The role of efficient causation in Aristotle's philosophy: ensuring the continuity and coherence of the cosmos within a teleological framework

Que, Y.

Summary

This dissertation investigates the relationship between final causation and efficient causation in Aristotle's philosophy, with particular emphasis on the role of efficient causation in ensuring the spatial and temporal continuity of the cosmos within a teleological framework. While Aristotle famously assigns primacy to the final cause—"that for the sake of which"—as the ultimate explanatory principle, he also acknowledges that not all natural phenomena lend themselves to straightforward teleological explanation. The study argues that efficient causation, often treated as subordinate to final causation, plays a crucial and complementary role in sustaining the coherence of his cosmological, physical, and biological systems.

The inquiry is prompted by a philosophical and textual puzzle already recognized by Theophrastus: if final causation is primary, why is it absent or only indirectly applied in many of Aristotle's explanations, particularly in meteorology, the motion of inanimate elements, and certain irregular biological phenomena? This apparent boundary of final causation raises the problem of whether Aristotle's teleology can offer a genuinely unified account of the universe. The research responds by showing that efficient causal chains—linking otherwise disparate domains of the cosmos—are essential for Aristotle's vision of the world as a continuous and intelligible whole.

The dissertation begins with a conceptual clarification of Aristotle's definitions of final and efficient causes and their place within his broader theory of the four causes. The final cause is characterized both as a motivating principle (the ultimate end or good, exemplified by the Unmoved Mover) and as an explanatory framework for revealing the purposefulness of natural processes. Efficient cause, by contrast, is "that from which the origin of motion or change comes," highlighting its role as the directional and originating source of activity. While Aristotle consistently presents final causation as primary, his causal theory is hierarchical and context-sensitive, allowing efficient causation to predominate in certain explanatory contexts without undermining teleological primacy.

The study then examines the explanatory limits of final causation across four major domains of Aristotle's natural philosophy: cosmology, the motion of elements, meteorology, and biology. While Metaphysics Λ presents the cosmos as

teleologically ordered under the Unmoved Mover, this model encounters difficulties in accounting for phenomena that lack manifest purposiveness. In cosmology, celestial spheres are described in teleological terms, yet their effects on the sublunary realm often operate through physical interactions best explained by efficient causation. In the study of elemental motion, the orientation of elements toward their natural places can be construed teleologically, but irregular or intermediate motions demand mechanistic explanation. In meteorology, events such as rainfall can be interpreted teleologically only in specific contexts; otherwise, their explanation depends on chains of physical processes. In biology, final causation achieves its most robust expression in the organization and function of living beings, yet anomalies in reproduction and other irregularities reveal limits to its explanatory scope.

The analysis proceeds to show how efficient causation functions to bridge these explanatory gaps. In Aristotle's account of the cosmos, continuous chains of efficient causes extend from the Unmoved Mover to the heavenly bodies, and from celestial motions to changes in the sublunary realm. In the domain of elements, efficient causation links the motion of aether to the four sublunary elements and governs their mutual interactions. In meteorology, the Sun operates as an efficient cause of generation and corruption, transmitting celestial influence through physical processes. In biology, vital heat—mediated by celestial bodies—functions as an efficient cause for reproduction and development. These examples demonstrate that efficient causation serves as the mechanism through which the teleological order of the cosmos is actualized.

The interplay between final and efficient causation is ultimately shown to be both commensurable and non-competitive. Final causation explains why natural processes occur, by reference to ultimate ends; efficient causation explains how they occur, by tracing the chains of motion and change that realize those ends. Their interaction produces a unified explanation of the cosmos: final causes provide teleological direction, while efficient causes ensure operational continuity. In Aristotle's natural philosophy, unity is thus multi-dimensional—comprising teleological coherence, causal continuity, and the integration of diverse phenomena into an intelligible whole.

The contribution of this dissertation lies in three main areas. First, it delineates the boundaries of final causation across Aristotle's natural treatises, showing that its explanatory primacy does not entail universality of application. Second, it

offers a comprehensive account of efficient causation as a principle of cosmic unity, rather than merely a subordinate cause. Third, it reframes the relationship between final and efficient causes as a complementary partnership essential to Aristotle's vision of the natural world.

Grounded in close readings of Aristotle's cosmological, physical, meteorological, and biological works, the study demonstrates that the coherence of Aristotle's universe depends on a dual structure: teleology provides the overarching rationale, while efficient causation maintains the interconnectedness and temporal continuity that make the cosmos a living, unified whole. By reconciling purposiveness with causal mechanisms, this account resolves interpretive challenges that have persisted since antiquity and offers a nuanced model of how Aristotle integrates different causal principles to explain the unity of nature.