

Aristotle against the Determinist: *Metaphysics* 6.3

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METAPHYSICS 6.3 is one of Aristotle's texts that has given rise to much perplexity and dispute. Its philosophical importance has been repeatedly stressed by many scholars. As D. Frede says, "we have here, for the first time in Western philosophy, as far as I know, the explicit construction of what was later called an ineluctable causal chain, the *series causarum* of later debates on determinism."¹

This observation is in conformity with most other interpretations of *Metaph.* 6.3 in asserting that it is necessity and determinism which Aristotle is dealing with here.² As is so often the case in Aristotle, however, the text leaves many questions unanswered and many particular issues yet to be explained. For the commentators are not in agreement regarding the kind of determinism that Aristotle is attacking, let alone the very nature of his argumentation. Besides, it should be mentioned that it is possible to read the chapter without concentrating primarily on the problem of determinism. For example, A. Madigan supports the view that "it does not appear that necessity is the focus of Aristotle's attention in E 3; it is background, not foreground. . . . If necessity is the issue on Aristotle's mind, then E 3 breaks off just about where it should have begun."³ This view makes *Metaph.* 6.3 a much more enigmatic text.

In addition, the very position of this chapter in the context of *Metaph.* 6 causes serious problems. In the preceding chapter Aristotle discusses the problem of accidents, but his concluding remark in 6.2 suggests some closure on the discussion of accidents: "So we have stated what the accidental is, and the cause because of which it is, and that there is no science [*epistēmē*] about it" (1027a26–28). This

¹D. Frede, "Accidental Causes in Aristotle," *Synthese* 92 (1992) 46.

²See W. D. Ross, *Aristotle's Metaphysics*, rev. text with intro. and comm. (Oxford: Clarendon Press, 1924) I, pp. 362–64; D. Frede, *Aristoteles und die "Seeschlacht": Das Problem der Contingentia Futura in De Interpretatione 9* (Göttingen: Vandenhoeck & Ruprecht, 1970) pp. 114, 117; C. Kirwan, *Aristotle's Metaphysics: Books Γ, Δ, and E*, trans. with notes (Oxford: Clarendon Press, 1971) pp. 195–98; J. Hintikka, *Time and Necessity: Studies in Aristotle's Theory of Modality* (Oxford: Clarendon Press, 1973) pp. 174–75; J. Hintikka, with U. Remes and S. Knuuttila, "Aristotle on Modality and Determinism," *Acta Philosophica Fennica* 29 (1977) 102–05; R. Sorabji, *Necessity, Cause, and Blame: Perspectives on Aristotle's Theory* (London: Duckworth, 1980) pp. 3–25; M. J. White, "Fatalism and Causal Determinism: An Aristotelian Essay," *Philosophical Quarterly* 31 (1981) 231–41; J. Talanga, *Zukunftsurteile und Fatum: Eine Untersuchung über Aristoteles' De interpretatione 9 und Ciceros De fato, mit einem Überblick über die spätantiken Heimarmene-Lehren* (Bonn: Rudolf Habelt, 1986) pp. 43–48; H. Weidemann, "Aristoteles und das Problem des kausalen Determinismus: *Met. E 3*," *Phronesis* 31 (1986) 27–50.

³A. Madigan, S.J., "Metaphysics E 3: A Modest Proposal," *Phronesis* 29 (1984) 128.

might imply either that *Metaph.* 6.3 does not deal with accidents at all—and this assumption seems to me to be the correct one—or that it does deal with accidents but from a new viewpoint.⁴ On the other hand, the final remark in *Metaph.* 6.3 (1027b14–16) states that it should be fully investigated whether the first member of the causal chain discussed here is a material, final, or efficient cause. In the following chapter, however, a completely new issue is addressed: the problem of truth and falsity. Yet there is one more point that should be stressed. At the beginning of 6.4, Aristotle says: “So let us put aside that which is accidentally, for it has been sufficiently determined” (1027b17–18). It makes more sense to see this sentence in relation to the final remark of 6.2 than to that of 6.3.

In this article I wish to show two things: (1) that *Metaph.* 6.3 can be taken as a kind of dialogue in which Aristotle refutes various arguments in favor of causal determinism which are expressed by an imagined opponent; and (2) that Aristotle’s refutation of causal determinism is grounded mainly on two basic assumptions: (a) that there must be a first member of any causal chain, and (b) that the origin and the outcome of the chain have to be of equal status. In my concluding remarks I will highlight the relation of the discussion in *Metaph.* 6.3 to some other Aristotelian problems. As for the position of 6.3 in the context of the entire sixth book, I cannot see any immediate connection between this chapter and either the preceding or the following chapter.⁵

The text of *Metaph.* 6.3 can be divided into the following parts:

- 1) 1027a29–30: the formulation of Aristotle’s basic premise;
- 2) 1027a30–32: the formulation of the determinist’s basic premise;
- 3) 1027a32–34: the determinist’s example in support of (2);
- 4) 1027a34–b5: Aristotle’s response to (3) based on (1);
- 5) 1027b5–10: the determinist’s response to (4);
- 6) 1027b10–14: Aristotle’s response to (5);
- 7) 1027b14–16: Aristotle’s final remark announcing a new problem.

The text runs as follows:

- 1) It is obvious that there are origins and causes that are generable and perishable (*archai kai aitia genêta kai phtharta*) without going through a process of being generated and perishing (*aneu tou gignesthai kai phtheiresthai*). For otherwise everything will be of necessity, [namely]
- 2) if it is necessary for there to be some non-accidental cause of the process of being generated and perishing.
- 3) Will something come about or will it not? It will if a certain thing comes about, but otherwise not. And this will come about if something else does.
- 4) In that way, evidently, if time is constantly subtracted from a limited period of time, one will come to the present moment, so that this man will die by violence if he goes out, and that will happen [*sc.*, he will go out] if he gets thirsty, and that will happen [*sc.*, he will get thirsty] if something else happens. In that way one will come to what holds good at the present moment or to something that has come about. For instance, [the man

⁴The latter is in a way suggested by Madigan, who supposes that 6.3 is connected with 6.2 by the series of questions and objections concerning the problem of accident. See Madigan, pp. 128–30.

⁵*Metaph.* 6.3 has its parallel in 11.8.1065a6–21. I will not pursue this further here, however, since the authenticity of *Metaph.* 11 is dubious and the similarity not so great as it may seem.

will go out] if he gets thirsty and that will happen [*sc.*, he will get thirsty] if he is eating something spicy. But this [*sc.*, eating something spicy] either holds good or does not.

5) So he will of necessity die or not die. Likewise, if one jumps over to what has come about, the argument is the same. For that—I mean what has come about—is already present in something. Hence, everything that is to be will be of necessity, for instance, the one who lives will die. For something has already come about, for instance, [the presence of] opposites in him.

6) But whether [he will die] by disease or by violence, that is not yet [determined], but [will be determined] if something comes about. Therefore, evidently, it [*sc.*, the causal chain] runs as far back as some origin, but this [cause runs] no further to anything else. So this will be the origin of whatever may chance to happen (*tou hopoter' etuchen*) and nothing else is the cause of its coming to be.

7) But with regard to what kind of origin and what kind of cause such a reduction leads to, whether to matter or to what a thing is for or to what initiates a change, that question should be fully investigated.

Let me begin with the determinist's position as it is expressed in (2) and (3). Given that (3), the construction of the causal chain, is the explanation of (2), it follows that "to be in the process of coming to be and perishing" is "to be a member of a causal chain." If so, (2) can be modified in the following manner:

(2_a) it is necessary that whatever is a member of a causal chain has a cause non-accidentally.

At this point of the argument, two things should be kept in mind. First, since what is described in (2) as *gignomenon kai phtheiromenon* has a non-accidental cause, it cannot be an event that happens accidentally. For in *Metaph.* 6.2.1027a7–8 we are told that, of things that are or come about accidentally, the cause is also accidental. Second, from (2) and (2_a) taken by themselves, it still does not follow that *everything* will be of necessity. In *Metaph.* 6.2.1027a8–13 Aristotle in a sense argues that, if there were no accidents, then everything would be of necessity; (2) and (2_a), however, assert not that there is no accident at all but only that there is no accident *in a causal chain*. Hence, in order to justify the thesis of universal necessity, the determinist needs some additional premises.

The first additional premise says:

(2₁) every event can be thought of as a member of a causal chain.

In order to maintain that everything will be of necessity, the determinist is obliged to accept (2₁). For, if every event could not be thought of as a member of a causal chain, then there would be events that do not have a determinate (non-accidental) cause, and then chance (*apo tuchês*) events would also be possible, as is shown in *Physics* 2.5.196a1–5, where Aristotle asserts that those who reject the possibility of events which happen *apo tuchês* say that every event has a determinate cause.

Another premise that the determinist is bound to accept states:

(2₂) a causal chain stretches back *ad infinitum*.

Although (2₂) is not explicitly stated in *Metaph.* 6.3, there are, I think, at least two reasons why we should assume that it constitutes part of the determinist's argu-

ment. The first concerns the very manner in which (1) and (2) are stated. Aristotle in (1) speaks of *genêton* and *phtharton*, while the determinist in (2) speaks of *gignomenon* and *phtheiromenon*. This implies that Aristotle's and the determinist's chains are in essence different: the determinist's chain consists of *gignomena* and *phtheiromena*, that is, of events that are *in the process* of being generated and perishing; whereas Aristotle admits that there is something that is *genêton kai phtharton aneu tou gignesthai kai phtheiresthai*, that is to say, something that *does* occur in the chain but which *is not* in process. And if every member in the chain comes about out of the preceding event—and this is what the assumption that every member of the chain is *gignomenon* and *phtheiromenon* amounts to—then this chain is infinite. Furthermore, let us look at the manner in which (3) and (4) are formulated. We assumed above that (3) is part of the determinist's chain, for it ends with the words “something else” (*allo*, 1027a34), which indicate that the chain does not need to stop at that point; we can imagine the determinist saying, “And that will happen if something else happens, etc.”

Hence, the first reason why the determinist can assert that everything will be of necessity is based on the premises (2)—that is, (2_a)—(2₁), and (2₂): in short, there is no event such that it does not have a cause from which it follows necessarily.

Aristotle's answer is stated in (1) and (4). Let us first look at (1). The phrase *archai kai aitia genêta kai phtharta* is clear for the most part. In *De generatione et corruptione* 2.9.335b2–3 Aristotle defines *genêton kai phtharton* as *kai einai kai mê einai dunaton* (that which has the capacity of both being and not being).⁶ Therefore the phrase *archai kai aitia genêta kai phtharta* refers to *contingent* origins and causes. It is obvious, on the basis of what has been said above, that the determinist cannot admit contingent origins and causes in his chain. But concerning the first member of the chain, Aristotle states explicitly that it “either holds good or does not” (1027b5).

The phrase *aneu tou gignesthai kai phtheiresthai* causes more difficulties. Alexander of Aphrodisias (*In Metaph.* 419.16ff.) and most interpreters after him⁷ claim that what Aristotle means by *aneu tou gignesthai kai phtheiresthai* is *instantaneous* generation and perishing (*i.e.*, being generated and perishing that take place *achronôs*, as Alexander says), as distinguished from the *process* of being generated and perishing that takes place over a period of time. According to this kind of interpretation, that meaning is indicated not only by the present infinitives *gignesthai* and *phtheiresthai*, which occur in (1), but also by two passages in *Metaph.* 6.2, at 1026b6–10 (when building the house, the housebuilder does not produce all the things that are accidentally connected with the house, such as its being pleasant to some, harmful to others, etc.) and at 1026b22–24 (there is no *genesis* and *phthora* of what is accidental).⁸ In my opinion, however, neither passage is relevant to our problem, for in both of them accidents are thought of as (instantaneous) *effects*, whereas in (1) Aristotle speaks of origins and causes. If accidents are the issue in (1), then what (1) tells us is not the manner in which accidents

⁶Cf. also *Physics* 4.12.221b28–29 and *De Caelo* 1.12.282b12–13. Aristotle sometimes refers to what has the capacity of both being and not being as *to endechomenon kai einai kai mê einai* (*Nicomachean Ethics* 6.4.1140a12–13), *to endechomenon enantiôs echein* (*Eudemian Ethics* 2.6.1222b42–43), or in shorter form, *to endechomenon* (*i.e.*, *to endechomenon allôs echein*; *Metaph.* 9.10.1051b13–15).

⁷For references see Madigan, p. 125 n10.

⁸Cf. Ross, p. 362; Sorabji, p. 6; Madigan, p. 125.

come to be but the manner in which they cause something. On the other hand, if accidents are causes in the same manner in which the housebuilder is the cause of a house's being pleasant or harmful, then why should we call them *accidental* causes? Furthermore, in both passages (but particularly in 1026b22–24) what Aristotle wants to stress is simply that it is not the accident which could be the subject of existential change, but only the substance.

But this still does not mean that the interpretation of the phrase *aneu tou gignesthai kai phtheiresthai* as the description of instantaneous causes can simply be dismissed. In order to be the instantaneous cause of something and to interrupt the causal chain and its necessary outcome, an event should be *outside* the chain, that is, it must not have a cause inside the chain. Following Alexander, some interpreters have tried to reconstruct the event that jumps into the causal chain under discussion in *Metaph.* 6.3. In their view the chain could be formulated as follows: a man eats a spicy dinner, gets thirsty, goes to a well for a drink of water, and there meets some gangsters who happen to be passing by and who kill him.⁹ The meeting with the gangsters at the well is an accidental conjunction that does not have a cause *inside the chain*. While other members of the chain come to be in the process—that is, they are *gignomena kai phtheiromena*—the meeting with the gangsters at the well is *genêton kai phtharton aneu tou gignesthai kai phtheiresthai*—it has come to be, as it were, instantaneously since it is outside the causal chain.

Such an interpretation is open to two objections. The first is simple: there is nothing in Aristotle's text that refers to an event outside the chain. R. Sorabji, for example, assumes that it is the word *hautê* (this) in 1027b12 that refers to the event outside the chain (*i.e.*, the meeting with the gangsters).¹⁰ But it seems to me that *hautê* unambiguously refers to the *archê* of the *whole* chain (*i.e.*, to eating something spicy). Thus the passage "it runs as far back as some origin, but this [cause runs] no further to anything else" (1027b11–12) parallels "one will come to the present moment" (1027b1) and "one will come to what holds good at the present moment" (1027b3). Another reason why we need not look for some event outside the chain relates to the status of the events in Aristotle's discussion. Death at the hand of gangsters near the well and death by violence (without further qualification) are not events of the same kind. The former is typical of the kind of event that takes place *kata sumbebêkos*: for example, someone's discovering treasure while digging a hole for a plant (*Metaph.* 5.30.1025a16), someone's arriving at Aegina because of a storm or kidnapping (*Metaph.* 5.30.1025a25–27), or someone's walking while there is lightning (*Posterior Analytics* 1.4.73b11–13). But the focus of Aristotle's attention in *Metaph.* 6.3 is not on events that happen *kata sumbebêkos* but those that happen according to the principle "whatever may chance to happen" (*hopoter' etuchen*, 1027b13). Someone's death by violence (without further qualification) *is* the event that happens *hopoter' etuchen*. More will be said about this below.

⁹Cf. Alexander of Aphrodisias, *In Metaph.* 454.35–39; Frede, *Aristoteles und die "Seeschlacht,"* p. 121; Sorabji, p. 9; Frede, "Accidental Causes in Aristotle," pp. 46–47; Weidemann, pp. 30–32; see also Weidemann's review of Sorabji's *Necessity, Cause, and Blame* in *Archiv für Geschichte der Philosophie* 64 (1984) 304–08.

¹⁰Sorabji's construction of 1027b12–14 runs as follows: "This origin [the meeting] will be the origin of the chance event [the violent death], and there will be no further cause of its [the origin's] coming about" (p. 9 n14).

What, then, does the phrase *aneu tou gignesthai kai phtheiresthai* refer to? Since other texts cannot help us much in answering this question,¹¹ we must rely on what can be found in *Metaph.* 6.3 itself. Every member of the determinist's causal chain, as is said above, is *gignomenon kai phtheiromenon* (more determinately, *gignomenon*), which means that it *does* go through the process of being generated out of the preceding event. In contrast, Aristotle's chain *has* a first member, and that first member is not *gignomenon kai phtheiromenon*—since there is no event that precedes it and out of which it could possibly come about through a process of generation—but is *genêton kai phtharton aneu tou gignesthai kai phtheiresthai*. Thus it must be concluded that the phrase *aneu tou gignesthai kai phtheiresthai* refers to the fact that there needs to be a first member of the chain. For evidence we can turn to three texts in 6.3. At 1027a34–b1 Aristotle says: “Evidently, if time is constantly subtracted from a limited period of time, one will come to the present moment.” Two expressions are significant here: “a *limited* period of time” indicates that the causal chain which can be constructed, for example, before someone's death, cannot be infinite; and the verb *aphaireô*, understood in its mathematical meaning as “to subtract,” suggests something like this: 4 (total time) minus 1 (the person's death) minus 1 (going out) minus 1 (getting thirsty) equals 1 (eating something spicy). Furthermore, at 1027b5 Aristotle says of the first member of the chain: “But this [*sc.*, eating something spicy] either holds good or does not.” Finally, at 1027b11–14 he says of the causal chain that it “runs as far back as some origin, but this [cause runs] no further to anything else . . . nothing else is the cause of its being generated.”

Let me summarize Aristotle's and the determinist's arguments so far. The determinist claims that it is possible to construct, for every event, the causal chain which leads to that event and which stretches back *ad infinitum*. From this he concludes that everything happens of necessity: there is no event such that it is not the necessary outcome of the preceding event. Aristotle, on the other hand, main-

¹¹The text in *De Caelo* 1.11, where Aristotle discusses the terms *genêton* (generated), *agenêton* (ungenerated), *phtharton* (destructible) and *aphtharton* (indestructible), does not say much about the meaning of the phrase *aneu tou gignesthai kai phtheiresthai* which would be relevant for the present discussion. For in *De Caelo* the property of not going through a process of being generated or perishing is ascribed primarily to what is *agenêton* or *aphtharton* (and not to what is *genêton kai phtharton*, as in *Metaph.* 6.3); such is the case, for instance, with *touch*, which occurs without going through a process of being generated or perishing (*cf.* 280b7–9.26–28). It is true, however, that one of the meanings of *genêton* is “what once was not and later is, either having gone through a process of being generated or not” (280a15–17)—this applies, but in the opposite sense, to *phtharton*—yet there is no indication of what that would mean. See also *Metaph.* 3.5.1002a28–b9 (this passage was brought to my attention by an anonymous referee for *IPQ*).

The interesting interpretation of the phrase *aneu tou gignesthai kai phtheiresthai* can be found in Hintikka: “The origins and causes that come to be without being in the process of coming to be are clearly *energeiai* in contrast to *kineseis* in the sense of the distinction which Aristotle explains on a number of occasions, especially in *Met.* Θ” (*Time and Necessity*, p. 175). But it seems to me that Aristotle's distinction between *kinêsis* and *energeia* is not applicable to our problem for at least two reasons. First, since the word *genêton* is ambiguous between “that which comes (or has come) to be” and “that which is capable of coming to be” (*cf.* the useful discussion by C. J. F. Williams in his *Aristotle's De Generatione et Corruptione* [Clarendon Press: Oxford, 1982] p. 182), it is hardly possible that Aristotle would use such an ambiguous word to express what is *energeiai* only. Second, if Aristotle's *genêton* in *Metaph.* 6.3 refers to what is *energeiai*, then what about *phtharton*? How can it be *energeiai*?

tains that no causal chain can stretch back *ad infinitum*, but that each such chain must have a first member and that it is possible for this first member to be contingent. For example, in the case of someone's death (let us suppose, for the sake of argument, that the death in question is death by violence¹²), the determinist postulates a preceding, infinite, causal chain (going out—getting thirsty—eating something spicy, *etc.*). Aristotle, on the other hand, claims not only that this chain has to stop at some point, say, at someone's eating something spicy, but also that this event may not happen, that it is possible for the chain not to be realized, and that the violent death is not necessary.

But this constitutes only the half of the dispute. For the determinist has prepared an answer which is developed in (5) and which consists of two arguments. The first is at 1027b5 where the crucial point, based on "So he will of necessity die or not die," can be formulated as follows: if it is necessary for a man to eat something spicy or not to eat, then it is necessary for him to die or not to die.¹³ As a point of fact, the determinist here accepts Aristotle's assumptions: the causal chain needs to stop somewhere, and its first member either holds good or does not. Regardless of whether the man eats something spicy or does not eat, everything in the chain with regard to him will be of necessity. In other words, the determinist takes "to die" and "not to die" without further qualification, without specifying the manner of dying.

Second, at 1027b5–10 there is, in a sense, a variant of the chain discussed so far, although the argument is not very clear. The view that Aristotle ascribes here to the determinist seems to be as follows. It is possible to trace the causal chain that leads to someone's death (without further qualification) to the first cause, which is *genêton kai phtharton aneu tou gignesthai kai phtheiresthai*, that is, the cause which is "already present in something" (say, in the body of a human being after birth). And this cause or origin, the determinist maintains, in spite of its being *genêton kai phtharton*, leads to the event that is *absolutely* necessary, like someone's death (without further qualification). Moreover, at 1027b8–9 the determinist says, "Hence everything that is to be will be of necessity," thus generalizing the above argument. What he has in mind here can be roughly stated as follows:

Any *x*, insofar as it is a living thing, has in itself the cause that leads to its death; hence, if something is alive, then it will die of necessity (without further qualification). Any *x*, insofar as it is an existent thing, has in itself the cause that leads to its being (or not being) in the future; hence, if *x* will be, then it will be of necessity (without further qualification), and if it will not be, then it will not be of necessity (without further qualification).

In order to understand Aristotle's answer to these objections by the determinist, we have to look more closely at the nature of the events discussed in 6.3. They are

¹²The words *nosôî ê* in 1027b2 are, according to Ross, "a gloss owing its origin to *nosôî ê biai* l. 10" (p. 363). It is immaterial, however, whether Aristotle says *biai* or *nosôî ê biai*; what is important is only that he specifies the manner of dying. Therefore I cannot agree with Talanga (p. 45 n24) that "es könnte auch nur *apothaneitai* stehen," for then we would be obliged, if my interpretation is right, to accept the determinist's argument.

¹³This is in opposition to Weidemann, who assumes that the words "So he will of necessity die or not die" have to be formalized as "necessary (*p*) or necessary (not-*p*)." See "Aristoteles und das Problem des kausalen Determinismus," p. 31. But for my interpretation the question of the proper logical form of the argument is not as important as it is for Weidemann.

characterized by Aristotle as events that happen *hopoter' etuchen* (1027b13). The phrase *hopoter' etuchen* sometimes has for Aristotle the same meaning as *apo tuchês*. For instance, *hopoter' etuchen* in *De interpretatione* 9.18b9 is used in almost the same way as *apo tuchês* in *Prior Analytics* 1.13.32b13. But the two phrases do not have exactly the same meaning; in fact, *hopoter' etuchen* has a much broader sense.¹⁴ In the so-called *Postpraedicamenta* (*Categories* 10.12b40; 13a3, 11, 12–13), this term refers to the manner in which contrary qualities belong to a subject. For instance, the qualities hot and cold cannot belong to fire and snow *hopoter' etuchen* but only determinately (*aphôrismenôs*) since fire cannot be cold and snow cannot be hot (12b40–41). On the other hand, for a man who naturally possesses the capacity of seeing, to be blind or to see is not determinate or necessary but *hopoter' etuchen* (13b9–13). At *De interpretatione* 9.18b9 Aristotle says that *hopoter' etuchen* means that something is no more so than not so: for instance, it is necessary either that there be a sea-fight tomorrow or that there not be a sea-fight tomorrow, but each part of this *antiphrasis* is neither necessarily nor determinately true or false, not “this one” or “that one,” but *hopoter' etuchen* (19a 36–38).

It is obvious that dying by disease and dying by violence—and this is what Aristotle is speaking of in *Metaph.* 6.3—are events that happen *hopoter' etuchen*. Since these are the only two ways of dying (if death caused by, say, the weakness of old age is included in death by disease), it is not possible to include either of them in events that occur *kata sumbebêkos*. Furthermore, neither part of “Man will die by violence or by disease” is necessarily or determinately true or false. And the starting point of the chain, eating something spicy, insofar as it is *genêton kai phtharton aneu tou gignesthai kai phtheiresthai* as explained above, also happens *hopoter' etuchen*: neither part of “Man eats something spicy or does not eat something spicy” is necessarily or determinately true or false.

The antecedent of Aristotle’s argument is the same as the determinist’s: “Man is eating something spicy or not.” But the chain that has as its starting-point, say, eating something spicy, cannot have as its outcome dying or not dying (without further qualification), but only dying by disease or by violence. In other words, if the starting-point happens *hopoter' etuchen*, then the outcome also has to be an event that happens according to the same principle. This is the point that Aristotle wants to stress in (6). His argument takes the following form: if it is necessary that a man eat something spicy or not, then it is necessary that he die by violence or not die by violence (*i.e.*, by disease).

If we accept the determinist’s argument as presented above, we are obliged to assert that everything happens of necessity. For what the determinist’s argument

¹⁴In *Prior Analytics* 1.13 Aristotle defines “contingent” (*endechomenon*) in the sense of “indeterminate” (*aoriston*) as “what is capable of being both thus and not thus, for instance ‘The animal is walking’ or ‘While walking the earthquake occurs,’ or, generally, what happens by chance [*apo tuchês*]” (32b10–13). But the examples mentioned are not the examples of events that happen *apo tuchês* according to the explanation in *Physics* 2.5–6, where events that happen *apo tuchês* are defined as those which occur in the range of things that happen for the sake of something and which are objects of human choice (*cf.* 5.197a5–6 and 6.197b3). Therefore we have to be cautious in calling such events *apo tuchês gignomena*; and since the phrase *apo tuchês* does not occur in *Metaph.* 6.3, I think that it is appropriate to take the phrase *hopoter' etuchen* in *Metaph.* 6.3 as not confined to the events that happen for the sake of something.

at 6.3.1027b5 amounts to is that any contingent event leads to an outcome that is necessary without qualification, just as eating something spicy leads to dying, which is absolutely necessary. Aristotle, on the other hand, maintains that a contingent event can lead only to what is necessary provided that the starting event occurred, just as eating something spicy leads to dying by violence, which in this case is necessary only if a man eats something spicy.

A somewhat similar point can be made regarding the determinist's second objection at 6.3.1027b5–10. The determinist claims that, even if we admit that there must be a first cause, it is nevertheless possible that a first cause will produce a necessary outcome, so that the one who lives will die of necessity and everything that happens will be of necessity. The determinist's mistake is in taking "of necessity" as "of necessity in the absolute sense," while Aristotle admits only "of necessity if this comes to be" (*cf.* 1027b11). Thus, in Aristotle's view, if there are opposites in the human body and if these opposites are considered as the first cause of death, then the causal chain of which they are starting-points cannot have as its outcome something that is absolutely necessary, but only something that happens *hopoter' etuchen*.

In summary, Aristotle's principal aim in *Metaph.* 6.3 does not consist in attempting to refute causal determinism by showing that there must be accidental causes. To be sure, the determinist's argument does include the thesis that every event has a non-accidental cause (1027a32). Aristotle in fact accepts this thesis and tries to show that, even if every event has a non-accidental cause, this still does not mean that everything happens of necessity since these non-accidental causes can lead to events that happen *hopoter' etuchen*.

Both principles which ground Aristotle's argument—the principle of the finiteness of the causal chain and the principle that the origin and outcome of the chain have to be of equal status—are important parts of his doctrine and can be found in other texts.¹⁵ Thus *Metaph.* 6.3 cannot be viewed separately from Aristotle's other texts. Moreover, this chapter throws some additional light on other aspects of his discussion on necessity and determinism. For example, the deterministic position with which he is struggling in *De interpretatione* 9 maintains, among other things, that nothing happens *hopoter' etuchen* (18b5–6). But while analysis of future events and propositions about future events is central to the argument in *De interpretatione* 9, in *Metaph.* 6.3 tense-distinctions are not crucial. Furthermore, as part of his doctrine on so-called "hypothetical necessity" (*De generatione et corruptione* 2.11; *Physics* 2.9; *De partibus animalium* 1.1), Aristotle claims that, in the field of what is contingent, it is not possible to say "If something is earlier, then of necessity something is later"; the only valid form of argument is "If something is later, then of necessity something is earlier,"¹⁶ where the necessity that is ascribed to what is earlier is called hypothetical necessity. Therefore, in the finite linear chain *A-B-C*, where *A* is earlier than *B* and *B* is earlier than *C*,

¹⁵For the finiteness of the causal chain, see primarily *Metaph.* 2.2; in *Posterior Analytics* 1.24.85b27–32 Aristotle asserts that the finiteness of the causal chain makes possible the knowledge of the cause of something. For the principle that the origin and outcome of a chain have to be of equal status, see, *e.g.*, *Eudemian Ethics* 2.6, 1222b41–43: "So if there are things that are capable of being in the opposite manner, it is necessary that their origins also be likewise."

¹⁶*Cf.* *De generatione et corruptione* 2.11.337b18–20, 25–27, and *Posterior Analytics* 2.11.95a27–28, 30–36.

both *A* and *B* are hypothetically necessary in relation to *C*, and it is impossible to say “If *A* (or *B*), then necessarily *C*.” Thus, in a certain sense, the doctrine of hypothetical necessity, taken by itself, rejects the possibility of asserting causal determinism. The discussion in *Metaph.* 6.3 shows that Aristotle can demonstrate that causal determinism is untenable, without appealing to his doctrine of hypothetical necessity.