The Problem of Anaxagoras

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The Problem of Anaxagoras

When Anaxagoras developed his philosophy in the middle of the fifth century B.C., the objects of sense perception were under attack. Heraclitus had denounced the weakness of sense perception and called upon men to observe his logos which was both an account or explanation of the universe and the principle according to which it was organized. Parmenides separated being from the sensibles and argued that the latter were objects of opinion rather than of knowledge. Protagoras went even further. If we are to use Plato's Theaetetus as evidence, he argued that the sensibles were relations. They were relative to each percipient and even to the condition of a percipient at a particular moment. Since individuals had different sensations of the same object, the object itself did not have the qualities attributed to it. If one person said that something was hot, and another that it was cold, it was neither hot nor cold. The argument may have been applied to entities as well as to sensibles. As Aristotle wrote (Met. 1007b18-25), if an entity seemed to one person to be a trireme, it was a trireme; if it seemed to be a wall, it was a wall.

Could objects of sense perception be equated with being, without breaking any part of Parmenides' canon? To what extent were sense perceptions unreliable? These were the questions which Anaxagoras had to answer.

The heart of Anaxagoras' philosophy is to be found in his thesis that there is no smallest. It may have been developed from one of

Zeno's arguments. Zeno wrote that if there were many, being is infinite, for there are always others between those things which are 2 and again others between these (29 B 3). He meant that there could never be a void in which being was not for in this case being would have not being as its boundary. It followed from this that there was not a smallest, for if we assume that there is a smallest of either an entity such as gold or a quality such as hot, we must suppose that there is something below that minimum which is not gold or hot. This would transgress Parmenides' canon that it is not possible for being not to be.

Several conclusions follow from the premiss that there is not a smallest. If there is no smallest, it would be impossible to separate an entity or a quality from another entity or quality since the very act of separation presumed a smallest. In this way all things would be in all.

The entity, therefore, was composed of all entities and qualities. The component entities which determined the individuality of the entity predominated over all other component entities, but not in a mathematical ratio. Since the seed partook of the nature of the entity, it too must have been a composite of all qualities and entities.

The continuum which Anaxagoras postulated was consistent with Parmenides' requirements for being. Parmenides argued that being was not divisible since it was all the same (28 B 8,22), and that it was continuous (28 B 8,6 and 25). The continuum, however, was composed of the objects of sense perception.

2 All references to the fragments of Anaxagoras are to be found in Diels-Kranz, Frag. d. Vorsokratiker (Berlin, 1952).
Anaxagoras accepted Parmenides' principle that being cannot come into being or pass away and that it cannot become more or less. This is shown in two fragments. "The Greeks do not rightly regard coming into being or passing away; for nothing comes into being or passes away, but from the things that are it is mixed and separated. And in this way they would rightly call coming into being, being mixed together, and passing away, being separated (59 B 17 cf. Parmenides 28 B 8,3 and 13-4)," and "When these have been separated in this way, one must realize that all things are neither fewer or more (for it is not possible that there should be more than all) but all things are equal (59 B 5 cf. Parmenides 28 B 8,47-8)."

Birth, dissolution, growth and change of quality were all explained in terms of combination and separation. Anaxagoras assigned to the primaeval cosmic mixture the cosmic opposites, the moist, dry, the warm, cold, and the bright and the hot, earth and the seeds (59 B 4). If the hypothesis I have stated is correct, then each of the three groups must have contained the other two both before and after the separation. When the nous caused the mixture to revolve, the parts became separated (59 B 9 and 12). The separation meant that something in which an entity or quality predominated over all other entities and qualities contained in it was present in one place. In the sperm hair, nails, veins, arteries, sinews and bones, which were at first unseen because of their smallness, increased in size and gradually became separated from...
one another (59 B 10). Birth, therefore, took place when the mixture of the components was such that the entity about to be realized predominated in it, and death was the dissolution of the mixture and the return of the components to the mass.

Growth was due to the addition of parts, similar to those which predominated in the entity, from the nourishment which the entity received. For example, as Aristotle wrote, bread contained flesh, bones, veins, sinews, hair, nails and wings, and water possessed wood, bark and fruit (59 A 45,15-18). The awkwardness is, of course, due to the fact that Anaxagoras did not have the concepts of potentiality and actuality. To say that bones and flesh are in the bread was his way of explaining the fact that bread is potentially bones and flesh. The problem for Anaxagoras was to explain why wood was not edible, or why flesh was not in the wood. Flesh was, as a matter of fact, in the wood, but in so small a portion that it could not contribute to the growth of flesh.

Change of quality was likewise explained in terms of the mixture and separation which takes place within the entity (59 A 52).

Since anything which shared in the mixture permeated the whole, Anaxagoras carefully separated his nous from the cosmos. "Mind," he wrote, "is infinite and self-ruling and not mixed with anything, but it is alone by itself. For if it were not by itself, but had been mixed with something else, it would have shared in all things, if it had been mixed with anything (59 B 12)." We might notice also that mind is never an object of sense perception and the mixture was composed only of such objects. In this way Anaxagoras made a
considerable advance over Heraclitus since Heraclitus' logos was identified with the fiery process by which one opposite was exchanged for another (22 B 90).

From the thesis that there was no smallest followed the unity of opposites. In my earlier article, I argued that large and small were inseparable because they were infinite in degree. The same conclusion appears to hold true for the cosmic opposites. Anaxagoras writes, "Things in the cosmos have not been separated from one another nor has the warm been cut off from the cold with an axe nor the cold from the warm (59 B 8)."

We can infer that the opposites which were cosmic were found in entities also. A piece of iron, for instance, could be hot or cold. Presumably the hot and the cold were thought to mix with the iron.

Both Heraclitus and Anaxagoras accepted the reality of the world of sense perception and turned their attention to the principles inherent in it. But warring opposites, restrained by a limit or logos, and being exchanged each for the other, were much too primitive for Anaxagoras. He saw, by a stroke of genius, that the opposites were one because there was no smallest, and that they were consequently infinite in degree and inseparable.

More light on the opposites is found in another fragment of Anaxagoras in which he wrote, "To itself each is both large and small (59 B 3)." As I pointed out in my earlier article, the antithesis of ἅπασα ἑνὶ ὁλῷον is, of course, ἅπασα ἐν ὁλῷον. Anaxagoras was arguing that, while every entity is small or large when compared with another entity, when no comparison is made the entity is both large and small. Similarly, an entity would be both sweet and bitter. From this passage we can infer Anaxagoras' answer to Protagoras.
The opposites and the qualities were existents, and not, as Protagoras had believed, relations. They were not relative to the percipient. Perhaps Anaxagoras might have argued also that an entity if it seemed to be a trireme to one person and a wall to another was both a trireme and a wall.

In two passages Anaxagoras uses black and white as examples. In one he argued that snow was black. Snow was frozen water, and water was black; therefore, snow also was black (59 A 97). Elsewhere he stated that we are not able to judge the truth because of the weakness of our sense perceptions. He illustrated this by taking two colors, black and white, and pouring one into the other drop by drop. The sight, he said, could not distinguish the gradual change of color. These statements illustrate the inseparability of the opposites, black and white, and the weakness of sense perception. Sense perception was unreliable because, although an entity had both opposites, the senses could distinguish only one.

It is possible also that Anaxagoras found unity in the parts of the spectrum. He referred to the seeds as having all kinds of shapes, colors and flavors (59 B 4). Although it is possible from the wording of the Greek to infer that each seed had one shape, color and flavor, I do not think that this is what is meant. The experiment which was made by pouring black and white into each other drop by drop could be made with adjacent colors in the spectrum, such as blue and green or orange and red, and the result would have been similar. It could be inferred, and, I believe, was inferred by Anaxagoras, although there is no evidence for this, that each color was in every other
color, and that an entity which had one had all.

The same point may be made in regard to shapes and flavors. The shape of one rectangle fused into that of another, and an oval into a circle. One flavor similarly blended with another.

The opposites were used by Anaxagoras to explain sense perception. Sight was due to the interaction of light and the color of the eye. In touch and taste the warm is known by the cold, and the bitter by the sweet (59 A 92). Since a sound which is too loud or colors which are too bright cause pain, he concluded that the interaction of opposites produced pain, and that all perception was accompanied by pain.

Since pleasure and pain had a purely physiological basis, it followed that the same processes were at work in plants. Anaxagoras inferred from the movement of leaves that plants felt joy and sorrow (59 A 117), and he went so far as to attribute breath and intellect to them (59 A 117). The result is a curious form of animism. Animals including human beings and plants, were the product of one cosmic process and were essentially similar to one another.

Anaxagoras' acceptance of pain as a consequence of the interaction of opposites is reminiscent of Heraclitus. He, for instance, had written that war was the father of all and the king of all (22 B 53), that war was common, and strife justice, and that all things happen according to strife and necessity (22 B 80 of. 67).

Anaxagoras faced life as it was. Pain and pleasure, life and death, were equally necessary and good. There was no purpose in the world, and no god played the role of a final cause. Nous was introduced probably on the analogy of the human mind. It was used to account for
the primaeval separation, but played no part in the numerous separations which take place as each animal and plant comes to birth. As Socrates complained in the Phaedo, Anaxagoras did not make any use of his nous at all.

Man possessed a sense perception which was weak and inadequate, but by observation and analogy from the sense objects he could draw some conclusions about those things which were not clear (59 B 21a). Induction and deduction were available for him, as they were to Anaxagoras in the construction of his system.

To conclude, then, Anaxagoras held that the objects of sense perception, both entities and qualities, were existents, and not relative to the percipient, and that they formed a continuum which observed the criteria of Parmenides' being. Birth, dissolution, growth and change of quality were explained in terms of combination and separation. The opposites were inseparable and infinite in degree, and the parts of the spectrum were one. The opposites were used to account for sense perception as well as for pleasure and pain. Since animals and plants are all the product of the same natural process, they are essentially alike. Man lives in a world which has no purpose and no god, but, by means of observation, experience and analogy he is able to draw some conclusions about the kind of world in which he lives and about his own nature. Although Anaxagoras' thesis left many problems, it was perhaps one of the most brilliant solutions in Presocratic philosophy.

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