

THE PRE-SOCRATICS

EMPEDOCLES OF ACRAGAS (C. 450 B.C.)

1. Fools! For they have no far-reaching minds who think that what did not exist before comes to be, or that anything dies or is utterly destroyed.
2. For wise men would not conjecture such things as that as long as they live what they call "life", so long do they exist, and experience miseries and joys, but that before mortals were fastened together and after they are unfastened, they are then nothing.
3. For it is impossible that anything should come to be from what in no way is, or that being should perish completely--this does not come about nor is it heard of. For it will always be there, just where one puts it.
4. ...There is no birth of any mortal thing, nor end in destructive death, but there is only a mixing and exchange of what has been mixed. "Birth", however, is a name given to these by men.
5. But they (men), when these have been mixed in any way suited to men, or to the race of wild beasts or bushes or birds of prey, say then that this has been born (has come to be); and when these have been separated they call it miserable death. They do not name the things rightly, but I also follow the custom.
6. Come now, I will tell you ... from what came to view all the things we see now: the earth, and the sea swelling with many waves, and the moist lower air and the titan upper air which binds all things tightly around in a circle.
7. Hear first the four roots of all things: bright Zeus (fire), life-giving Hera (air), Aidoneus (earth), and Nestis (water), who moistens with tears the springs of mortals.
8. ...Look at the sun, everywhere warm and shining, and at the immortals, steeped in heat and bright light; and at the rain, everywhere dark and cold, and at the earth, from which arise things solid and based on the soil. In hatred, they take on form and are separated; in love, they come together and are desired by one another. From these come forth all the things that were and are and will be, trees, and men and women, beasts, and birds of prey, and fishes nursed and living in water, and the long-lived gods, highest in honor. These alone exist, and as they run through one another, become now this and now that--so much are they changed by mixing.
9. As when painters--men whom wisdom has given art--having taken many-colored dyes with their hands, mix some more and some less in harmony, and from these make forms resembling all things ... So, do not let your mind be fooled into thinking that there is any other source of mortal things which appear in such great numbers. Be sure about this--for you have heard it from a goddess!

10. . . . the pleasing earth in its broad mold received two of the eight parts of glittering Nestis and four of Hephaistos. And these became white bone, begotten divinely by the glueing of harmony.
11. The earth, anchored in the ports of Cypris (love), came together with these in about equal measure, with Hephaistos, water, and the all-shining upper air, a little more or less than their greater share. And from these came blood and the forms of other flesh.
12. . . . at one time there grew to be only one out of the many; at another time, the many grew apart from the one -- fire and water and earth, and the immense height of air; and destructive strife apart from these, equal in weight everywhere; and love amongst them, equal in length and width ...It is she whom we recognize to be inborn in our mortal limbs, she who causes us to think friendly thoughts and reach agreement, as we call her 'Joy' or 'Aphrodite'... All these are equal and of the same generation. Each one takes care of its own position by the character belonging to it. And they prevail in turn as time turns. And apart from these, nothing comes to be or ceases to be. For if they kept on perishing, they would no longer be. And what could make the whole bigger? And where would it come from? And where would it perish, since no place -is deprived of these things. Rather, these things alone exist, and as they run through one another, become now this and now that, and yet always keep as they are.
13. I shall tell a double tale: at one time it grew from the many to be only one; at another time, it grew apart from the one to be many. There is a double birth of mortals and a double death. The coming together of all things gives birth to and destroys one while, as things are separated, the other grows up and is (then) scattered. And nowhere do these things stop taking place forever: at one time, all things come together by love; at another time, everything is carried away by hatred (strife). Thus, insofar as the one is wont to grow from the many, and again the many spring from the one as it breaks up, so do they come to be and there is no lasting life for them. But insofar as they never stop taking turns, so are they unchangeable within the cycle.
14. Yet when god was more mixed with god, these things fell in with one another in whatever way they chanced to meet; and many other things besides them continually came to be.
15. Wherever, then, everything turned out as it would have if it were happening for a purpose, there the creatures survived, being accidentally compounded in a suitable way; but where this did not happen, the creatures perished and are perishing still.
16. There sprang up many faces without necks, arms wandered without shoulder, unattached, and eyes strayed alone, in need of foreheads. Many things were born with two faces and two breasts, offspring of cattle with faces of men, others the reverse, born of men with the heads of oxen, mixed partly from men and partly from women by nature, and adorned with dark limbs.

DEMOCRITUS OF ABDERA (c. 425 B.C.)

1. Nothing can come into being from that which is not, or pass away into that which is not.
2. The first principles of the universe are atoms (indivisible bodies) and space--the full and the empty; everything else is merely thought to exist.
3. The atoms are solid, existent, and eternal; the place (or space) in which they exist is empty--a nothingness.
4. It is impossible that one thing come from two, or two things from one.
5. If there were no empty space, movement would be impossible, and one thing would not be separate from another. Things are divisible because of the emptiness in them.
6. All differences result from differences among the atoms. And these are of three kinds: differences of shape, of arrangement, and of position. To illustrate: A differs from N in shape, AN differs from NA in arrangement, and Z differs from N in position.
7. The number of shapes (of atoms) is infinite; for there is no reason why an atom would be of one shape rather than another.
8. The atoms move in the infinite void, and, overtaking one another, they collide, and some are scattered, while others, intertwined where their shapes fit together, stay together and thus give rise to the compound bodies which we see. And they cling together until some stronger necessity comes from the outside and breaks them apart.
9. The atoms have always been moving, and always will move; and they move by bumping and knocking one another.
10. By convention, color exists, by convention, bitter, by convention, sweet; but in reality, only the atoms and the void. Men think that there is such a thing as white, black, sweet, bitter, but in truth the universe is composed of thing and nothing. The atoms have no qualities, nor can they in any respect undergo those changes of quality which men believe to happen because they trust their senses. They cannot grow warm or cold, nor can they become moist or dry, and it is even more impossible that they become white or black; to speak generally, they cannot assume any other quality by any change whatever.
11. The appearances of the various qualities are produced by various combinations of the basic differences mentioned above--i.e. by differences of shape, arrangement and position among the atoms. For example, bitter taste is caused by small, smooth, rounded atoms, whose surfaces are actually sinuous; therefore, it is both sticky and viscous; salt taste is caused by large, unrounded atoms, but in some cases jagged ones.
12. One atom will be heavier than another only when it is bigger. In compound bodies, the lighter is that which contains more empty space, the heavier, that which contains less.