

Diagram as protreptic to zoology: Aristotle's wondrous cuttlefish

Why does Aristotle include diagrams in his zoological writings? Developing recent work that analyzes the integration of the verbal and the visual in Aristotle's thought and writing, in this paper I explore the functional and even aesthetic potential of diagrams in Aristotle's extant writings on animals, proposing that diagrams may lend not only discursive support but also an affective, protreptic power to Aristotle's zoological enterprise. Though they are seldom deployed in Aristotle's texts, I argue that diagrams may be seen as a stylistic complement to Aristotle's similarly rare, verbal exhortations to natural philosophy.

To investigate Aristotle's zoological diagrams is to analyze an absence. Although a few schematic drawings that visualize Aristotle's textual descriptions of diagrams can be found in medieval manuscripts, the extent to which these visualizations are authorial remains unclear. Moreover, the *Dissections*, a work that seems to have been an illustrated, anatomical atlas containing images of numerous animals and their organ systems, seems to have been entirely lost within a few generations of Aristotle. Up to now, then, scholars have focused on the crucial tasks of cataloguing and describing the visual elements of Aristotle's zoological project, as well as analyzing their communicative function (Stückelberger 1993 and 1994; Hellmann 2004; von Staden 2013; Fürst von Lieven and Humar 2017).

What are the further implications of a diagram's power to help readers understand zoological knowledge? Building on the above foundation, in this paper I argue, first, that zoological diagrams may be included in Aristotle's discussion of how mimetic objects yield the pleasure of learning in *Poetics* 4 (1448b8–17). I propose a more inclusive interpretation of that chapter's controversial reference to “the most precisely rendered images of base creatures,” qualifying a debate between two camps of scholars who have understood those images (εἰκόνας)

either to point to diagrams specifically (e.g. Gallop 1990) or to artistic representations that are decidedly not diagrams (e.g. Halliwell 2002). An exclusive interpretation falls short on either side, and so we may consider at least certain diagrams to fall within the bounds of Aristotle's discussion in the *Poetics*.

But to regard zoological diagrams as mimetic objects invites us to speculate about their affective potential beyond the pleasure of learning. Examining Aristotle's brief but evocative description of the baby cuttlefish with its reference to a diagram (*History of Animals* 550a18–26), I argue that the image functions as a visual protreptic to zoological inquiry. While the original diagram is lost, Aristotle's verbal account of it highlights features that exemplify two kinds of wonder: on the one hand, the diagram illustrates a structure of the cuttlefish that Aristotle states is not yet well understood (the umbilical attachment that connects the organism to its egg; cf. Lehoux 2017), encapsulating the “wonder” that drives philosophical inquiry (cf. *Metaphysics A* 982b12–13). On the other hand, the diagram also illustrates the cuttlefish's egg, which is part of a generative process that Aristotle states is analogous to that found in birds. It thus illustrates the aesthetic “wonder” that Nightingale 2004 argues is the end, not the beginning, of contemplating natural causes (cf. *Parts of Animals* 645a4–23). The utility of this diagram for clarifying Aristotle's account has been questioned in the past, but seen as a very picture of wonders, it becomes a device to inspire philosophical admiration in Aristotle's readers, driving them to inquire into the wondrous design of even base creatures.

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