, would only be ideal things” (AG 339, emphasis added). Though the lines (which express the relations) are not something real, they can be quite useful for the expression of truths (AG 339; G IV, 569 [L 583]). This point is even clearer, I think, in his subsequent analogy with ratios. When we say (correctly) of two line segments that they stand in a certain ratio to one another we express a “real” truth. But the ratio understood as something independent of or external to the two line segments is nevertheless something fully ideal. Analogously, place, understood as something external to an object thought to be in that place, is something ideal, even though saying of some object that it is in the same place another object was previously located might express a “real” truth. So when Leibniz says that “whatever is real in space and time consists in God comprising everything,” the point is not, of course, that God makes time (and space) real but that God simply creates substances with their successive states which are in harmony with one another. As a result of this creative act, we are able to abstract notions such as “simultaneous” and “before than.” But once these relations have been abstracted we are left with an order that is general, one that applies to possibles as well as actuals. Thus, space and time are not representations of states of actual phenomena, but are rather abstracted from those states and are fully ideal. Nevertheless, we can use those general orders to express “real” truths about phenomena. This, Leibniz suggests in the Clarke correspondence, is the sense in which these orders of existence are real.<sup>34</sup>

Let us now turn to the second and third features of the mature view.

2. The parts of space and time are indefinite, indeterminate, not actual, arbitrarily divided; and the whole is prior to the parts.
3. Space and time are continuous (as opposed to discrete).

An important difference between corporeal phenomena and ideal beings, according to Leibniz, is that corporeal phenomena are completely determinate and divided up in definite ways, whereas ideal entities, at least the ones which can be thought of as having parts, are completely indefinite and indeterminate. And there are a several texts from the early period which suggest that space, time and extension

conceived of in Cartesian terms are indeterminate in the relevant sense. One of them is from a paper dated between 1683 and 1685:

A continuous whole is one whose parts are indefinite; space itself is such a thing, abstracting the soul from those things that are in it. Hence such a continuum is infinite, as are time and space. For since it is everywhere similar to itself, any whole will be a part. (A VI, iv, 132 [RA 271]; see also A VI, iv, 321 [RA 335]).<sup>35</sup>

While not everything in this passage is perfectly clear, there are three points we can extract from the passage that suggest his thinking about space is in keeping with his mature view of space and time: space is continuous; its parts are indefinite; and it is everywhere similar. As similar as this quote is to things he says in the mature period, however, we cannot completely rule out the possibility that Leibniz thinks some well-founded phenomena are continuous and indeterminate. But there are nevertheless good reasons to think he would deny this is. Entities are said to be well-founded in virtue of their being grounded in some way in an infinitude of qualitatively diverse substances. The same thing is true of every part of that entity, no matter how small that part may be. A consequence of this would seem to be that indefiniteness and indeterminacy among parts is impossible. And when we look at what Leibniz says about the uncontroversial example of a well-founded phenomenon, *viz.* matter, we find his views are consistent with this line of reasoning. In both the early and mature periods he is unwavering in his commitment to the actual, completely determinate division of matter into an infinitude of parts.<sup>36</sup> Furthermore, Leibniz is committed to the view that actual things such bodies could not have parts that are perfectly similar because those parts “would differ in number alone, which is absurd” (C 522 [AG 33]). It is not absurd for ideal quantities such as space and time to have indiscernible parts, however, because they are mere abstractions and thus there are no actual parts that could fail to be discernible.<sup>37</sup> To reiterate, on the basis of the texts, we cannot completely rule out the possibility that Leibniz thinks some well-founded phenomena are completely indeterminate. But there are reasons to think he would deny this; and what he says about matter is consistent with these reasons.

There is one further point worth mentioning that is relevant to our comparison of the early and later accounts of space and time. As we have seen, the mature Leibniz characterizes space and time as continuous, as opposed to discrete. But Leibniz does not draw the distinction between the discrete and the continuous very clearly. It would be natural to assume the distinction is topological, having

to do with the structure of a quantity. Many of the texts in which this distinction is discussed, however, suggest that the term “discrete” means something like “grounded in genuine units or unities.”<sup>38</sup> Certainly, space and time are structurally continuous, but they also fail to be discrete and thus real insofar as they do not result from units as actual matter or body does. Leibniz seems to draw the point about the continuity of space and time and its lack of grounding in genuine unities in the following passage dated between 1683 and early 1685.

And indeed, it may be demonstrated that those things that are divisible and consist in magnitude, such as space, time, and bulk, are not complete things, but must have something superadded to them, which involves all those things that can be attributed to this space, this time, this bulk. (A VI, iv, 132 [RA 267]; see also A VI, iv, 267 [RA 237])

What space, time and bulk lack (and actual things do not) is something in virtue of which they can be said to be determinate and complete, as opposed to indeterminate and incomplete. Although it might seem as if he is claiming that what is lacking are simply determinate corporeal properties, it is clear from the sentences leading up to this text, as well as from his remarks in the *Specimen of Discoveries* and the correspondences with Arnauld, that what is needed are entities that are genuine unities in themselves.

Let us now turn to a fourth feature of the mature view:

4. The notion of space and time is a result of abstraction from phenomena or appearances.

I think a very strong case can be made for attributing this feature to Leibniz's views in the early period. As we saw above, Leibniz offers an account of temporal notions in terms of the relations among actual and possible states of things. Simultaneity, for example, is simply the co-existence of states of things in a posited series. It seems clear that the only way it would be possible to form such a notion is by abstracting from states we do experience and extrapolating to states that we do not apperceive. Leibniz offers this sort of explanation of how we form the notion of time in a later section of the text we just discussed (RA 267), though in this text what we are supposed to notice are not states but changes in the attributes of things. After saying that space, time and bulk are not complete things Leibniz explains the various levels of abstraction involved in our arriving at the notion of number and then goes on to offer an explanation of the abstraction of time from phenomena.

In those things which exist now, we observe some variety. And so here we note the different, and the many, and the *simultaneous*. For example, when

I perceive a horse and an ox, I note the ox is not the *same* but *different*. But since they combine in something there will be *many* things, to wit, animals or beings. But that which can be substituted for another without altering the truth is *the same*. But if A is D, and B is D, and C is D, and A, B, and C are the same, D will be *one* thing. If on the other hand, A, B, and C are each different from each other, they will be *many*, whence numbers.

Next we observe also novelty or *change*, that is, contradictory attributes of the same thing. For example, things that are contiguous are separated from each other when everything else remains the same except for contact. And consequently we conceive that the same things that were contiguous have become separated, rather than that the things that were previously contiguous have been destroyed, and other separate ones have been substituted for them. But since it is impossible for two contradictory things to be said about the same things, it follows that the only difference that occurs when everything else remains the same, and that brings it about that there is no contradiction of any kind when the same things are said to be both contiguous and separate, is the difference of *time*. (A VI, iv, 132 [RA 267])

The text makes it fairly clear that Leibniz thinks that neither time nor number is something that appears to us or is immediately perceived, but is rather something that we arrive at by abstracting from the similarities and differences we notice in a way similar to the way we arrive at a more general notion of animal or being.

There is one more piece of evidence in this text that Leibniz is already conceiving of space and time as an abstraction as opposed to an appearance or object of experience. As we have seen, Leibniz characterizes space, time and bulk as incomplete. This is significant because the distinction between complete and incomplete entities plays an important role in his discussion of the difference between abstract things and real, individual substances. In a letter to Arnauld, he uses the notion of incompleteness to contrast the concept of an individual with the species concept of a sphere:

The concept of the sphere in general is incomplete or abstract, that is to say that one considers only the essence of the sphere in general or in theory without regard to the particular circumstances.... [B]ut the concept of the sphere that Archimedes had placed on his tomb is incomplete and must contain all that pertains to the subject of that form. (G II, 39 [LA 41])

And in *Primary Truths*, he says that “perfect similarity is found only in incomplete and abstract notions, where things are considered [*in rationes veniunt*] only in a

certain respect, but not in every way, as when we consider shapes alone, and not the matter that has shape” (AG 32). Incomplete notions are abstract and as such cannot be notions of anything real. For real things must be discernible from any other possible thing. Incomplete and abstract notions are of course useful for organizing our thoughts, but we make a mistake when we take them to be real things. As he says in a later letter to Arnauld (though in a slightly different context), making this mistake “is only for those who stop at appearances, or who make realities out of all the abstractions of the mind, and who consider number, time, place, movement, shape, perceptible qualities as so many separate entities (G II, 101 [LA 126-7]). One last thing to notice about these passages is the talk of things being considered “only in a certain respect.” For, as we have seen, Leibniz thinks space and time have the same ontological status as matter considered as constituted solely by motion and extension. If he thinks matter or body considered in a certain way is abstract, which he says here explicitly, that strongly suggests that he thinks space and time are too.

#### **IV. Space and Time as Phenomena**

In the previous section, I argued that if we look at the bulk of Leibniz’s remarks about space and time in the early period, we find many of the features of Leibniz’s mature view of space and time. Specifically, we find the claims that space and time are imaginary, ideal, continuous and indefinite orders of existing, which are arrived at by a process of abstraction. This does not show that he had exactly the same view in the early period he does in his mature period, or that he had worked out all the details of his position. But most of his remarks suggest a view that is very much like the mature view. In fact, there is only one text I have found in which Leibniz’s views diverge sharply from the view of space and time as abstract. In this text, which I have not mentioned, Leibniz talks about space and time as receptacles (A VI, iv, 301 [RA 289]).<sup>39</sup> It is hard to know why he makes this suggestion, and I do not have a story about how to reconcile it with his other claims about space and time from this period. But given that the container view is mentioned only once (as far as I know), and that there is a great deal of evidence that he is thinking about space, time and bulk as ideal, abstract orders of existence, I do not think this text represents a significant threat to the interpretation I am advocating.

A more pressing issue for my interpretation, however, is whether we can square it with Leibniz’s claims that space, time and matter (regarded as extension and

motion) or bulk/mass are phenomena like rainbows or parhelia. As we have seen, it is not clear Leibniz ever explicitly characterizes space and time as well-founded phenomena. But the comparison with rainbows and parhelia might suggest that he is thinking of them as well-founded. For unlike dreams, rainbows and parhelia are appearances that are typically (and non-rigorously) thought to result from certain extra-mental conditions. Furthermore, even if his point in comparing them to rainbows is not that they are well-founded phenomena, rainbows and parhelia are still appearances. And thinking of space and time as appearances seems inconsistent with thinking of them as *abstractions* from appearances or beings of reason. There are thus two worries I need to address. The first is the question of whether Leibniz's use of rainbows and parhelia in his discussions of space and time should be taken as evidence that he is expressing a view according to which space and time are well-founded phenomena. The second is the question of whether in calling space and time phenomena he is saying that they are appearances of some sort.

Does Leibniz's use of rainbow phenomena in his discussions of space and time show he is at least some times thinking of space and time as well-founded phenomena? It is hard to know for sure, but there is a great deal of room for doubt. The reason is that Leibniz makes different claims about what rainbows are, depending on the point he wants to make by appealing to them. Sometimes he treats them as entities that consist of or are grounded in water droplets (G II, 97 [LA 122], 119 [LA 153], 268 [AG 179], 276 [AG 182], 306; GR 322). In these texts, rainbow phenomena are usually, though not always explicitly, used analogically to elucidate his views about the dependence relation between body or matter and substances. That is, he treats them as analogous to "real" or well-founded phenomena. At other times, however, Leibniz treats rainbows as examples of phenomena of a different sort, which he refers to as "mere," "pure," "simple," or "wholly imaginary" phenomena.<sup>40</sup> While I have not found a text in which Leibniz explicitly draws the distinction between these two types of phenomena, it is implied in passages such as this one from a correspondence to Arnauld:

You object, Sir, that it may be of the essence of matter to be devoid of true unity; but it will then be of the essence of matter to be a phenomenon, lacking all reality as would a coherent dream, for phenomena themselves like the rainbow or a heap of stones would be wholly imaginary if they were not composed of entities possessing true unity. (G II, 97 [LA 122])

Implied here is a contrast between phenomena that "lack all reality" and are "wholly imaginary," like a coherent dream, and phenomena that are not wholly imaginary

but can be thought of as composed of entities such as water drops or stones. The latter, insofar as they are not entirely lacking in reality, are well-founded or “real” phenomena which get their reality from their constituent unities. The former, on the other hand, are purely imaginary and bear no relation (or at least not the right kind of relation) to constituent unities. In this text, it is obvious that Leibniz is treating rainbows as well-founded phenomena, since he suggests they are grounded in extra-mental constituents. But there are other texts in which Leibniz seems to be thinking of rainbows as mere or pure appearances. For example, in another letter to Arnauld he says that “Extended mass *considered without entelechies*, consisting only of these qualities [size, magnitude and motion], is not bodily substance, but an entirely pure phenomenon [*phenomene tout pur*] like the rainbow” (G II, 119 [LA 152]; emphasis added). And in a text from 1690 he says

Unless there are certain indivisible substances, bodies would not be real, but would only be appearances or phenomena (like the rainbow), having eliminated every basis from which they can be composed. However, from this one must not infer that the indivisible substance enters into the composition of body as a part, but rather as an essential, internal requisite.... (AG 103; see also G II, 58 [LA 66]; G II, 77 [LA 95]; G II, 77 [LA 96]; A VI, iv, 312 [RA 315])

It is clear that in these latter two texts Leibniz is treating rainbows not as well-founded entities (nor as analogous to well-founded entities) but rather as mere appearances or pure representations. In fact, the point of these passages is that extended mass considered without forms or entelechies would be like rainbows insofar as they are *not* grounded in anything substantial. These texts are significant for two reasons. First, they show that calling something a phenomenon and comparing it to a rainbow is not, for Leibniz, tantamount to claiming it is well-founded. Since rainbows are sometimes treated as well-founded and other times treated as mere appearances, it would surely be a mistake to take the comparison with rainbows and mock suns as evidence that he thinks space, time and matter conceived as pure extension are well-founded phenomena. Second, in a few of the texts in which Leibniz treats rainbows as mere appearances he compares them to matter conceived of without entelechies, or as constituted solely by extension and motion. As we have seen, Leibniz often treats matter or body regarded in such a way as having the same ontological status as space and time. Thus it is reasonable to think that when he appeals to rainbows and parhelia in his discussions of space and time, he is thinking of them not as well-founded entities, but rather as pure phenomena.

This, though, still leaves us with the second worry: even if Leibniz never suggests that space and time are *well-founded* phenomena, there is no doubt that he sometimes says they are phenomena. This is a problem because he often uses the term “phenomena” as equivalent to “appearances,” and abstractions from appearances do not seem to be appearances.<sup>41</sup> Leibniz never says what an appearance is supposed to be. But one thing that is true of all the examples of phenomena we have seen thus far (besides the abstract things such as space, time, and extension) is that they are sensory or “as if” sensory phenomena.<sup>42</sup> If Leibniz thinks all phenomena are appearances in this sense, then it is clear that in calling space and time phenomena he is claiming something different than that they are ideal, abstract orders of existence. And if this is right, it would be a mistake to attribute something like the mature view to the early Leibniz.<sup>43</sup>

It is always possible that Leibniz is expressing the view that space and time are appearances of this sort in the few texts in which he says they are phenomena. But I think it is unlikely given his many comments from this period that suggest he had already settled on the more sophisticated view he espouses in the mature period. Furthermore, there are texts in which Leibniz refers to space and time as phenomena even though it is clear he is thinking of them as abstract. For example, in an essay dated between 1683 and 1686, he says the following:

Since again there is no part of it which can be regarded as a unity in itself . . . ., it is a consequence that every body will be only a real phenomenon, like a rainbow. Similarly *mathematical* things, such as space, time, a sphere, an hour, are merely phenomena, which we conceive on the model of substances. And accordingly there is no real substance which is not an indivisible one. And indeed, it may be demonstrated that those things that are divisible and consist in magnitude, such as space, time, and bulk, are *not complete things*, but must have something superadded to them, which involves all those things that can be attributed to this space, this time, this bulk. (A VI, iv, 132 [RA 266-7]; emphasis added)

Besides the fact that it would be quite odd to think that representations of mathematical things such as an hour or a sphere are appearances, Leibniz says these things are incomplete, which as we have seen implies that they are abstract. And he says this two sentences after he says that mathematical things are mere phenomena. This suggests the notion of phenomena with which he is working here is somewhat broader than we might think, broad enough to include things that are neither sensory nor “as if” sensory. We find support for this view in a text from the

mature period in which Leibniz makes reference to “incomplete phenomena” (LP 6/1/1703), for as we have seen incomplete entities are abstractions. Furthermore, in a draft of a letter to de Volder (from the period in which his views about the distinction between the ideal and the real seem to be settled) he says that “derivative force which is conceived of in extension and bulk as outside perceiving things is not a thing but a phenomenon, just like extension itself, bulk and motion, which are no more things than an image in a mirror or a rainbow in a cloud” (LP 1/19/06). Although he does not mention space and time explicitly in this text, the entities he does mention are incomplete, abstract things. For example, Leibniz refers to extension as incomplete (LP 4/3/1699), as an abstraction from that which is extended (LP 9/1/1699; LP 6/30/1704), and as identical to mathematical body and space (LP 6/30/1704; LP 6/1/1703). And although he is not consistent in his use of the term “bulk”, he often places it along side space and time in this period, just as he does in the text from the early period mentioned above (A VI, iv, 132 [RA 266-7]; LP 1/19/1706; cf. LP 3/30/1704). So it appears we have texts from both the early and the mature period in which Leibniz says that space and time (or things with an ontological status on a par with space and time) are phenomena in close proximity to statements that suggest he is thinking of such entities as incomplete and abstract. Assuming he is not simply being careless with his use of the term, this suggests that either his conception of phenomena is sufficiently inclusive to accommodate space and time understood as ideal, abstract orders, or he conceives of abstractions as a kind of appearance. In any event, at least *he* thinks characterizing space, time, extension, etc. as phenomena is consistent with thinking of them as abstract, ideal, imaginary, orders.

How then does Leibniz think these two ideas can be reconciled? Let us consider the two possibilities I just mentioned. The first is that he thinks that all phenomena are indeed appearances, but he thinks the notion of appearance is broad enough to include abstractions and ideal entities. I think there is no doubt that most of the time Leibniz uses the term “phenomena” to refer to sensory and “as if” sensory appearances, including appearances of everyday bodies and their properties, illusory beings such as rainbows and parhelia, and entities that appear in dreams. But there is at least one text that suggests mental images are appearances in much the same way sensory images are. In an opaque piece from 1676, Leibniz says of “fictitious” geometrical entities that they “are made apparent [*apparere*] to us by the imagination,” and then goes on to suggest that we “sense” irregularities in the mental image (A VI, iii, 99 [RA 91]). These remarks are certainly suggestive.

But given that there is only one text in which he suggests mental apprehensions are like sensings and imaginary objects appear to us, we should be hesitant about attributing such a view to him.

The second way Leibniz might want to reconcile the claims is by expanding the notion of phenomena to include things that are not appearances (in the conventional sense of being sensory or “as if” sensory). I think there is a bit more reason to think something like this is Leibniz’s position. Besides the textual evidence we have looked at that shows he is happy to call entities such as space, time, bulk, etc. phenomena, there are other things Leibniz calls “phenomena” that do not seem to be sensory appearances in any ordinary sense. The first are what he calls “insensible phenomena.” In a letter to Des Bosses in which Leibniz is discussing the Eucharist, he says the unobserved texture that produces or constitutes a white thing could be substituted by God with the unobserved texture that normally produces a black appearance, while preserving the white appearance in the minds of perceivers. Similarly, God could switch the insensible substructure that produces the observed qualities of bread with a substructure that constitutes flesh.

And so all observable perceptions of the bread would remain, but substituted for the *phenomena* constituting the bread...would be the general perception of the phenomena that constitute the flesh, that is, the general perception of the insensible phenomena of flesh. (G II, 521[AG 206])

In the paragraph from which this text is taken, Leibniz several times refers to the insensible, unobserved substructure that constitutes the observed phenomena *as phenomena*. These unobserved phenomena are perceived, he thinks, because substances perceive everything in the universe. But they are perceived insensibly and thus not in a way that would seem to constitute a sensory appearance.<sup>44</sup> This type of example might seem troublesome because it sounds as if he is treating constitutive phenomena not as mental things but rather as extra-mental objects of perception--things we express or represent. But however he puts the point, I do not think this is what his remarks imply. For the insensible substructure of the bread is described in terms of shapes and textures, and he is clearly committed to the claim that shapes and other modes of extension are imaginary in much the same way secondary qualities are.<sup>45</sup>

The second “thing” he calls a phenomenon even though it is not an appearance is derivative or corporeal force. We have already seen one text in which Leibniz says that force is a phenomenon like extension itself, bulk, etc. And there are more. For example, in a letter to de Volder he says: “I relegate derivative forces

to the phenomena.” And later in the same letter he says: “I also put corporeal forces where I put body, namely among the phenomena, if they are understood as something over and above simple substances and their modifications” (AG 181-2).<sup>46</sup> I think it is unlikely Leibniz ever thought we have a sensory image of inertia, or any other derivative forces for that matter.<sup>47</sup> While certain motions of bodies might appear to us, the forces attributed to those bodies certainly do not. In fact, as it turns out Leibniz is ultimately committed to the idea that forces are known through the intellect alone (A VI, iv, 312 [RA 315]).<sup>48</sup>

As these remarks about insensible phenomena and forces show, there are things besides space, time, extension, etc. that Leibniz is willing to call phenomena even though they are not sensory or “as if” sensory phenomena. This, I think, adds further credence to the view that Leibniz has a broader conception of phenomena, one according to which being an appearance is not a necessary condition. And it follows from this that things cannot be disqualified from being phenomena merely on the grounds that they are not appearances. However, one might still argue that these examples are of limited use. For, corporeal forces and constitutive phenomena are presumably well-founded, and so the fact they are not appearances only shows Leibniz thinks well-founded phenomena can fail to be appearances. But as we have seen there is evidence that he considers space and time to be mere or pure phenomena, as opposed to well-founded phenomena; and if he does, then he takes them to be in the same ontological class as things that are sensory in character such as rainbow images and dreamed objects--entities which seem to be appearances *par excellence*. Thus what is needed is a reason to think that something could be a pure phenomenon and yet be a non-appearance. In other words, it seems we need an account of how something could be “like” a dreamed object or rainbow image and yet not be an appearance.

I think it is clear that the reason providing such an account seems problematic is that there are differences in the phenomenological character of the types of representations. We think that since other pure phenomena, such as dreamed objects and rainbow images, are sensory in character, it must be the case that in classifying space and time as pure phenomena he is claiming they are appearances too. But we might wonder whether the phenomenological character of the representation is the feature to which Leibniz is drawing our attention in comparing space and time to rainbow images and dreamed objects. After all, there is another feature of rainbow images and dreamed objects that seems more important: they are purely mental or ideal. It is this feature that is relevant to the contrast between well-

founded phenomena and mere phenomena, not the phenomenological character of the representation. So why should we not read the comparison with rainbow images and dreamed objects as pointing to this feature, rather than to the fact that they are sensory in character? It might be natural to assume that all pure phenomena are sensory appearances if all we had were claims that things such as rainbows and dreamed things are phenomena. But in this case we have a great deal of evidence that Leibniz thinks calling things like space and time phenomena is consistent with thinking of them as abstract, purely mental entities. To me this constitutes good evidence that in calling them phenomena, Leibniz is not claiming that space and time are sensory in character, or appearances of any sort. And we can make perfect sense of this by assuming that in comparing space and time to things like dreamed objects and rainbow images, he is pointing out only that they are wholly mental.

A bit more needs to be said, however, concerning what it is about the sorts of abstract entities Leibniz considers phenomena that make them suitable to be classified with things like rainbow images and dreamed objects. After all, there are many abstractions, such as truth and beauty, which Leibniz would not want to classify as phenomena. I think there is good textual evidence for thinking that the relevant similarity between abstract phenomena and dreamed objects in virtue of which Leibniz classifies them as phenomena is that they are imaginary. In fact, Leibniz seems to think that what it is to be a phenomenon is to be at least partially imaginary. In texts from various periods of his career, we find evidence of this more general claim about phenomena:

That matter and motion are only phenomena, *or contain in themselves something imaginary*, can be understood from .... (A VI, iv, 277 [RA 257]; emphasis added)

And when they [two diamonds] are brought closer to one another, it would be a being of the imagination or perception, *that is to say*, a phenomenon. (AG 86; emphasis added)

For in a word, body does not have a true unity; it is only an aggregate.... It is a *being of reason*, or rather, of *imagination*, a *phenomenon*. (AG 263, Conversation of Philarete and Ariste)

And as we have seen, there are several texts that connect particular phenomena, both well-founded and pure, with the imaginary:

Motion involves something imaginary insofar as it is only a modification of extension and change of location. (AG 86)

An *imaginary entity*—for instance, a rainbow, a mock sun, a dream, is what is

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perceived on the model of a real entity.... (A VI, iv, 301 [RA 283])

Phenomena themselves, like the rainbow or a pile of stones, would be completely imaginary if they were not composed of beings with a true unity. (AG 86)

And most importantly, Leibniz points out that even the most ideal, abstract phenomena involve the imagination:

Mathematics is the science of imaginable things. (C 556)

Universal mathematics should treat of the method of determining exactly that which falls under the imagination or that which I call the logic of the imagination. (C 348; see also GM III, 243)<sup>49</sup>

*Time* is an imaginary entity, just like place, qualities, and many other things. (A VI, iv, 147 [RA 275]; see also A VI, iv, 317 [RA 333])

As some of these texts make clear, Leibniz's claim that phenomena are imaginary does not only mean that the objects have no extra-mental existence. It also means that the entities involve the imagination or involve the perception of some image (see also A VI, iv, 267 [RA 237]). How the imagination produces these images, and what the perceived image is in the case of very abstract phenomena, is not obvious. Nevertheless, Leibniz seems committed to the view that even the most abstract phenomena involve the imagination in some way.<sup>50</sup> And if what it is to be a phenomenon is to be a creature of the imagination, as the texts above suggest, then there is no inconsistency between the claims that space and time are abstractions and the claim that they are phenomena.<sup>51</sup>

### V. Consideration of Objections

I believe the textual evidence is overwhelming that the early Leibniz entertained a view of space and time that is very much like his mature view. Whether or not he also sometimes considered space and time to be appearances, however, is much less clear. I have tried to offer an interpretation according to which his suggestions that space and time are phenomena do not commit him to the view that they are appearances, at least if appearances are taken to have be sensory in character. But in doing so, I have offered an account of Leibnizian phenomena according to which anything that involves the imagination, including abstract entities such as space, time and extension, counts as a phenomenon. Since there is less direct textual evidence for this claim, it is likely to be more controversial than other aspects of my interpretation. For that reason, I would like to consider several worries one

might have about this aspect of my reading.

First, one might worry that although Leibniz says things which suggest he believes that abstractions can count as phenomena, he also says things in the early period that suggest he believes there is a distinction between abstractions and phenomena. For example, in a letter to Arnauld he says that non-substantial entities are “phenomena, abstractions and relationships” (G II, 101 [LA 127]; see also G II, 99 [LA 124]). This text might seem to suggest that some non-substantial entities are phenomena while others are abstractions or relations. It seems to me, however, it would be a mistake to infer this on the basis of this sort of passage. We would be wrong, after all, to assume on the basis of this passage that there is a sharp distinction between abstractions and relations. For, although some abstractions are not relations, relations very often are abstractions. For example, place is a relational notion, for Leibniz, but as we have seen it is also an abstraction from things that might occupy that place. The same thing is true with respect to the relation between phenomena and abstractions. It is tempting to think that perceivers start with an appearance of things and then the understanding steps in to perform abstractions. But I think this is something of a gross oversimplification, since the existence of physical objects or corporeal phenomena *depends* on abstraction. You do not perceive *a* body, for example, unless the mind abstracts away from the internal complexity or motions of the parts (PL 4/3/1699). It also seems the mind would need to abstract away from the changes the thing might undergo, consider it as something with identity over time, individuate the body from other things in the perceptual field, and so forth. Most often these abstractions occur naturally and unconsciously. But they are required for the existence of a world of phenomena. Space and time are certainly more abstract than well-founded phenomena, since space and time are abstracted from phenomena; but well-founded phenomena are abstract to some extent as well. This, I think, is a good reason to doubt that phenomena and abstractions constitute two mutually exclusive categories.

A second potential worry is that my account of phenomena is too broad since it lets in things that Leibniz would not be willing to call phenomena. For example, things like imaginary friends and hippogriffs turn out to be phenomena, on my view, since being imaginary is sufficient (as well as necessary) for being a phenomenon. It is hard to know how to assess this objection because Leibniz never talks about creatures of this sort. But the fact that he never uses them as examples of phenomena does not imply that he thinks they are not phenomena, since it is possible that he simply finds other examples to be more illuminating. Furthermore, given that

Leibniz thinks (ideal) perfect spheres and extension considered without entelechies are considered phenomena, it does not strike me as odd or surprising that he would consider imaginary creatures to be phenomena as well. It is also hard to know what a more fine-grained account of phenomena would look like, since it seems that the main (non-phenomenological) difference between a dreamed friend and an invented imaginary friend has to do with the role of the will. These points notwithstanding, I am willing to grant that perhaps an interpretation is needed which takes into account features of some representations that prevent them from counting as Leibnizian phenomena. I think it would be a mistake, however, to interpret Leibniz in such a way that the correct necessary and sufficient conditions on being a phenomenon exclude abstract entities such as space and time, since as we have seen there is a great deal of textual evidence that suggests Leibniz thinks they are phenomena.

A third potential objection to my claim that phenomena always involve the imagination is that Leibniz occasionally makes reference to God's phenomena (e.g. G II, 474 [LR 297], 482 [LR 321]) and God, having only intellect, does not have an imagination.<sup>52</sup> I think that this is a legitimate worry one might have about my interpretation. However, it seems to me that any general account of the nature of Leibnizian phenomena is going to have trouble reconciling Leibniz's many remarks about creaturely phenomena with the claim that God has phenomena. For as we have seen, there are texts in which Leibniz strongly suggests that what it is to be a phenomenon is to be imaginary to some extent (e.g. A VI, iv, 277 [RA 257]; AG 86, 263). Furthermore, if we assume that Leibniz is using the term "phenomena" univocally in these different contexts, then it is going to be difficult to explain why he never refers to the purely intelligible ideas or concepts of rational finite creatures as phenomena. After all, intelligible concepts, which are not associated with the imagination, are in some ways more like divine phenomena than other creaturely phenomena are. And this is so even though in other ways, for example in their degree of qualitative determinateness, divine phenomena are more like well-founded phenomena than they are like intelligible ideas. It thus seems to me that given the radical differences between God's means of perceiving and ours, it is not clear what sort of account of the nature of phenomena could be general enough to embrace both divine and creaturely phenomena, while restrictive enough to exclude things that Leibniz does not think of as phenomena. Of course, this problem disappears if we give up the assumption that Leibniz intends for his account of the essence of creaturely phenomena to also serve as an account of the essence of divine phenomena. Given the variety of different things Leibniz says about phenomena

over the course of his career, I think this may be the most appealing interpretative option.

The final objection I want to consider concerns the ontological status of forces. I mentioned above that Leibniz claims in several places that corporeal forces are phenomena. Yet I also mentioned that Leibniz thinks corporeal forces are things “which we perceive not by the imagination but by the intellect” (A VI, iv, 312 [RA 315]). If he is committed to these two claims, then it looks as if my interpretation must be incorrect, since I claim that what it is to be a phenomenon is to be imaginary to some extent. There is no doubt that this too is a legitimate textual worry one might have about my interpretation. Nevertheless, I think Leibniz is committed to the view of phenomena I have attributed to him, and that there is a plausible explanation of why he makes remarks that suggest otherwise. To begin, it is worth noting that Leibniz does, at least once, explicitly *deny* that corporeal forces are phenomena. In a letter to de Volder he says that the metaphysical union between mind and body is not a phenomenon, and then goes on to say that in this respect, corporeal forces are like the metaphysical union (LP 1/19/1706). What is especially significant about this text is that there is an extant copy of an earlier draft in which he claims that forces *are* phenomena. This shows, I think, that after consideration of what he said in the earlier draft Leibniz realized that the correct thing to say is that corporeal forces are not phenomena.

Of course, this only explains one of the texts. If his considered view is that forces are not phenomena, why would he occasionally claim that forces are phenomena? Obviously, it is hard to know for sure. But given that corporeal forces are attributed *to phenomena*, I think it would be easy to accidentally include them in the class of things that count as phenomena. This is especially plausible in light of the fact that Leibniz thinks other properties of corporeal phenomena, such as shape and color, are themselves phenomena. Also, there is an important similarity between corporeal forces and other corporeal properties that might lead Leibniz to mistakenly group them in the class of things that are phenomena: they are derivative. That is, whatever reality corporeal properties and corporeal forces have is derived from the absolutely real entities that well-found them. Besides this similarity with other derivative properties, however, there is a further reason for thinking the derivative nature of forces might lead Leibniz to say they are phenomena. Leibniz sometimes draws the distinction between the absolutely real and the semi-real in terms of a contrast between things that are absolutely real and phenomena. And it seems significant that in at least one of the letters to de Volder in which he claims that

forces are phenomena, Leibniz is concerned to draw a distinction of just this sort (LP 1/1705). In contexts like these, in which the relevant feature of phenomena is their diminished reality, it is not surprising that Leibniz inadvertently refers to corporeal forces as derivative.<sup>53</sup>

To be sure, these explanations of Leibniz's comments about forces are quite speculative. But it is worth keeping in mind that whether or not my explanations of the offending texts are convincing, there are relatively few texts in which he says forces are phenomena. And as I point out in the previous section, there is a lot of evidence for the claim that Leibniz thinks there is a close relationship between something's being a phenomenon and that thing's being to some extent imaginary.

## VI. Conclusion

I have argued that Leibniz's 1680s remarks about space and time are remarkably consistent with his mature view of these entities as abstract, ideal orders of existence, and that there is little evidence he ever held the view that they are well-founded phenomena. Furthermore, I have tried to show that given the correct understanding of what Leibniz takes phenomena to be, there is no inconsistency involved in Leibniz's claiming both that space and time are abstract, ideal orders and that they are phenomena akin to rainbows and parhelia. On my view, what it is to be a Leibnizian phenomenon is to be at least partially imaginary; and since some imaginary entities are not appearances, it follows that not all phenomena are appearances. If this account is correct, the notion of phenomena is much broader than it is usually taken to be, since it includes things that do not seem to be appearances of any sort: imaginary, purely ideal things such as space and time.

As I have already noted, particular aspects of my interpretation are likely to be controversial. However, I think that in general my reading has several attractions which make it more compelling than the interpretation of Leibniz's early views of space and time according to which they are well-founded appearances. First, it clearly fits much better with the bulk of the textual evidence. As we have seen, there is only one early text in which Leibniz suggests that space and time are well-founded (G II, 118-19 [LA 152]), and this text can be read as saying that space and time are *either* pure phenomena or well-founded appearance; yet there are many texts from this period which suggest that space and time are ideal, imaginary, abstract orders of existence.<sup>54</sup> Second, it makes better sense of texts in which Leibniz refers to

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pure abstractions, such as space, time, a perfect sphere and number, as phenomena. For on the view according to which space and time are well-founded, it seems we would need to read Leibniz as claiming that an imaginary, geometrical sphere, for example, is ontologically grounded in more basic entities. Third, and finally, it sees Leibniz as neither vacillating between two or more views about space and time in this period, nor holding the odd view that things such as space, time, and matter regarded as pure extension are both abstractions and appearances. Instead, it sees him as having a philosophically coherent view of space and time that is every bit as nuanced and sophisticated as his mature view.

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*Notes*

<sup>1</sup>An early version of this paper was presented in a symposium on Leibniz's ontology at the Central Division Meeting of the 2008 American Philosophical Association. I am grateful to the participants of that symposium, especially Jan Cover, Glenn Hartz and Alan Nelson. The final version of this paper owes a great deal to an anonymous referee for this journal who forced me to reconsider, clarify, and provide stronger support for many of the claims made in the essay.

<sup>2</sup> See for example, Glenn Hartz and Jan Cover, "Space and Time in the Leibnizian Metaphysic," *Nous* 22 (1988): 493-519. Hartz and Cover write: "Anyone even modestly acquainted with Leibniz's [1676-88] metaphysical views knows that he held space and time to be well-founded phenomena" (493). See also Stuart Brown, *Leibniz* (Minneapolis: University of Minnesota Press, 1984), 147; John Earman, "Was Leibniz a Relationist?" in *Midwest Studies in Philosophy IV*, edited by Peter A. French, Theodore E. Uehling, Jr., and Howard K. Wettstein (Minneapolis: University of Minnesota Press, 1979), 263-76; Benson Mates, *The Philosophy of Leibniz* (New York: Oxford University Press, 1986), 230, note 13;

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Nicolas Rescher, *Leibniz: An Introduction to his Philosophy* (Totowa: Roman and Littlefield, 1979), 65, 84-5.

<sup>3</sup> Commentators who attribute this view of space and time to the mature Leibniz and discuss the contrast between ideal entities and well-founded phenomena include Hartz and Cover, "Space and Time in the Leibnizian Metaphysic"; Robert McRae, "The theory of knowledge," in *The Cambridge Companion to Leibniz*, edited by Nicholas Jolley (Cambridge University Press, 1995), 176-98; J. E. McGuire, "'Labyrinthus continui': Leibniz on Substance, Activity, and Matter," in *Motion and Time, Space and Matter*, edited by Peter K. Machamer and Robert G. Turnbull (Ohio State University Press, 1976), 290-326; A. T. Winterbourne, "On the Metaphysics of Leibnizian Space and Time," *Studies in History and Philosophy of Science* 13 (1982): 201-214.

<sup>4</sup> Daniel Garber is largely responsible for the renewed interest in Leibniz's 1680s metaphysics over the last twenty years. See his "Leibniz and the Foundations of Physics: The Middle Years," in *The Natural Philosophy of Leibniz*, edited by Kathleen Okruhik and J.R. Brown (Dordrecht: D. Reidel, 1985), 27-130.

<sup>5</sup> I say *most* scholars hold the view that space and time are well-founded phenomena out of caution. I do not know of anyone who holds an alternative view of these early texts. As we will see, there are differences in the way scholars characterize the well-foundedness of space and time.

<sup>6</sup> Brown, *Leibniz*, 147. Brown's view is that Leibniz considered space a receptacle for bodies "as late as 1682 and probably in the [1686] Discourse as well" before turning to a phenomenalistic account (146). As I discuss below, there is very little textual evidence Leibniz held a "container" view in the early period.

<sup>7</sup> Rescher, *Leibniz: An Introduction to his Philosophy*, 84. Rescher does not explicitly consider Leibniz's views about space and time in the early period, though he finds the roots of the view that these entities are well-founded as early as 1676 (88).

<sup>8</sup> Rescher, *Leibniz: An Introduction to his Philosophy*, 65. Mates endorses Rescher's view as "the best available account of this entire subject" (*The Philosophy of Leibniz*, 230, note 13).

<sup>9</sup> In fact, the texts in which Leibniz uses the term "well-founded" are so few that an understanding of what Leibniz means might not be possible without drawing upon other things he says about the relation between phenomenal bodies and ultimate reality.

<sup>10</sup> Leibniz does not use the term "well-founded phenomena" in the early period,

though he at least once uses the term “well-founded appearance” (G II, 118-9 [LA 152]). In addition to those used by the journal, I use the following abbreviations when citing Leibniz’s works:

LR: *The Leibniz-Des Bosses Correspondence*, eds. and trans. Brandon C. Look and Donald Rutherford (New Haven and London: Yale UP, 2007); PL: Lodge, *Leibniz’s Correspondence with De Volder*, ed. Paul Lodge, forthcoming (Yale UP) cited by date of correspondence; RA: *The Labyrinth of the Continuum: Writings on the Continuum Problem, 1672-1686*, R.T. Arthur (New Haven and London: Yale UP, 2001). I adopt the standard practice of citing both the original text and the standard translation (in brackets).

<sup>11</sup> In a 1715 letter to Des Bosses, Leibniz refers to phenomena as “semi-beings [*Semiones*],” thereby emphasizing their reality as opposed to their ideality (G II, 506 [LR 356-7]).

<sup>12</sup> Glenn Hartz has argued for an alternative reading of Leibniz’s views on aggregation in his “Leibniz’s Phenomenalisms,” *Philosophical Review* 101 (1992): 511-49.

<sup>13</sup> For claims that the reality of an aggregate comes from the reality of the things which are aggregated, see G II, 261, 267; G VI, 516.

<sup>14</sup> By “straightforwardly phenomenalist” I mean (roughly) a view according to which (i) bodies are completely reducible to sets of perceptions or statements about perceptions, and (ii) the reality of bodies is understood solely in terms of lawfulness and both inter- and intra-subjective agreement of the phenomena. For an example of this type of interpretation, see Montgomery Furth, “Monadology,” *The Philosophical Review* 76 (1967): 169-200.

<sup>15</sup> This is the position Nicholas Jolley attributes to Leibniz: “We can perhaps better capture Leibniz’s thought [that bodies are aggregates] by saying that a certain collection or group of monads appears to us as extended mass” (“Leibniz and Phenomenalism,” *Studia Leibnitiana* 18 (1986): 38-51, at 47). See also, e.g., Rescher, *Leibniz: An Introduction to his Philosophy*, 82; C. D. Broad, *Leibniz: An Introduction*, edited by C. Lewy (Cambridge, 1975), 92; McGuire, “‘Labyrinthus continui’: Leibniz on Substance, Activity, and Matter,” 306.

<sup>16</sup> For two very different attempts to reconcile these two distinct accounts of the relation between corporeal phenomena and genuine substances, see Robert Adams, *Leibniz: Determinist, Theist, Idealist*, (New York: Oxford University Press, 1994), 217-61, and Donald Rutherford, “Phenomenalism and the Reality of Body,” *Studia Leibnitiana* XXII/1 (1990): 11-28.

<sup>17</sup> One exception is Michael Fox, "Leibniz's Metaphysics of Space and Time," *Studia Leibnitiana* II/1 (1970): 29-55. Fox thinks that what entitles things to be called "well-founded" is "(a) their power of impression on us (Hume's "forcefulness and vivacity"), (b) the logical consistency among them and among their individual properties or elements, and (c) "our success in predicting future phenomena from past and present ones"" (33).

<sup>18</sup> Brown, *Leibniz*, 141, 149.

<sup>19</sup> Rescher, *Leibniz: An Introduction to his Philosophy*, 81. Rescher claims that anything not absolutely real belongs in the realm of appearance (55).

<sup>20</sup> Hartz and Cover, "Space and Time in the Leibnizian Metaphysic," 504.

<sup>21</sup> Rescher, *Leibniz: An Introduction to his Philosophy*, 84-91. Brown thinks that Leibniz's ultimate views of space and time are settled by 1687 (Brown, *Leibniz*, 146 ff.). Two scholars who claim that Leibniz's settled view is that space and time are well-founded phenomena, but who do not make any claims about the early period are Fox, "Leibniz's Metaphysics of Space and Time," and Lois Frankel, "Leibniz on the Foundations of Space and Time," *Nature and System* 3 (1981): 91-8.

<sup>22</sup> Hartz and Cover, "Space and Time in the Leibnizian Metaphysic," 493-4.

<sup>23</sup> Leibniz never explains what he means by the term "appearance" and so it may be that the apparent oddness of the claim is a result of an anachronistic understanding of the term. Fortunately, whether or not Leibniz understands appearances as things that are sensory in character is not crucial to my overall interpretation. However, in what follows I assume that an "appearance" is something that is sensory in character. That is, saying that some thing is an appearance implies that the entity is something that I seem to see, hear, touch, etc. According to this characterization, dreamed, hallucinated and illusory objects are appearances, as are objects of sensory perception. The cognition of abstract objects such as geometrical spheres, on the other hand, are not appearances, since even if the cognition involves an image, it does not seem as if the object is sensed.

<sup>24</sup> Adams, *Leibniz: Determinist, Theist, Idealist*, 253-5; Hartz and Cover, "Space and Time in the Leibnizian Metaphysic"; McGuire, "'Labyrinthus continui': Leibniz on Substance, Activity, and Matter"; McRae, "The theory of knowledge"; Winterbourne, "On the Metaphysics of Leibnizian Space and Time."

<sup>25</sup> "All reality belongs only to unities" (AG 179). These entities are "*atoms of substance*, that is, real unities absolutely destitute of parts... the first absolute principles of the composition of things, and, as it were, the final elements in the analysis of substantial things." "Only metaphysical points or points of substance

... are exact and real, and without them there would be nothing real, since without true unities there would be no multitude” (AG 142). For the purposes of this paper, I ignore what has been an extremely controversial interpretative issue in recent scholarship, namely, the ontological status of organisms, beings which Leibniz calls “corporeal substances.” For an introduction to the relevant issues, see Robert Adams, *Leibniz: Determinist, Theist, Idealist*, 262-307; Glenn Hartz, “Why Corporeal Substances Keep Popping Up In Leibniz’s Later Philosophy,” *British Journal for the History of Philosophy* 6.2 (1998): 193-207.

<sup>26</sup> Hartz and Cover, “Space and Time in the Leibnizian Metaphysic,” 504-6.

<sup>27</sup> Hartz and Cover treat the contrast between the real than the ideal as distinct from the contrast between the mental the semi-mental.

<sup>28</sup> So, not all ideal things will be arbitrarily divisible and continuous in structure. A mathematical point, for example, is something ideal yet is neither divisible nor continuous. For discussions of what “discrete” and “continuous” mean in these contexts, see Timothy Crockett, “Continuity in Leibniz’s Mature Metaphysics,” *Philosophical Studies: An International Journal for Philosophy in the Analytic Tradition*, 94 (1999): 119-138; Samuel Levey, “Matter and Two Concepts of Continuity,” *Philosophical Studies: An International Journal for Philosophy in the Analytic Tradition*, 94 (1999): 81-118.

<sup>29</sup> There is some evidence that space and time are innate ideas (e.g., NE 128), though this is not necessarily inconsistent with the claim that we arrive at these ideas by a process of abstraction.

<sup>30</sup> Donald Rutherford notes this in his “Phenomenalism and the Reality of Body,” especially 20ff.

<sup>31</sup> Other commentators who argue against attributing to the mature Leibniz a view of space and time according to which they are well-founded include Jan Cover, “Non-Basic Time and Reductive Strategies: Leibniz’s Theory of Time,” *Studies in History and Philosophy of Science* 28 (1997): 302-5; Hartz and Cover, “Space and Time in the Leibnizian Metaphysic”; Winterbourne, “On the Metaphysics of Leibnizian Space and Time.”

<sup>32</sup> Leibniz thinks that well-founded phenomena are partially imaginary. In a letter to Arnauld, e.g., he claims that a block of marble is like a flock of sheep insofar as they are both “moral entities, where something imaginary exists, dependent upon the fabrication of our minds” (G II, 76 [LA 94]).

<sup>33</sup> I take Leibniz qualification that the relations are “generic” to be significant, since it suggests that the relations are indifferent to what series of things is ordered. Time

is an order of relations among possible things as well as actual and thus is a general system of relations. For details about the dating of this text see RA 413.

<sup>34</sup> I do not wish to deny that there is a sense in which the spatiality of actual phenomena and the spatial and temporal relations that actual bodies appear to bear to one another are well-founded, and thus at least semi-real. But I think it is mistake to think that phenomenal spatiality and phenomenal spatial and temporal relations constitute the orders of existence that Leibniz identifies with space and time. Hartz and Cover offer a similar explanation of Leibniz's suggestion that there is something real about ideal relations ("Space and Time in the Leibnizian Metaphysic," 512).

<sup>35</sup> The third text is in a correspondence to Arnauld. In this letter Leibniz says that "everything is indefinite where extension is concerned" (G II, 99 [LA 124]). We cannot be certain from the context whether he is talking about phenomena (i.e. bodies) or phenomena *regarded in a certain way* (namely, as pure extension); but it is likely he is talking about the latter. For in the sentence immediately preceding the quote, he is talking about what would be true "if the essence of matter consisted of a certain shape, movement of modified version of extension that was determined."

<sup>36</sup> For early period texts, see for example, C 522 [AG 34], A VI, iv, 312 [RA 315], and G II, 77 [LA 95-6], 98 [LA 122-3], 119 [LA 152].

<sup>37</sup> This is not to say that well-founded phenomena cannot *appear* continuous and indeterminate. Leibniz is quite clear that matter often does appear to be continuous and homogeneous (G VII, 564).

<sup>38</sup> For discussion of different senses of "continuity" and "discreteness," see Crockett, "Continuity in Leibniz's Mature Metaphysics."

<sup>39</sup> Another text that could be read as advocating an absolutist conception of space is A, VI, iv, 321 [RA 335]. In this difficult and ambiguous text, Leibniz says that the "foundation in reality" of space and time "is divine magnitude, to wit, eternity and immensity."

<sup>40</sup> Leibniz also uses the expression "true phenomena." Although it seems as if this should refer to real or well-founded phenomena, there is evidence that it refers instead to imaginary or pure phenomena. See for example, G II, 77 [LA 95]; C 523 [AG 34]. The claim in these texts is that bodies considered as constituted solely by motion and extension, and thus considered as not grounded in substances, are true phenomena. There is also some evidence, however, that "true phenomena" refers to phenomena that are mutually consistent (A VI, iv, 312 [RA 315]).

<sup>41</sup> As has been noted by other commentators, Leibniz is not consistent in his use of

the term “phenomena,” and he often equivocates within the same text. For example, Leibniz will sometimes use the term to refer to subjective appearances or perceptions of perceiving substances (e.g. G VII, 319-22 [L 363-6]; G II, 444 [AG 201]; AG 47, 179). At other times, he suggests that phenomena are inter-subjective objects of perception (e.g. AG 47; G II 382-3). In this sense of the term, all substances express the same phenomena insofar as they express the same world. Leibniz sometimes identifies these inter-subjective phenomena with aggregates (e.g. G II, 250 [AG 176, 177]). For discussion of these various senses of “phenomena,” see Adams, *Leibniz: Determinist, Theist, Idealist*, 219-24, and Robert McRae, *Leibniz: Perception, Apperception, and Thought*, (Toronto, 1978), 139 ff.

<sup>42</sup> See footnote 23. The idea that a phenomenon is sensory in character is also common in contemporary philosophy. Abstractions, such as ideas of geometrical objects, do not seem to have this character. Even if one is considering an image in representing such an object, it does not seem sensory in the way that rainbows and parhelia do, or in the way that hallucinated, dreamed or sense perceived corporeal objects do.

<sup>43</sup> Or, at least, it would be a mistake to claim he had a consistent position in the early period.

<sup>44</sup> Not everyone would agree with this interpretation of Leibniz on constitutive phenomena. See for example, Robert Adams, *Leibniz: Determinist, Theist, Idealist* (New York: Oxford UP, 1994). Adams characterizes the situation as our having “appearances of appearances” (229). I am not sure this is what Leibniz would want to say, but since Adams thinks all Leibnizian phenomena are appearances, he forced to attribute this view to Leibniz. This means, though, that Adams believes Leibniz is committed to the existence of insensible, unobserved appearances.

<sup>45</sup> A, VI, iv, 279 [RA 263], 312 [RA 315]; AG 44.

<sup>46</sup> See also the much later (1715) letter to Remond (L 659).

<sup>47</sup> Adams makes a similar point in *Leibniz: Determinist, Theist, Idealist*, 226.

<sup>48</sup> As I will explain below, there is some question about whether Leibniz is really committed to the idea that corporeal forces are phenomena.

<sup>49</sup> Translations of these three texts are by Robert McRae (“The theory of knowledge,” 182).

<sup>50</sup> In the *New Essays*, Leibniz says that space and time are “ideas of the pure understanding” (NE 128), a claim which seems inconsistent with the reading I am suggesting. In a 1702 elaboration of his epistemology, however, he denies that they are ideas of the pure understanding. There, he says that the imagination “comprises”

the concepts of the particular senses and the common sense (which, as he makes clear in this text and in the *New Essays* passage, includes the concepts of space, figure, motion, and geometrical objects); he then goes on to explicitly deny that these concepts belong to the understanding alone (G VI, 501-2 [L 548-9]). For a detailed discussion of these texts, see McRae, "The theory of knowledge."

<sup>51</sup> My claim here is that being a creature of the imagination is of the essence of being a phenomenon. Thus, being a creature of the imagination is both necessary and sufficient for being a phenomenon.

<sup>52</sup> I am grateful to an anonymous referee for this journal for drawing my attention to this worry.

<sup>53</sup> For an alternative account of relations among these statements concerning force, see Adams, *Leibniz: Determinist, Theist, Idealist*, 387-8.

<sup>54</sup> If Leibniz is distinguishing between two types of phenomena in this text, as I claim, an explanation is needed of why he seems to leave open the possibility that space and time are well-founded, as opposed to simply saying they are pure phenomena (as he does at G II, 126 [LA 161]). It is hard to know for sure, but one possibility is that he is acknowledging that there is an ambiguity in the terms "matter," "space" and "time." The matter that is perceived through the senses is a well-founded appearance, as is the spatiality and temporality the world appears to have. But matter (qua pure extension), space, and time understood strictly (i.e., as abstractions from well-founded appearances) are pure phenomena.