

# An Epistemic-Functional Account of Cause in Aristotle

L. K. Gustin Law

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## 1 Introduction

### 1.1 Topic

Long before the covering law model of scientific explanation surfaced in the 20th century, Aristotle had worried that a phenomenon's deductive derivability from observations and laws is not enough: Suppose we have observed that the Planets do not twinkle, and suppose we know as a law that things that do not twinkle are near. Even if we soundly conclude that the Planets are near, we do not thereby have an explanation of *why* they are near (*Posterior Analytics* (*APst*) 1.13 78a22-b4); the sound inference above does not capture any cause. What is this missing thing, called "cause"?

Nowhere in his extant works does Aristotle say what it is to be a cause. In many places, however, he identifies one specific thing or another as a cause. In a number of places, he identifies several causes – ostensibly four – at some general level. In still other places, he dismisses certain things as genuine causes. Call these affirmations and denials his causal identifications. Aristotle's characterizations of the several causes, the examples he gives for them, and things that he otherwise identifies as causes are

remarkably diverse. To what extent does an account of “cause” that is informative but non-disjunctive fit these multifarious instances causal identifications (as opposed to claims about what it is to be a cause)? This is one of the two present investigations.<sup>1</sup>

The other two questions are of one order higher, one descriptive and one prescriptive: To what extent *did* Aristotle think that an account of “cause” that is informative and non-disjunctive fits his multifarious causal identifications? And *should* he? The descriptive inquiry is guided and constrained by passages where Aristotle in effect comments on how different things merit the appellation “*aitia*,” on how things that are called “causes” do and do not hang together – as when he claims that “*aitia*” is multivocal, that different ways of beings do not have the same causes except by analogy, etc. Call these his remarks on the unity of causes.

A person’s concrete uses of a term can fit or fail to fit a pattern regardless of what they think or say about this topic. So, Aristotle’s causal identifications can fit or fail to fit a pattern regardless of what he says about this topic. Therefore, his remarks on the unity of causes do not pose direct or strict constraints on our lower-order investigation, although some of those remarks may clue us in on the topic. Likewise, Aristotle’s causal identifications, and whether or not there is any informative and non-disjunctive account of “cause” that fits them, do not pose direct or strict constraints on our higher-order descriptive investigation, although some of them may clue us in on the topic.

## 1.2 Payoffs

What do we stand to gain from the investigations? From the lower-order one, to the extent that we can map an account onto Aristotle’s multifarious causal identifications,

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1. My question here is not, Which English expression corresponds best to Aristotle’s use of “x is an *aitia* of y”? On this question, past suggestions include “x is responsible for y” (Charlton 1970), “x is an explanatory factor of y” (Moravcsik 1974), “x is a generative factor of y” (Moravcsik 1975), and “x is an explanation of y” (Barnes 1994). See Johnson 2005, pp.40-49 for a discussion on how to translate “*aitia*” as Aristotle’s technical term and other terms he uses to distinguish four modes or kinds of *aitia*.

the account may help us see why, in certain places, including his scientific works, Aristotle identifies some thing rather than some other as a cause. We can also compare the account with our own multifarious uses of why-questions and corresponding uses of “cause” and “explanation.” Since these aspects of our discursive practices overlap somewhat with Aristotle’s uses of *aitia* and its cognates, an account that fits his identifications of things as *aitiai* may illuminate our own discursive practices. As for the higher-order investigation, the outcome may further our understanding of Aristotle’s epistemology and philosophy of science, to which *aitia* is clearly central. In what has come down to us as *APst* book one, chapter one, Aristotle says that those who have epistêmê (“scientific knowledge” / “understanding”) of something know its *aitia* (71b9-16). In the *Physics* (*Phy*), he says, “We think that we do not know each thing until we grasp the why about each, but this is to grasp the first cause” (*Phy* 2.3 194b18-20).<sup>2</sup> In other passages, such as *APst* 2.2, he states that causes are the object of scientific inquiry.<sup>3</sup> So, the more we know about Aristotle’s position concerning the unity of causes, the better we might be able to discern his position concerning scientific knowledge. Accordingly, we would be in a better position to critically engage Aristotle.

### 1.3 What “cause” translates

There are three cognate words in play: the noun “*aitia*” (which I translate as “cause”), the adjective “*aitios*” (“causative”), and the adjective “*aitiatos*” (“admitting of a cause,” thus “causable”<sup>4</sup>). In addition, the substantives “*to aition*” (“that which is causative”) and “*to aitiaton*” (“that which is causable”) are formed by adding the def-

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2. Translations are mine unless specified otherwise.

3. In these statements, the causes meant by Aristotle are causes properly so called, which exclude coincidental causes (as a doctor as such can be coincidentally a cause of housebuilding, if this doctor is also a house builder in activity) and luck, although people would speak as if luck is a cause (*Phy* 2.4). These will be accordingly excluded when I speak of causes in this paper.

4. See *APst* 1.9 76a20 and 2.16 98a36. The second of these passages (“whether when the *aitiaton* exists, the causative also exists”) makes it clear that the adjective signifies a thing’s admitting of a cause *whether or not* it in fact has one, *contra* the definition in Liddell-Scott-Jones.

inite article to “*aitios*” and “*aitiatos*” respectively. As far as I can tell, if there is no difference in context, “x is an *aitia* of y,” “x is *to aitia* of y,” “x is *aitia* of y” are interchangeable for Aristotle. I will start using “etiological connection” as a name for the connection between x and y affirmed in statements of the above forms. “Cause” and its cognates are adequate placeholders for “*aitia*” and its cognates if we keep this in mind: Aristotle uses “*aitia*” neither narrowly nor primarily to mean events that cause other events as their effects, such as a rock’s hitting a window causing it to shatter. For Aristotle, even in the case of the so-called efficient causes – which I call “driving causes” on the synecdochic grounds that, as one who drives a vehicle explains not only its being in motion but also its stopping and stillness, so these causes explain not only change but also *rest* (*Phy* 2.3 194b29-30) – the paradigm cases include individual agents and the relevant capacities they possess, such as a doctor’s medical knowledge.

## 1.4 Roadmap

We will first review the diversity of things Aristotle affirms to be causes (§1.5). In §2, which is dedicated to the higher-order descriptive investigation – to what extent Aristotle thought that an account of “cause” that is informative and non-disjunctive fits his multifarious causal identifications – we will review a series of passages in Aristotle, including his remarks concerning the unity of causes. I conclude that neither end of the spectrum of possibilities would be shocking. As for what Aristotle *should* think on the topic – the prescriptive question – we will see (§3) a difficulty in making sense of how Aristotle’s causal identifications hang together if there is no informative and non-disjunctive account of “cause” and if it is not haphazard to call the several causes “causes.” I then turn to the lower-order investigation in §4 to reconstruct a promising account of “cause” that is informative and non-disjunctive. As a brief review of accounts of *aitia* proposed in recent Anglophone scholarship that are each supposed to fit

Aristotle’s identifications of things as causes, I will characterize them in terms of two approaches and likewise characterize the account I am going to suggest (§4.1). I will then take three steps in §4.2 to construct an epistemic-functional account of *aitia*, the Quiddative Syllogistic Specification (QSS) account, which conceives of being a cause as being a thinkable thing by thinking which one grasps, with heightened specificity, *what it is* for a certain phenomenon to obtain. After some illustrations of the QSS account, I will elaborate further on its implications through addressing some objections (§4.3).

## 1.5 To be accommodated: The diversity of causes

Aristotle invokes some fourfold classification of etiological connections many times.<sup>5</sup> In *APst* 2.11 94a20-24 and *Phy* 2.7 198a22, he says, apparently as his own view and without qualification, that (the) causes are four. In both passages he goes on to list four causes, which he also does in *Phy* 2.3 194b23-195a3, 195a15-26, *Meta* 1.3 983a24-b3, 5.2 1013a21-b3, 1013b16-1014a25. The four characterizations of causes vary between these passages. The non-disjunctive account of Aristotle’s causes, sought in this paper, need not determine whether or how these characterizations line up with each other, though it should, of course, accommodate the characterizations and examples he gives of the specific kinds of causes.

Various fourfold distinctions and examples of etiological relata are found in the passages cited in the preceding paragraph. Most characterizations of four causes seem to line up very well:

- (Formal) “the form,” “the *logos* of what it was to be”

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5. And readers of Aristotle may recall his claims that three kinds of causes often coincide in cases proper to natural science (*Phy* 2.7 198a24-7) and that they coincide in the soul (*De Anima (DA)* 2.4 415b8 ff.). But this kind of unity – the coinciding of specific kinds of causes with respect to their conceptual extension – is different from the unity being sought in the present essay: why each cause and each kind of cause is properly called “cause” at all. This question would remain open even if it were granted that all kinds of causes coincide in all instances.

- (Constituent) “the matter,” “that out of which,” “the underlying thing”
- (Driving) “that which imparts movement,” “whence the starting-point of change or rest”
- (Final) “that for the sake of which,” “the end,” “the good”

One characterization that does not obviously line up with any of these groups is “the *What being so, it is necessary for this to be,*” from *APst* 2.11 94a20-b34. I will henceforth call the cause thus characterized by Aristotle “necessitating cause.”<sup>6</sup> Apart from the several ways for things to be causes, Aristotle also identifies a great variety of more specific things as relata of etiological connections. Here are some examples:

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6. While the descriptions of the other three in *APst* 2.11 94a20-b34 clearly belong to the first, third, and the fourth groups on my list, the necessitating cause is not obviously the same as what is described by the second group: matter, that out of which, and the underlying thing. But the exact relationship between the necessitating cause and the constituent cause is immaterial for the purpose of this paper.

That of which there is some cause	Cause
A statue as such.	Bronze.
A statue as such.	The art of statue-making.
Health.	A doctor.
Health.	A man of skill.
Walking about after dinner.	Health.
A man.	A man.
The loss of some ship.	The (absence of the) steersman.
The safety of some ship.	The (presence of the) steersman.
A conclusion.	The suppositions.
(Thales's Theorem) That in any triangle formed by a diameter of a circle and a point along its circumference, the internal angle opposite to the diameter is a right angle.	Half of two right angles.
The fact regarding some actual individuals: the Athenians' being warred upon in the Persian War.	The Athenians' attacking first.

What, if any, is the same relation, properly called etiological, that is shared by all these pairs of relata?

## 2 The higher-order descriptive inquiry

Consider the higher-order descriptive question first: To what extent did Aristotle think that an informative account of "*aitia*" that is non-disjunctive fits his multifarious causal

identifications?

## 2.1 Aristotle's remarks concerning the unity of causes

The pursuit of this higher-order question should accommodate passages that are in effect Aristotle's comments on how different things merit the appellation "*aitia*" and its cognates. Since his extant works contain no direct statement on what it is to be a cause or on whether an informative and non-disjunctive account of that is possible, we have to go by his less direct remarks on the unity of causes. The possible answers to the higher-order question range from Aristotle subscribing to such an account to Aristotle believing that no such account is possible. Besides the indirect evidence in the fact that the etiological connections found in Aristotle's causal identifications are very diverse, some of Aristotle's remarks on the unity of causes are apparent bases for leaning toward the latter end of the spectrum. Three sets of such remarks are particularly strong apparent evidence: that some things fall under the extension of "cause" (properly, not coincidentally) but being a cause is not essential to their being, that some causes are different except by analogy, and that "cause" is said in many ways.

### 2.1.1 Some things fall under the extension of "cause" but being a cause is not essential to their being.

*Meta* 10.1, as Stein 2023 argues, appears to suggest that "cause," "element," and "one" "indicate roles, the specifications of which do not describe the essences or attributes of any of the things that fall under their extension" (85) – just as "fire's essence is independent of the fact that it is an element" (84):

There is need to understand that saying what sort of things are said to be one and what it is to be one and what its account is should not be taken as the same. For the one is said in these many ways, and each of those things



to which there is any of these ways (*hekaston... toutôn hôi an huparchêi tis toutôn tôn tropôn*) is one; but sometimes it will be being something else which is rather close to the name – while those are rather close to its power. This is the same as in the case of “element” and “causative,” if one had to speak by defining them with reference to things and by giving the definition of the name. For in a way fire is an element (and perhaps also the infinite and something else of this kind is <an element> in its own right (*kath’ hauto*)) but in a way it is not: for being fire and being an element are not the same. Rather, fire is an element as a certain thing and nature, whereas the name signifies that this feature belongs to it, namely that something is made out of it as a primary constituent. This is the case also with reference to “causative” and “one” and all such things... (1052b1-15, Castelli 2018 tr., modified)

The parenthetical remark, as this particular translation suggests, may mean that Aristotle thinks that being the infinite – unlike fire – is not independent of being an element. Even so, the passage would still appear to suggest that “element” applies to at least some things (e.g. fire) that (a) are not defined in terms of element and (b) bear the name “element” by occupying the role in virtue of its independent being. In the last sentence quoted, the same suggestion seems extended to “*aition*” and its cognate expressions. Let us grant at least for the sake of argument, then, that, for Aristotle, to be an *aitia* is to occupy a role, and either no reference to this role belongs in the proper account of any specific thing that occupies it or not every specific thing that occupies it is something the proper account of which refers to this role. Either way, it does not follow from such a role-conception about cause that there is not an informative and non-disjunctive way to delineate this role. In fact, in the *Meta* 10.1 passage, in the case of “element,” Aristotle himself in effect straightaway specifies at 1052b14 what it is to

be, or to occupy the role of, an element.

### 2.1.2 Some causes are different except by analogy.

If Aristotle thinks that being a cause is to fulfill a role even though fulfilling it may not be essential to the occupant's being, then another passage, *Meta* 12.4-5, especially 1071a25-27, appears to suggest that certain different things count as all fulfilling the role of cause only by analogy:

The causative and the principles are in a way different for different things, and in a way—if one were to speak universally and analogically—the same for all things...(1070a31-33, Judson 2019 tr., adapted)

But there are different causatives and elements for different things, as has been said—for things which are not in the same genus (colours, sounds, substances, quantity)—except by analogy” (1071a25-27, Judson 2019, adapted).

Aristotle might mean that (what we here call) the formal causes for things of different genera are not all forms except by analogy, (what we here call) the constituent causes for things of different genera are not all constituents (or matter) except by analogy, etc. This would be different from the idea that things of different genera have different causes except by analogy. But, for the sake of argument, let us also grant that Aristotle does subscribe to the latter idea, which can be spelled out thus: if explananda  $w$  and  $v$  are of different genera, then they can have the same causes only in the sense that the way something,  $m$ , is related to  $w$  and the way another thing,  $n$ , is related to some  $u$ , are analogous (so that  $m$  and  $n$  hereby each occupy the role of a cause).

For a third time for the sake of argument, let us suppose that the idea of different-except-by-analogy for Aristotle applies all the way up to cause itself: Some things all count as, or satisfy the role of, causes at all only in virtue of the analogous relationships

in which they stand each to some other distinct thing as the explanandum. Let us say, perhaps the formal, constituent, necessitating, driving, and final causes count as occupying the roles of cause only in virtue of the fact that the ways in which they are each related to something occupying the role of explanandum are analogous. Even such a role, which a great variety of things at various levels of generality count as sharing only by analogy, might nonetheless be accurately described by an informative and non-disjunctive account.

### **2.1.3 “*Aitia*” is said in many ways.**

Aristotle repeatedly claims that “*aitia*” is said in many ways, i.e. multivocal (*Phy* 195a4 and 195a29; *Meta* 983a26, 1013b4, 1052b4–8; *De Anima* 415b9). As Stein 2011 acknowledges, Irwin 1981 has pointed us to a piece of evidence that multivocity does not entail homonymy for Aristotle: In *Topics* 2.3 110b16–25, Aristotle says that “A science is of many things” can state something true in at least two cases: some science is of both an end and of means to that end; some science is of multiple ends. So, “A science is of many things” is said in many ways, but this is Aristotle’s own illustration of how terms may be used in multiple ways without homonymy. When he says that “*aitia*” is said in many ways, he might mean similarly e.g. that “y has an *aitia*” can state something true in multiple cases: y has a formal cause; y has a constituent cause, etc. It does not follow that the *sense* (as opposed to the referent) of “*aitia*” has to be different in each case.

## **2.2 Taking stock of the apparent indications toward the pluralist reading**

Although these three sets of remarks are not individually compelling, they do present a powerful case when taken together: it would not be a total surprise should Aristotle

at least at some point have thought that there is no informative and non-disjunctive account of cause to be identified.<sup>7</sup>

### 2.3 Indirect evidence that Aristotle had some non-disjunctive sense of what cause is in general

In *APst* 2.16 98b21-24, Aristotle says

That [lunar] eclipsing is not causative of the [Earth's being] in the middle, but this causative of the eclipsing, is clear: for the [Earth's being] in the middle inheres (*enhuparchei*) in the account (*logos*) of the eclipsing. . . (*APst* 2.16 98b21-24)

Inhering in the account of the explanandum (at least in some sense of “inhereing”) might be an inevitable feature of a formal cause, but the Earth's being in the middle between the Moon and the Sun is not a formal cause of lunar eclipsing because any accurate account of it must include *the dimming of the Moon* as well.<sup>8</sup> It is probably a driving cause, but inhering in the account of the explanandum is not a feature peculiar to the driving cause (or any other non-formal cause Aristotle distinguishes). So, in appealing to whether something inheres in the account of the explanandum to determine whether former is causative of the latter, Aristotle seems to appeal to a criterion in abstraction from any differences among the causes he distinguishes.

Another indication is that Aristotle finds it perfectly intelligible to think that something, e.g. heat, is part of the process of a human being's becoming healthy *even when* it is still an open question whether heat is part of being healthy and whether it

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7. I thank the anonymous reviewer for pressing me to take the pluralist's case more seriously.

8. It makes sense for the dimming to also “inhere in the account,” for e.g. if the Sun for some reason has ceased to emit light already, there might be no lunar-eclipsing even if the Earth then interposes.

gives rise to something else that is part of being healthy (*Meta* 7.7 1032b26-8). This suggests that, for Aristotle, the “cause” in “heat is a cause of health” need not be ambiguous even if it does not mean the formal, the driving, or any other specific cause and, therefore, there is one sense of “cause” in abstraction from the differences between the several causes he distinguishes.

## 2.4 Taking stock of the apparent indications toward the non-disjunctive reading

It would also be no surprise should Aristotle at least at some point have had at least a partially articulate sense of what it is to be a cause in general.

## 3 Higher-order prescriptive question

Should Aristotle think that his causal identifications fit an informative and non-disjunctive account of “cause”?

What possibilities are available in the scenario where Aristotle’s causal identifications fit no informative and non-disjunctive account? Alternatively by what pattern might Aristotle’s conferring “cause” to and withholding it from things hang together? Complete haphazardry across the several causes is extremely unlikely. The possibility of *pros hen* homonymy has been proposed by Stein 2011: Aristotle calls the several *aitiai* “*aitiai*” not synonymously, but among their different senses of “cause” one is the focal sense, to which the other senses refer. In particular, Stein suggests that the definitions of the several non-formal causes refer to that of the formal cause. A third possibility is that the several “cause”’s exhibit family resemblance. *Pros hen* homonymy and family resemblance are not mutually exclusive.

If Aristotle is to countenance *pros hen* homonymy, it is his task to articulate the

sense of “cause” in whichever he identifies as the one focal case. If he is to countenance family resemblance, it is his task to identify what one subset of members in his severalfold distinction have in common, what an overlapping but different subset of members have in common, etc. But it seems that he would face a sort of difficulty in either task.

If Aristotle is to countenance *pros hen* homonymy, the focal case would most likely be the formal cause, as Stein suggests. (The constituent cause and the necessitating cause are the most unlikely candidates. The driving cause, as that “whence the starting-point of change and rest,” might avoid the following difficulty, but is also an unlikely candidate for being the focal case of cause, since Aristotle takes certain things, e.g. facts of geometry, to have a cause that clearly have no driving cause. The final cause faces the following difficulty as much as the formal one.) In Aristotle, a form (*eidos*) of something is, roughly speaking, what that thing is. Now, “cause (*aitia*)” cannot carry exactly the same sense as “form” in Aristotle – even in the case of a cause *qua* form. For Aristotle affirms form to be cause of a kind and has said in various places that the form of this or that is its cause, and in such affirmations, he is presumably not affirming a tautology. But he *would be* saying something tautological if he were using “cause” and “form” as synonyms on those occasions. One who seeks to countenance *pros-formal-cause* homonymy must ascribe different meanings to “form” and “cause” in Aristotle. Suppose Stein were right that Aristotle calls the formal and the non-formal causes “causes” homonymously – i.e. by different definitions of “cause” (though the definitions of the non-formal “causes” each refer to the formal one, as Stein would have it). Now imagine “cause” is synonymous with “form” when Aristotle speaks of formal causes. Then insofar as it is appropriate for Aristotle to call the formal and non-formal causes “causes” homonymously, it would be just as appropriate to call them all – including the one he characterizes by “matter” – “forms” homonymously.<sup>9</sup> Given that

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9. In contrast, such difficulty does not arise in thinking that being a substance (*ousia*), on the one hand, and being of a certain quality, being of a certain quantity, etc., on the other, are commonly

“form” and “cause” have distinct meanings in Aristotle even in the case of causes *qua* forms, what makes a form also a formal *cause*? This puzzle seems to me to be unsolvable if one tries to countenance *pros*-formal-cause homonymy. Consider Stein 2011’s definition of the formal cause of A’s belonging to B: “the form or paradigm, which is the account [*logos*] of what it is for A to belong to some B” (142). This, however, only defines “form of A’s belonging to B”; if Aristotle says of this form that it is a “cause of A’s belonging to B,” Stein’s definition fails to distinguish the meaning of the latter locution from that of the former.

I have no *a priori* proof, but my hunch is that there is no satisfying answer to the question, what makes a form also what Aristotle would recognize as a cause *qua* form, unless there is one *logos* of cause in general across all the several causes – that is, unless what makes a form a formal cause applies to not only the formal one but also the ones Aristotle lists alongside it. Similarly with respect to the attempt to countenance family resemblance: no matter which subset of members from the severalfold distinction of causes one chooses, I suspect that there is no satisfying answer to the question, what do these members have in common in virtue of which they bear the name “cause,” unless there is one account of cause across all the several causes.

It is true that a pluralistic view about causes is metaphysically less loaded than some other views (ones attributed to Aristotle and otherwise), and with such relative lightness comes versatility: the view can countenance drastically diverse relationships as etiological connections. I believe that an account can have this advantage *and* describe informatively and non-disjunctively what it is to be a cause. The account I reconstruct in the lower-order investigation, I hope, will at least be a promising example. If it

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signified by “being” by Aristotle by different (though related) criteria. What makes it apt to say “is a substance” of something just is what makes it apt to say “is” of it, in the primary sense of “is” (*Meta* 7.1 1028a9-b8; cf. 4.2 esp. 1003a33-b18 and 11.3 1061b17 ff.). What makes it apt to call something “form,” however, would not be exactly the same as what would make it apt to call the thing “cause,” even in the supposedly primary sense of “cause.”

works, then this is a strong objective reason for Aristotle to leave open the possibility that his causal identifications hang together in robust and non-disjunctive way, even if the exact account he himself would develop or identify turns out to be different.

## 4 The lower-order investigation

### 4.1 Previous non-disjunctive accounts of Aristotle’s “*aitiai*”

There have been numeral attempts to identify a notion of “*aitia*” that would fit Aristotle’s identifications of things as causes without being disjunctive across his several *aitiai*. Although I am unable to discuss each suggestion properly due to limited space in this article, I shall sketch the conceptual landscape and identify where my attempt sits. Proposed accounts about Aristotle’s usage of “*aitia*” in recent Anglophone scholarship can be characterized in terms of what we may call “the cause approach” versus “the representation approach.” According to the former, Aristotle’s “*aitia*” means something that it is somehow metaphysically responsible for something, and an *aitia* is not necessarily<sup>10</sup> a representation. Irwin 1988 (96) and Moravcsik 1991 (33) seem to take this approach.<sup>11</sup> According to the representation approach, “*aitia*” means the content of some because-clause, an explanation in the sense of a certain conceptual or linguistic representation, or (literally) an answer to certain questions. This approach is taken in such works as Hocutt 1974, Annas 1982, and Barnes 1994. Johnson 2005 questions whether we must choose between the two approaches (40-41), whereas Leunissen 2010 (180-182) argues that, within *APst*, the cause approach is right for “*to aition*” but the representation approach is right for “*aitia*.”

Due to misgivings some of which Cynthia Freeland already voices (Freeland 1991),

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10. This approach does not preclude a representation from being an *aitia* if it has a metaphysical connection to something, e.g. if an idea in my mind makes me type the word “cause” on the keyboard.

11. Outside of recent Anglophone scholarship, seeming examples include Suárez 1597 (disputation 12, section 2), Robin 1910 (5), and Heidegger 1953/2000(12).



my suggestion in this paper will take the cause approach rather than the representation approach for “*aitia*” (and its cognates) in Aristotle. Even under the cause approach, however, there is room to conceive of an *aitia* of x as constitutively related to the former’s role in certain explanatory representation of x. In fact, one such definition seems to have been proposed by Francisco Suárez’s predecessors or contemporaries: “A cause is that through which one satisfies an inquiry where it is asked on account of what (*propter quid*) something is or comes to be.” Suárez rejects this definition as explaining very little of the explanandum because “on account of what,” or “why,” is doing a lot of work in this definition, and yet the multifarious uses of “why” require a unifying explanation basically no less than the multifarious uses of “cause” do (Suárez 1597, 12.2.2). This is fair. However, the rejected definition is not the only possible one that conceives of cause in terms of its power to satisfy an inquiry. Below, I will suggest another epistemic-functional account, which will not have the said weakness.

## 4.2 A new reconstruction of *cause* in Aristotle

I will take three steps. The first is to spell out in full what kind of thing Aristotle might mean to be the causable thing every time he says something like “Such and such is an/the *aitia* of y.” The second is to take seriously his suggestion that grasping a cause is grasping why and his syllogistic of seeking why.<sup>12</sup> This involves determining certain structural features of the thinkable fact that one thing is a cause of another in terms of how things in a syllogism are related through a certain operator. The third is to identify, in addition to those structural features, the crowning feature by having which each thing identified by Aristotle as *aitia* merits such identification.

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12. See chapter six of Leunissen 2010 for another example of scholarship that takes seriously Aristotle’s syllogistic concerning *aitiai*.

#### 4.2.1 Spelling out that of which there is an *aitia*

First, when Aristotle uses a substantive to signify that of which there is a cause, sometimes the substantive, “y,” is an abbreviation for “y as what comes about,” “y as what satisfies a certain need,” or “x as y.” When he calls “statue” that of which the sculptor is a cause, for example, he means the statue *as what comes about* or he means *this (lump of bronze) as a statue*. When he speaks of a postprandial walk as that of which health is a final cause, at least sometimes he means a postprandial walk *as something that satisfies a certain need*.<sup>13</sup> Second, it seems that for Aristotle, at least in all cases where something has as its cause something different, the cause is always a cause with respect to some explanandum fact thinkable in the form, “A [subject in the nominative] *huparchei* C [indirect object in the dative],” “There is A to C.” This is Aristotle’s technical language.<sup>14</sup> Here I venture the suggestion that “there is A to C” in the two *Analytics* is equivalent to saying that, for every instance of C, A is ascribable to something to which C’s ascribability constitutes that instance – acknowledging that the proper defense of this interpretation requires a separate piece of work. And, given Aristotle’s examples in the two *Analytics*, it seems that the relata of an *huparchei*-relation (the occupants for whom “A” and “C” are placeholders) are ways of being. E.g. for every instance of postprandial walk, health is ascribable to something (e.g. a human) to which postprandial walk’s ascribability constitutes that instance; for every instance of the broad-leafed, leaf-shedding is ascribable to something (e.g. a tree) to which broad-leafedness’s ascribability constitutes that instance; (in a lunar eclipse) the

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13. *APst* 2.11 94b11: *dia ti de apo deipnou dei peripatein*.

14. “A belongs to C” and “A holds of C” have been adopted as translations for “A *huparchei* C. “A belongs to C” misleadingly suggests that A is found exclusively in C, which Aristotle certainly does not imply by “A *huparchei* C.” While “A holds of C” does not have this misleading suggestion, it does not mirror the Greek with respect to the fact that “A *huparchei*,” i.e. without any grammatical complement or indirect object for the verb, can mean There is A, for in English one cannot say, e.g. “privation of light holds” (if it makes any sense at all) to mean “there is privation of light.” If possible, it is better to preserve the possibility of this absolute use “*huparchei*” in the translation. So, I will instead use “there is A to C” as the English placeholder.

privation of light is ascribable to (the sole instance of) the Moon; (in the Persian War) being warred upon is ascribable to (the sole instance of) the Athenians; etc. Third, since Aristotle appeals to the idea that grasping the why is grasping the first cause (*Phy* 2.3 194b18-20) and infers the number of causes from the number of things the why-question embraces, Aristotle seems to think that to grasp a cause is to grasp an answer to some why-query. And since he says that a why-query is always “why there is one thing to some other” (*Meta* 7.17 1041a10-1), he appears to think that grasping a cause involves grasping why there is one thing to another. So, it appears that for Aristotle, x is an *aitia* of y if x is an *aitia* of an explanandum of the form, *There is A to C*, where to grasp there being A to C is to grasp y, y’s coming about, y’s satisfying a certain need, or a thing’s being y.

#### 4.2.2 Taking seriously Aristotle’s syllogistic of seeking why

Having considered that of which there is a cause, we now turn to the form of thought by which one grasps the cause. Aristotle thinks that to seek the why is to seek “what the middle is” (*APst* 2.2 90a1 ff.). “What the middle is” can be spelled out as “what relates to two things as what the middle term in the relevant syllogism (*sullogismos*) relates to the other two terms in it.” A syllogism in Aristotle, in its minimal instances, is a nexus of three things, each thinkable in a propositional form, that are related to each other as two premises and a conclusion are related to each other in an argument in which three terms represent three ways of being and each of the three propositions conjoins a different couple from the three terms, the proposition conjoining the two terms in some manner by the operator, “*huparchei*.” The term that recurs in both premises is the middle term. The arrangement that Aristotle favors (*APst* 2.8 93a6-9) for demonstrative knowledge is one where the middle term takes a different place in each premise:

There is B to C.  
 There is A to B.  
 $\therefore$  There is A to C.

B is the middle in this arrangement, in relation to A and C, which can be called the two extremes within the above syllogism (*APr* 1.4 25b32-26a5). So, when Aristotle says that to seek the why is to seek “what the middle is,” he probably means that to seek why there is A to C is to seek something insofar as a term that represents it fits the position of “B.” Henceforth, to convey a three-term syllogism of the above arrangement (called “the first figure”), I will often use this shorthand:<sup>15</sup>

A *h* B *h* C.

It seems that, for Aristotle, at least in cases where the cause and its object are not the same, grasping why – why there is A to C – is to grasp a cause (*Phy* 2.3 194b18-20). Grasping a cause, too, then involves grasping “what the middle is.” However, as he cautiously points out, one may not grasp why there is A to C even if one grasps a sound syllogism of the above form: not everything in the place of B that makes both premises true makes the syllogism etiological. In *APst* 1.13 78a22-b4, Aristotle illustrates the distinction between a syllogism that merely captures evidence for the conclusion and a syllogism that also explains it:

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15. And “A *h* B<sub>1</sub> *h* B<sub>2</sub> *h* C” would stand for

There is B<sub>2</sub> to C,  
 There is B<sub>1</sub> to B<sub>2</sub>,  
 There is A to B<sub>1</sub>,  
 $\therefore$  There is A to C.

and so forth.

Being near  $h$  not twinkling  $h$  the Planets.

Not twinkling  $h$  being near  $h$  the Planets.

Aristotle presents the first syllogism as an example of a syllogism that “does not proceed through the cause.” He says that this is a syllogism merely “of the that (*tou hoti*)” but not “of the on-account-of-that (*tou dihoti*).” For it is not “on account of (*dia*)” not twinkling that the planets are near, but it is on account of being near that they do not twinkle (78a36-8). The second syllogism, on the other hand, is a syllogism “of the on-account-of-that” (78b3-4). But “*dia*,” the preposition from which the Greek way to put a why-question is formed (“*dia ti*”), is multivocal in a similar way as “*aitia*” is in Aristotle. So, is there a criterion that is not disjunctive across Aristotle’s severalfold causal distinctions and by which only some but not all sound syllogisms of the form  $A h B_1 h B_2 h \dots C$  can explain why there is A to C?<sup>16</sup> There is another question: Though grasping a cause involves grasping the middle, the middle term itself seems not always able to capture the formal cause of the phenomenon in the conclusion. How exactly are the causes and the middle related? These two questions will be addressed as we turn to the account of cause.

Stein suggests that we not view members of the fourfold distinction as sharing

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16. According to Aristotle’s understanding of his own example, twinkling and being near are commensurate ways of being (of bright objects): a bright object does not twinkle (viewed from the Earth) if and only if it is near (the Earth); however, being near is causative of not twinkling, not *vice versa*. Aristotle invokes this and other examples (*APst* 2.8 93a37-b3 and 2.14-8) to make plain, among other things, the following: the fact that two ways of being are commensurate leaves open how they are related causally. Notwithstanding this, Aristotle thinks that one thing can be a certain cause of another, so that the question of causal relation can arise, *even among non-commensurates*. For example, even though some individuals are sometimes healthy without any intervention by a doctor, a doctor is a cause of health (*Phy* 2.5 197a22-24; see also 2.8 199b19-20). See *APst* 2.11 94a37-94b8 for a different, syllogistically regimented example. Thus, in Aristotle, B can be a cause of A even if A is instantiated sometimes in the absence of B, i.e. (to use Aristotle’s lingo in *APst* 1.4 73b33-74a4) even if B is not the primary (*prôton*) thing to which there is A. Thus, while commensurate causal relata are related in a privileged way – in the sense that a causal relation cannot figure as a premise in a demonstration (*apodeixis*) unless the relata are commensurate – commensurability is not a requisite for a relation to be causal, for Aristotle.

the same definition of “*aitia*” because “the four kinds of relation picked out by Aristotle are simply so different that the terms of a proposed univocal definition risk losing all substantive content” (Stein 2011, 129). If by “univocal definition”<sup>17</sup> Stein means *definition that is not disjunctive (across the four kinds)*, his concern is a fair one, but what exactly counts as “substantive” or informative in this context? Two things each called an “*aitia*” are properly so called because they have something in common *substantively*, perhaps, if and only if each is discernible as an *aitia* even in abstraction from its difference from the other. Analogously, a single-speed (with freewheel mechanism) and a fixed-gear are called “bikes” with substantive unity insofar as e.g. someone who has no concept of the difference can know enough of their shared features to discern that both are pedal-driven, single-track vehicles that have two wheels attached to a frame, one behind the other. Let sufficiency for such discernment be our benchmark for a substantive or informative account of “cause.”

### 4.2.3 Reconstructing an account of *aitia*

What makes a thing causative rather than merely evidential of something? Why is the Planets’ not-twinkling not a cause of their proximity, but vice versa? Why is the dimming of the Moon not a cause of the interposition of the Earth, but vice versa? This is because no matter how well one grasps the connection between e.g. the Moon’s dimming and the Earth’s interposition, one does not thereby understand *how it is no mere accident* that the Earth interposes between the Sun and the Moon. Why not? Aristotle’s answer would be that the dimming of the Moon is not *part of what it is* for the Earth to interpose, for he says,

That [lunar] eclipsing is not causative of the [Earth’s being] in the middle,

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17. Strictly speaking, Aristotle’s distinction between *univocally* and *multivocally* is of whether multiple correct applications of the same symbol are correct in virtue of correctness-makers of some same kind.

but this causative of the eclipsing, is clear: for the [Earth's being] in the middle inheres (*enhuparchei*) in the account (*logos*) of the eclipsing. . . (*APst* 2.16 98b21-24)

Aristotle's thesis in *APst* 2.11, that all causes are shown through the middle, inspires me to consider that a thing is a cause of there being A to C (i.e. that for every instance of C, A is ascribable to something to which C's ascribability constitutes that instance) just insofar as that thing falls under a description that syllogistically specifies how it is no accident that there is A to C. We can call this a "syllogistic specification concept" about *aitia*. According to this concept, the metaphysical is not independent of the epistemic: to be causative is in part to be a thinkable thing by thinking which one grasps, with heightened specificity, *how it is no accident* for a given phenomenon to obtain. In other words, to be causative *is* in part to be elucidative, to a possible intellect, by way of specification, of a certain non-accidentality. Thus, the syllogistic specification concept is, at a more generic level, an epistemic-functional concept of *aitia*. Now, the quoted passage above from *APst* 2.16 suggests a quiddative conception that distinguishes what has a cause from what is just an accident:<sup>18</sup> if it is not just an accident that there is A to C, it is because this association between A and C is part of *what it is* for something to obtain. It is not just an accident that there is some privation

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18. As James Lennox points out, a major concern in *APst* 2.14-18 is how an investigator goes about identifying phenomena that are eligible to feature as the conclusions of possible demonstrations, i.e. *cause-showing* syllogisms that meet the highest standard of provable scientific knowledge. We may therefore expect Aristotle to give both an account of what makes one thing a cause of another and an account of how to reliably determine what is a cause of what. The latter account is offered neither there nor in the remainder of *APst*. To explain this apparent lacuna, Lennox proposes that, for Aristotle, "the search for causes is governed by norms and methods that are specific to specific domains and thus impossible to characterize adequately" in something as abstract as *APst* (Lennox 2014, 33). Aristotle may indeed believe that any methodological standards or recipes for the *search* of a cause are specific to specific domains of sciences. However, he may consistently think that the four or five causes he recognizes *are* causes due to one criterion in common. (It is just that, on the present view, this same criterion of cause is satisfied so differently in each science that the difference cannot be bracketed for the purpose of causal inquiries.) In fact, *APst* 2.16 contains crucial resources for reconstructing a uniform account of cause.

of light to the Moon because this association between the two is part of what it is for a lunar eclipse to obtain. Combining this quiddative conception about what has a cause, inspired by *APst* 2.16, with the epistemic-functional concept of cause, we can get the idea that to be causative is in part to be a thinkable thing by thinking which one grasps, with heightened specificity, *what it is* for a given phenomenon to obtain. And if the epistemic-functional concept is specifically the syllogistic specification concept inspired by *APst* 2.11, then a resultant account is the

*Quiddative Syllogistic Specification (QSS) Account:* x, something that is conceptually distinct from<sup>19</sup> the explanandum fact that for every instance of a way of being, C, A is ascribable to something to which C’s ascribability constitutes that instance, is an *aitia* of this explanandum just insofar as there is a third way of being, B, so that (1) x (not necessarily exhaustively) consists of every instance of B that is constituted by B’s ascribability to something to which C is ascribable, (2) A *h* B *h* C, and (3) this syllogism specifies what that explanandum is.<sup>20</sup>

x can be a way of being, individual being(s), or fact(s). The formula above of the explanandum fact is how I currently interpret “A *huparchei* C” in Aristotle’s two *Analytics*, which I translate as “there is A to C,” and “A *h* B *h* C” is, again, my shorthand for

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19. I set aside supposed cases where something has itself, under the same description, as its cause because I am not yet able to make sense of the apparent concept of such self-causation.

20. If one way of being need not be commensurate with another to be a cause of the latter – which I argue in footnote 16 to be Aristotle’s view –, then it seems that a syllogism can be *tau dihoti* without meeting all six requirements pertaining to each premise of a *demonstration*, the requirements Aristotle lists in *APst* 1.2 71b20-33. His own example in *APst* 2.11 94a37-94b8 seems to be precisely such a syllogism: Being warred upon *h* Attacking first *h* the Athenians. Being warred upon and attacking first are clearly not commensurate: some (e.g. the Thracians) who had not attacked (any pro-Persian faction) first were also warred upon (by the Persians), i.e. attacking first is not “the primary thing” to which there is being warred upon (cf. *APst* 1.4 73b33-74a4). Yet, Aristotle posits attacking first as a cause of the Athenians’ being warred upon. Accordingly, the cause-capturing syllogism in my reconstructed account does not have to satisfy all the requirements a demonstration must satisfy.



“There is A to B, there is B to C, and therefore there is A to C.”

Here is a simple case, where x consists of the relevant instances of B simply by being B. For a lunar eclipse *grasped in relative outline as* the privation of light of the Moon, the screening of the Sun by the Earth is a cause (necessitating cause, perhaps) insofar as it relates to the other aspects of the eclipse as

Privation of light *h* Screening of the Sun by the Earth *h* the Moon

and this syllogism specifies what it is for there to be privation of light to the Moon in a lunar eclipse. In terms of the simple case here is a more complex one. Insofar as x is a way of being that consists of B – and so consists of all the relevant instances of B –, x is also cause. For example, given the relationships as laid out in the above quiddatively specifying syllogism about lunar eclipse, the privation of light of the Moon from the screening of the Sun by the Earth is also a cause (a formal cause) of a lunar eclipse insofar as it *consists of* every instance of the screening of the Sun by the Earth that is the screening’s ascribability to (the sole instance of) the Moon. In contrast, consider this syllogism, which is also sound in the case of a lunar eclipse:

Privation of light *h* Not being able to cast a shadow during a full moon though nothing opaque stands in the way *h* the Moon.<sup>21</sup>

Despite this syllogism, not being able to cast a shadow during a full moon though nothing opaque stands in the way is not a cause of the Moon’s privation of light in a lunar eclipse, because the syllogism is not more specific on what it is for the Moon to be eclipsed – since the no-shadow condition is no part of what a lunar eclipse is.

Taking the cause approach rather than the representation approach, the QSS account does not equate being an *aitia* with being a certain conceptual or linguistic representation, or being literally an answer to some inquiry. Nor does the QSS account

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21. Compare this with Aristotle’s example in *APst* 2.8.

suggest that any theory that Aristotle maintains of several *aitiai* would be a theory of several answers to certain inquiries *rather than* a theory of several features in the world that are not per se literally answers to inquiries. The supposed line distinguishing these two theories is blurred, however, since the QSS account does conceive *aitia* constitutively in terms of its power to satisfy an inquiry, in the way that is apparent in the QSS account's formula. It follows that a theory of several *aitiai* would at least have substantial implications on ways to satisfy certain inquiries – if not at once also be a theory of that.

#### 4.2.4 Applying the Syllogistic Specification Account

Since a characterization of the formal cause, namely, *the what-it-is of the explanandum*, is part of the QSS account, while no characterization of any other cause is, the QSS account privileges the formal cause. The centrality of the formal cause is something that Robin 1910, Stein 2011, and Ferejohn 2013<sup>22</sup> also reflect in their respective accounts of *aitiai* in Aristotle. Furthermore, according to the QSS account, if the fact that there is A to C has some conceptually distinct thing as a cause of any kind, there must also be a more specified account of what this fact is.<sup>23</sup> This, in turn, means that it must have a formal cause. (The whole fact, that dimming *h* interposition of the Earth *h* Moon, is a formal cause of what it is for there to be dimming to the Moon in a lunar eclipse.) Yet, the QSS account provides a sense of “cause” that is distinct from that of “form,” explaining what makes a form also a formal cause: a form, which is inseparable from a certain description of the what-it-is, of something is also its formal cause *relative* to a less specific description of what that thing is. Thus, this is an apparent advantage of the QSS account over the approach that renders *form* simply as the primary sense of

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22. Especially pp.105-108.

23. For example, given the way in which the interposition of the Earth causes that there is dimming to the Moon (in a lunar eclipse), it follows from my account that there is a more specified *logos* of *what it is* for there to be dimming to the Moon, namely, dimming *h* interposition of the Earth *h* Moon.

“cause” by reference to which the non-formal causes are homonymously called “causes” (see §2.1.3).

The QSS account stands in contrast with one arguably modern idea about causality, namely, that a cause of something is neither numerically identical to it nor a constituent of it. According to the QSS account,  $x$  can be a cause of a fact insofar as  $x$  consists of relevant instances of a way of being that figures in the very being of that fact. But what about a cause that temporally precedes the event to be explained? How can such a cause involve any constituent of the fact that the event occurs? Take Aristotle’s example from *APst* 2.11 in which the Athenians’ attacking (a pro-Persian faction) first is a cause of their being warred upon (by the Persians) in the Persian War. The etiological connection in question may be understood thus: It is *as ones who attacked first* that the Athenians were warred upon in this incident; in other words, by instantiating the former way of being, i.e. attacking first, the Athenians also instantiated the latter way of being, i.e. being warred upon. If so, then the Athenians’ attacking first would indeed be part of *what it is* (in this historical case) for them to be warred upon in a more complete, further specified description. Importantly, this is not to say that the Athenians or their attacking first is a formal cause of the fact that they were warred upon by the Persians. This is rather to say that the driving cause – e.g. (the Athenians as) those who attacked first – must consist of the relevant instances of an aspect – e.g. attacking first – that is *constituent* to a formal cause of that fact, which fact is numerically identical to the formal cause. (The formal cause is the being warred upon by the Persians of the Athenians *as ones who had attacked first*.)

Furthermore to its credit, the present account can make sense of one of the most obscure examples Aristotle gives for the constituent cause. In *Phy* 2.3, Aristotle claims that the suppositions (*hupotheseis*) are causative, as that out of which, of the conclusion (*sumperasma*) – as the letters are of syllables, the matter are of artifacts, fire and such

are of bodies, and the parts are of the whole (195a16-19). How could this be? This makes sense if (1) “suppositions” and “conclusion” here mean facts insofar as they are thinkable – as opposed to representations separate from whatever they might represent – and (2) insofar as these thinkable facts form a *cause-capturing* syllogism<sup>24</sup> as construed in the QSS account: a syllogism,  $A \text{ } h \text{ } B \text{ } h \text{ } C$ , that specifies what it is for there to be A to C in the conclusion that there is A to C. First, if both (1) and (2) obtain, then it follows from the QSS account that the supposition-facts themselves, that there is A to B and that there is B to C, are at least *somehow* causative of the conclusion, for they consist of the relevant instances of B and the syllogism specifies what it is for there to be A to C. Second, the suppositions in this syllogism are causative of the conclusion specifically in the manner of *constituents*, i.e. as that out of which, because they are parts that together make up what it is for there to be A to C. Marko Malink suggests interpreting the suppositions example in the context of a demonstration: in a demonstration, the suppositions are constituent causes of the conclusion (Malink 2016). Since demonstrations are a special case of cause-capturing syllogisms, the QSS account implies the view Malink attributes to Aristotle. But according to the QSS account, the suppositions are a constituent cause of the conclusion not just in a demonstration but in any cause-capturing syllogism.

Here is a further upshot. According to the QSS account, if an explanandum fact that there is A to C has something conceptually different as its cause of any kind, then there must be a corresponding cause-capturing syllogism, a syllogism that specifies what it is for there to be A to C. So, given that the suppositions in it are a constituent cause, it follows that an explanandum fact that has anything conceptually different as its cause of any kind at all must have at least one constituent cause.

Does the QSS account meet our benchmark for a substantive definition? Let us

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24. Cause-capturing syllogisms include but are not limited to demonstrations. I argue in footnote 20 that this is also Aristotle’s view.

see how it applies to the several kinds of causes distinguished by Aristotle. Wherever an explanandum fact, that there is A to C, admits of multiple things that are all conceptually different from itself as causes that belong to more than one of those several kinds, these different causes are causes because they satisfy the QSS account *in abstraction from their differences*. We have already observed how an explanandum fact (that there is A to C) that has any cause at all must have a formal cause and a constituent cause. What about the necessitating, driving, and final causes? I have proposed elsewhere that, for Aristotle, at least in some cases where a final cause is in play, it is a final cause insofar as it specifies what it is for a given thing to satisfy a certain need. The ultimate explanandum fact, accordingly, would take the form, *There is the satisfying of a certain need to C*. If I am right, then the following example is possible:

Filling some need of health *h* Being immune to COVID-19 *h* Informing the body's adaptive immune system *h* Getting a certain vaccination.

The explanandum is that there is the filling of some need of health to getting a certain vaccination, in the sense that one who receives a certain vaccination gets one of their need of health filled. This single explanandum has at least one final cause (being immune to COVID-19 is a specific end by achieving which one who receives the vaccination attains one of their more general ends of health), one necessitating cause (being immune to COVID-19 necessitates the filling of a need of health), and one driving cause (the vaccine, insofar as it contains the aspect of informing the body's adaptive immune system). These three causes are all in addition to having a constituent cause (the thinkable facts that figure as suppositions in the cause-capturing syllogism) and a formal cause (the satisfaction of a need of health in the immunity to COVID-19 due to the stimulation of the body's adaptive immune system by the receipt of a certain vaccination). All five satisfy, in abstraction from their differences, the condition for being a cause in the QSS account.

### 4.3 Objections

Regarding the lower-order investigation, my suggestion is that the QSS account fits the several things Aristotle identifies as general ways in which things can be causes, as well as many of his affirmations and denials of other things as causes. I will now consider a couple objections.

First, one may point out that Aristotle says that not only “things that inhere (*ta enhuparchonta*)” are causative, but also what imparts movement (*kinêsis*), even though it is “among things that are outside (*tôn ektos*)” (*Meta* 12.4 1070b22-23). The passage’s context suggests that movement is the implied thing in relation to which a cause is inside or outside. The three elements of a movement, namely, what comes into being, the initial privation of it, and the underlying thing that undergoes the movement, are inherent to the movement, whereas that which imparts movement (*to kinoun*) is outside it. This claim, that the driving cause of a movement is external to it, seems to contradict the QSS account. What the account does imply is that if the fact that there is A to C has a driving cause that is conceptually different, then this cause must consist of the relevant instances of a third way of being, B, that mediatorially figures in what that explanandum fact is – including cases where the driving cause simply is B. But for B to figure mediatorially in what it is for there to be A to C, even where this fact is that C undergoes a movement, it is not necessary that B be inherent to the movement. Athenians’ attacking first figures mediatorially in what it is for them to get warred upon, as I have explained above, but their attacking first is not inherent to their getting warred upon.

Second, one may object that the QSS account renders as a genuine cause what Aristotle would dismiss as merely a cause by coincidence (*kata sumbebêkos*). Suppose this syllogism specifies what it is for a certain pile of materials to turn into a certain house: Turning into a house *h* Housebuilding *h* These materials here. Given that

shadow-casting activities consist of the relevant instance of housebuilding, the QSS account seems to entail that shadow-casting activities are a genuine cause of the materials' turning into the house, whereas Aristotle would consider them a cause only by coincidence.

But the QSS account does not commit its subscriber to the idea that shadow-casting activities are, *without qualification*, a cause of the said change. The commitment, rather, would be that shadow-casting activities are a cause of the materials' turning into a house *insofar as* these activities consist of the relevant housebuilding. The truth value of this commitment is not preserved if the qualifying description in it, *insofar as...* is altered or omitted. Insofar as the activities cast shadows, they are a cause of the house's emergence *by coincidence*, as the pale individual or the musical individual may also be a cause of a house by coincidence (*Phy* 2.5 196b23 ff.). On the present account, a connection assertable or thinkable in the form, x is an *aitia* of there being A to C, depends on how x, A, and C are described. In this sense, a causal connection is conceptual rather than merely objective. (Accordingly, it would still be appropriate to call such a connection "etiological" even if "etious" were also available as a modifier that signifies something objective. An Aristotelian etious connection is always also *etiological*.) That such a metaphysical relation is what it is depends on the relata's being graspable through certain concepts.

A third objection concerns coherence, which has in effect been raised by Julius M. Moravcsik in his article, "What makes reality intelligible?" Like my position in this article, he does not take the representation approach: he does not characterize Aristotle's *aitiai* as "answers to why-questions" or "the content of because-clauses" (Moravcsik 1991, p.33). (Accordingly, he maintains that "Aristotle's theory of *aitiai*" is about "the structure of the objects."<sup>25</sup> I am at least sympathetic to this if by "Aristotle's

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25. It is also about "the structure of accounts that humans need to attain" (35), argues Moravcsik, on the grounds that the theory is an answer to the question, "What features of parts of reality make

theory of *aitiai*” Moravcsik means Aristotle’s view that there are four modes or kinds and his view on what these are.) However, he infers that *aitia*-giving for Aristotle is not description-dependent (though nonetheless feature-dependent) (36-38), by which he seems to mean that two attempts to identify an *aitia* of something will not be better or worse than one another just because they refer to numerically the same thing as *aitia* via two different descriptions. This upshot is incompatible with the QSS account and so, if Moravcsik infers it correctly, it would be incoherent both to reject the representation approach and to maintain the QSS account. Moravcsik’s reasoning seems to be that, given that it is an objective fact that something that may not be mental or linguistic is an *aitia* of another thing, the former is an *aitia* of the latter all the same no matter how the former is described.

But such inference is not warranted, and we can see this in how Aristotle explains Thales’s Theorem: Half of two right angles is a cause of why in any triangle formed by a diameter of a circle and a point along its circumference, the internal angle opposite to the diameter is a right angle (*APst* 2.11 94a24-36). What is a right angle is necessarily also half of two right angles, which is a third of three right angles, which in turn is a quarter of four right angles, and so forth. But how well one is identifying an *aitia* in the mathematical proof in question clearly depends on which of all these possible descriptions one invokes. Importantly, from the description-dependence view about *aitiai* – which I think is strongly suggested in how Aristotle handles his mathematical example – it does *not* follow that *aitiai* are “answers to why-questions” or “the content of because-clauses.” For it is coherent to maintain that it is not a representation of the angle, but rather the angle – insofar as it is half of two right angles – that is a cause.

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these intelligible?” (31) and that Aristotle proposes a “correspondence theory of explanation” (34).



## 5 Conclusion

For the higher-order descriptive investigation, there are so many textual indications that, if we consider them together, it would not be shocking if Aristotle at least at a time did think that there is no informative and non-disjunctive account of cause that fits his causal identifications. On the other hand, there are also textual indications that perhaps Aristotle at least at some point had at least a partially articulate non-disjunctive sense of what it is to be a cause in general, independently of anything specific to any of the several causes he distinguishes.

For the higher-order prescriptive question, we saw the difficulty in countenancing *pros hen* homonymy or family resemblance across the severalfold distinction. I acknowledged that a pluralistic conception about causes is versatile and able to accommodate diverse etiological connections, such as the ones apparent in Aristotle's diverse causal identifications, but I suggested that an account can keep this advantage without being pluralistic. To countenance this suggestion, I have used the lower-order investigation to reconstruct the Quiddative Syllogistic Specification account of "cause," which is informative and non-disjunctive. Although I am not suggesting that, historically, the QSS account actually crossed Aristotle's mind, it seems that Aristotle *could*, without contradicting himself, accept this account. Even if for some reason he would not accept this exact account, whatever viability there is to the QSS account is an objective reason for him at least not to rule out the possibility that his causal identifications do fit some informative and non-disjunctive account of "cause."

In the QSS account, the concept, *what the explanandum is*, shoulders a lot of work explaining what a cause is. According to the account, something conceptually distinct from the explanandum fact that there is A to C can be this fact's cause only insofar as the thing involves a third way of being, B, that figures essentially in the relationship between A and C. But what makes it the case that B figures essentially in what it is

for there to be A to C? What decides, for example, whether a species' having horns is a constituent of what it is for it to lack incisors and have a manyplies (*APst* 2.14 98a16-9)? What decides whether, say, being capable of moral thoughts belongs to what it is for an individual to be a human being? And how do we know facts of this form? These questions are too important and difficult to be addressed by the concluding remarks of this paper. I raise them here to indicate a direction of further research.

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