In spite of the amount of information about Democritus' teaching on perception and colors in Theophrastus' *De Sensibus*, there still is much vagueness about this teaching. Many commentators provide nothing more than mere summaries or paraphrases of Theophrastus' account without an attempt to coordinate all the information available into a coherent system. Few also attempt to take into consideration the role of light and air in the process of vision and the sensations of color, although both seem to Theophrastus to be essential parts of Democritus' explanations. Besides, too little has been done with the information which can be gleaned from Theophrastus' criticisms of Democritus' teaching, from those very passages in which he takes issue with what seem to him important parts of Democritean atomism. Neglect of these passages, as well as a reluctance to coordinate all the information available, seems to result in vagueness in accounts of Democritus' teaching; and that fails to satisfy.

What is proposed here is an account of Democritus' teaching on the perception of black and white, written under the conviction that his teaching here was basically consistent, concrete, and ostensibly workable. Such an account is, of necessity, speculative at certain points, for Theophrastus' own account is incomplete. Where speculation is necessary, it will be consistent with the text of Theophrastus and with the more explicit doctrines of later atomism apparently derived from Democritus. While this account of Democritus represents a break at certain points from the traditional interpretation, it does, unlike the traditional interpretation, have the advantage of concreteness, clarity, and consistency.

In order to lay a more proper foundation for an account of Democritus' theory of sensations of black and white, and in order to clear up any prior misunderstandings, it will be best first to survey what we know of Democritus' teaching on the mechanics of visual perception (50-51).

I. THE MECHANICS OF VISION

A. The Effluences

This survey probably ought to begin with his theory of the effluence
(ἀπορροή) or image (ἐκδωλά τινα ἀπορρέωντα—Alex. De Sens. 24.14 ff.)\(^3\) from objects. There are, Theophrastus reports of Democritus’ theory, such effluences constantly coming from everything; all objects give them off.\(^4\) These effluences have an atomic structure like that of the physical object from which they come. They are generally conceded to be thin (perhaps only one layer of atoms thick) and probably come from the surface of the whole object. Where there is a void area on the object, this may be represented on the effluent image, apparently as an empty spot or gap in the image. This effluence moves through the air from the physical object to the eye of the percipient. Should there be no air (only void) between the object and the percipient, the image will evidently arrive undiminished in size, for in such a case Democritus claimed that one could see an ant on the vault of heaven.\(^5\)

**B. The Air Impression**

Although Democritus might well have done it, he does not have this image enter directly into the eye to be reflected there.\(^6\) Just before it is to enter the eye a new entity is formed, the air impression. Air\(^7\) is caught between the image (coming from the object to the eye) and the eye of the percipient, compressed between them, and impressed from the outside\(^8\) by the impact and form of the image.

**C. The Reflection**

As a result of the compression this impressed air is now rather solid. Apparently both the impressed air and the image enter the eye together.\(^9\) If the hue of the impressed air is different from that of the pupil of the eye (ἀλλὰχρωμ), then the impression is reflected, for the reflection occurs only when there is a contrast of hues.\(^10\)

**D. The Visual Organ**

The eyes themselves are to be moist, for what is dense does not admit the air impression, while what is moist lets it pass in; thus moist eyes are better for seeing than hard ones. On the inside the eyes are to be spongy, not dense, not containing strong flesh or thick and oily moisture.\(^11\) Almost as soon as Theophrastus has mentioned that the eyes are not to be dense, he says that for Democritus the eyes are to have an outer coat which is not only very thin, but also very dense. This dense outer coat has caused difficulty,