Democritus' Parmenidean Influence

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Democritus is famous for a theory of atoms which heavily influenced later philosophical and scientific movements. Despite this influence, there is debate over what Democritus intended in developing and explaining his theory. As with any theory, understanding Democritus' theoretical intentions is aided by a better understanding of Democritus' influences. Besides Leucippus, whose atomism is too indistinguishable from Democritus' to explain the origin of either theory, Democritus' clearest influences are Parmenides and the Eleatic philosophers who followed him.[1] The debate over this Parmenidean influence seems to focus on which points Democritus is arguing against Parmenides and on which points he is merely adapting Parmenidean principles into atomism. Democritus accepted Parmenides' ontology as the basis for his own, modifying the older theory only as was necessary to avoid contradictions arising from his own assumptions regarding plurality, motion, and change.

A discussion of the complex history of philosophy leading from Parmenides to Democritus will not be necessary. A series of responses to Parmenides were developed by some of the great early Greek philosophers, and it is likely that some such responders as Melissus and Zeno, closer contemporaries of Democritus than Parmenides, had a more direct influence

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[1]Some have argued that Democritus was not influenced at all by Parmenides, but that the principle source of his theory was in Pythagoreanism (Bury, "The Origin of Atomism" 3). Better scholarship regarding Pythagoras has made this idea doubtful rendering such arguments unpopular.

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on him than Parmenides himself. The complexities of these relationships, however, are outside the scope of this essay which seeks only to establish that the principles of Democritus' ontology were based on those of Parmenides, no matter how these principles were transmitted. Further, I will not attempt to show that Democritus explicitly accepted or denied that he was adopting Parmenidean principles; I will merely show that he did use them.

Comparing Parmenides' monism to Democritus' atomism will be aided by attempting to recreate the line of reasoning by which Parmenides determined each of the four properties necessary for Being. Parmenides begins by saying that there are two ways of inquiry, what-is and what-is-not, and since we cannot think of or talk about what-is-not, the only way of inquiry is to investigate what-is (DK 28B2).[2] Therefore, since all that exists is what-is there is nothing which could divide what-is into pieces; hence, all of existence must be a single unified Being. Parmenides said that Being has four essential properties. First, there is nothing which Being could have been born from and nothing which it could die into. Hence, Being is eternal, having never been generated and being imperishable. Second, Being is neither divisible nor more concentrated in one part than another, for it is completely full. Third, Being is motionless because it has no place to move into and no force to act upon it. Fourth, Being is complete, extending equally in all directions (DK 28B8). Parmenides describes this fourth condition of completeness in such a way that it could easily be confused for a restatement of the second property of homogeneity. This confusion is abated by the consensus of some commentators that the fourth property is better understood as a possession of all perfections (Schick, "Check and Spur: Parmenides' Concept of What Is." 172).

Simplicius said of Leucippus the atomist, "Although he partook of Parmenides' philosophy, [he] did not pursue the same path about existing things as Parmenides… but the opposite" (DK 78A8). While Parmenides had posited that all reality was one motionless and constant Being, Leucippus believed in an infinite plurality of existent objects, the reality of motion and change, and even the existence of what-is-not. Democritus, who followed Leucippus in the atomist tradition, also believed that reality

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[2] Fragments and testimonies included in Diels-Kranz will be cited as DK and the number assigned by Diels-Kranz to that fragment or testimony.

consisted of an infinite number of objects divided by void or what-is-not (DK 78A8). However, a careful study of Democritus' atomism will show that this theory is not, as Simplicius says, the opposite of Parmenides' theory. Instead, atomism is both friendly to and reliant upon the ontological principles proposed by Parmenides.

One testimony of Democritus is useful in establishing this point:

> Now Democritus, taking principles testified of by sensation, that there is division and plurality in things, as well as motion, on the basis of these he introduces the void, constructing the obscure from the evident. For if there is division, he says, and plurality in things, there is void; but there is division and multiplicity; hence there is void. He takes the conditional premise just like Parmenides, but not the minor premise. For Parmenides maintained that there is no void, which is obscure, but Democritus that there is multiplicity and division. And similarly with motion: if there is motion, there is void; but there is motion; hence there is void. Here too he takes the same conditional premise as Parmenides, but not the same minor premise. (Philoponus, *On Generation and Corruption* 155)

In this passage, Democritus directly addresses an argument made by Melissus against motion and change (DK 30B7). Melissus made this argument using Parmenidean principles, and Democritus does disagree with Melissus in general. However, it does not necessarily follow that Democritus directly disagrees with Parmenides' basic principles. As this quotation explains, Democritus' empirically-based belief assumes that there must be motion and change. Using Parmenides' hypothetical statements backward, Democritus showed that there must be a plurality of real objects and a void. Of course Parmenides would not agree with Democritus' conclusion. Still, this begins to show Democritus' reliance on Parmenides, for it was Parmenides' reasoning which determined the implications of assuming motion and change in the world. This reliance may seem superficial since Democritus has used Parmenides' reasoning only to show that Parmenides must have been wrong. However, had Democritus decided that Parmenides had erred in the basic principles of his theory, it does not seem

likely that he would have been a strong advocate of a theory so reliant on Parmenidean reasoning. In other words, if Democritus had decided that Parmenides' theory was absolutely wrong, he would have needed some other basis from which to draw the inference that void must exist.

A stronger case can be made that Democritus must have regarded Parmenides' principles as generally correct based on evidence that the basic principles of Democritus' ontology were borrowed from Parmenides. Most commentators would agree that Democritus' atoms seem to be very much like "little pieces of Parmenidean Being" because they possess each of the four characteristics of Being discussed earlier (Palmer, *Looking at Philosophy* 37). Democritus emphasized that atoms were uncreated and indestructible for the same reason as Parmenides; they were the only existent stuff and as such had nothing to be born of or die into (Stokes, *One and Many in Presocratic Philosophy* 231).[2] To avoid the problems of infinite divisibility proposed by the followers of Parmenides, atoms were indivisible both in the sense of being physically too strong to be split and in the sense of their not having parts which could be separated (Stokes 235–236). As with Being, since atoms have no parts, they must be completely homogeneous, so they also possess the second property. Parmenides argued that Being is motionless only in that there is nothing for it to move into, relative to, or as a reaction to. Externally, separate atoms can act for each other in these three ways, thereby explaining the motion which Democritus observed in the world. However, since atoms have no parts, it seems that they must be internally motionless. Finally, since the totality of atoms constitutes all objects and all atoms are alike except for inessential properties like size and shape (McKirahan, *Philosophy Before Socrates* 308), atoms must be complete, containing all perfections.

One possible objection which must be dealt with immediately is that Democritus admits void as a separate thing from atoms; hence, we can say neither that there is no substance which atoms could be born of or die into nor that they are complete, possessing all that exists. On the first count, it is clear that Democritus held that atoms were uncreated and imperishable (Stokes 231). Furthermore, both ideas can be refuted in that void is not a substance but the lack of substance. For atoms to be born of void would be

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[2] This book will be cited by the author's name followed by the page number.

as intolerable as what-is being born from what-is-not. Finally, void necessarily has no properties, so it cannot have a property which atoms do not (Stokes 235).

One may question this answer to the objection based on Democritus' quotation translated as, "thing is no more real than nothing" (DK 68B156). One might infer from this statement that void, while having an equal ontological status with the atoms, may in fact have properties which atoms do not, though it is hard to conceive of a decidable property of void. One of these properties may be the ability of void to create, destroy, or assimilate atoms. This is a misinterpretation of this quotation. The Greek word translated as "thing" is actually not a Greek word in the dialect used by Democritus. Instead, it is a nonsense word created by chopping the negative prefix from the word used for nothing as we would get the word "hing." The quotation would then appropriately be translated "Hing is no more real than nothing." This may be a response to Melissus who argued using Parmenidean principles that since empty space is necessary for motion and empty space is nothing and therefore does not exist, there is no motion. In essence, Democritus may mean to say that if nothing necessarily does not exist then it would follow that what necessarily does exist is nothing's grammatical opposite "hing." Since "hing" does not refer to something which exists we are lead to a contradiction and must admit the existence of nothing or void (Matson, "Democritus, Fragment 156" 29).[3] This statement of Democritus, then, is not a claim for the reality of empty space but a statement that void is in essence non-reality or the equivalent of Parmenides' what-is-not (Matson 26–29). Democritus still seems to oppose Parmenides in saying that there is a void, but this objection will be dealt with later in this paper. What has been established here is that atoms possess all the properties which Parmenides attributes to Being, and that these properties are said to be necessary of atoms by the same reasoning which Parmenides used to say they are necessary of Being. Therefore, Democritus' theory is based on the principles and reasoning of Parmenides.

There is a second objection to ascribing the properties of Being to Democritus' atoms. It has been admitted from the beginning that Democritus accepted motion as a real event in the universe, contrary to the Eleatic denial of this motion. One may question how this could be admitted

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[3] This article will be cited by the author's name followed by the page number.

while saying that Democritus incorporated the property of motionlessness into his atomic theory. However, it must be noted that it is possible for Democritus to believe in the motion of one atom relative to others without accepting that atoms have internal motion. Democritus' presentation of atoms which are eternal and changeless seems to render the idea of atoms with internal motion impossible, though there is no known writing of Democritus where he actually states that atoms are internally motionless. This confusion is based on a broader misconception. It is not the complete set of atoms which have the properties of Parmenides' Being but each atom as an individual. Democritus' theoretical departure from Parmenides on this point, then, is centered on his accepting pluralism, not on his accepting motion, so the idea that Democritus' atoms possessed each of the four properties of Parmenides Being is preserved.

Democritus did not accept Parmenidean principles and reasoning because of convention but because they were logically necessary to his atomism. Atoms were said to be the underlying reality. Objects in the world could be created, destroyed, divided, move internally and externally, and be incomplete. Parmenides and Democritus both believed that this could not be the way the ultimate reality is, as was shown by the properties they assigned to Being and the atoms respectively. If this were how reality was ultimately, then questions like "From what was the first object created?" would be unanswerable. The underlying reality, then, would have to be uncreated, indestructible, indivisible, motionless, and complete. However, this is contrary to experience. This is likely why Parmenides wrote "do not let habit born from much experience compel you along this way...but judge by reason" (DK 28B7). Democritus did not have this luxury; he assumed principles of change and motion based on experience. Atomism answers this challenge by positing that the entire sensible world is made up of particles which have these properties. Because Democritus was reliant on Parmenides for his theory's basic principles, his ultimate reality necessarily had the properties of Parmenides' Being.

Some may question why Democritus followed such a path if he fully accepted Parmenides' principles. I accept one great difference in the theory of Parmenides and Democritus. Democritus assumed motion and change were real and concluded what necessarily followed from this assumption

using Parmenides' logic. Simply put, "the Atomists were...accommodating Parmenidean logic to the evidence of the senses" (Stokes 233). Democritus saw that this did not free him from admitting that the ultimate reality must have the four properties of Being, and so he developed atomism which answered both this requirement and what he learned from experience. He may in fact have been attempting to show that a theory could be consistent with Parmenides' theory while admitting the motion, change, and plurality of objects experienced in the actual world.

There remains one objection to my thesis which must be answered, for it seems that Democritus contradicts Parmenides not only by permitting plurality, motion, and change but also by admitting void or what-is-not as a type of reality. It is necessary for Democritus to affirm that the void is in some sense real to permit his atoms to move, for they must have something to move into. After all, it is a belief in motion and change which required Democritus to not simply adopt Parmenides theory in its entirety. However, it is questionable whether Democritus' affirming void actually contradicts Parmenides. Two separate views would say that it does not. First, Thomas Knight wrote that Parmenides' denying what-is-not is an epistemological concern which shows nothing of Parmenides' beliefs of the actual world. Knight explained his argument:

> It may be said that [Parmenides'] doctrine [of Being] is both logically and temporally prior to the problem of Substance. Being and not-being are his terms. To equate these terms to body and void is to identify ontology and cosmology, and only by equating these terms can he be said to have denied void. (Knight, "Parmenides and the Void" 525)

According to this view, then, Parmenides did not deny void in the actual world, but only denied the possibility of knowing about it. Democritus presented a more practical view of the world, in essence, a cosmology built from Parmenides' ontology. Parmenides may have allowed the existence of void in the type of theory presented by Democritus.

Rudolph Siegel responded that this view is questionable because it is not clear that it reflects Parmenides' actual intentions. While Parmenides' theory was unique in its time, it is more likely that his theory was meant

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[4] This article will be cited by the author's last name followed by the page number.

more directly as a response to previous cosmological theories (Siegel 265).[4] Furthermore, Parmenides presents Being as reality in its entirety, and, given this, it seems unlikely that he did not mean for facts about ultimate reality to imply facts about the actual world (Siegel 264–265).

Siegel wrote further that there is a more plausible way in which Parmenides can be interpreted as accepting void. Parmenides describes Being as bound by laws to a fixed position and as such, unmovable. If Being were all that existed, then motion would be impossible because there would be nothing to move relative to. What then could Parmenides have meant in saying that Being was bound? As stated earlier, one of Parmenides' reasons for saying that Being must be motionless is that it would have nothing to move relative to. However, this may be a misinterpretation of Parmenides, since the reason that there is nothing which could cause Being to move would be sufficient to establish its motionlessness (Siegel 266). Moreover, there is little evidence that Parmenides believed Being to be spatially infinite, and whatever surrounded Being must not be Being so it could be interpreted to be not-Being. That Democritus understood Parmenides' theory in this way is evidenced by his asserting that atoms are surrounded by void. Therefore, it is likely that Democritus was not contradicting, or at least was not intending to contradict, Parmenides by presenting void as a real entity.

Some scholars may respond to both of these theories by pointing out that Democritus must have contradicted Parmenides on the point of void. Four separate testimonies state explicitly that both Leucippus and Democritus equated the void with "what-is-not" (DK 68A45, 67A8, 68A38, 68A40). Democritus accepted that void exists, so he must have accepted that what-is-not exists. Parmenides states explicitly that what-is-not does not exist (DK 28B6). Furthermore, in the fragment numbered 28B6 by Diels-Kranz, Parmenides shows how his epistemological belief that we cannot discover what-is-not can be translated into an ontological belief that what-is-not does not exist, thereby refuting Knight. Finally, all of this leads to the conclusion that Parmenides did not believe what-is-not to exist, and so any line of reasoning which shows that Parmenides did not refute void, which Democritus equated with what-is-not, cannot be correct, including Siegel's.

However, there is a workable answer to the objection that

Democritus contradicts Parmenides on the question of the existence of what-is-not. As was shown in the two failed answers, Parmenides cannot be said to accept what-is-not as existing, and Democritus equates void with what-is-not. The two are reconciled on this point in that Democritus does not believe that what-is-not exists either. To understand this, we need only return to our discussion of Democritus' phrase "thing is no more real than nothing" (DK 68B156) or "hing exists no more than nothing" (Matson 29). As was stated before, this statement should be interpreted as Democritus' both equating void with what-is-not and stating against Melissus that what-is-not is not necessarily non-existent. How can one make sense of this claim that void is-not but does in some sense exist? This is "a classic example of a man reduced to paradox because [he is] unable to find the language in which to say 'in a sense'" (Stokes 219). Void is necessary to atomism both in its purpose of explaining motion and change and in its method of dividing Being, for it is void which separates the atoms. Democritus accepts that void exists in the sense that empty space is a part of the real world. He rejects void's existence in the sense of existence which Parmenides had used to ascribe necessary properties to what exists or what-is. Separating these senses of existence may go against the spirit of Parmenides' statement, "Never shall this prevail, that things that are not are" (DK 28B7), but it seems clear that Democritus is following Parmenides restriction as best he can. The fact that Democritus separated these two senses of existence shows that he attempted to comply as closely as possible with Parmenides while accepting his three points of departure: plurality, motion, and change.

It is debatable through what lines Parmenidean principles made their way into Democritus' atomism. However, it is clear that Democritus accepted and used Parmenidean principles to create his atomism and that these principles are necessary to his theory's consistency. No matter how he knew or understood Parmenides, Democritus used Parmenides' theory for the building blocks of his own. He did not do this, as is traditionally thought, by seeking to refute Parmenides. Rather, he assumed that the plurality, motion, and change which he experienced were real and then reshaped Parmenidean principles to allow them.

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