

# Aristotle on Causality

---

Aristotle was not the first thinker to engage in a causal investigation of the world around us. From the very beginning, and independently of Aristotle, the investigation of the natural world consisted in the search for the relevant causes of a variety of natural phenomena. From the *Phaedo*, for example, we learn that the so-called “inquiry into nature” consisted in a search for “the causes of each thing; why each thing comes into existence, why it goes out of existence, why it exists” (96 a 6–10). In this tradition of investigation, the search for causes was a search for answers to the question “why?”. Both in the *Physics* and in the *Metaphysics* Aristotle places himself in direct continuity with this tradition. At the beginning of the *Metaphysics*, Aristotle offers a concise review of the results reached by his predecessors (*Metaph.* I 3–7). From this review we learn that all his predecessors were engaged in an investigation that eventuated in knowledge of one or more of the following causes: material, formal, efficient and final cause. However, Aristotle makes it very clear that all his predecessors merely touched upon these causes (*Metaph.* 988 a 22–23; but see also 985 a 10–14 and 993 a 13–15). That is to say, they did not engage in their causal investigation with a firm grasp of these four causes. They lacked a complete understanding of the range of possible causes and their systematic interrelations. Put differently, and more boldly, their *use* of causality was not supported by an adequate *theory* of causality. According to Aristotle, this explains why their investigation, even when it resulted in important insights, was not entirely successful.

This insistence on the doctrine of the four causes as an indispensable tool for a successful investigation of the world around us explains why Aristotle provides his reader with a general account of the four causes. This account is found, in almost the same words, in *Physics* II 3 and *Metaphysics* V 2.

## 2. The Four Causes

In the *Posterior Analytics*, Aristotle places the following crucial condition on proper knowledge: we think we have knowledge of a thing only when we have grasped its cause (*APost.* 71 b 9–11. Cf. *APost.* 94 a 20). That proper knowledge is knowledge of the cause is

repeated in the *Physics*: we think we do not have knowledge of a thing until we have grasped its why, that is to say, its cause (*Phys.* 194 b 17–20). Since Aristotle obviously conceives of a causal investigation as the search for an answer to the question “why?”, and a why-question is a request for an explanation, it can be useful to think of a cause as a certain type of explanation.

Needless to say, not all why-questions are requests for an explanation that identifies a cause, let alone a cause in the particular sense envisioned by Aristotle. Still, Aristotle is clearly committed to the view that giving the relevant cause (or causes) is necessary and sufficient for offering a scientific explanation. His conception of a cause has both a *metaphysical* and an *epistemological* component. Part of the challenge for us is to do justice to both components. Following a recent suggestion, we may say that “causes are not ways in which we explain things, except derivatively, in virtue of the fact that they are ways in which some elements of the natural world explain others” (Stein 2012a: 705).

In *Physics* II 3 and *Metaphysics* V 2, Aristotle offers his general account of the four causes. This account is general in the sense that it applies to everything that requires an explanation, including artistic production and human action. Here Aristotle recognizes four kinds of things that can be given in answer to a why-question:

- The material cause: “that out of which”, e.g., the bronze of a statue.
- The formal cause: “the form”, “the account of what-it-is-to-be”, e.g., the shape of a statue.
- The efficient cause: “the primary source of the change or rest”, e.g., the artisan, the art of bronze-casting the statue, the man who gives advice, the father of the child.
- The final cause: “the end, that for the sake of which a thing is done”, e.g., health is the end of walking, losing weight, purging, drugs, and surgical tools.

All the four (kinds of) causes may enter in the explanation of something. Consider the production of an artifact like a bronze statue. The bronze enters in the explanation of the production of the statue as *the material cause*. Note that the bronze is not only the material out of which the statue is made; it is also the subject of change, that is, the thing that undergoes the change and results in a statue. The bronze is melted and poured in order to acquire a new shape, the shape of the statue. This shape enters in the explanation of the production of the statue as *the formal cause*. However, an adequate explanation of the production of a statue requires also a reference to *the efficient cause* or the principle that produces the statue. For Aristotle, this principle is the art of bronze-casting the statue (*Phys.* 195 a 6–8. Cf. *Metaph.* 1013 b 6–9).