

A Conjecture Why It Seems That Anaxagoras Could Have Said That Snow Is Black, for Jacob Thomasius in a Letter Sent 16 February 1666¹

Translated by Jeffrey K. McDonough

Hypothesis 1. All color is an impression on the sensorium, not a certain quality in things, but an extrinsic denomination, or, as Thomas Hobbes says, a phantasm.

2. Therefore, color is nothing not being perceived by us.

3. Blackness is not so much a color, as the privation of color, or [*seu*] we say that we see something black, when we see nothing.

4. All opaque things in themselves are black, by hypotheses 2 together with 3. Therefore, also snow. Anaxagoras, however, so that his paradox should be more remarkable, would take as the basis of his discussion especially what is held to be the whitest.

5. Color is nothing other than an impression in the eye, which is made by atoms of light, from a luminous body, impinging on [something] opaque, and thence being reflected to the eye.²

6. There are three optical principles: fire, whose atoms are pyramidal, water, which dispersed makes air, whose [atoms are] spherical; earth, whose [atoms are] cubical.

7. Fire is the principle of light, water of blackness, earth of color. Indeed, pyramidal atoms are the most subtle, they have the force to stab, etc., which are characteristics of fire. Fire and light, however, are materially the same. Cubical atoms can be so joined to one another so that there is nothing empty between them. They are therefore the cause for why atoms of fire are reflected, that is, by hypothesis 5, of color. And between spheres there is the most emptiness, they are therefore the cause of no reflection - indeed where nothing obstructs [pyramidal atoms], they penetrate rather than being reflected - or of no color, that is, by hypothesis 3, of blackness.

8. Whatever when rare is such, that thing when condensed is more such. Because combined force [*vis*] is stronger.

9. Snow is condensed water.

10. Snow therefore should also appear as black as possible, by hypothesis 7, together with 9, and 8. Q. E.D.

Therefore, this argument is like Zeno's against motion, so that Anaxagoras could convince a boastful sophist, or show his ingenuity in proving and defending anything whatsoever, or help the skeptics by showing the separation between the senses and reason, so that one or the other must be mistaken. However, if he also said that [snow] appears black to him, it seems that he said that in jest, because he knew that no one could refute this paradox.

Notes

1. The Latin text of this piece can be found in *Sämtliche Schriften und Briefe*, ed. Deutsche Akademie der Wissenschaften, Berlin: Akademie Verlag, 1923 - ; (Reihe) II. (Band) 1, pp. 4-5. I would like to thank Paul Hoffman, Benjamin King, and Mike Stannard for their many helpful suggestions that have greatly improved the present translation. Readers with suggestions for further improving the present translation or notes are encouraged to contact me at jmcdonou@uci.edu.

2. Leibniz is, of course, mistaken in counting Anaxagoras as one of the ancient atomists. In contrast to the atomists, Anaxagoras held that phenomenal substances are composed of an indefinite number of fundamental stuffs each of which has no minimal parts. The predominance of certain fundamental stuffs within a phenomenal substance is taken to account for its phenomenal properties.

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[*G.W. Leibniz: Texts and Translations*](#)

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