

**The Four Causes** (Notes selected and modified from the website for PHL 320, a course on Ancient Philosophy at the University of Washington taught by Professor Marc Cohen.) <http://faculty.washington.edu/smcohen/320/index.html>

What is it that Aristotle says there are four of?

The Greek word is aition (plural aitia.)

An aition is just whatever one can cite in answer to a “why?” question.

An aition is something that plays a role as an explanatory factor in the explanation of something.

.Quotations from Physics II.3, 194b24 ff:

1. **Material cause:** “that from which a thing comes to be ... e.g., the bronze and silver are causes of the statue and the bowl.”
2. **Formal cause:** “the form, i.e., the pattern ... the form is the account of the essence.
3. **Efficient cause:** “the source of the primary principle of change or stability,” e.g the father (of the child). “The producer is a cause of the product, and the initiator of the change is a cause of what is changed.”

4. **Final cause:** “something’s end (telos)—i.e., what it is for—is its cause, as health is <the cause> of walking.”

When one says that x is the aition of y, it isn’t clear what is meant until one specifies what sense of aition is intended:

1. x is what y is [made] out of.
2. x is what it is to be y.
3. x is what produces y.
4. x is what y is for.

If we ask “what makes something so-and-so?” we can give four very different sorts of answer:

1. The table is made of wood.
2. Having four legs and a flat top makes this (count as) a table.
3. A carpenter makes a table.
4. Having a surface suitable for eating or writing makes this (work as) a table.

More precisely:

- 1b. Wood is what the table is made out of.
- 2b. Having four legs and a flat top is what it is to be a table.
- 3b. A carpenter is what produces a table.
- 4b. Eating on and writing on is what a table is for.

## Static vs. Dynamic Causes

Matter and form are two of the four causes, or explanatory factors. They are used to analyze the world statically - they tell us how it is at a given moment. But they do not tell us how it came to be that way.

For that we need to look at things dynamically - we need to look at causes that explain why matter has come to be formed in the way that it has. Change consists in matter taking on (or losing) form. Efficient and final causes are used to explain why change occurs.

The table has come into existence because the carpenter put the form of the table (which he had in his mind) into the wood of which the table is composed. The carpenter has done this for the purpose of creating something he can write on or eat on. This is a teleological explanation of there being a table.

What about natural objects? Aristotle (notoriously) held that the four causes could be found in nature, as well. That is, that there is a final cause of a tree, just as there is a final cause of a table. How can there be final causes in nature, when final causes are purposes, what a thing is for? In the case of an artifact, the final cause is the end or goal that the artisan had in mind in making the thing. But what is the final cause of a dog, or a horse, or an oak tree?

## Final causes in nature

1. The final cause of a natural object - a plant or an animal - is not a purpose, plan, or “intention.” Rather, it is whatever lies at the end of the regular series of developmental changes that typical specimens of a given species undergo. Where F is a biological kind: the telos of an F is what embryonic, immature, or developing Fs are all tending to grow into. The telos of a developing tiger is to be a tiger.

2. Aristotle opposes final causes in nature to chance or randomness. So the fact that there is regularity in nature - as Aristotle says, things in nature happen “always or for the most part” - suggests to him that biological individuals run true to form. So this end, which developing individuals regularly achieve, is what they are “aiming at.”

Thus, for a natural object, the final cause is typically identified with the formal cause. The final cause of a developing plant or animal is the form it will ultimately achieve, the form into which it grows and develops.

References: Physics 198a25, 199a31, De Anima 415b10, Generation of Animals 715a4ff.

3. This helps to explain why “form, mover, and telos often coincide,” as Aristotle says (198a25). I.e., why one and the same thing can serve as three of the causes - formal, efficient, and final.

The telos of a (developing) tiger is just (to be) a tiger (i.e. to be an animal with the characteristics specified in the definition of a tiger). Thus, the final cause (telos) and formal cause (essence) amount to the same thing.

The identification of formal with final causes is not pointless. It is to say, about a developing entity, that there is something internal to it which will have the result that the outcome of the sequence of changes it is undergoing - if it runs true to form - will be another entity of the same kind - a tiger, or an apple tree.

4. What about the efficient cause? The internal factor which accounts for this cub's growing up to be a tiger (a) has causal efficacy, and (b) was itself contributed by a tiger (i.e. the cub's father).

1. The basic idea (as in all change) is that matter takes on form. The form is contributed by the male parent (which actually does have the form), the matter by the female parent. This matter has the potentiality to be informed by precisely that form.

2. The embryonic substance has the form potentially, and can be "called by the same name" as what produces it. (E.g., the embryonic tiger can be called a tiger, for that is what it is, potentially at least.) [But there are exceptions: the embryonic mule cannot be called by the name of its male parent, for that is a horse (1034b3).]

3. The form does not come into existence. Rather, it must exist beforehand, and get imposed on appropriate matter. In the case of the production of artifacts, the pre-existing form may exist merely potentially. (E.g., the artist has in mind the form he will impose on the clay. Nothing has to have the form in actuality.)

4. But in the case of natural generation, the pre-existing form must exist in actuality: “there must exist beforehand another actual substance which produces it, e.g. an animal must exist beforehand if an animal is produced” (1034b17).

6. So the final cause of a natural substance is its form. But what is the form of such a substance like? Is form merely shape, as the word suggests? No. For natural objects - living things - form is more complex. It has to do with function.

We can approach this point by beginning with the case of bodily organs. For example, the final cause of an eye is its function, namely, sight. That is what an eye is for. And this function, according to Aristotle, is part of the formal cause of the thing, as well. Its function tells us what it is. What it is to be an eye is to be an organ of sight. To say what a bodily organ is is to say what it does - what function it performs. And the function will be one which serves the purpose of preserving the organism or enabling it to survive and flourish in its environment.

Since typical, non-defective, specimens of a biological species do survive and flourish, Aristotle takes it that the function of a kind of animal is to do what animals of that kind typically do, and as a result of doing which they survive, flourish, and reproduce. Cf. Charlton (Aristotle's *Physics*, p. 102):

. . . the widest or most general kind of thing which all non-defective members of a class can do, which differentiates them from other members of the next higher genus, is their function.

8. In so far as functional explanation still figures in biology, there is a residue of Aristotelian teleology in biology. And it has yet to be shown that biology can get along without teleological notions. The notions of function, and what something is for, are still employed in describing at least some of nature.