

Aristotelian Explanation



The Four Causes

A Simple Claim

‘Every human being, by nature, desires to know.’

—Aristotle, *Metaphysics* 998a

. . .with a Complex Pedigree

- ❖ Every human being has a definite and identifiable nature.
- ❖ That nature is to be knowledge-seeking.
- ❖ Humans seek knowledge by seeking explanations.
- ❖ Some explanations satisfy without being good; explanations divide into the good and the bad, as well as the subjective and the objective.
- ❖ Good explanations cite causes.

Explanations Good and Bad

- ❖ Two notions of explanation:
 - ❖ Subjective: satisfies a curiosity
 - ❖ Objective: provides an interest-independent account

	Good	Bad
Subjective	✓	?
Objective	✓	✓

Objectively Good Explanations

- ❖ **E** is an objectively good explanation of phenomenon **P** if, and only if, **E** captures and displays the cause(s) of **P**
- ❖ When do we know the cause of some phenomenon?
 - ❖ What *is* a cause?

The Kinds of Causes: Four

Material: what x is made of or comes from, for example, the *bronze* in a bronze statue of Hermes.

Formal: the *shape* or *structure* of x , what x is essentially, for example, the *Hermes-shape* of a bronze statue of Hermes.

Efficient: what puts the form into the matter, for example, the *sculpting* of the sculptor Praxiteles as he enforms the bronze with a Hermes-shape.

Final: the purpose or end of x , for example, the bronze statue of Hermes is *for honouring Hermes*.

Two Claims about the Four Causes

- ❖ Citing all four causes is necessary for a complete explanation (w/ some exceptions, including, e.g. co-incidence).
- ❖ Citing all four causes is sufficient for a complete explanation.

On Behalf of Matter and Form

1. There is change in the universe.
2. A necessary condition of there being change is the existence of matter and form.
3. So, there are matter and form.

On Behalf of the Final Cause

1. Natural phenomena exhibit regularity, occurring “always or for the most part”.
2. Things happen either for by chance or for the sake of something.
3. What happens by chance does not exhibit regularity; chance events do not occur “always or for the most part.”
4. So, natural phenomena occur for the sake of something.

A Ladder of Teleology

1. Tools are *for the sake of something*, namely the functions they were given by deliberative agents.
2. Deliberative actions are *for the sake of something*, namely the goods sought by the agent.
3. Non-deliberative actions, whether of humans or non-human animals, are for *the sake of something*, namely the good pursued by the actor.
4. The parts of living systems, e.g. the eye or the kidney, are *for the sake of something*, namely the *function* they play in the organic systems of which they are parts.
5. Organic systems, e.g. animals and plants, are *for the sake of something*, namely their own intrinsic goods.

A Metaphysical Grounding

- ❖ One might raise a further difficulty. What is that which grows? Is it that to which something is added? If, e.g., a man grows in his shin, is it the shin which is great, but not that whereby he grows, not, that is, the food? Then why have both not grown? For when A is added to B, both A and B are greater, as when you mix wine with water, for each ingredient is alike increased in volume. The explanation, in all probability, is that the substance (the *ousia*) of the one remains unchanged, but the substance (the *ousia*) of the other does not (*Gen. et Corr.* i 5, 321a30).

An Argument for the Top Rung

1. Organisms are non-conventionally existing diachronic continuants, bounded in space and time, capable of growing to maturity.
2. The only, or best, explanation of these facts is that organisms have non-conventional, non-derived intrinsic ends.
3. Hence, organisms have non-conventional, non-derived intrinsic ends.

Relations Amongst the Causes

- ❖ Now, the causes being four, it falls to the natural scientist to know them all, and he provides an account in the manner of a natural scientist by leading the quest of why something obtains back to them all—the matter, the form, the mover, that for the sake of which. The last three often coincide: for what something is and that for the sake of which it is are one, while the primary source of motion is the same in species as these: for man generates man (*Phys.* 198a22-27).

The Priority of the Final Cause

❖ All things are defined by their function: for in those cases where things are able to perform their function, each truly is an *F*, e.g. an eye, when it can see. But when something cannot perform its function, it is homonymously *F*, like a dead eye or one made of stone, just as a wooden saw is no more a saw than one in a picture. (*Meteor.* 390a10-15; cf. *GA* 734b24-21; *PA* 640b18-23, *Meta.* 1029b23-1030a17; *EN* 1098a7-8; *Pol.* 12253a19-25)

❖ The *functional determination thesis*:

❖ **FD**: An individual *x* will belong to a kind *F* iff *x* can perform the function of that kind.