

Mario Vegetti

Culpability, responsibility, cause: philosophy, historiography and medicine in the fifth century
p 271-289

In: The Cambridge companion to early Greek philosophy / ed. by Anthony A. Long.
Cambridge ; New York (N. Y.) : Cambridge University Pr., 1999. XXX-427 p. carte 3 index.
(Cambridge companions to philosophy).

|| ArchPhilos 2004 67 (1) : 134-135 Thomas Bénatouïl.

[70-13595

3521

VEGETTI, M.

1999

13 Culpability, responsibility, cause: Philosophy, historiography, and medicine in the fifth century

"The idea of nature as implying a universal nexus of cause and effect comes to be made *explicit* in the course of the development of Presocratic philosophy": G.E.R. Lloyd.¹ "The conception of *cause* is borrowed from the language of medicine, as is clear from the word *prophasis* which Thucydides uses": W. Jaeger.² "The word *aition* is, from the Hippocratic writings on, a standard word for 'cause', and its relative *aitia*... meant a complaint or an accusation, but already by the time of Herodotus's book it can mean simply 'cause' or 'explanation' ": B. Williams.³

These three distinguished scholars, distant though they are from one another in their intellectual orientations, seem to agree on the opinion that a precise and well-defined conception of causality is present in fifth-century philosophy, history, and medicine. This judgement is widely shared, but it needs to be corrected, or at least clarified and formulated, from two different but complementary perspectives.

First, as we shall see, lexical investigation of causality (*aitia*, *aitios*, to *aition*, *prophasis*) shows that explicit theoretical reflection on causal connections and forms of explanation based upon them emerged only gradually and with considerable uncertainty from the fuzziness of moral, political, and judicial language to do with culpability, responsibility, and imputability of facts and actions. Interestingly, the conceptualization of causality developed in medical contexts rather than in early Greek philosophy (judging from the fragments of the latter and setting aside the causal formulations provided by Aristotle and Peripatetic doxography).

Second, there is a need to clarify the relationship between the development of theoretical reflection on causality and the kind of causal connections it describes. For example, Aristotle's treatment

of "cause" in book two of his *Physics* does not include a Humean conception of causal connection, according to which the cause is the necessary antecedent of the effect. In this respect, he is faithful to the complexity of fifth-century thought; he tends to reproduce, albeit in the context of a rigorous theory, the diverse dimensions of causality that were beginning to emerge there more or less vaguely. On the other hand, a conception of a cause as that which is necessary and sufficient to bring about the effect is found in a part of the medical testimonies, and in this respect, it prefigures Stoicism rather than Aristotle.

Fifth-century thought was largely lacking in any explicit theoretical reflection on the problem of causality and in a "strict" conception, in the Humean sense, of causal connections. But it was quite capable of conceiving (more or less spontaneously) relationships between things and events that later theory would have included in the general context of causality. What we need to recognize is that these relationships came to be described in terms that are different from the language of causality that I will analyse in this chapter.

There are, for example, phenomena that occur "by nature" (*phusei*), that depend on the regularity of the world's natural order. This dependence is often described, both in philosophy and medicine, as "necessity" (*anankê*). Sometimes this necessity can be connected, not to natural regularity, but to the decrees of destiny and divinity, as in Agamemnon's famous statement: "Not I am culpable (*aitios*) but Zeus, Moira and the Erinyes" (*Il.* XIX.86). The necessary dependence of events on the plan of destiny occurs frequently in Herodotus with the expression, "as had to happen" (*edei*). If the regularity on which the events depend is not divine or natural but human, the connection is often expressed, especially in political and judicial contexts, with the weaker term *eikos* (plausible, probable, likely).

Yet, these connections of dependence between things, events and forms of order can only be brought within the context of causality and causal explanation by using later thought patterns. To demonstrate this, let us briefly survey some clear examples from early Greek philosophy, starting with the famous fragment of Anaximander, reported by Simplicius (DK 12 B1):

The source of coming-to-be for existing things is that into which destruction, too, happens "according to necessity; for they pay penalty and retribution

(*dikên kai tisin*) to one another for their injustice according to the assessment of time." (tr. KRS, 108)

The universal and necessary connection that binds things in the cosmic cycle is evidently conceived here in the moral/juridical terms of guilt and punishment rather than those of causal explanation.

In the immediately succeeding philosophers, we find the widespread idea of a dependence of things and processes on the "power" of an originating principle (*archê*). Thus, Parmenides (DK 28 B12): "The *daimôn* that governs and rules (*archei*) all things." There appear, especially in Empedocles and Anaxagoras, principles that much later would be interpreted as prefigurations of (efficient) causality: in the first case, Love and Strife (*philia* and *neikos*), in the second case Intelligence (*nous*). These principles exert their actions on other originating principles of a biological kind, such as the "roots" (*rizômata*) of Empedocles and the "seeds" (*spermata*) of Anaxagoras.

Now in Empedocles' text (see, for instance, DK 31 B26), Love and Strife seem to be somewhat anthropomorphic metaphors for the cosmic elements' aggregation and separation, and not separate from the elements themselves. In any case their action is expressed in the political language of power (e.g., DK 31 B17.28: "They prevail (*krateousi*) in turn as time goes round"). In contrast with Empedocles, Anaxagoras' principle *Nous* is explicitly conceived as separate from the things on which it exerts its own action. This is probably why Plato in the well-known passage of the *Phaedo* (97b ff.) refers to Anaxagoras as the initiator of the idea of final causation. Yet, the way Anaxagoras expresses *Nous*' separation and its action on the world is once again the language of political and military power: *Nous* is "authoritative" (*autokrates*), exerts its own force (*kratein, ischeuei*), and has the power (*archê*) of initiating the rotation of the world (DK 59 B12). Thanks to this power that it has, *Nous* imposed order on all things (*panta diekosmêse*). This conception of a regulating activity has probably influenced the way Plato in the *Timaeus* thinks of the Demiurge's action on the spatio-temporal world. It seems clear that this embryonic form of causal thinking is still completely clad in metaphorical language derived from the political sphere. The need to explain the beginnings of the cosmic order does not imply a theoretical reflection on the concept of cause, but rather it is forced to express itself in terms of the

power that the gods exercise in the world or that men exercise in society, just as in Anaximander the language remains juridical and ethical.

To approach the question of how causal thinking began, we cannot improve on the words of Michael Frede:

When the use of 'aition' was extended such that we could ask of anything 'What is the aition?', this extension of the use of 'aition' must have taken place on the assumption that for everything to be explained there is something which plays with reference to it a role analogous to that which the person responsible plays with reference to what has gone wrong; i.e., the extension of the use of 'aition' across the board is only intelligible on the assumption that with reference to everything there is something which by doing something or other is responsible for it.⁴

My aim in this chapter is precisely to verify, by correcting the widely shared opinions mentioned at the beginning, just when and how this extension, conceptualization, and generalization of causal thinking took place. In other words, when did the transition occur from the personal language of culpability and moral, political, and legal responsibility to the abstract and "neutralized" language of cause? (This does not necessarily imply, as we shall see, the substitution of the neuter substantive *to aition* for the forms *aitia* and *aitios*.) We shall be dealing with a lengthy and complex process, one that spans all of fifth-century thought and that left a profound trace even on the more developed theorizing of Plato and Aristotle.

THE PHILOSOPHERS

The surprising result that emerges from lexical investigation of causality in the early Greek philosophers is the virtually total absence of any reflection on the problem of causal explanation. This is surprising because, of course, the evidence on them includes abundant references to the language of cause. Yet, from our perspective in this chapter, that evidence has no value whatsoever because it depends entirely on Aristotle's interpretation, found in book one of his *Metaphysics* and book two of his *Physics*. There Aristotle looks at these thinkers as imperfect predecessors of the research into causality carried out by himself. When instead we focus only on the fragments that, to some extent, reflect the early Greek philosophers' original

language, the terminology of causality proper is virtually absent. What we find is terminology that conforms completely to the traditional moral and juridical connotations.

Aitia occurs only once in Democritus (DK 68 B83), with the meaning "reason" or "motive." *Prophasis* for its part has the meaning of "excuse" or "justification" (DK 68 B119), which is quite normal among historians and doctors.⁵ In Gorgias *aitia*, which occurs in the *Helen* and *Palamedes* (DK 82 B11, 11A), naturally retains the significance of "culpability" or "responsibility," which is standard in moral and juridical discourse. The term is used in the same Gorgianic way by Antiphon in his *Tetralogies*. These rhetorical exercises, designed to prepare people for argument in the law courts, make a strict connection between legal responsibility and culpability or religious pollution (*miasma*).⁶

In his second *Tetralogy* the question at issue is the responsibility of a youth who, in the course of training, threw a javelin, killing one of his associates who had inadvertently entered the grounds of the gymnasium. This type of problem resembles an anecdote told by Plutarch with reference to Protagoras and Pericles (DK 80 A10). They had spent an entire day discussing those who were responsible (*aitioi*) for the involuntary killing of a certain Epitimus, in circumstances similar to those treated by Antiphon. This was clearly an exemplary legal question: Who or what was responsible, the javelin, the thrower, or the gymnastic officials?

We are not dealing in these cases with "speculation on cause and effect," as Adkins has suggested in regard to Gorgias, treating that as one of the main themes of the contemporary sophists.⁷ The evidence points rather to a debate on questions of responsibility and culpability both in a moral and religious context – a debate that reaches one of its high points in Sophocles' *Oedipus at Colonus*, where Oedipus declares himself morally and legally innocent (*katharos*) because his crimes were involuntary (lines 546–8; see also 266–72) – and in the legal sphere, as with Gorgias, Antiphon, and the story about Protagoras.⁸ The same issue, as we shall see in the next section, occupies a central position in the historians' thoughts about political actions.

It seems certain, then, that neither in their physics nor in their sophistic debates were early Greek philosophers concerned with any theoretical work on the language and concepts of causation in

general. To discover the first traces of this, we need to extend the investigation into the fields of historiography and especially medicine.

THE HISTORIANS

The history of Herodotus begins with a discussion of the *aitia* for the wars between Greeks and barbarians. At issue here are the reasons or motives of war, but these consist of a reciprocal dispute, an exchange of charges for the responsibility for crimes committed and for acts of retaliation. In the eyes of the Greeks, the Phoenicians are *aitioi*, culpable for the wrongs (*adikêmata*) committed against them (I.1). But the Greeks in their turn are culpable for *adikia* against the barbarians and at the end are considered "greatly culpable" (*megalôs aitioi*, I.4.1) for the aggression deployed against Troy. Throughout Herodotus the normal meaning of *aitia* remains "charge for a crime committed," and also "culpability" that constitutes the motive for punishment (cf. I.137.1).

This use of *aitia* (and correlatively of *aitios*) is a clear extension of judicial language into the context of political disputes. In some cases (e.g., IV. 167.3) the charge is only a "pretext" (*proschêma*) adopted to justify a violent act. The association of this word with *aitia* is interesting because in one place (IV.133.1) *proschêma* is linked to *prophasis*, and *prophasis* in Herodotus has exactly its normal meanings, "pretext" or "excuse" (cf. IV.145.1). Now, if *aitia* partially overlaps *prophasis*, that is certainly not a move in the direction of causal language, but rather an indication that we are dealing with the exchange of charges, imputations, excuses, and pretexts that are typical of legal and political disputes. *Prophasis* can also take on the meaning – consistent with but slightly different from pretext – of "chance circumstance," by means of which something predestined takes place. Thus Herodotus introduces the story of the Scythian King Scyles' ruin: "Because it was destined (*edei*) that things would go badly for him, this was the occasion for it" (*apo prophaseôs toiêsde*, IV.79.1). So *prophasis* also signifies the obvious and visible aspect of a hidden destiny.

Up to this point, as has been seen, Herodotus' language does not depart from the traditional uses in contexts of justice, ethics, politics, and religion. However, vague signs can be found of a shift towards an embryonic transference from the domain of responsibility to that

of causality. In discussing the reasons for the flooding of the Nile, Herodotus reports the opinion that the etesian winds are responsible (*aitioi*) for it, and refutes it on the basis of the fact that the flooding occurs even if these winds are not present (II.20.2-3). The passage can certainly be read as acquitting the winds of blame, but it also hints at an important requirement of causal thinking, the presence of the cause in connection with its effects. In the same passage, Herodotus declares that in his own view the sun is responsible (*aitios*) equally for the flooding and for the air's dryness in Egypt (II.25.5-26.1). Here too we find a vague hint of transition from the language of imputability to the conception of causality.

Other passages, all of a hesitant or negative kind and featuring the nominalized adjective *to aition*, admit to the same interpretation. Thus (VII.125): "I am puzzled about what the motive (*to aition*) was that compelled (*to anankazon*) the lions to spare the other animals and to attack the camels, a creature they had never seen or had any experience of." The hesitant tone of the passage implies the sense: "I don't know how to find an explanation for this event." What is clear is that, just as in the discussion of the Nile's flooding, we are witnessing a transition, however vague and unarticulated, in the direction of a type of causal thinking.

The beginning of Thucydides' *History* is entirely Herodotean – to describe the charges and quarrels (I.23.5: *aitiai/diaphorai*), that is, the motives (*aitias*) publicly adopted for the outbreak of war between the Athenians and the Spartans (cf. I.146). The sense that Thucydides normally gives to *aitia* in reference to political controversies is an extension of its usage to signify responsibility or culpability in juridical or ethical contexts. Hence, it is frequently associated with *hamartêma* (error of fault) and *adikein* (wrongdoing) (e.g., II.60.4-7, I.39.3, IV.114.5). In the debate between the Corinthians and the Spartans (I.69.6) *aitia*, a "complaint" brought against friends who err – hence a term free from hostility – is contrasted with *katêgoria* an "accusation" that is directed against enemies. However this psychological nuance, even if it originates from judicial language, is not consistently adopted by Thucydides, who often uses *aitia* in reference to antagonists.

A move in a decidedly causal direction has often been seen in the celebrated passage (I.23.6) where Thucydides, after setting out the complaints and charges exchanged between the Athenians and

Spartans, adds that "The truest *prophasis*, although the one least manifest (*aphanestatê*) in the debates," was the fact that the Spartans were forced (*anankasai*) to make war from their fear of the growing Athenian power. What needs to be emphasized here is that *prophasis* does not mean "the ultimate cause" as distinct from the stated pretexts (*aitiai*). The word *prophasis* (derived not from *phêmi* but from *phainô*, as Irigoin has shown) means "to show, to bring to light."⁹ Thucydides contrasts this *prophasis* with the speeches of the combatants that conceal the true reasons for the war. What he means, then, is, "The truest reason that I can exhibit, notwithstanding the fact that it was not stated publicly," was actually the unavoidable situation, both psychological and political, in which the Spartans found themselves.¹⁰ We are again in the general vicinity not of causal thinking but of the courtroom – the discovery of a hidden motivation.¹¹

More important and more difficult to interpret is a passage on the plague at Athens (II.48.3) where the crucial word is not *prophasis* but *aitia*. Thucydides writes, "As to the plague, let anyone, physician or layman, state, to the extent of his knowledge, from what source it probably (*eikos*) originated and what he thinks (*nomizein*) were the causes (*aitias*) of this catastrophe sufficient to have the power (*dynamis*) to produce it." The occurrence of terms like *eikos* and *nomizein* here may suggest that we are again in a context of imputing responsibility and blame (as in Herodotus II.25.5 cited above). Yet, the connection of *aitia* with *dynamis*, in the sense of "capacity to produce effects," undoubtedly gives this passage a distinctly causal sense and aligns it with certain medical texts such as *Ancient medicine* that make a still greater advance in this direction. We should note that there, as here in Thucydides, the causal expression is *aitia*, not *prophasis* or the neuter form *aition*.

This last term, which Thucydides does not use very frequently, normally means "motive" in a quite general sense.¹² However, there is one interesting occurrence of it in a passage very similar to those we have cited from Herodotus. In regard to a tidal wave, Thucydides states his opinion of the cause (*aition*, III.89.5), "an earthquake without which I do not think such an event could have happened." Here we observe not only the extension of the concept of responsibility to any phenomenon (Frede's point about the origin of causal thinking) but also a formulation, as in Herodotus, of the necessary presence of

the cause in connection with its effect. Here too we can see the beginning of a transition towards a form of causal thinking, but it is still vague and without any conceptual generality. It is among the medical writers that we shall find a more decisive step taken in this direction.

MEDICINE

The medical material that could be discussed for our purpose in this chapter, even confining it to the fifth-century writings, is too extensive to be investigated fully here. Instead, I shall limit myself to considering a number of crucially important texts that provide the coordinates for a map of the medical thinking relevant to our topic. So far as their relative dates are concerned, we know too little to proceed on a chronological basis, and in any case, we can find divergent positions adopted in Hippocratic texts that are probably contemporaneous. We cannot speak of a univocal progress of medical thought during the fifth century, either for our own topic or for any other. At one extreme we find writings in which the language of causal explanation is completely absent or irrelevant. Thus, the words *aitia* and *prophasis* never occur in *De locis in homine*, regarded as one of the oldest works in the Hippocratic corpus (440–430?), and also from some points of view as one of the most authoritative.¹³

Terms for cause and responsibility are also nearly absent from a work as important as *Prognostic*, and here I need to clarify an equivocation widely found in the history of this work's interpretation. It has been long supposed (on the basis of an unconsciously positivist prejudice) that the prognostic functions of Hippocratic "signs" were based on their character as "causes": a sign (*sêmeion*) would thus be predictive because it constituted the cause of the effects that follow it in the duration of the disease. But this is entirely groundless.¹⁴ The Hippocratic sign (which retains some affinity with the prophetic predictions from which it originated and with which it competed) is predictive because it represents the visible aspect of a constellation of phenomena to which it is linked with a regularity registered by the physician's memory and by the recording of prognostic manuals. It will suffice to cite on this a passage from *Prognostic* (sect. 4):

As to the motion of the hands, I know the following facts: in acute fevers, pneumonia, phrenitis and headache, if they move before the face, hunt in

the empty air, pluck nap from the bedclothes, pick up bits, and snatch chaff from the walls – all these signs are bad and deadly.” (tr. Jones)

The motions of the hands are certainly, in no possible sense, “causes” of the death, rather, because they are regularly associated with a fatal ending of the disease, they represent the visible level of its otherwise unseen progression; they are an aperture through which the invisible (*aphanes*) makes itself evident (*phaneron*) and therefore predictable. Neither *De locis* nor *Prognostic*, then, have any bearing on the formation of causal thinking.

An intermediate position on our map is occupied by three treatises: two of these, *On the sacred disease* and *Airs, waters and places*, are rather similar and relatively old, while the third (*On the nature of man*), which probably belongs to the beginning of the fourth century and plays an important role in consolidating Hippocratic thought, was as well known to Aristotle as to Galen. Let us begin with *On the sacred disease*, in whose opening lines (as edited by Littré) many (starting with Jaeger) have seen the inaugural declaration of a full-fledged theory of natural causality. In Grensemann’s recent edition this reads: “As regards the so-called sacred disease [epilepsy] the situation is thus. It is not, in my opinion, any more divine or more sacred than any other disease but, just as others have a nature, from which they originate, so too it has a nature and a *prophasis*.”¹⁵

The sacred disease has a natural (not a divine) origin and therefore a *prophasis* – an explanation, a clearly adducible reason, just like the war in Thucydides’ prologue. The task of the Hippocratic treatise will consist in specifying this “public” explanation of epilepsy. By contrast, the author’s opponents, magicians and purifiers, attribute the disease to the divine in order that, if the patients die, “they can have the excuse (*prophasis*) to advance that not they but the gods were culpable (*aitioi*)” (I.20). Here, as in Thucydides again, the language of *prophasis/aitios* slides clearly in the juridical direction of blame and exculpation, indicating a striking conceptual vagueness. This even returns in the statement with which the “positive” part of the text begins: “It is the brain which is responsible (*aitios*) for this ailment, as with all other serious diseases. In what way and for what reason (*prophasis*) it happens, I will clearly declare” (sect. 6). This language, on the one hand, recalls a speech in the law courts: the guilty party has been unmasked, and the methods and the motives

of the crime have been revealed. But, on the other hand, *prophasis* (which, in the author's usage, refers to the action of warm winds on the brain from which the ailment originates) goes beyond this context in the direction of causal explanation.

The same critical point emerges even more visibly in *Airs, waters and places*. In this work (which was well known to Plato), we find frequent instances of the adverbial use of *anankê* to designate the necessary dependence of peoples' psycho-somatic characteristics on geography and climate.¹⁶ This deterministic context also influences the meaning assigned to the terms *aitia/aitios* and *prophasis*.

In some cases we are not far from Herodotus' usage. Thus, for instance, the distinction between *prophasis* and *aition* (sect. 4): "Many abscesses occur for any reason (*prophasis*). The tension of the stomach and the hardness of the intestine are responsible (*aition*) for this." More complex is the text of section 16: for the differences of character between Asians and Europeans, the seasons, which in Asia do not produce strong variations of temperature, are responsible (*aitioi*). For these reasons (*prophaseis*), the author adds, "and also on account of their laws," which make them subject to monarchs, the Asians are weaker. It is very difficult to distinguish here between responsibility and cause on the one hand, and between explanation and cause in the strict sense on the other hand. This difficulty is due to more than one factor – the oscillation in the usage of terms, and the author's adoption of a doubly deterministic perspective (environmental and political), expressed by such phrases as "and also," which weaken the line of causation.

Still more interesting is the conceptual structure of section 22, where the topic is the reasons for the prevalent impotence of the Scythians, who "attribute the blame (*aitia*) for it to the gods." According to the author, the affliction is due to the Scythians' habit of riding, to swellings of the joints that ensue, and to the cure that they practise on themselves, cutting the veins behind their ears. Their impotence is due to this cluster of reasons (*prophaseis*), "and also" because their habit of wearing trousers and of riding prevents them from masturbating so that they forget about sexual desire. It is clear that the plethora of reasons adopted by the author cannot amount to a genuine causal nexus, but rather to a system of explanations (signified by *apo/dia*) that serves to invalidate the imputation of the ailment to the divine and to restore it to the natural level of

demonstrable evidence. (The same purpose is served by the author's argument that impotence affects only the wealthy Scythians, who can afford to ride, which would not happen if the ailment were of a divine origin because they can ingratiate themselves with the gods by offering numerous sacrifices.)

Rather than a cause, we can speak here (as in connection with the double determinism of environment and politics) of the convergence of a plurality of circumstances or reasons that serve the needs of rational explanation. The conceptual vagueness surrounding causality can also be regarded in such passages as a richness in the forms of explanation that will still be echoed in Aristotelian thought.

In *On the nature of man*, we find language that is similar though less complicated. When faced with diseases of an epidemic character, we are told (sect. 9) "that it is necessary to impute the responsibility" (*aitia*) to that which is common to everyone, namely, the air breathed in. But in cases where the pathology differs, the individual's dietetic regime will be responsible (*aitia*), and therefore therapy must attack the reason (*prophasis*) for the ailment. The possibility of ascertaining the reasons for the disease is interestingly connected with the ability to give a public account of its development (sect. 13). Here the language of *prophasis* is not far from Thucydides' statement about the reasons for the Peloponnesian War, but at the same time, the passage shows a decisive transition towards the sense of giving the cause. This transition appears still more clearly in a number of texts that reflect sophistic influence on medical writing, such as *On breaths* and *On the art*, datable to the end of the fifth century or the beginning of the fourth century.

On breaths begins with the style of a judicial inquiry: "All diseases have one and the same form and cause (*idea/aitia*). What this cause is I shall try to declare in the discourse that follows" (sect. 2). In this passage the author uses the word *aitia* as completely equivalent to the neuter form *to aition*. As if concluding his address to the jury, he writes:

It is clear, then, that breaths are the most active factor in all diseases; all other things are concomitant and secondary causes (*synaitia/metaitia*), but I have shown that this is the cause (*aition*) of diseases. I promised to declare the cause of diseases, and I have shown that *pneuma* (inhaled air) has the

greatest power both in other things and in the body of living creatures. I have let my discourse dwell on familiar ailments in which the hypothesis has shown itself correct. (sect. 15)

This passage provides an extraordinary example of conceptual development formulated with the help of largely traditional language. The style is really what a contemporary would associate with the *logos* of a sophist or attorney. An inquiry is initiated and an accusatory hypothesis is formulated; at the end, the public and the court have been shown that the hypothesis is true, that the suspect is indeed culpable, and that the others charged are at most accomplices. (*Synaition* and *metaition* are often found in this sense in tragedy.)¹⁷ On the other side, we have here the lineaments of a causal inquiry that is quite precise and strong, capable of exactly specifying the principal causal factor (*to aitio*) and distinguishing it from causes that are merely concomitant and accessory. In this respect and also in its recourse to a hypothesis that awaits confirmation, this text of *On breaths* anticipates the celebrated passage of Plato's *Phaedo* (99a ff.), which is rightly regarded as the earliest philosophical reflection on causality. There too we find the distinction between the true *aitio* and concomitant conditions (99b2-4) and the recourse to a hypothesis (100a3-4).

It is fairly probable (but uncertain owing to chronology) that the extreme causal reductionism of *On breaths* was one of the targets of *Ancient medicine* (1.1), where those "who introduce one or two hypotheses" and who "have a reduced conception of the causal principle" are criticized.¹⁸ We shall have more to say about this. In the *De arte*, the usage of *aitia/aitios* still preserves a strict judicial or sophistical sense. Criticizing those who unjustly charge doctors with the death of their patients, the author, as the perfect advocate for the defence, exclaims (sect. 7), "They assign blame (*aitia*) to the one who is in no way culpable (*aitios*), while they allow the guilty to go free." But in the sphere of epistemology, this treatise does make an important conceptual development. The author writes (sect. 6) that there are no spontaneous "cures," because in the context of that which is explicable causally (*dia ti*), spontaneity (*automaton*) disappears, and that is precisely the context of medicine, a context in which causality (*dia ti*) governs phenomena and makes them therefore predictable.

It is clear that at the end of the fifth century in medical thought of a sophistic tenor, the causal structure of explanations in medicine had arrived, for the first time, at a level of appreciable conceptual generalization. It is in the medical context that this process achieves its final refinement.

ON ANCIENT MEDICINE

Ancient medicine, begins with a polemic against those who, "on the basis of one or two hypotheses," simplify the *archên tês aitiês* in a way that is too reductionist.¹⁸ This expression could certainly be interpreted in the traditional way as the "culpable starting-point" for the onset of diseases (compare, for instance, the ancient charge (*palaia aitia*) that Oedipus mentions in reference to the murder of King Laius, Sophocles, *Oedipus Tyrannos* 109). But the context suggests a different interpretation, that is, "the starting-point of the causal process": in the hypotheses in question, elements or qualities of a physical kind, such as hot and cold, are viewed as the initiating cause of all diseases, like the "breaths" (*pneumata/physai*) in the similar context of *De flatibus*.

The conceptual divide between culpability or responsibility and causality appears definitely to have been crossed (in the sense indicated by Frede in our citation on p. 274) in another crucial passage of this treatise: "We must surely consider the cause (*aitia*) of each complaint to be those things (*tauta*) the presence of which of necessity produces a complaint of a specific kind, which ceases when they change into another combination" (19.3, tr. Jones).¹⁹ This passage has generated some discussion, but there is no doubt that we encounter here the clearest, the most general, and the most conceptually precise idea of causality to be found in fifth-century thought (assuming, of course, that this is the chronology of *Ancient medicine*).

A cause can be considered such (1) when its presence produces a certain effect, (2) when this effect is necessarily determined and in a univocal manner, and (3) when its absence or alteration determines the failure of the effect. All this precisely anticipates not only the discussion already mentioned from Plato's *Phaedo* but also the definitions of cause more rigorously stated in Aristotle (*Metaph.* V.2 1013a31-32) – a cause is "the maker of what is made and the changer

of what is changed," and even in Sextus Empiricus (*PH* III.14) – "A cause is that by whose activity an effect is produced."²⁰

Ancient medicine, then, seems to inaugurate a new history of causal thinking, incorporating and completing the slow and uncertain process found throughout the fifth century in philosophy, history, and medicine itself. There is an element of continuity but what stand out more prominently are innovation and rupture at the level of rigour and capacity for conceptual generalization. The radical novelty of this treatise has not been adequately appreciated up to now because, as I began by saying, we have been accustomed to giving too optimistic an interpretation of causality to various aspects of fifth-century culture, overlooking conceptions that are actually tightly linked to the ethical and juridical sphere of culpability, responsibility, and imputation.

One can understand why, in view of *Ancient medicine's* radical innovations, some scholars have proposed to make the work completely post-Platonic, dating it towards the later years of the fourth century.²¹ This theory is based on an erroneous historical assumption, which can be rapidly undermined, and on some plausible but quite inconclusive reasons. The assumption is that a doctor could not be the leading figure in such a conceptual development, and therefore it must depend on a philosophical thinker. Yet, on the contrary, it is perfectly legitimate to suppose that many philosophical texts are inspired by theories that originated in medicine, as Plato himself says explicitly in the *Phaedrus*.²² So we are quite entitled to think that this is the case in the connections between the *Phaedo* and *Ancient medicine* in regard to reflection on causality. It is true, of course, that the traditional dating of the treatise (no later than the end of the fifth century) does require us to assign to it absolute originality, making it unique for its time. Such originality, however, pertains not only to the work's theory on causality and criticism of the medical use of "hypotheses"; it also contains (20.1) the earliest instance, to our knowledge, of the word *philosophia*.²³ The author's context is a criticism of Empedocles, whom he takes as the typical representative of the inquiry into nature with its theory of origins in terms of material elements. This is a very early doxographical allusion, which would anticipate the criticisms both of Plato and of Aristotle. Furthermore (though this cannot be discussed here),

Ancient medicine gives a full idea of the historical development of medical knowledge, as achieved over time by proceeding from its own principles and following a particular method.²⁴ This outlook too is quite exceptional in the context of fifth-century thought (and not only there).

I do not intend, in making those observations, to reopen the debate on Diller's proposals about the dating of *Ancient medicine*, proposals he himself has now partially retracted. My purpose is simply to point out that this work constitutes a radical turn between the thinking of the fifth century and the philosophical elaboration of the fourth, both in the area of causality and on various epistemological issues.

In conclusion, my study has shown that it is not the case, as has been proposed, that the transition from the words *aitia/aitios* to the adjectival substantive *to aition* signifies a growth in conceptual generalization. This idea was probably suggested because of Stoic terminology, but in fact Thucydides, *Ancient medicine*, and Aristotle himself all use the substantive and the adjective without any difference of meaning.

There is a more important philosophical point. Aristotle did not completely follow *Ancient medicine's* rigorous definitions of causality.²⁵ His own definition of the "types of causality" in *Physics* II, in *Metaphysics* V, and elsewhere, looks back to the entire elaborations of the fifth century and makes from their uncertainties an element that is rich and conceptually complex. The answer to the question "why," in his view, should not be limited to giving the productive or efficient cause along the lines adopted by the theory of *Ancient medicine* and as the Stoics later thought.²⁶ His use of the idea of "end" or "goal" in causal explanation (as already in Plato's *Phaedo*) restores the moral and political context of "motives" and "reasons" that had been the property of fifth-century thought and that *Ancient medicine*, in its drastically rigorous way, seems to have dismissed as a piece of foolishness.²⁷

NOTES

- 1 Lloyd [110] 49. He does, however (53–55), clearly state that the development of an "idea of causality" *as such* must be sought in the historians and doctors, and he also emphasizes the primary moral significance (tied to culpability) of words like *aitia/aitios*. See also Lloyd [108] 230ff., and

- on the juridical origins of discussions of responsibility, G. E. R. Lloyd, *Adversaries and Authorities: Investigations into Ancient Greek and Chinese Science* (Cambridge/New York, 1996), 100ff.
- 2 Jaeger [102] vol. I, 393. Jaeger insists on the causal significance of *prophasis*, because he is naturally familiar with the moral/juridical sense of *aitia*, *ibid.* 161.
 - 3 Williams [138] 58.
 - 4 Frede [504] 132. His article is primarily concerned with the Stoic conception of causality.
 - 5 Cf. DK 68 B222. DK 68 B118 (a late testimony of Dionysius, bishop of Alexandria, by Eusebius) contains the word *aitiologia*, but it is clear from the context that the passage is not a textual citation of Democritus: "Democritus himself, so people say, was in the habit of saying that he would rather discover a single causal explanation (*aitiologia*) than become king of the Persians." For a much more sanguine assessment of Democritus' interest in causality, see Taylor in this volume p. 187.
 - 6 On this passage, cf. Said [519] 186 ff. For uses of *aitia/aitios* in Antiphon, cf. III.2.9; II.2.3, 6; II.4.10.
 - 7 Adkins [82] 126. However, this work is fundamental for the matters discussed in this chapter.
 - 8 Athenian law, starting from Draco's code, had introduced a radical distinction between voluntary and involuntary homicide, but morality on its religious basis of culpability and pollution continued to resist this. The definitive statement on this question was probably Aristotle's treatment of responsibility in *NE* III.1-7. For legal aspects of this in the fifth century, cf. Jones [103] and E. Cantarella, *Studi sull'omicidio in diritto greco e romano* (Milan, 1976).
 - 9 See Irigoin [505] 173-80.
 - 10 I follow the interpretation of K. Weidauer, *Thucydides und die Hippokratischen Schriften: der Einfluss der Medizin auf Zielsetzung und Darstellungsweise des Geschichtswerks* (Heidelberg, 1954) 8-20. See also Deichgraeber [500] 209-24, and Rawlings [518].
 - 11 For other uses of *prophasis* meaning "grounds for accusation," "adduced reason," "pretext," cf. III.13, VI.105.2. That the word cannot mean "cause" is confirmed by Thucydides' analysis of the plague at Athens in II.49.2: "Those who did have any disease previously all caught the plague in the end. Others, however, were affected for no *prophasis*," that is, without any previous condition or clear reason to explain it. For an interesting parallel, cf. *Epidemics* III.3 where the author, just like Thucydides, writes that some were affected by the disease "in an explicable way (*meta prophasios*), but others not." On causality in the *Epidemics*, cf. Diller [502] and di Benedetto [499], esp. 317.

- 12 Cf. for example I.11.1, II.65.8, III.82.8.
- 13 It is probably close to the Anaxagorean group; see Vegetti [522].
- 14 Starting with Littré 1839 – vol.1, 453, the causal interpretation of the “sign” has become widespread; cf. especially Lonie [512] 79ff.; Perrilli [517]; Marzullo [514], a fundamental work. On the other side, cf. Vegetti [523] 76 ff.
- 15 The text of Jones (1923), *physin men echei kai prophasin*, justifies the translation “has a natural cause.”
- 16 On the connection between *Airs, waters and places* and the *Phaedrus*, cf. Mansfeld [513]; and for the influence of the same Hippocratic work on the *Republic*, Vegetti [524].
- 17 For *metaitios*, with the sense of “complicitious,” or “co-responsible,” cf. Aeschylus, *Agamemnon* 811, *Libation Bearers* 100, *Eumenides* 199, 465, Euripides, *Suppliants* 26. For *synaitios*, in reference to double responsibility, human and divine, cf. *Agamemnon* 1116, and see Said [519] 177ff.
- 18 On the question of chronology, cf. Lloyd [154] 49–69.
- 19 The word *tauta* is interpreted abstractly and generally by the majority of translators (Jones, Festugière, Eggers Lan, Lara Nava, Vegetti.) But, Jouanna [506] 201 n. 144, following Müri [515], takes it to refer to the preceding words, “these humours.” That interpretation is invalidated by what follows where not only the humours but also hot and cold are the causes of other diseases. *Tauta*, then, includes both humours, temperature states, and eventually every cause of disease. The importance of the passage, with its anticipation of Bacon and Mill, is signalled by Lloyd [110] 54 n. 232.
- 20 With regard to Plato, cf. *Phaedo* 96a9–10, “I thought it wonderful to know the causes of each thing, why it comes to be and why it passes away and why it exists,” with *Ancient medicine* 20.2, where medicine is assigned the task of discovering “what man is and by what causes he comes to be.” Compare also *Phaedo* 96c7–8 (“Why does a man grow . . . through eating and drinking”) with *Ancient medicine* 20.3 (“what man is in relation to what he eats and drinks”). The context of these passages in Plato is analysis of the true forms of causality in polemic with Anaxagoras.
- 21 The hypothesis has been formulated by Diller [501], though he does not make any mention of the work’s conception of cause, and rather insists on its attack on the method of hypothesis that is treated in the *Phaedo*. Diller’s suggestion has not found favour, and he has partly retracted it, cf. Diller [503], where he regards *Ancient medicine* as a work composed in the transition from sophistic thought to Athenian philosophy, and says: “In *Ancient medicine* . . . medicine appears to be grounded on the understanding of causal connection” (92–93). Neither Longrigg [510] nor

Nickel [516] offers anything significantly novel on the issue, though they both study *Ancient medicine* in connection with pre-Platonic thought.

- 22 Cf. *Phaedrus* 270c: "Consider, then, what Hippocrates and true discourse say about nature," and for discussion of this passage, see Vegetti [522] 97 ff., and Mansfeld [513].
- 23 This has not traditionally been accepted as the first occurrence of *philosophia* because of the belief that the word was of Pythagorean origin, but that idea is contested on good grounds by Burkert [205].
- 24 Cf. sect. 2: "Medicine has long had all its means to hand, and has discovered both a principle and a method, through which the discoveries made during a long period are many and excellent, while full discovery will be made, if the inquirer be competent, conduct his researches with knowledge of the discoveries already made, and make them his starting point." (tr. Jones)
- 25 On causality in Aristotle, see Sorabji [520].
- 26 For the Stoic tendency to reduce causality to a single "efficient" form, see Frede [504] and also J. J. Duhot, *La conception stoïcienne de la causalité* (Paris, 1988) and A. Ioppolo, "Il concetto di causa nella filosofia ellenistica e romana," *ANRW* (1994) 4493–4545.
- 27 This chapter has been translated by the editor from the author's original Italian text.