



Sources in Greek Atomism

1. Leucippus

Nothing arises by chance, but all things from reason and by necessity.

Leucippus and his companion Democritus say that the elements are the plenum and the void, calling the one being and the other non-being, — of the two that which is full and solid is being, that which is empty and tenuous is non-being, (wherefore the real exists no more than the unreal, they say, because empty space exists no less than solid bodies); and these are the fundamental principles of things, the material of which they are made. And as those who consider the fundamental reality as One account for all other things by changes in the condition of this, positing rarefaction and condensation as the causes of these changes of condition, — in the same way these men say differences in the elements are the causes of other things. Now these differences, they say, are three, — form, order and position; for they maintain that the real differs in shape, in arrangement and in situation only. A differs from N in form; AN from NA in order; I from H in position. As for motion whence or how it happens to things they, as others, lightly dismiss it.

Leucippus, the Eleatic or Milesian (he is classified under both headings), though he had been of like opinion with Parmenides in philosophy, did not hold the same view as Parmenides and Xenophanes regarding the real, but the opposite as it seems. . . . He posited the atoms as countless and ever moving elements, and the multitude of forms among them as infinite (because there was no more reason for their being of one kind than of another), holding also that origination and change are incessant among real things. Furthermore, he held that “being” exists no more than “non-being”, and that both principles are involved in things which change. Conceiving the essence of the atoms as compact and full, he said they were “being” and were suspended in the void, which he called “non-being”.

He says the universe is infinite in extent, . . . and a part of it is solid, part empty space. These are the elements. And there are countless worlds arising out of these, and into them they are dissolved. And the origin of worlds is as follows: many bodies, of various forms, becoming separated from the infinite are borne into the great void, and they having gathered together form a single vortex, in which striking against each other and circling around in all possible ways, like parts are gathered to like. When bodies of equal weight no longer are able to move about on account of their number the small ones withdraw to the outer void, darting out as it were. But the rest remain together and becoming intertwined unite with each other and form a kind of spherical system.

2. Democritus

Democritus thinks the nature of the eternal principles to be small units of matter, infinite in number; and around these he conceives a region infinite in magnitude. He describes this region in the term “empty”, “nothing”, and “the infinite”, and each of the units of matter as “something”, “solid”, “real”. He thinks these units are so small that they escape our perception. And they have all kinds of forms and all possible shapes and differences in size. From these, then, as elements, he conceives visible and perceptible masses to be originated and compounded. They separate off and are carried about in the void because of their dissimilarities and other differences mentioned. As they are carried about they strike one another, and are involved in an intricate arrangement, which causes them to draw near and come into contact with each other; but does not in fact transform them into a single nature ; for it is absolutely foolish to say that ‘duality’ or ‘plurality’ would become ‘unity’. The mingling of the bodies with each other for some time brings about the interchange and exchange of particles; for some of them are irregular, some hooked, some hollow, some curved; some have innumerable differences. He thinks they cling to each other for a time and remain together, until some more powerful force from the surrounding region coming up disturbs them and scatters them apart. And he asserts this mode of origination and the opposed annihilation not only of animals but also of plants and worlds and in short of all perceptible bodies. If then origination is collection of atoms and destruction their scattering, according to Democritus origination would be merely change.

(The soul) has appeared to some to be fire; for this is the most subtle and most nearly immaterial of the elements, and besides it moves and moves other things very readily. Democritus has adduced the most critical arguments as to why both of these facts are so. For soul is the same as mind. And this is one of the most elemental and irreducible of bodies, and mobile because of the smallness of its parts, and because of its form. And he says that the most mobile of forms is the spherical; and of this form are mind and fire.

Man must know . . . that he is remote from the truth.

This account shows that we know nothing in truth about anything; but each one’s opinion is impression.

And yet it will be clear that it is difficult to know how each thing really is.

We perceive nothing certainly in reality, but only as a transitory thing according to the condition of the body and the inflowing and reacting influences.

There are two forms of knowledge, one legitimate, the other illegitimate ; illegitimate are all the following: sight, hearing, smell, taste, touch. The genuine is quite distinct from these. When the illegitimate can no more see nor hear nor smell nor taste nor perceive by touch because of the minuteness of its object, and it is necessary to search into the more subtle, then comes the legitimate which has a more subtle organ of knowledge.

By convention there is color; by convention sweetness; by convention bitterness; but in reality atoms and the void.

Tranquility comes to men through moderation in enjoyment and through symmetry of life. But deficiency and superfluity are prone to change into each other and cause great commotions in the soul. But those souls which are stirred by great changes are neither stable nor tranquil. One must then keep his mind upon the possible and be satisfied with what is at hand, with little regard for the things that are commonly envied and admired, not pursuing them in thought. One must consider the lives of the distressed, bearing clearly in mind what they suffer, in order that the present and what already belongs to one may appear great and enviable, and it may not be the lot of one's soul to suffer ill through desiring something more. For he who admires those who have possessions and those who are considered happy by men and who in mind chase after them every hour are forced continually to contrive new schemes and to conceive the desire to commit some irreparable deed which the laws forbid. Wherefore one ought not to seek these things, but be satisfied with one's own possessions, comparing his life with that of those who are faring worse and consider himself happy, bearing in mind what they are suffering and how much better than they he is faring and living. Keeping to this state of mind you will ward off not a few calamities, envy, jealousy and ill will.

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