THE ORIGIN OF THE STOIC THEORY
OF SIGNS IN SEXTUS EMPIRICUS*

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IN his critical discussion of the dogmatic philosophers Sextus Empiricus expounds a Stoic doctrine which has conveniently been labelled 'the theory of signs'. This chapter of Stoic philosophy offers a blend of logic and epistemology, a mixture bound to attract the interest of present-day 'ancient philosophers'. Hence, with the growing discussion focusing on the philosophy of the Hellenistic period, this part of Stoicism was to get a fair share of attention.[1] Controversy has been flourishing over the merits and weaknesses of this theory; it has been compared with tenets about the topic of signs held by earlier and later philosophers, yet in these discussions it has almost universally been taken for granted that there is a *single* theory of signs and that it can be attributed unqualifiedly to *the* Stoics.[2]

Part of what I want to do in this paper is to challenge this assumption. I shall argue that the material relating to the theory of signs which is preserved in Sextus does *not* reflect Chrysippan teaching, but goes back to Stoics antedating Chrysippus. To have a convenient term, I shall refer to the pre-Chrysippan Stoics as 'early

[1] Cf. G. Verbeke, 'La philosophie du signe chez les Stoiciens', in *Les Stoiciens et leur logique*, ed J. Brunschwig (Paris, 1978), 401–24; J. M. Rist, 'Zeno and the origins of stoic logic', *ibid.* 387–400; M. Baratin, 'Les origines stoiciennes de la théorie augustinienne du signe', *Revue des Etudes Latines*, LIX (1981), 260–8; M. F. Burnyeat, 'The Origins of Non-deductive Inference', in *Science and Speculation: Studies in Hellenistic Theory and Practice*, ed J. Barnes *et al.* (Cambridge/Paris, 1982), 193–238; D. Sedley, 'On Signs', ibid. 239–72; D. Glidden, 'Skeptic Semiotics', *Phronesis*, XX (1983), 213–55. For discussions in the older literature cf. R. Philippson, *De Philodemi Libro qui est περὶ σημείων καὶ σημειώσεων et Epicureorum doctrina logica* (Berlin, 1881); P. Natorp, *Forschungen zur Geschichte des Erkenntnisproblems im Altertum* (Berlin, 1884), 127 ff; W. Heintz, *Studien zu Sextus Empiricus* (Halle, 1932), 42–51; G. Preti, 'Sulla dottrina del σημεῖον nella logica stoica', *Rivista Critica di Storia della Filosofia*, XI (1956), 5–14.

[2] The only exception known to me is D. Sedley who wants to 'put into abeyance the widespread belief that Stoic doctrine is under discussion by Sextus Empiricus throughout *M* VIII. 141–298 and *PH* II. 97–133' (Sedley, above n 1, 241).

Stoics'.[3] I shall further argue that the theory of signs of the early Stoics was a harvest not grown in the fields of Stoic philosophy, but that it originated from the 'Dialecticians', a group of philosophers confused for a long time with the Megarians and rediscovered as a group in its own right by David Sedley.[4] I shall further try to point out some modifications which this theory underwent as it was integrated into the epistemology of the early Stoics. I shall not discuss the doctrine of signs advocated by the opponents of the Epicureans in Philodemus' *de Signis*—almost certainly Stoic philosophers—a doctrine which has been ably discussed by David Sedley in a recent paper.[5]

I

What we find in Sextus is, roughly speaking, a definition and a division. The definition of sign (*sēmeion*) is stated and explained in two passages (*Outlines of Pyrrhonism* (*PH*) II. 104–6; *adversus Mathematicos* (*M*) VIII. 244–56), and so is the division of all signs into two sorts, the indicative and the commemorative (*PH* II. 99–101; *M* VIII. 149–55). The theory of signs thus holds a place in either of the two extant Sextonian discussions of logic (i.e. *PH* II, *M* VII and VIII). Yet whereas *M* discusses the two topics in two separate passages, *PH* offers us an exposition in a continuous stretch of text. For both topics, the exposition in *PH* is considerably shorter than the one in *M*.

I shall first discuss the material relating to the definition of sign. Here is a translation of the relevant bit of text from the *PH*:

Now the sign, judging by the statements of the Dogmatists about it, is inconceivable (*anepinoēton*). Thus, for instance, the Stoics, who seem to have defined it strictly, meaning to establish the conception (*ennoia*) of the sign, state

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[3] The traditional division of Stoicism puts Chrysippus' Stoic predecessors together with his own school into the Old Stoa, separating it from middle Stoicism inaugurated by Panaetius. This classification seems to be based on Stoic ethics, and understandably so. After all, it was their moral philosophy which, beginning with Cicero, made the Stoics so immensely influential, and here the affinity between Zeno and Chrysippus is clearly stronger than the one between Chrysippus and Panaetius. Yet in logic and epistemology, there is no similar relationship between Chrysippus and his predecessors. Here the great break comes about with Chrysippus, and we should group Stoic philosophers in this field accordingly.

[4] Cf. D. Sedley, 'Diodorus Cronus and Hellenistic Philosophy', *Proceedings of the Cambridge Philological Society*, CCIII, N S 23 (1977), 74–120.

[5] Cf. D. Sedley, above n 1.

that 'a sign is a proposition which forms the pre-antecedent (*prokathēgoumenon*) in a sound conditional, and which reveals the consequent'.[6]

(*PH* II. 104)

Since this is the only text where the Stoics are explicitly credited with an account of signs, it is worth noting how Sextus introduces them here. Notice that the Stoics are chosen as an instance. This is made clear by the Greek *autika* at the beginning of the second sentence (for this use of *autika* cf. Liddell–Scott–Jones, s.v. *autika* II; this usage is not uncommon in Sextus cf. *M* VIII. 251, IX. 30). Sextus (or his source), that is, has picked the Stoics out of a larger group of dogmatic philosophers all dealing with the notion of sign.

Who else may have to be included in this group? At first sight, the Epicureans seem to qualify as likely candidates. As we learn from *M* VIII. 177, they also have something to say about the sign, claiming that it belongs to the sensible realm, in opposition to the Stoics for whom the sign is something intelligible. However, at second glance this suggestion looks rather implausible. For, in his critical discussion of sign Sextus aims at proving that sign is 'inconceivable' (*anepinoēton*). This is made clear at the start of the passage quoted above (*PH* II. 104) and is repeated twice afterwards (*PH* II. 118, 123). Yet, this aim of his overall argument makes it quite implausible that Sextus should want to include philosophers who deny that the sign is intelligible (*noēton*) in the group of Dogmatists which is the target of attack in this passage. Moreover, it seems unlikely that Sextus would have the Stoics represent a group of philosophers which also includes their greatest rivals among the Dogmatists. Thus, we should leave the Epicureans out of the picture.

The Peripatetics seem to be a more plausible guess. They were, at least in Sextus' eyes (cf. *M* VII. 217), prepared to allow for sensible as well as for intelligible things. Aristotle has a chapter of his *Prior Analytics* (II. 27) devoted to the discussion of signs, and in the list of Theophrastus' writings there is a treatise *On Signs* (cf. Diogenes Laertius (D.L.) V. 45). Yet the treatment of signs in the *Analytics* would hardly prove that this topic is of more than minor importance for Aristotle. As for Theophrastus, he keeps a conspicuously low profile in Sextus; his name occurs only three times in the (extant) writings of Sextus and he is credited only once with a tenet of his own (cf. *M* VII. 218). (In *M* VII. 217, Sextus refers to 'the school of Aristotle and Theophrastus

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[6] My translation does not lay claim to originality. I have borrowed from existing translations and I shall do so on other occasions.

and the Peripatetics in general'; in *M* I. 258, Theophrastus is mentioned as the teacher of a grandson of Aristotle's.) Now these observations will certainly not be sufficient to put the Peripatetics on a par with the Epicureans; they may after all still qualify as candidates for the group of dogmatic philosophers the Stoics are meant to represent at *PH* II. 104. Yet even if they do, we may be well advised to reckon with the possibility of there being other philosophical companions of the Stoics who held views similar to those expounded and explained in this passage.

The definition of sign as reported by Sextus will look strange to a modern reader: a sign is an antecedent proposition in a conditional of a certain type. We are inclined to treat the trail of an animal, a traffic light or a gesture as signs, not something that corresponds to statements about such things or events. To understand the rationale of this Stoic definition of sign we should pay heed to a specific feature in the concept of sign. 'Sign', like many other words (e.g. 'tool', 'material', 'premiss') is an expression indicating a specific *function*; it can be used to fill the gap in 'to be used as . . .'. This, in turn, means that it is not the mere capacity of being such and such a thing or such and such an event which makes something qualify as a sign. Whatever is a sign is so only with respect to a (maybe potential) user. The concept of sign entails that of an interpreter of signs.[7]

It is a consequence of this feature in the concept of sign that something can be a sign for one person, but not for another. Incidentally, this point is noticed by Sextus: in *M* VIII. 204, he states that 'blushing and swelling of the vessels and thirst' are signs of diseases, and then goes on to explain that it is the doctor who is able to tell your disease from bodily symptoms 'which the uninstructed person does not apprehend as signs' (ibid). It is a similar consequence that something can be *discovered* to be a sign of something. Functions can be discovered.

Although this feature constitutes an essential and basic character of signs, it tends to be overlooked particularly when it comes to artificial signs, that is, things or events that are meant to be signs and are made

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[7] For this feature of signs, cf. in particular the pragmatist theories of sign by Peirce and by Morris: Ch. S. Peirce, *Collected Papers*, vol II, ed Charles Hartshorne and Paul Weiss (Cambridge, Mass., 1931), 134, 156; Ch. W. Morris, *Foundations of the Theory of Signs* (Chicago, 1951), 5 f, 29 ff. It should be noticed that there is an important difference between 'using' and 'using as': not every word that can be used to fill the first phrase can also be used to fill the second one. You can use your hand, but you cannot use something as your hand. 'Hand' is not a function word.

for this purpose. Their use is normally restricted to situations where the active and the passive user (e.g. speaker and hearer, writer and reader) have a common knowledge of the signs used. It is difficult to imagine a situation where an artificial sign is discovered to be a sign (although you may well discover of what it is a sign, e.g. in the case of a code). Hence, the use of artificial signs strengthens the tendency to equate signs with those things and events that function *as* signs. However, doing this is leaving out the interpretation needed to turn the thing or the event into a sign.

Now I take it that the rationale lying behind the definition of sign as reported by Sextus is the attempt to catch the functional character of signs and to contravene the tendency of identifying signs with things or events as such. By tying the sign, taken to be an antecedent in a conditional of a certain type, to the consequent of this conditional you have built the notion of interpretation of some phenomenon as sign right into the very notion of sign. (I do not want to deny that this treatment of sign as an antecedent has also grave defects, e.g. the lack of a clear distinction between implication and inference. What I want to do for the moment is to point to the problem that may have given rise to this construal of signs as antecedents.)

Let us go back to Sextus' exposition. After having outlined the definition of sign, Sextus goes on to explain four terms used in it: proposition (*axiōma*), sound conditional (*hugies sunēmmenon*), pre-antecedent (*prokathēgoumenon*), and revealing the consequent (*ekkaluptikon tou lēgontos*). Sextus' aim in providing these explanations is *not* to help his reader to a proper understanding of the definition quoted, but to provide himself with a basis for attack on the notion of sign. All four explications are used successively as starting points for criticisms in the subsequent discussion (proposition: *PH* II. 107–9; sound conditional: 110–15; pre-antecedent: 115–16; revealing the consequent: 117–18). Thus, we should read these four explanations against the polemical background of Sextus' overall strategy.

Sextus first explains what the upholders of the definition of sign consider to be a proposition: 'a *lekton* which is complete in itself and declarative as far as its being so depends on itself' (II. 104). We need not go into the technicalities of this account for our purpose.[8] It will be sufficient to retain two points in connection with it. The first concerns its origin. We find it attributed to Chrysippus in Diogenes Laertius

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[8] Cf. the discussion of this definition in M. Frede, *Die stoische Logik* (Göttingen, 1974), 32–7.

VII. 65 (with minor differences which need not concern us here), and Aulus Gellius quotes it *verbatim* (refusing to give a Latin translation of the Greek) as what seems to be a standard definition of *axiōma* from his 'Greek books' (*Noctes Atticae* XVI. viii. 4). This fact also points to Chrysippus, for by the time of Aulus Gellius (2nd century AD) Stoic logic was identical with the logic of Chrysippus and his followers.

The second point to be noted is the absence of this account of proposition in the parallel passage in *M* VIII. 245–56. This absence is conspicuous, for all the other explications found in the *PH* passage have counterparts, though less systematic ones, in the passage in *M*. Hence, it seems, Sextus who, in the *PH* passage, has just given us what he declares to be a Stoic definition of sign, allows himself to import other Stoic material as well. There is of course ample reason for him to do so: Since this account classifies a proposition as a *lekton*, Sextus is able to deploy his battery of arguments against the Stoic *lekton* against the sign as well, and we find him doing just this when it comes to the critical discussion (cf. II. 107–8).

The explanation of the sound conditional which Sextus adduces next is based on the truth-functional interpretation of the conditional. As is well known, this interpretation of the conditional was advocated by Philo who was a prominent member of the Dialectical school. The sound conditional, Sextus tells us, is the one that 'does not begin with truth and end with a falsehood' (II. 104). This definition of the sound conditional is attributed *verbatim* to Philo a little later in the text (cf. II. 110). It is also attributed to Philo in *M* VIII. 113–14, a passage where we find the very same examples used as in our passage (II. 105) for all those cases which yield the truth-value true (*TT, FF, FT*). We learn from Diogenes Laertius (cf. VII. 16) that Zeno, the founder of Stoicism, studied logic with Philo. Yet Philo certainly was not a Stoic himself. So why does Sextus, who is after all explicating a definition of sign attributed to the Stoics, bring in the Philonian criterion of a sound conditional? Why does he not use the criterion of cohesion (*sunartēsis*) which is mentioned later in the text (cf. II. 111) and which, for all we know, was the standard Stoic account of the sound conditional (cf. D. L. VII 73) and, thus, may be safely attributed to Chrysippus? After all, he did use an account of proposition which seems to be Chrysippan.

We find the answer to this question when we come to the third term explained in Sextus' report: pre-antecedent (*prokathēgoumenon*). This word may have sounded as unusual to Greek ears as the term I have coined may sound to English ones. As a technical term of logic,

prokathēgoumenon does not occur outside Sextus, and in Sextus it is used only in the definition of sign just quoted by Sextus and in passages that comment upon this definition (II. 106 and 115).[9] Hence, *prokathēgoumenon* is definitely tied to this definition of sign. This term now is paraphrased as 'the antecedent (*hēgoumenon*) in a conditional which begins with truth and ends in truth' (II. 106). It is patent that this account presupposes the Philonian, truth-functional interpretation of the conditional; actually, the wording of this account relating to the conditional corresponds exactly to the description of the *TT*-case as given in the exposition of truth-functional implication some lines earlier (II. 105).

This now explains why Sextus brings in Philonian implication when reporting the criterion of a sound conditional. He has to. Only the truth-functional interpretation of the conditional ties in with the account of *prokathēgoumenon* which Sextus has found in his source. This, I think, is an important finding if we want to assess the nature of Sextus' source. The bare fact that Sextus attributes to the Stoics (cf. the *phasin* in the last line of II. 105) the Philonian interpretation of the conditional is not sufficient to establish the conclusion that the Stoics under discussion antedate Chrysippus, for we find Sextus using the Chrysippan definition of proposition in the same passage. Hence, these two pieces of evidence would only lead us to a sceptical equipollence of arguments. Yet the fact that the explication of the term *prokathēgoumenon*, which is the hallmark of the definition of sign discussed in this passage, ties in only with Philo's position in the debate about conditionals, tips the balance definitely against Chrysippus.[10] The Stoics discussed in this passage are early Stoics.[11]

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[9] The occurrence of *prokathēgoumenon* in the text of Pseudo-Galen, *Historia Philosopha*, in H. Diels, *Doxographi Graeci (Doxogr. Gr.)* (Berlin, 1879). 605, 11, is due to a correction by Diels of the *kai hēgoumenon* in the manuscripts. Yet, as M. Burnyeat convincingly argues (cf. Burnyeat, above n 1, 222 n 70), *kathēgoumenon* is a much more likely emendation, since it does not augment the number of letters. The term *kathēgoumenon* is used in the relevant sense in *M* VIII. 245, 248.

[10] It has been suggested by D. Sedley that it 'seems entirely possible' that our passage (as well as the parallel one in *M* VIII) represents 'an early Stoic account of signs, one presumably antedating Chrysippus' authorisation of *sunartēsis* as the correct criterion' (sc. of a sound conditional) (Sedley, above n 1, 256). I take it that the observation just made warrants a stronger claim: it is not only possible but certain that Sextus' report ultimately goes back to the early Stoics.

[11] A possible objection to this conclusion might still be based on the fact that Cicero (cf. *de Fato* VIII, 15) attributes to Chrysippus the view that certain conditionals should be reformulated as negated conjunctions. As Cicero tells us, Chrysippus wants the diviners to restate a conditional like 'If someone was born at the rising of the dogstar he will not

Let us come to the fourth and final term: revealing the consequent. For this phrase we do not get, as we did for the other three terms, a general account. What we get instead is an explanation by way of an example. The example is: 'If this woman has milk, she has conceived' and here the antecedent is said to be revealing the consequent because it seems to be 'disclosing' (*dēlōtikon*) the consequent (II. 106). This does not sound very illuminating. To see why this substitution of 'disclosing' for 'revealing' can be supposed to have any explanatory force at all, we ought to consider an important distinction in the epistemology underlying the theory of signs, a distinction explained in the paragraphs preceding the passage under discussion, that is the distinction between things pre-evident (*prodēla*) and things non-evident (*adēla*) (cf. *PH* II. 97–9).

The non-evident things are divided into three groups: some are altogether non-evident (*kathapax adēla*), that is those things 'which are not of a nature to fall within our apprehension (*katalēpsis*)' (II. 97); the example given is the question whether the stars are even in number (II. 97). Some are occasionally non-evident (*pros kairon adēla*), that is, things 'which, though patent (*enargē*) in their nature, are occasionally rendered non-evident to us owing to external circumstances (*peristaseis*)' (II. 98), for example a town in a distant country. Finally, some are naturally non-evident, that is, 'those which are not of such a nature as to fall within our clear perception (*enargeia*), like the intelligible pores' (II. 98).

die at sea' in the form 'It is not the case both that some person was born at the rising of the dogstar and that that person will die at sea'. This clearly amounts to a material implication view of the conditional in question. Hence, it is argued, Chrysippus recognized Philo's truth-functional criterion besides his own criterion of 'cohesion' (*sunartēsis*) (cf. D.L. VII. 73) and, it is further argued, he wants us to construe all empirical laws in this way (cf. S. Sambursky, *Physics of the Stoics* (London, 1959), 79; M. Frede, *Die stoische Logik* (Göttingen, 1974), 86 ff). Yet, following R. Sorabji on this point (cf. R. Sorabji, 'Causation, Laws, and Necessity', in M. Schofield *et al.* (eds), *Doubt and Dogmatism* (Oxford, 1980), 250–82, esp. 266 f), I do not think that this passage from Cicero can be used to attribute to Chrysippus such an extensive adoption of the truth-functional criterion of the conditional. For first of all, the context of the Ciceronian passage clearly shows that Cicero is reporting a Chrysippan proposal which in his (i.e. Cicero's) eyes amounts to a makeshift for a special case. Secondly, the subsequent arguments adduced by Cicero against Chrysippus imply that the latter does not want to extend his reformulation to medical or geometrical cases. The first example which, according to Cicero, Chrysippus could not want to reformulate in the way proposed for the diviners is the following: 'If a person's pulse is so and so, he has got a fever'. This, it should be noticed, would certainly count as a sign relation on the account given by Sextus. Hence, if the theory of signs reported in Sextus was shared by Chrysippus, we should expect this example to be a straightforward candidate for the truth-functional reformulation, contrary to what we find in Cicero.

Having set forth these distinctions, Sextus is then in a position to circumscribe the role of signs according to the Dogmatists; to use the Stoic terminology of Sextus' text: signs provide us with an apprehension (*katalēpsis*) of things in the latter two classes of the non-evident, that is, of things which are not, as the *prodēla*, apprehended of themselves and neither, as things altogether non-evident, excluded from apprehension once and for all (cf. II. 99). It is the job of signs to bridge the gap between things pre-evident and things non-evident and this job is mirrored in the word *dēlōtikon*, disclosing, since its etymology connects it to the *prodēla* and the *adēla*. This seems to be the reason why substituting *dēlōtikon* for *ekkaluptikon* can be taken to amount to an explanation: in opposition to *ekkaluptikon*, the word *dēlōtikon*, because of its etymology, reminds us that the last requirement in the sign definition is to be understood against the epistemological background of the *prodēla/adēla* distinction. Although this may plausibly explain why the Stoics want to bring in the term *dēlōtikon*, it will not explain why they choose *ekkaluptikon* in the first place, that is, in the defining formula quoted in II. 104. *If* the sign definition attributed to the Stoics in this passage was not only held but also worked out by the Stoics, it is hard to understand why the supposedly Stoic authors of this definition did not use *dēlōtikon*, a term which fits in so nicely with their epistemology, in lieu of *ekkaluptikon* in the sign definition itself. Hence, we may have reason to doubt the truth of the antecedent.

II

Let us turn to the parallel passage in *M* (VIII. 245–56). Although we find essentially the same doctrine expounded here as in *PH*, the *M* passage on the whole is inferior. Points explained in a concise way in *PH* are dealt with in a rather long-winded fashion in *M*. Thus, for example, *PH* needs 11 lines (in the edition of Mutschmann/Mau) for its account of the sound conditional, *M* takes 19 for the same job. Whereas *PH* starts off with a precise statement of the criterion ('a sound conditional is one that does not begin with truth and end in a falsehood' *PH* II. 104), *M* treats us first to the list of the four possible combinations of truth-values, each illustrated by an example, then repeats the four combinations once again and only after that—we have been dragged through 13 lines of text—are we told that the first three combinations, again listed in the subsequent lines, make the conditional

true (*alēthes*), the *TF* combination makes it false (*pseudos*) (cf. *M* VIII. 245–7). Thus, where *PH* offers a concise general account, all we get in *M* is a list. We may note another point in passing: *M* uses 'true' and 'sound' ('false' and 'unsound') interchangeably for the conditional, *PH* sticks to 'sound' (*hugies*) ('unsound' (*mochthēros*)), reserving 'true' and 'false' for the antecedent and the consequent.

As for the requirement that a sign ought to be a true antecedent in a sound conditional, *PH* states it in a brief definition of a technical term (*prokathēgoumenon*), using 3 lines of text (cf. II. 106); *M* settles the same point in a tiresome exposition of 19 lines (cf. VIII. 248–50). Moreover, it is worth noticing that the author of the source used in *M* not only fails to give a proper definition of *kathēgoumenon* as the true antecedent in a sound conditional, but also seems to use this term eventually in the broader sense of 'antecedent'. The exposition leads to the following conclusion:

> Thus when the sign is said to be 'a proposition which forms the pre-antecedent (*kathēgoumenon*) in a sound conditional', we shall have to understand that it is a pre-antecedent (*kathēgoumenon*) in that conditional only which begins with truth and ends in truth.
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> (*M* VIII. 250)

The explication contained in the apodosis of this sentence is meant to provide a *specification* circumscribing the meaning of *kathēgoumenon* in the protasis. This in turn means that *kathēgoumenon* when it occurs in the apodosis is used as a generic term in a formula specifying the sense of *kathēgoumenon* in its first occurrence. Hence, we should expect *hēgoumenon*, the standard term for 'antecedent' (cf. *PH* II. 106 and *M* VIII. 251, 252). The use made of the term *kathēgoumenon* in the apodosis of the sentence quoted is hardly justified if the job of *kathēgoumenon* as used in the sign definition at *M* VIII. 245 is that of a technical term denoting the *true* antecedent in a sound conditional. It should be obvious that it in fact has this technical sense in that definition (and, therefore, performs the same job as the *prokathēgoumenon* at *PH* II. 104). If it were otherwise, the sign definition would not warrant the requirement that a sign has to be a *true* antecedent.[12]

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[12] What has been said above (cf. 89) concerning the term *prokathēgoumenon*, i.e. that it seems to be tied to the definition in which it occurs, holds also for *kathēgoumenon*: as noted by M. Burnyeat (above n 1, 221), this expression 'occurs in Sextus *only* when he is reporting or referring directly to this very definition' (i.e. the one stated in *M* VIII. 245). The relevant passages as given in Janáček's index are the following: *M* VIII. 248, 250, 256, 265, 268, 269, 271, 272.

The conclusion to be drawn from this observation about the use of a term in *M* may sound disappointing and paradoxical: It seems that the author of *M*'s (ultimate) source in his attempts to explain the definition of sign is not quite up to the mark in respect to his explanandum.

The account of the last part of *M*'s definition of a sign, stipulating that a sign ought to be 'revealing the consequent', takes up as much as 20 lines in *M* (cf. *M* VIII. 250–3). *PH* needs 4 lines for the same work (cf. *PH* II. 106). Again we may notice some confusion about a point of logic in our unknown author. He first explains that not every (antecedent) proposition in a sound conditional that begins with truth and ends in truth (cf. *M* VIII. 250, overlooking the somewhat redundant characterization) would count as a sign, since this criterion would still allow in cases like 'if it is day, it is light', cases, that is, where antecedent and consequent are equally evident (cf. *M* VIII. 251). Then he comes up with the following conclusion:

> The sign, therefore, must not only be the antecedent (*hēgoumenon*) in a sound conditional—that is (*toutesti*), in one that begins in truth and ends in truth—but must also possess a nature which serves to reveal the consequent.
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> (*M* VIII. 252)

Our unknown author here identifies the sound conditional with one of the three combinations of truth-values that yield, under Philo's criterion, a sound conditional. This is all the more remarkable since this misleading, not to say false, statement might easily have been avoided: it would have sufficed to say 'The sign, therefore, must not only be the antecedent in a conditional that begins in truth and ends in truth, but etc.'.

In the text immediately subsequent to the passage just quoted, we are offered two conditionals whose antecedents comply with the 'revealing' requirement (cf. *M* VIII. 252–3). The first of these two conditionals is a slightly longer version of the corresponding example in *PH* (c. II. 106). *M*, no more than *PH*, does offer a general explanation of the term *ekkaluptikon* nor does it offer, as the *PH* version did, a paraphrasing term (*dēlōtikon* in *PH*) for the one used in the definition. What we get instead, is a statement concerning the sign/significatum relation as a whole: 'For by observing (*prosballontes*) the former (i.e. the sign) we come to an apprehension (*katalēpsis*) of the latter (i.e. the significatum).' (*M* VIII. 253).

As an account meant to explicate a term of a defining formula this statement suffers from a grave defect: it catches only a necessary

condition of the revelatory character of a sign, but fails to give us a sufficient one. For although it is a feature of every sign (as understood in the theory under discussion) that, by observing it, we become aware of some other thing, this feature is by no means restricted to signs. Take the case where you look at the mirror image of a person that you could also observe directly (he/she is in the same room as you). The mirror image would not count as a sign. What is implied in assigning a revelatory character to signs is the contention that the significatum, either in principle or in the prevailing circumstances, can *only* be known by way of a sign (not necessarily only by way of that particular sign). If *a* is able to reveal *b*, *b* must in some sense be hidden away. The defect in the above explication consists in the failure to catch this feature in the revealing character of signs.

I said at the beginning of the discussion of the *M* version (above p. 91) that we find in *M* 'essentially the same doctrine' as in *PH*, and I can now use the room this 'essentially' leaves for qualification. A qualification is needed, for the *M* version, in the passages subsequent to the text just discussed, now brings in material which has no counterpart in *PH* (cf. *M* VIII. 254–6). The unknown author of *M*'s (ultimate) source introduces something which he, as is shown by the résumé in VIII. 256, takes to be a further requirement in the sign definition: a sign, it is claimed, 'must be the present sign of a present thing' (*paron parontos dei einai sēmeion* VIII. 254). The way Sextus introduces this further material in his report—'further, they say . . .' (*eti, phasi . . .*)—may suggest that it had the character of a supplement also in his source.

Our unknown author grants that some people 'erroneously' (*exapatōmenoi* VIII. 254, cf. the equally high-handed *agnoousi dē hoi ta toiauta legontes* VIII. 255) think that there are signs of past things ('If this man has a scar, he has had a wound') as well as of future ones ('If this man is wounded in the heart, he will die') (cf. VIII. 254). Yet he is convinced he has an easy reply to this objection. He defends his additional criterion by claiming that, although the wound is past and death will come about in the future, the *propositions* about the past wound and about imminent death are things present (cf. VIII. 255).

This vindication will hardly stand scrutiny. First of all, the proposed addition would be superfluous as a further specification in the definiens since this requirement is met by any conditional with a true antecedent and a true consequent, and hence, also by those examples which have been shown not to qualify as signs a few paragraphs earlier

(cf. VIII. 251). Secondly, the justification offered makes this further requirement inconsistent with the 'revealing' requirement. For if the significatum of a sign is indeed the consequent proposition itself (and not the fact stated in this proposition), then there is nothing left for the sign to reveal. After all, the consequent proposition is as evident as is the antecedent. The 'revealing' requirement presupposes a different degree of evidence between sign and significatum, and this essential difference is levelled out if the significatum is identified with the consequent *proposition* of the sign conditional. Among the many shortcomings we noticed in what *M* has to say about the sign definition this last point is by far the grossest blemish.[13]

To sum up: the observations made about the material preserved in *M* amply justify the conclusion that Sextus here is working from a source much inferior to the one used in *PH*. *M* is lacking in conciseness and precision, it is careless in its use of terminology, it is confused in a point of elementary logic, and it expands the sign definition to include a point which makes the resulting formula inconsistent.

What can be inferred from Sextus' report as to the historical position of his source in *M*? A first point that is pertinent here concerns the chronological relation of the (ultimate) sources used in *M* and *PH* respectively. As Myles Burnyeat has correctly observed, the term *prokathēgoumenon* used in *PH* presupposes the *kathēgoumenon* of *M*, and since both terms are tied to the context of their respective definitions, we may safely conclude that the *PH* source is posterior to the one used in *M*.[14] Other observations will corroborate this finding: with one exception (to be explained soon) all examples illustrating points in the *PH* version also turn up in *M*, and on the whole, the *PH* author seems to have trimmed the material contained in *M*'s source, improving on points of detail, cutting back its long-winded accounts, and silently dropping the unfortunate expansion of the sign definition which we find introduced at the end of the version in *M*.

The source Sextus is drawing from in *M* thus precedes the one used in *PH*. Is it also Stoic? Sextus does not mention a Stoic philosopher or the Stoic school in *M* VIII. 244–56, but there is sufficient evidence to answer this question in the affirmative. The *M* passage is prefaced by a remark stating that the doctrine expounded in what follows belongs to philosophers who hold that the sign is something intelligible, in

[13] *contra* Burnyeat, above n 1, 221 n 68.   [14] Burnyeat, above n 1, 222.

opposition to people taking the sign to be something sensible (cf. *M* VIII. 244). The two groups were opposed already at *M* VIII. 177, and there they have been identified as Stoics and Epicureans respectively. This alone would be sufficient to warrant the Stoic character of the material reported in *M*.

Yet we find also in the text of *M* VIII. 244–56 itself evidence for the Stoic origin of this doctrine. At VIII. 253 the term 'apprehension' (*katalēpsis*) is used for the kind of cognition brought about by the sign. Now this term is definitely Stoic: Cicero (cf. *Academica (Acad.)* I. 41 and II. 145) tells us that Zeno of Citium introduced this word as a technical term of epistemology. The verb *prosballein* used in the same sentence (VIII. 253) also points to the Stoics. This technical use of the word as a term of epistemology is attested in another text reporting Stoic doctrines (*M* VII. 252), but does not seem to be recorded for any earlier philosophers.

Moreover, there is a quite telling example used in the illustration of truth-functional implication (cf. VIII. 246). Whilst the examples meant to furnish an instance for the *FF* and *FT* combinations are identical with the ones used by Philo (cf. *M* VIII. 113–14)—stealing examples from other authors' logic books seems to have a venerable tradition—the unknown author exploited here by Sextus has rejected Philo's examples for the *TT* and the *TF* case ('if it is day, it is light' and 'if it is day, it is night' respectively). The new illustration for the *TF* case is not of interest, but the *TT* combination has been chosen to bring in an edifying bit of Stoic natural theology: 'If there are gods, the world is ordered by the gods' providence (*pronoia*).' The doctrine of divine providence is Stoic teaching beginning with Zeno (cf. D.L. VII. 133, 138; Cicero, *de Natura Deorum (ND)* II. 74; for attribution to Zeno see Cicero, *ND* II. 58). This, incidentally, is the only instantiation not adopted by the author of the source used in *PH*; wisely enough, he has chosen to reinstate Philo's example (cf. *PH* II. 105).

We may therefore safely ascribe the material used in *M* VIII. 245–56 to a Stoic author. Since the source exploited in this passage precedes the source used in the *PH* version and since we had reason to hand over the *PH* source to the early Stoics, *a fortiori* we ought to put the unknown author of *M*'s (ultimate) source among the early Stoics.

III

What does Sextus tell us about the second ingredient in the theory of signs, the division of signs into commemorative and indicative ones? A report of this part of the doctrine is given in *PH* II. 99–101 and in *M* VIII. 149–55, and in both passages it follows upon a classification of evident (*prodēla*) and non-evident things (*adēla pragmata*) (cf. *PH* II. 97–8; *M* VIII. 141–8). We had occasion to refer to this latter classification when discussing the account offered in *PH* for the 'revealing' requirement, and it seems appropriate to take a closer look at it now, for the epistemological distinctions it contains (and in particular the subdivision of things non-evident) in some sense seem to form the background to the division of signs. After all, the exposition and the account of these distinctions are immediately subsequent to the announcement of the sign discussion in *PH* (II. 96) as well as in *M* (VIII 140).[15]

If we compare the two passages dealing with these divisions, the *PH* version again seems to have the advantage of greater conciseness and clarity. So I shall use it as the starting-point for my discussion. *PH* first divides things (*pragmata*) into evident (*prodēla*) and non-evident (*adēla*) things, subdividing non-evident things further into three classes, the altogether non-evident (*kathapax adēla*), the occasionally non-evident (*pros kairon adēla*), and the naturally non-evident things (*phusei adēla*) (cf. *PH* II. 97). This classification which Sextus attributes to the 'dogmatic philosophers' (II. 97) is obviously meant to be exhaustive and mutually exclusive.

Next Sextus gives us, still reporting on the Dogmatists, a general account and an example of each one of these four groups, that is, of things evident and of the three classes of things non-evident (cf. *PH* II. 97–8). The evident things are those 'which come to our cognition of themselves' (*ta ex heautōn eis gnōsin hēmin erchomena*, II. 97), as the fact

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[15] Unlike the *definition* of sign reported by Sextus, the *division* of signs into commemorative and indicative ones is denied to be a part of Stoic doctrine by a number of authors: so Philippson, above n 1, 66; Heintz, above n 1, 48 n 1; Preti, above n 1, 10; most recently Sedley, above n 1, 241; and Glidden, above n 1, 218 *passim*. I shall try to show that both ingredients go back to the Dialecticians but were taken over into Stoic doctrine by the early Stoics. I shall not comment on the problem connected to Sextus' criticism of the theory of signs—is his criticism, as he explicitly claims (cf. *PH* II. 102; *M* VIII. 156–8), directed only against the indicative sign or else is it, as suggested by the arguments Sextus actually employs, an attack on the notion of sign in general?

that it is day. The altogether non-evident things are those 'which are not of a nature to fall within our apprehension' (*ha mē pephuken eis tēn hēmeteran piptein katalēpsin*, II. 97), as the fact that the stars are even in number. Occasionally non-evident are things 'which, though patent in their nature, are, for the time being, rendered non-evident to us owing to certain external circumstances' (*haper tēn phusin echonta enargē para tinas exōthen peristaseis kata kairon hēmin adēleitai*, II. 98), 'as the city of Athens is now to me' (II. 98). Finally, the naturally non-evident are those things 'which are not of such a nature as to fall within our clear perception' (*ta mē echonta phusin hupo tēn hēmeteran piptein enargeian*, II. 98), as the intelligible pores (i.e. the pores in the skin). For the latter, it is explained, never appear of themselves but are inferred from other things, for example from perspiration.

It is not clear how we are to understand the 'things' (*pragmata*) which this classification is meant to divide. Does *pragma* stand for an object or a state of affairs? The first two examples tell in favour of the latter alternative: the *pragmata* used for illustration are of a propositional structure; the that clause in the English rendering corresponds to an infinitive construction in the Greek. The *pragmata* in the latter two examples, as it seems, are objects: the city of Athens and the pores in the skin. Yet in spite of its grammatical outlook the last illustration again can only represent a fact, not an object. For what we become aware of in this case is not the pores themselves, but their existence, the fact that there are these little holes in the skin. This is all you can learn about them when taking perspiration as your starting-point. However, the city of Athens example will not lend itself to such a propositional interpretation. For the city of Athens, in opposition to the invisible pores, is an object of knowledge by acquaintance and is taken to be such in this example. So in the end we have to concede that the unknown author of this classification very probably was confused about the fact/object distinction and in any case did not pay attention to it. Hence, I shall continue to render *pragmata* by 'things', exploiting the ambiguity of the English word in this respect.

Let us take a quick glance at the parallel version of this division in *M* (VIII. 141–8). *M* offers two accounts of things evident (cf. VIII. 141, 144) each of which has attached to it an explanation of non-evident things in general. *PH* was content with one criterion for evident things, leaving aside a general circumscription of things non-evident (cf. *PH* II. 97). *M*'s account of the class of evident things at VIII. 144 agrees *verbatim* with the definition in *PH*: the evident things are 'those which

come to our cognition of themselves', the non-evident things, *M* continues, are those 'which are not of this character'. This is no proper definition but merely a characterization by way of negation. As for the other passage (VIII. 141), the picture is no better: the account of evident things given there—'those which fall of themselves within the senses and the mind'—leaves it unclear as to whether falling of itself within the senses (or, alternatively, within the mind) counts by itself as a sufficient condition for something's being an evident thing, or whether the two requirements have to be taken together to form a sufficient condition. This sort of amphiboly should be avoided in a proper definition. In the same passage, the non-evident things are said to be those 'which are not apprehensible of themselves' (*ta mē ex hautōn lēpta*). This is misleading, not to say false. For the negation here applies only the qualification 'of themselves' (*ex hautōn*) and, hence, this account does not include in the class of non-evident things those that are not apprehensible at all, that is, the altogether non-evident things.

The explications found in *M* for the things occasionally and those altogether non-evident agree—apart from minor stylistic differences— with those in *PH*. Yet *M* disagrees from *PH* in its account of the naturally non-evident things (cf. *M* VIII. 146). The latter are characterized as 'the things which are everlastingly hidden away and are not capable of falling within our clear perception' (*ta di' aiōnos apokekrummena kai mē dunamena hupo tēn hēmeteran pesein enargeian*, VIII. 146). The first half of this formula is simply superfluous for the purpose of the definition. It is quietly dropped in *PH* (cf. II. 98).

Thus where *M* disagrees from *PH* in its account of the different divisions of evident/non-evident things, it is always to the disadvantage of *M*. The (ultimate) source used in the *M* version seems to be inferior to the one exploited in *PH*. Other observations confirm this assessment. The exposition in *M* is long-winded where *PH* is concise. The recapitulation at *M* VIII. 148, for example, could be dropped without any loss for the overall argument. The author of *M*'s source thinks it necessary to explain the example offered for the occasionally non-evident things, that is, the (far-away) city of Athens (cf. *M* VIII. 145), *PH* takes this example to be self-explaining (cf. *PH* II. 98). On the other hand, *M* fails to give an explication where it would have been more appropriate to deliver one and where, in fact, we find one in *PH*: when it comes to the example of the things naturally non-evident (cf. *M* VIII. 146 and *PH* II. 98). Hence our comparison between *PH* II.

97–8 and *M* VIII. 141–8 confirms our findings about the parallel treatment of the sign definition in *M* and *PH* respectively: the source used in *PH* is superior to the one underlying *M*.

We may extend this similarity also to the point of chronology: the source exploited in *PH* is not only better, but also later than the one used in *M*. Here, as in the treatment of the sign definition, the *PH* version is the result of trimming and correcting the work of the unknown author of *M*'s source. Thus all examples used in *PH* also turn up in *M*, but wherever *M* uses two examples to illustrate one and the same point, as it does on most occasions, *PH* leaves out one of the two. Now this sort of economy could also be attributed to a later compiler, for example Sextus himself. Yet the omission of a superfluous bit in *M*'s account of things naturally non-evident which we find effected in the parallel version in *PH* cannot possibly be the work of a compiler. This correction is very strong evidence to the effect that the unknown author of the source used in *PH* was working with the material reported in *M* in front of him.

There is also sufficient evidence to support ascription of both the *PH* and the *M* source to Stoic philosophers. The Stoic terms 'apprehend' (*katalambanesthai*) and 'apprehension' (*katalēpsis*) occur in *PH* II. 97–9 and the latter term is found in two passages in *M* (VIII. 147, 149). We may add a further observation: the word *peristasis* which is used down to Epicurus in a local sense only (cf. D.L. X. 106, 109), occurs in the sense of 'circumstance' when we come to the explanations of things occasionally non-evident (cf. *PH* II. 98; *M* VIII. 145, 150). This expression is used in the same sense by two pupils of Zeno: by Herillus (cf. D.L. VII. 165) and by the heterodox Stoic Ariston (cf. *M* XI. 65).

Let us then turn to our main topic, the division of signs into commemorative and indicative signs. In both the *PH* and the *M* version, this distinction is introduced in intimate connection to the classification just discussed. In both versions we are told that evident things do not need a sign; they are, after all, perceived directly. Things altogether non-evident cannot be known at all, *a fortiori* they cannot be known by means of a sign: they are removed from apprehension altogether (cf. *PH* II. 99; *M* VIII. 149). *PH* then continues as follows:

Such things as are occasionally or naturally non-evident are apprehended by means of signs—not of course by the same signs, but by commemorative signs

in the case of the occasionally non-evident and by indicative signs in the case of the naturally non-evident.

<div style="text-align: right">(PH II. 99)</div>

This seems to be a rather neat picture. Each of the two types of sign has a class of things non-evident allotted to it. Since there can be no objects of signs outside these two classes (this is warranted by the completeness of the division of *pragmata* together with the exclusion of things evident and things altogether non-evident from being significata), each of the two types of sign can find its significata only within the allotted class of things.

Hence we would expect that a definition of the commemorative and of the indicative sign would refer to these classes of things non-evident, stating for example that something is a commemorative sign if and only if it reveals something occasionally non-evident. Surprisingly however, when Sextus, in the text following immediately upon the passage quoted, reports a definition of each of the two sorts of sign, no mention is made of the two sorts of non-evident things corresponding, as we have just been told, to the two sorts of sign. Here is the definition of the commemorative sign according to *PH*:

They call that a commemorative sign which, having been observed together with its significatum (*sēmeiōton*) in a clear manner at the time of perception, brings to our mind that which has been observed together with it, when this thing is not evident and is not clearly perceived at the moment.[16]

<div style="text-align: right">(PH II. 100)</div>

The formula used in this definition reappears *verbatim* at *M* VIII. 152. In both passages it is illustrated by the example of smoke as a sign of fire.

As for the indicative sign, *PH* reports the following definition:

An indicative sign, they say, is that which, not having been observed together with its significatum in a clear manner, signifies (*sēmainei*) that of which it is a sign by its own nature and construction (*ek tēs idias phuseōs kai kataskeuēs*).

<div style="text-align: right">(PH II. 101)</div>

The example illustrating this kind of sign is 'the bodily motions which are a sign of the soul'. The example also appears in *M* (cf. VIII. 155),

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[16] For the translation of *sumparatērēthen* (participle of the present tense) by 'having been observed' cf. Kühner and Gerth, *Grammatik der griechischen Sprache* (Hannover/Leipzig, 1890), § 382, 4.a. Notice also that *sumparatērēthen* is used together with *proteron* in Pseudo-Galen, *Historia Philosopha* cap. 9 (= Diels, *Doxogr. Graeci* 605, 16).

but in *M* we do not find a definition proper of the indicative sign. What we get instead is an explication of this type of sign by contrasting it with the commemorative one (cf. *M* VIII. 154). Unlike the latter, the indicative sign

does not admit of concomitant observation (*sumparatērēsis*) with its significatum— for the naturally non-evident thing (*to phusei adēlon pragma*) is in principle imperceptible (*anhupoptōton*) and therefore cannot be observed together with one of the things apparent (*phainòmena*)—but entirely by its own natùre and construction (*ek tēs idias phuseōs kai kataskeuēs*), all but uttering its voice aloud, it is said to signify that whereof it is indicative.

(*M* VIII. 154)

Now notice first that this account in *M* differs from the one in *PH* in an important respect. Where *PH* tells us that the indicative sign *has not been observed* together with its significatum, *M* states that it *does not admit of being observed* together with its significatum and it explains why: because the naturally non-evident is in principle imperceptible and, *a fortiori*, cannot be observed together with an apparent thing. Hence *M* establishes a connection between the indicative sign and the class of things naturally non-evident. Yet notice secondly that this connection only occurs in an explanation added to what seem to be the *disiecta membra definitionis* in *M*. Neither in *M* nor in *PH* is any attempt made to use the classification of things non-evident for the definitions (of commemorative and indicative sign) themselves. We can go a step further: of the terms used in both *PH* and *M* for the definitions proper, none is unmistakably Stoic. In particular, Stoic talk of 'apprehension' (*katalēpsis*) and 'apprehend' (*katalambanein*) is conspicuously absent from these sentences. As noted above, both terms have been used in the preceding paragraphs in *PH*, and *katalēpsis* twice turns up in *M*'s two accounts of things altogether non-evident (cf. *M* VIII. 147, 149).

As for the division of signs into commemorative and indicative, we thus have to state a strange discrepancy. Both the passages reporting the accounts of the two classes of signs are preceded by a classification of things (*pragmata*) into evident and three subdivisions of non-evident things, a classification leading up to the statement that signs can find their significata in two of the subdivisions of non-evident things only (cf. *PH* II. 99; *M* VIII. 149–50). Yet oddly enough, when it comes to actually stating the defining criteria of the commemorative/indicative sign respectively, no use is made of these divisions for this task. Even in M, where what is reported of the *definiens* of the indicative sign sets a

stricter criterion of this type of sign in comparison to *PH*, reference to the class of things naturally non-evident, which could have been used to establish the definition, is found only in an explication added to a defining criterion (cf. M VIII. 154).

The discrepancy noted on material grounds is further strengthened by our observations as to the terminology used. Stoic influence is obvious in the *pragmata* classification (cf. use of *katalēpsis*, *katalambanein*, and *peristasis*), but it is conspicuously absent in the accounts of the indicative/commemorative signs themselves. What are we to infer from these observations? We should *not* conclude that Sextus (or some other compiler) has introduced the distinction of indicative/ commemorative sign into (Stoic) source material which was unaware of this distinction. For in one passage (cf. *M* VIII. 154) we find the class of things naturally non-evident—which, I take it, has good Stoic credentials—intimately linked to the account of the indicative sign. I doubt very much that this addition of an explication could be the work of someone piecing together disparate sources. So what then are we to conclude? For the moment, I think, we can infer no more than a plausible possibility, namely, that the accounts of the indicative and commemorative sign, wholly or in part, may go back to a pre-Stoic source. However, to reach a more definite conclusion, we have to leave Sextus.

IV

The next address on our way is of course Diogenes Laertius. It is in Diogenes that we find the most systematic exposition of the philosophy of the Old Stoa. As is well known, Diogenes' report is based on Diocles the Magnesian who seems to have been an older contemporary of Cicero and, hence, comparatively close to the philosophers he is reporting. Yet strangely enough, at least at first sight, in Diogenes' exposition of Stoic logic (D.L. VII. 42–83) there is not a single sign of a Stoic theory of signs. This may sound disappointing. However, this fact can be made to lend support to one of our tentative results, if we pay attention to the nature of the source material used by Diogenes.

Among the nine Stoic authorities quoted or referred to by name in this report of Stoic logic (VII. 42–83) there is not a single early (i.e.

pre-Chrysippan) Stoic.[17] Notice also that middle Stoicism keeps a very low profile. Panaetius is not mentioned at all, and Posidonius who is mentioned in three passages (cf. VII. 54, 60, 62) is allowed only once to bring in something he has to say about logic: his account of dialectic (VII. 62) which is different from that attributed to Chrysippus.[18] At VII. 60 his definition of a poem is referred to, and at VII. 54 he is used as a source for the older Stoics' view of the criterion.[19] The Stoics used in Diogenes' logic report are Chrysippus and his followers. Notice that this restriction is in sharp contrast to the policy followed in the reports on Stoic ethics (VII. 84–131) and physics (VII. 132–59) where the names of Zeno and Cleanthes hold a prominent place.[20]

It hardly needs mention that Chrysippus was not the first Stoic to take an interest in logic.[21] After all, it was their proclivity towards dialectic which made the founders of Stoicism part company with the Cynics. Even Diogenes testifies to this interest in logic shown by the early Stoics: Zeno as well as Cleanthes are said to have made logic a part of philosophy (cf. VII. 39 and VII. 41 resp.), and Zeno's interest in dialectic is confirmed by his studies with the Dialecticians Philo and Diodorus Cronus (cf. VII. 16 and 25).

Hence, when we find the cast of the logic chapter in Diogenes restricted to Chrysippan personnel, the reason for this must be that Stoic logic as established by Chrysippus superseded its Stoic forerunners in a radical and definite way. This, of course, is amply confirmed by what we are told about the logic of Chrysippus in ancient

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[17] Here is a list of the names of Stoic philosophers mentioned in D.L. VII. 42–83 together with the number of occurrences: Chrysippus 11, Diogenes 6, Antipater 5, Crinis 4, Posidonius 3, Apollodorus 2, Archedemus 2, Boethus 1, Athenodorus 1 (cf. VII. 68, probably to be deleted, cf. U. Egli, *Zur stoischen Dialektik* (Basel, 1967), 37). Notice also the frequent coincidences between the terminology used in Diogenes' report and the terms occurring in Chrysippan titles (D.L. VII. 189–202).

[18] At VII. 42 the same account is attributed to the Stoics, this time without mentioning Posidonius' name.

[19] R. D. Hicks, the translator of the *Vitae* in the Loeb edition, unfortunately mistranslates the passage: what is meant to be a *reference* to a source (*hōs ho Poseidōnios en tōi peri Kritēriou phēsi* = 'as Posidonius says in his treatise *On the Standard*'), is turned into a further testimony ('so also does Posidonius in his treatise *On the Standard*').

[20] Here is a list of early Stoics mentioned in the two other reports in D.L. Ethics-report: Zeno 8, Cleanthes 5, Persaeus 1; Physics-report: Zeno 11, Cleanthes 4, Sphaerus 2.

[21] M. Frede has rightly emphasized that a Stoic logic in the proper sense of the word (i.e. a logic worked out by Stoic logicians) did not exist before Chrysippus (cf. Frede, above n 11, 26). Yet this is compatible with there being Stoic logicians and a logic adopted by Stoic philosophers well before the time of Chrysippus.

authors (e.g. D.L. VII. 180).[22] The famous dictum quoted by D.L. (VII. 183) that 'but for Chrysippus, there had been no Porch', if anywhere, applies to the field of Stoic dialectic. This, in turn, accounts for the absence of early Stoics and their logical doctrines in Diogenes' exposition of Stoic dialectic. Thus, when the Stoic theory of signs, so well attested in Sextus, is nowhere mentioned in D.L., this amounts to an argument from silence to the effect that this theory can only be part of early Stoic doctrine.

I think we can even find evidence in D.L. to show that the absence of this theory cannot be due to a simple omission on the part of Diogenes or Diocles, but that it cannot possibly have been part of the Stoic epistemology as reported by D.L. The reason for this has to do with the account of proof (*apodeixis*) attributed to the (i.e. Diogenes') Stoics in D.L. VII. 45. However, to see the implications of this bit of Stoic doctrine, we first have to bring in some material from Sextus again.

Proof, we are told several times in Sextus' reports, is a kind of sign (cf. *M* VIII. 180, 277, 299, 301; *PH* II. 96, 122, 131, 134). The accounts of proof reported by Sextus all make it a requirement of proof that it *reveals* a non-evident (*adēlon*) conclusion (cf. *M* VIII. 314, 385, 422–3; *PH* II. 135, 143, 170). Hence, we also find the milk example used to illustrate the revealing character of proof (*M* VIII. 423), not only of sign (as in *M* VIII. 252; *PH* II. 106). The claim that proof (which is an *argument* cf. *M* VIII. 134; *PH* II. 135) is a kind of sign (which is a *conditional proposition*, cf. *M* VIII. 245; *PH* II. 104) is highly problematical indeed, since it blurs the distinction between asserted and non-asserted proposition. Yet for the moment we may ignore this. What is important for our purpose is the fact that, as far as Sextus is concerned, sign (the genus) as well as proof (the species) rely on the opposition between things evident and things non-evident. For this clear-cut opposition is watered down to a merely gradual difference when we come to the Stoic (Chrysippan, I take it) definition of proof in Diogenes' exposition:

Proof is an argument (*logos*) inferring by means of what is better apprehended (*dia tōn mallon katalambanomenōn*) something less well apprehended (*to hētton katalambanomenon*).

(D.L. VII. 45)

Whoever may have supported this account of proof, he cannot also

[22] For references see Frede, above n 11, 27 f.

have made both proof a kind of sign and sign an antecedent revealing the consequent. For the concept of something less well apprehended is more comprehensive than the concept of something non-evident. It is, of course, not logically excluded that the author of the proof definition preserved in D.L. cancelled only the relation of species to genus between proof and sign. Yet it is far more likely that the considerations which have prompted the new definition of proof reported in D.L. also have had consequences for its epistemological relative, the concept of sign. This in turn means that it is quite unlikely that the theory of sign which we find attributed to the Stoics in Sextus Empiricus has been part of the logical doctrines of Chrysippus and his followers.[23]

Thus, it is not only the absence of early Stoic philosophers in Diogenes' exposition of Stoic logic which, together with Diogenes' silence on a Stoic theory of signs, lends plausibility to the claim that this theory was part of early Stoic doctrine. We can also draw support for this claim from the Stoic definition of proof as reported in D.L.

V

Because of the Chrysippan material used, the report on Stoic logic in D.L. (VII. 42–83) can confirm our ascription of the theory of signs to the early Stoics only in a negative respect: by excluding it from Stoic logic as established by Chrysippus and his school. After all, no early Stoic is mentioned in this report. Yet outside this exposition, D.L. contains a lot of information on early Stoics which is also quite pertinent to our problem. D.L., for most of the early Stoics, includes lists of their writings in his report.[24] Although these inventories cannot tell us anything about particular doctrines advocated in the writings

[23] O. Rieth, in an excursus ('Die stoische σημεῖον-Lehre') to his excellent monograph on *Die Grundbegriffe der stoischen Ethik* (Berlin, 1933), has tried to show that the Stoic theory of signs must belong to Chrysippus. He bases his claim on two passages (i.e. Cicero, *ND* II. 16; Alexander, *de Mixtione* 216 f, ed I. Bruns) where we find arguments attributed to Chrysippus which infer things unobservable from observed phenomena (Rieth, loc cit, 187–9). Yet even if these arguments (or certain premisses used in them) would qualify as *sēmeia*, this does not warrant the conclusion that Chrysippus also adheres to the interpretation given of such *sēmeia* in the theory of signs as expounded in Sextus. His use of *sēmeia* commits him to this theory as little as the use of an argument of the form *Barbara* commits an arguer to Aristotle's syllogistic theory.

[24] D.L. supplies the following Stoics with lists of their writings: Zeno (VII. 4), Persaeus (VII. 36), Aristo (VII. 163), Herillus (VII. 166), Dionysius (VII. 167), Cleanthes (VII. 174–5), Sphaerus (VII. 178), Chrysippus (VII. 189–202).

registered, they provide valuable information about topics of discussion among the early Stoics.

First and foremost, we learn that Zeno has written a treatise *On Signs* (*peri sēmeiōn* VII. 4). This title is listed in a (probably incomplete) catalogue of nineteen Zenonian works.[25] D.L. does not offer any information as to the content of this treatise, but I think it is a fair guess that one of the sources used by Sextus ultimately goes back to Zeno's book *On Signs*. Secondly, we learn that the founder of Stoicism got his knowledge of logic from members of the Dialectical school: from Philo (cf. VII. 16) and from Diodorus Cronus (cf. VII. 25). D.L. also relates the story that Zeno, being offered a logical treatise by a Dialectician, was prepared to pay double the price he was asked for (VII. 25). Moreover, there is evidence showing that not only Zeno but other early Stoics as well were influenced by the logic of the Dialecticians. Among the titles of logical works attributed to early Stoics there are four that have counterparts in titles (or topics) of writings attributed to members of the Dialectical school.

Clinomachus who seems to have been the founder of the Dialectical school is said to have written 'on propositions, predicates, and the like' (D.L. II. 112).[26] Even if this is not an enumeration of titles, but of topics, it is quite telling that in the list of writings attributed to Cleanthes and to his pupil Sphaerus respectively (cf. D.L. VII. 175, 178) we meet with a title *On Predicates*. Cleanthes' work *On Forms of Argument* (*peri Tropōn*, cf. VII. 175) is matched by a treatise carrying the same title written by Philo to which Chrysippus bothered to write a refutation (cf. VII. 194). Again in the long inventory of Chrysippus' works there is a treatise arguing against a book *On Ambiguities* (*peri Amphiboliōn*) produced by the Dialectician Panthoides (cf. VII. 193; for Panthoides as a Dialectician see D.L. V. 68). The same title turns up

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[25] This catalogue is discussed by K. v. Fritz, 'Zenon von Kition', in *Pauly-Wissowa's Realencyclopädie*, vol X A (1972) col 90. As for the content of this treatise, v. Fritz argues that its place in the list of writings suggests that its topic was signs of future events whose discussion was part of physics. I do not think that this argument carries any weight: the title preceding the one under discussion indicates a physical treatise (*peri tou Holou* = *Of the Whole World*), but the subsequent one (*Puthagorika* = *Pythagorean Questions*) would hardly be suitable for a work on physics. Moreover, the fact that *sēmeion* is used already by Aristotle (*Analytica Priora* (*APr*) II. 27) as a technical term in epistemology tells against this suggestion. Since there is, as we have seen, sufficient evidence to attribute the theory of signs reported by Sextus to early Stoics, it is reasonable to assume that Zeno's book contributed to the epistemological discussion on signs.

[26] On Clinomachus cf. K. Döring, *Die Megariker. Kommentierte Sammlung der Testimonien* (Amsterdam, 1972), test. 32A, 34, 35.

in the list of writings by Sphaerus (VII. 178). Given the extremely meagre evidence we have for any writings of the Dialecticians, and in view of the fact that among the titles attributed to early Stoics, hardly more than a dozen testify to a logical topic, these parallel titles are quite impressive. They show that, as far as logic is concerned, the early Stoics follow in the wake of the Dialecticians.[27] It seems reasonable to assume that what holds for pre-Chrysippan Stoic logic in general will also hold for the theory of signs: that it goes back to the Dialecticians. After all, the use of Philonian implication in the account of a technical term used in the sign definition strongly points in this direction. I shall attempt to strengthen this suggestion in what follows next.

In the list of Chrysippus' writings we find a title: *pros to peri Sēmasiōn Philōnos, A Reply to the Work of Philo On Sēmasiai* (D.L. VII. 191). The Greek term which I have only transliterated, *sēmasia*, is rendered by translators of this list as 'meaning'.[28] Philo then would have written a treatise *On Meanings*. I shall try to show that this was in fact a work *On Signs*.

The word *sēmasia* in the sense of 'meaning' (of a word) is frequent in Apollonius Dyscolus (2nd cent. AD); it does not seem to occur in other grammarians.[29] The earliest evidence for the use of *sēmasia* in this sense seems to be a passage in the *de Signis* (XXXIV. 2) written by the Epicurean Philodemus of Gadara around the middle of the first century BC or a little later.[30] In all earlier occurrences this term has the meaning 'sign' or 'signal'. It is used in this sense on several occasions in the *Septuagint*, the Greek translation of the Old Testament produced in between 300 and 150 BC.[31] It turns up in this sense in

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[27] Frede has noticed the dependence of pre-Chrysippan Stoic logicians upon the pre-Stoic logicians mentioned above (cf. Frede, above n 11, 22). Frede, however, does not yet distinguish the Dialecticians from the Megarians and, thus, takes this influence to be one of Megarian logicians; cf. also Rist, n 1 above, 390 ff.

[28] In the Loeb edition of the *Vitae* (London, 1925), R. D. Hicks translates this title as *On Meanings*; the German translation by O. Apelt and K. Reich (Hamburg, 1967), has *Von den Bedeutungen*.

[29] cf. Apollonius Dyscolus, *de Pronominibus*, ed R. Schneider (Leipzig, 1878), 14 l 3, 39 l 21, 44 l 16, 56 l 13, 62 l 13, 161 l 13, 171 l 22, 178 l 5; *de Adverbiis*, ed R. Schneider (Leipzig, 1878) 154 ll 2 and 4, 205 l 14. Further instances of this usage: Iamblichus, *Protrepticus*, ed H. Pistelli (Leipzig, 1888), 4; Aelianus, *Tactica*, ed H. Köchly and W. Rüstow (Leipzig, 1855), 24 l 4.

[30] Thus P. H. and E. A. de Lacy (eds), *Philodemus: On Methods of Inference* (²Naples, 1978), 163 f.

[31] The word *sēmasia* occurs 25 times in the Septuagint (18 of these occurrences are to be found in the Leviticus and in the Numeri). The full list of the references in the Septuagint was kindly provided by Dr Larry Schrenk, using the Ibycus Computer of the University of Texas at Austin. The Greek word is used to translate Hebrew expressions

Diodorus Siculus (II. 54) and in Strabo (VIII. 6. 5), both active in the first century BC. And the only occurrence of *sēmasia* in the Corpus Aristotelicum, the passage 919b36–7 of the Pseudo-Aristotelian *Problemata*, clearly demands the rendering 'sign': 'the deeds are a *sēmasia* of character'. The *Problemata* were probably not written before 250 BC.[32] Philo's title, incidentally, seems to be the earliest recorded use of this term. Hence, we have very good reason to translate the title preserved in the list of Chrysippus' writings as *A Reply to the Work of Philo On Signs*.

We can get further corroboration of this result if we take into consideration the context of the Chrysippan title. It occurs in a group of altogether eight titles, the 'second series' (*suntaxis deutera*), within a larger class of Chrysippus' logical writings (cf. D.L. VII. 190–3). These 'series' are arranged according to a systematic aspect. The first series of this class collects titles dealing with propositions in general, with conjunction, and with several kinds of simple (non-complex) propositions (cf. VII. 190). Four types of simple propositions among those discussed in D.L. VII. 69 have counterparts in this list. The third series specifies titles of works whose topics seem to be sentences which are *not* propositions: imperatives, questions, enquiries, investigations, answers (cf. D.L. VII. 191).

The second series, that is the group containing our title, is an inventory of writings which seem to discuss complex propositions and parts of such propositions. The first two treatises listed are about the true disjunctive and the true conditional proposition respectively (cf. VII. 190 *ad fin*). The work whose title is listed in the fourth place discusses the *akoloutha*, that is, the apodoseis in complex propositions introduced by 'since' (*epei*) or 'because' (*dihoti*) (cf. VII. 74). This title, however, seems to be mutilated. The formula of the title indicates that this Chrysippan writing is directed against (*pros*) another author's treatise *peri akolouthōn*. Yet unlike the four other titles with the same

having a somewhat technical sense: scab (Lev. 13: 2, 6, 7, 8; 14:56); signal of a trumpet (Num. 10:5, 6, 7; 29, 1; 1 Para. 15:28; 2 Para. 13:12; 2 Esd. 2:12, 13); signal for the jubilee (Lev. 25:10, 11, 12, 13). For further references see Liddell–Scott–Jones, s. v. *sēmasia*. The references given in LSJ should be completed by Galen, *Opera*, vol xix, ed C. G. Kühn (Leipzig, 1830), 205, 539, 551, 561, 571. In all these Galenian passages, *sēmasia* means 'seizure' of a disease.

[32] For the date of this Pseudo-Aristotelian treatise, cf. H. Flashar (ed), *Aristoteles: Problemata physica*, transl H. Flashar (Berlin, 1962; 2nd edn 1975), 357. Flashar states that the earliest texts of this treatise could hardly have been written before the middle of the third century.

initial formula in the list of Chrysippus' works,[33] this one does not
mention the name of the author criticized. We may, therefore, suspect
a lacuna in the text, perhaps due to a mechanical damage in a
manuscript.

This observation about a textual problem may also prove helpful
when we come to the third title in this list: *Hairesis* (VII. 191 *ad in*). For
several reasons, this word is bound to arouse suspicion. First of all, of
the two meanings of the Greek word none fits the title of a logical
treatise: neither 'choice' nor '(philosophical) sect'. Secondly, whenever
the first word of a title in this list is not a preposition but a substantive,
these substantives when used in the singular invariably indicate the
formal character of the respective work, e.g. 'abridgement' (*epitomē*),
'treatise' (*technē*), 'outline' (*hupographē*), 'comparison' (*sugkrisis*). Substan-
tives specifying the content of a work are consistently used in the
plural. Finally, Gorgippides, the addressee of this treatise, on all other
occasions where his name occurs in this list (cf. 190–1, 198, 200) is
related to the title of a logical work. So his name also makes it rather
implausible that this might be the title of an ethical treatise. Hence, we
have good reason to suspect a textual corruption here as well as in the
subsequent title, and possibly for a similar reason: a damage in a
manuscript.[34] Title number five joins its two predecessors in arousing
suspicion: *peri tou dia Triōn palin pros Gorgippidēn*, translated by Hicks
as *On the Argument which employs three Terms, also addressed to
Gorgippides*. It should be noted that 'argument' as well as 'terms' have
no counterpart in the Greek; they are supplemented by the translator.
The translation thus supplemented takes the treatise to be about a type
of argument. Yet the Chrysippan writings on the topic of arguments
are collected in another section of this inventory (cf. VII. 194–8) and a
work dealing with this topic would hardly fit into a group of writings
whose overall theme is propositions. Thus, one might contest the
completion as effected by Hicks and look out for a better one. As far as
I can see the only possible supplement after *dia Triōn* which can,
perhaps, be based on textual evidence is *Tropikōn*. We learn from a
passage in Galen that the Stoics recognized syllogisms called *dia Duo*

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[33] i.e. VII. 193, 194, and 196 as well as the title in our passage which mentions Philo's
treatise.
[34] A possible conjecture would be: *peri aitiōdous*. This is a complex proposition
containing the conjunction 'because' (*dihoti*). The Stoic criteria for this proposition are
reported at D.L. VII. 74.

Tropikōn and also *dia Triōn*.[35] In that case, we would have to correct Hicks' 'terms' into something like 'premisses'. Yet this would still leave us with a work of syllogisms and, hence, not calm our main misgivings.

Let me raise two further objections against this title. First of all, it seems to be over-elliptical even for a Greek author. It certainly would be unique in this respect among the titles of this rather long list. Secondly, the 'again' (*palin*) preceding the addressee's name looks strange. For although we quite often meet with the name of one and the same addressee in succession (e.g. Zeno 5 times, VII. 195; Aristocreon 3 times, VII. 197; Metrodorus 4 times, VII. 199), there is never again a *palin* (or an equivalent expression) preceding one of these names. So all these observations taken together strongly suggest that the wording of this title again is the outcome of textual corruption.[36]

Titles number six and eight (number seven is the one mentioning Philo's treatise) do not seem to offer any problems. Both confirm our claim that this group contains titles of works dealing with propositions. This is clearly so in the case of the last one: *On the Question what are False Propositions*, even though the 'propositions' has to be added in the translation. For according to Stoic theory, only propositions can be bearers of (truth and) falsity (cf. D.L. VII. 65). The title *On Possibles* (*peri Dunatōn*) also refers to a writing about propositions: the *dunaton*, as we are told in Diogenes' report (cf. VII. 75), is a proposition 'which admits of being true, there being nothing in external circumstances to prevent it being true'.[37]

Hence among the seven titles contained in this group besides the one that made us embark on this digression, there are only two (i.e. numbers 3 and 5) which are not clearly dealing with propositions and both of them offered strong reasons to suspect a textual corruption.

[35] Cf. Galenus, *De placitis Hippocratis et Platonis*, ed I. Mueller (Leipzig, 1874), 182; the reading *ē triōn* is not very well attested and, unlike Mueller, the latest editor of this Galenian treatise did not adopt it, cf. P. H. de Lacy (ed), *Galenus on the Doctrines of Hippocrates and Plato*, vol I (Berlin, 1978) 114.

[36] A possible conjecture for this title would be: *peri tou Diasaphountos pros Gorgippidēn*. For the type of complex proposition called *diasaphoun* by the Stoics see D.L. VII. 72–3.

[37] One might ask why a type of modal proposition occurs in this catalogue of titles referring to complex propositions or parts of such propositions (title no. 4). A tentative answer can perhaps be suggested on the following lines: certain propositions that are parts of complex propositions may sensibly be required to be though not true, yet admitting of truth, e.g. antecedents and consequents in non-counterfactual conditionals. The concept of 'admitting of truth' (*epidektikon tou alēthes einai*) is central to the Stoic definition of possibility (cf. D.L. VII. 75). Hence the discussion of the concept of the possible (proposition) may have involved a discussion of (parts of) complex propositions.

Thus the context of the Chrysippan title which has preserved a mention of Philo's *peri Sēmasiōn* strongly tells against the supposition that this Philonian treatise was a work about meanings. We ought to translate its title as *On Signs*.[38]

Furthermore, the occurrence of this title of Philo's in the group of Chrysippan titles just discussed also suggested that Philo may have established some connection between signs and (complex) propositions, a connection which we also have met with in the Stoic theory of signs as expounded in Sextus. There is at least some reason to assume that this Stoic doctrine owes some of its outlook to the Dialectician Philo. Can we go any further than this, or will the answer to the question of how much the Stoic theory owes to the Dialecticians remain an *adēlon* for ever? In the rest of this paper I shall try a further thrust into the non-evident by attempting to bring out what can be known about the Dialectical theory of signs and to compare it to the theory of signs as held by the Stoics.

VI

For this purpose I have to bring in a passage of text which I have so far left out of the picture: chapter IX of Pseudo-Galen's *Historia Philosopha*. Its title is *On Sign* (*peri Sēmeiou*). Here is the Greek text together with a translation:

Σημεῖον τοίνυν οἱ μὲν διαλεκτικοί φασιν ἀξίωμα ἐν ὑγιεῖ συνημμένῳ καθηγούμενον ἐκκαλυπτικὸν τοῦ λήγοντος. τῶν δὲ σημείων τὰ μέν ἐστιν ἐνδεικτικά τὰ δὲ ὑπομνηστικά. ὑπομνηστικὸν μὲν οὖν ἐστιν, ὅπερ συμπαρατηρηθὲν τῷ σημειωτῷ ἅμα ⟨τῷ⟩ φανῆναι τὸ σημεῖον καὶ τοῦ σημειωτοῦ εἰς γνῶσιν ἡμᾶς ἄγει, ὁποῖόν ἐστιν ἐπὶ τοῦ καπνοῦ. τοῦτον

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[38] Still it seems to be rather odd that Philo, in using *sēmasia* for 'sign', falls back on a very rare word (this Philonian title would in fact be the earliest extant evidence for a use of *sēmasia*) in order to denote something for which a well established technical term is at hand at least since Aristotle, i.e. *sēmeion*, a term also used by the Stoic sources exploited by Sextus. The context in which this Philonian treatise is mentioned suggests that for Philo the concept of sign is in some way connected to an analysis of propositions, a connection well apparent in the Stoic discussion of sign reported by Sextus. Notice too that Aristotle classifies signs as propositions (cf. *APr* II. 27. 70a6–7). This broad agreement between Aristotle, Philo, and the early Stoics reported by Sextus makes Philo's switch to a new term all the more strange. This together with the above observations concerning textual corruptions in this list may lend a certain plausibility to the supposition that *peri Sēmasiōn* may be a corrupted reading for *peri Sēmeiōn*, even if the text handed down in D.L. is the *lectio difficilior*.

γάρ ἰδόντες εὐθὺς γινώσκομεν, ὅτι ἐκ πυρὸς γεγονώς ἐστιν. ἐνδεικτικὸν
δέ ἐστι σημεῖον τὸ μὴ πρότερον συμπαρατηρηθὲν τῷ σημειωτῷ, οὐ δὲ
φανέντος εἰς γνῶσιν ἀφικόμεθα τοῦ σημειωτοῦ, ὥσπερ ἐπὶ τῆς γάλα
ἐχούσης εὐθὺς γινώσκομεν, ὅτι τετοκυῖά ἐστιν.

Now the dialecticians say that a sign is a proposition which forms the pre-
antecedent in a sound conditional, and which reveals the consequent. Of signs
some are indicative, some commemorative. A commemorative sign is a sign
which, having been observed together with its significatum, leads us, as soon as
the sign becomes apparent, to a knowledge also of its significatum, as is the
case with smoke; for if we see it, we immediately know that it has originated
from fire. — An indicative sign is a sign which has not been observed before
together with its significatum, yet on the appearance of which we come to the
knowledge of its significatum, for example, we immediately know in the case of
a woman having milk that she has given birth.

<div align="right">(Diels, Doxogr. Gr. 605, 10–18)</div>

First a note on the text. I have followed Diels except for changing
Diels' *prokathēgoumenon* into *kathēgoumenon*, a change proposed by M.
Burnyeat as a more likely correction of the *kai hegoumenon* found in the
manuscripts.[39] The similarity of what is reported here by Pseudo-
Galen to the material expounded in Sextus will need no argument. Yet
we should notice that the proposed reading *kathegoumenon* puts this
text closer to the *M* version of the theory of signs than to the one in *PH*.

It would be rash to assume right from the start that the 'dialecticians'
mentioned in this passage are members of the Dialectical school. They
are usually equated with Stoic logicians.[40] Hence in my translation I
have not allowed them to enter the scene with a capital D. Yet I shall
argue that we are justified in changing the small letter into a capital
one.

Notice first that the author of this treatise seems to know of the
existence of the Dialectical school. In chapter IV, where he explains
the denominations of different philosophical sects, the Dialectical
school is mentioned twice in Kühn's edition.[41] Diels, however, has put
the first mention in brackets and has omitted the second altogether
along with the clause in which it occurs in Kühn's edition.[42] The

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[39] Burnyeat, n 1 above, 222 n 70.
[40] Thus Diels, *Doxogr. Gr.*, 246, Burnyeat, above n 1, 212 n 47. The text is not
included in *SVF*.
[41] Cf. *Galeni Opera*, ed C. G. Kühn, vol xix (Leipzig, 1830), 230.
[42] After the text as given in Diels, *Doxogr. Gr.*, 602, 5, Kühn's edition offers the
following bit of text: *hē d'apo merous philosophias ho malist' epitēdeusan, hōs dialektikē.* It is
not clear whether this text is in a manuscript or whether it is due to a conjecture by

Dialectical school is not mentioned in chapter VII (*On Sects*) but this is perhaps not very telling, for the division there is made on the basis of the tripartition into dogmatic, sceptic, and eristic philosophers (cf. Diels, *Dox.* 604, 5–8), and the author of the *Historia philosopha* provides each subdivision only with some prominent representatives. Thus, we find that other candidates who get mentioned in chapter IV are omitted here as well, for example the Cynics and the Peripatetics. Notice, however, that among the philosophers representing the Eristics Clinomachus, the founder of the Dialectical school (cf. D.L. I. 19), is also mentioned.

Yet even if the unknown author of the *Historia* (or his source) knows about the Dialectical school, this will not suffice to warrant the inference that the dialecticians in chapter IX are members of this school. They may be Stoic logicians all the same. So further argument will be needed to establish the conclusion I am heading for. For this further argument I shall take it for granted that besides the Stoics and the Dialecticians (now with a capital D) there are no other contenders to the doctrine expounded in this chapter of the *Historia*. It belongs either to the Stoics or to the Dialecticians. Hence, if this theory can be shown not to belong to the Stoics we are obliged to hand it over to the Dialecticians. I shall thus argue using Chrysippus' fifth *anapodeikton*, better known as the *modus tollendo ponens*. Let me try to establish the *proslēpsis* of this argument.

Let us notice as a first point that the terminology in this chapter of the *Historia* shows no sign of Stoic influence: *gnōsis* (605, 14 and 16) and *gignōskein* (605, 15 and 17) are the terms used to denote the intellectual achievements brought about by the use of a sign. *Katalēpsis*, the term used to characterize the cognition of the significatum in the Stoic context of *M* VIII. 253, does not occur, and neither does the verb *katalambanein*. No reference is made to the division of things non-evident which we have found established by means of the Stoic concept of *katalēpsis/katalambanesthai* in *PH* II 97–9 as well as in *M* VIII. 145–50. So nothing compels us to regard the doctrine reported here as being of Stoic origin.

The second point to be made is stronger: this doctrine cannot be Stoic for the account of the indicative sign as well as the example

Kühn; Diels does not mention it in his *apparatus criticus*. Yet, as is shown by Diels' *apparatus criticus*, the *dialektikē* (sc. *hairesis*) gets a mention in the best manuscript (i.e. the Laurentius A, cf. Diels, *Doxogr. Gr.*, *Prolegomena* 241).

offered for it are in open conflict with the account we find in Sextus. To see this let us go back to the explanation of the indicative sign in *M* VIII. 154. There we were told that the indicative sign

does not admit of concomitant observation with its significatum—for the naturally non-evident object is in principle imperceptible and therefore cannot be observed together with one of the things apparent. . . .

Now the example illustrating the indicative sign in the *Historia*—'If this woman has milk, she has given birth *(tetokuia estin)*'—simply does not comply with this requirement in *M*. Parturition is not something naturally non-evident. And there is nothing that would, by logical or physical necessity, preclude its being observed together with lactation.[43] Moreover, the account of the indicative sign in the *Historia*, in accordance with the example offered and in opposition to the explanation of this type of sign in the *M* version, does not require that the significatum *cannot be observed* together with the sign but merely that the sign

has not been observed before together with its significatum *(mē proteron sumparatērēthen tōi sēmeiotōi)*.

This weaker requirement does not restrict the significata of indicative signs to the class of things unobservable by nature, that is, to the naturally non-evident things. So, parturition may well come in as a significatum of an indicative sign.[44] To come to a preliminary

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[43] This has been noticed by Philippson, above n 1, 60. Philippson erroneously takes the consequent in the Stoic example *ei gala echei hautē, kekuēken hautē* to be about parturition, not about conception.

[44] It might still be objected that the milk example is, after all, ill-chosen, for the doctor who tells you that lactation is a sign of preceding parturition may well have observed lactation together with childbirth on previous occasions. Yet this objection is based on a mistaken assumption, i.e. on the assumption that the example belongs to the doctor's consultation room. It does not. It has its place in a forensic context. This will become clear immediately when we turn to the first text where the milk example is used, i.e. Plato's *Menexenus (Mx)* 237e, a passage strangely neglected in recent discussions of the theory of signs. There Socrates says the following: 'Every creature that brings forth possesses a suitable supply of nourishment for its offspring; and by this test it is manifest also whether a woman be truly a mother or no, but brings in another's child as her own, if she possesses no founts of nourishment for her child' *(Mx.* 237e2–5; I have used Bury's translation, restituting the *all' hupoballomenē,* e4, which Bury, following a proposal by Hartmann, has omitted in his translation). The question whether a woman is merely pretending to have given birth to a child or not, does not occur in a medical but in a legal context. This is corroborated by the use made of the 'milk test' in the New Comedy: in Menander's *Samia*, suckling a baby *(titthion didonai)* is taken to be a confirmation of someone's being a mother of the child in question, cf. *Menandri Apis et Samia,* ed C. Austin (Berlin, 1969), *Samia* v. 276 (where the assumption turns out to be erroneous),

conclusion: the theory of signs, as reported in Pseudo-Galen, is, in one important respect, incompatible with the theory of signs as expounded in *M*.

What about the source exploited by Sextus in *PH* II. 97–101? At first sight, it seems to be compatible with the account found in the *Historia*; for the indicative sign is explained here as

> that which, not having been observed together with its significatum in a clear manner, signifies that of which it is a sign by its own nature and construction.
> *PH* II. 101

This definition does not contradict the account of the indicative sign as stated in the *Historia*. Yet, what makes the report found in *PH* also incompatible with chapter IX of the *Historia* (and what makes *PH* itself inconsistent in a way) is the fact that, in the immediately preceding paragraphs, the class of things naturally non-evident has been allotted to the indicative sign, the class of things occasionally non-evident to the commemorative sign (cf. *PH* II. 99). This is to say that, in *PH* as well as in *M*, the indicative sign can get its significata only from the class of things naturally non-evident. That, however, is incompatible with the account as well as the example of the indicative sign in Pseudo-Galen.

We may further notice that the example furnishing an instance of the indicative sign in *PH* is the same as the one used for this purpose in *M*: the bodily movements as a sign of the soul (cf. *PH* II. 101 and *M* VIII. 155). Yet *M* states explicitly that the soul is one of the things naturally non-evident. Finally, in its account of the indicative sign itself, *PH* sticks to the requirement found in *M* that this sign 'signifies that of which it is a sign by its own nature and construction' (*ek tēs idias phuseōs kai kataskeuēs*) (*PH* II. 101, cf. *M* VIII. 155). Hence, even if the source used in *PH* differs from the one underlying the *M* version as far as part of its account of the indicative sign is concerned, *PH* agrees with *M* (in opposition to the *Historia*) in the instance chosen for this type of sign,

536, 540. (I am indebted to Egert Pöhlmann, Erlangen, for drawing my attention to these passages in Menander.) It should be noticed that the example as adduced in the *Menexenus* concerning a particular child would only allow an inference from *not* having milk to *not* having given birth to *this* child. Yet if this qualification is dropped, the argument might easily be turned around so as to grant the inference from lactation to childbirth, as we find it used in Aristotle's *Rhetoric* (I. 2. 1357b14–16): 'She has given birth because she has milk.' A further point to be noticed in the *Mx.* example is that it is based on a general teleological premiss and, hence, does not presuppose any previous observation of a concomitant occurrence of lactation and childbirth. This feature may have facilitated the use of this example as an instance of an indicative sign.

in part of the account of the indicative sign and also in the allotment of the class of naturally non-evident things to this sign. Thus, on the whole, what we find in *PH* about the indicative sign is much closer to the report in *M* than to the one in the *Historia*.

In order to prove the non-Stoic character of what Pseudo-Galen tells us about signs, I have so far taken into consideration the indicative sign only. Yet its semantical sibling may also deserve some attention in this context. It should be obvious that the different accounts of the indicative sign found in Sextus, on the one hand, and in Pseudo-Galen, on the other, are bound to have consequences for the construal of the commemorative sign. If the significata of the indicative sign are restricted to the class of things naturally non-evident, then whenever a sign is related to a significatum open to perception at least in principle, this sign must be a commemorative sign, unless the disjunction indicative/commemorative is no longer exhaustive. So, when I infer from a sign some phenomenon which I never observed before—I may carry out for the first time a specific experiment and, from analogous cases, correctly infer its result—this is bound to be a commemorative sign. This, in turn, means that *using a commemorative sign is no longer connected to remembering the significatum*. Given the connotation of *hupomnēstikon* as well as 'commemorative', this seems to be a rather unwelcome consequence.

By the same token it should be clear that the distinction of occasionally and naturally non-evident things is of no use in the distinction of the two sorts of sign as defined in Pseudo-Galen's report. For chapter IX of the *Historia* restricts the significata of commemorative signs to phenomena whose (type-)occurrence has been observed before and which, therefore, can correctly be said to be remembered. The commemorative sign, according to the exposition in Pseudo-Galen, *essentially involves a use of our memory*. Consequently the significata of indicative signs as defined in the *Historia* include more than things naturally non-evident. Thus the absence of the distinction of occasionally and naturally non-evident things in Pseudo-Galen is not merely accidental but, for systematic reasons, this distinction cannot occupy a place in the *Historia* exposition. The *fundamentum divisionis* employed in Pseudo-Galen's source for the division of signs into commemorative and indicative ones is not the accessibility of things (*pragmata*) to mental or perceptual apprehension (*katalēpsis*).

From the observations just made we may derive a further conclusion. Since talk of a 'commemorative' sign is appropriate in

cases where we actually remember the significatum of a sign and is rather misleading in other cases, we may conclude that the source used in Pseudo-Galen's exposition chronologically precedes the Stoic sources of Sextus' reports. For the use of a technical term in a literal sense may reasonably be supposed to precede the use of that term in a somewhat inappropriate way. Since, as I have argued above (cf. 95 f, 100 f), the (ultimate) source used in the M version is earlier than the one underlying *PH*, we may now rank our three versions of the theory of signs according to the age of their respective sources: *Historia*, *M*, *PH*.

Let us come back to the issue of the Stoic vs. non-Stoic character of the theory of signs as reported in the *Historia*. The material found in Sextus and the report by Pseudo-Galen agree in their definition of the sign and in the nomenclature of the two classes of sign. Yet closer scrutiny of the respective accounts of the indicative and the commemorative sign as well as of the example offered for the indicative sign has unearthed a fundamental incompatibility between the Sextonian and the Pseudo-Galenian versions respectively. This incompatibility is most conspicuous with respect to the undeniably Stoic ingredients in the reports offered by Sextus, that is, in the subdivisions of non-evident things and the use made of this classification in demarcating the two classes of signs from each other. In agreement with this we have noted the absence of any specifically Stoic terminology in chapter IX of the *Historia*.

Hence, I conclude that the theory of signs as reported by Pseudo-Galen is not of Stoic origin and, having thus established the minor premiss in my *modus tollendo ponens* argument, I further conclude that we are justified to crown the dialecticians in the *Historia* with a capital D. Since there is evidence to attribute a treatise *On Signs* to Philo, the Dialectician, and since the definition of sign as explained in Sextus, works with the Philonian interpretation of the conditional, I think it is fair to assume that the material found in Pseudo-Galen ultimately goes back to Philo *On Signs*.

VII

I am now in a position to put the pieces of this jigsaw puzzle together and shall try to tell a coherent story, where what is provable may to some degree be completed with what is probable.

Philo, it seems, is the first on the stage. He states the definition of sign that was to become canonical in the subsequent discussion, probably using his truth-functional propositional logic in explaining this definition. Although Philo was not the first to attribute a propositional character to signs—in this respect he was preceded by Aristotle (cf. *APr* II. 27. 70a6–7: *sēmeion de bouletai einai protasis ktl.*)—he seems to have been the first to make it a requirement of sign that a sign *reveals* some fact that is not evident. This feature is implied in the milk example as used in the *Menexenus* (237e) or else in Aristotle's *Rhetoric* (II. 2. 1357b14–16), but it is Philo who brings it into the open by making it part of the definition of sign. It is this move which promotes the notion of sign to its prominent place in epistemology.[45]

Moreover, Philo introduces a division distinguishing between two classes of signs. The first group includes those signs for the use of which you have to rely on your memory, the other one contains those signs for the use of which you have to rely on your reasoning faculty alone. This distinction is based on the *nature of the link* connecting sign and significatum: associative in the case of the commemorative, logical in the case of the indicative sign. Philo, after all, was a logician. Notice that according to this distinction it is by no means excluded that a sign may be a commemorative sign for one person and an indicative sign for another. The milk sign, Philo's example of an indicative sign, may be a commemorative sign for the midwife. Yet this only testifies to the soundness of this distinction. It may indeed depend on the background of information available to the user of a sign whether a sign is indicative or commemorative.

Next to appear is Zeno. I take it that the material reported in *M* (VIII. 141–55, 245–56) ultimately goes back to Zeno's treatise *On Signs*. In *M* VIII. 245–56, we see him labouring the new propositional logic he has learned from Philo. Being a bold Stoic and a poor logician,

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[45] Notice that Aristotle, in his analysis of sign in *APr* II. 27, does not pay heed to this feature of sign; cf. 70a7–9: 'That which coexists with something else, or before or after whose happening something else has happened, is a sign of that something's having happened or being' (Tredennick's translation). Aristotle's use of the milk sign as a sign of pregnancy (70a13–14) seems to confirm this observation, for lactation occurs only in the last months of pregnancy. In the history of the use of this example, its use as a sign of a present state is rather an exception, perhaps due to a wish on the part of Aristotle to bring the milk example into line with his other two examples which are also signs of concomitant significata. Notice that there is one unknown factor in the history of the theory of signs between Aristotle and the Stoics, i.e. Theophrastus' treatise *peri Sēmeiōn* (cf. D.L.V. 45).

at least if we are to believe Cicero (cf. *de Finibus* (*de Fin*) IV. 9), he thinks he should replace the example of the *TT* case in Philo's truth table for the conditional by an example helpful to make a bit of propaganda for his Stoic Weltanschauung (cf. *M* VIII. 246), instead of sticking to an example that comes out trivially true on the occasion or in general.

Yet when Zeno attends Philo's logic lectures he is already in possession of his epistemological concept of apprehension (*katalēpsis*). He makes use of this concept to divide up the *terra incognita* of things non-evident (cf. *M* VIII. 145–50). Things excluded from apprehension altogether (VIII. 147, 149) go into the class of things altogether non-evident. Things excluded in principle from being perceived but not from being apprehended make up the class of things naturally non-evident (cf. *M* VIII. 146; cf. also *PH* II. 98). Finally, things excluded only occasionally from perception constitute the class of things occasionally non-evident (cf. *M* VIII. 145). Only members of the latter two classes can be revealed by a sign (cf. *M* VIII. 149–50). That much can easily be granted. Yet Zeno now intends to build the distinction between the indicative and the commemorative sign on this demarcation among things non-evident:

> As, then, there are two distinct classes of things which require sign, sign also has revealed itself as twofold—the 'commemorative', which appears to be chiefly of use in the case of things occasionally non-evident, and the 'indicative' which is deemed proper for adoption in the case of things naturally non-evident.
>
> (*M* VIII. 151)

To assess the merits or mistakes implied in this idea of Zeno's let us examine the alterations he is compelled to introduce into his Philonian material. To make the indicative sign fit his division of things non-evident, that is, to make it match the class of things naturally non-evident, he has to strengthen the Philonian requirement so as to *exclude the possibility* of the significatum's being observed together with its sign (VIII. 154). Although he sticks to Philo's terminology (cf. his talk of *sumparatērēsis M* VIII. 143, 152), the underlying idea has radically changed. Whereas Philo wants to classify signs according to the *nature of the relation* holding between sign and significatum, Zeno means to divide signs with respect to one of the *fundamenta relationis*, that is, the significatum. If we are justified to infer from the Dialectical example of the indicative sign—lactation as a sign of preceding parturition—that,

on the Dialectical account, a phenomenon indicating some significatum is not allotted once and for all to one of the two classes of signs but, in certain cases, may count either as an indicative sign or as a commemorative sign (or even as no sign at all) depending on the background of a person's information, then we may say that the change in the *fundamentum divisionis* of the two sorts of signs which has been effected by the Stoics constitutes a momentous turn in the history of epistemology. For this change eliminates from the theory of signs the regard to the differences in background knowledge which may exist between different persons. There is at least evidence to the effect that Zeno's construal of the indicative sign is meant to exclude the possibility of something's being an indicative sign for one person and no sign for another.[46] For he adds to his account of the indicative sign the requirement that

entirely from its own nature and construction, all but uttering its voice aloud, it is said to signify that whereof it is indicative.

(*M* VIII. 154)

A sign uttering its voice aloud will speak to everyone. It is not possible for such a sign to be heard by one person and not by another.[47]

Philo's example of an indicative sign—lactation indicating childbirth—is no longer of any use as an illustration of this type of sign as understood by Zeno. So it is replaced by the bodily motions indicating the soul which is, as Zeno takes care to point out, 'one of the things naturally non-evident' (*M* VIII. 155). Yet even more telling is the alteration we find applied to the milk sign itself when it turns up in the material preserved in Sextus. It is not used in *M* VIII. 141–55, but it comes up in the other 'Zenonian' passage (*M* VIII.245–56), and in this (*M* VIII. 252) as well as in its other two occurrences in Sextus (i.e. *M* VIII. 423; *PH* II. 106) the predicate in the consequent invariably is *kekuēken*, 'she has conceived'. Conception has replaced parturition, an event naturally non-evident has been put in for an observable event.

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[46] As a bodily symptom may be a sign for the physician and no sign for a medical layman, cf. S.E., *M* VIII. 204.

[47] The vivid metaphor meant to underscore this feature of the indicative sign smacks very much of the man who used to illustrate his concept of apprehension by using his hand and fingers (cf. Cicero, *Acad.* II. 145). Notice also that Zeno seems to have used *kataskeuē* as a technical term in his account of duty (*kathēkon*, cf. D.L. VII. 108). For the coupling of the two terms *phusis* and *kataskeuē* see *SVF* III frs. 366 and 368.

Thus altered the example now fits the Stoic account of an indicative sign.[48]

I have started my discussion of the Stoic material with what Zeno has to say about the indicative sign since here the contrast to the Dialectical material is most conspicuous and, hence, also most helpful to evaluate the changes introduced by Zeno. Notice that, as a consequence of his restricting the indicative signs to signs connected to naturally non-evident significata, Zeno is confronted with a dilemma. If he wants his classification of signs to be exhaustive, he is forced to enlarge the class of commemorative signs so as to include all signs with significata that are open to perception in principle, even if (a type-occurrence of) the significatum has never been perceived before. Philo's example of an indicative sign (lactation indicating childbirth) on this account would be a commemorative sign even to any medical layman/laywoman. If, however, he intends to include in his class of commemorative signs those signs only which presuppose previous perception of analogous cases, then his classification is no longer exhaustive. Philo's example of an indicative sign would no longer have a proper place in one of Zeno's two classes of signs.

It is not really clear for which horn of the dilemma Zeno wants to opt. He uses the defining formula stated in the *Historia* (*sumparatērēthen tōi sēmeiōtōi*, M VIII. 152; cf. Diels, *Doxogr. Gr.* 605, 12–13), but he drops the *hoper* which, in Pseudo-Galen, precedes this formula. Thus one might be inclined to think that he means to turn the *definiens* of the *Historia* account into a description of what seems to be the most prominent case of a commemorative sign on this explanation. Yet he explicitly claims that his two subsequent examples of a commemorative sign—the scar indicating a previous wound, the puncture of the heart foretelling death—can be dealt with on the same account (VIII. 153), whatever that may mean in the second case.[49] This seems to indicate that he sticks to Philo's definition of a commemorative sign. That,

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[48] It is noticeable that the use of the milk sign as a sign of *conception* seems to be restricted to the passages in Sextus. Whenever the milk sign occurs in later authors its significatum is childbirth. See, e.g., Philoponus, *In Aristotelis Analytica Priora commentaria*, ed M. Wallies (Berlin, 1905), 35 l 23; *In Aristotelis Analytica Posteriora commentaria*, ed M. Wallies (Berlin, 1909), 21 l 12.

[49] Zeno, in replacing *gnōsis* by *hupomnēsis* and in talking of 'recalling' (cf. *ananeoumetha*, VIII. 152, 153) makes his account suffer from the type-token ambiguity. We do not, on seeing smoke, *recollect* the unseen fire for we have never seen this (token-occurrence of) fire before. We recollect that on previous occasions we always saw smoke produced by fire and from this we *infer* that the smoke we now see must also be generated from fire.

in turn, amounts to saying that his classification is not exhaustive after all.

We need not decide this issue in a definite way. Seeing the dilemma resulting from Zeno's change in the definition of the indicative sign should be sufficient to make us realize that Zeno's attempt to classify signs according to the epistemological status of the significata is no improvement over what I have argued to be Philo's theory of signs. When Cicero tells us (cf. *de Fin.* IV. 9) that Zeno's work in logic partly was no improvement over that of his predecessors, here, I take it, we have come across a case in point.

What about the *PH* version of the theory of signs? The part of my story relating to this material will not be quite as straightforward as the story about Zeno in *M*. We have seen that the material in *PH* is later than the source used in *M* and that it is also superior to *M*. Its Stoic credentials are beyond doubt, and we have found reason to attribute it to the early Stoics. I suspect that the Stoic logician used in this passage by Sextus or by his source is either Cleanthes or his pupil Sphaerus. Both have written on topics of logic (cf. D.L. VII. 175 and 178 respectively), although there is no extant evidence that either of them has written a treatise *On Signs*. Cleanthes, we are told, joined the discussion about Diodorus' master argument (cf. Epictetus II. 2 and 9). If he did so, he must have been one of the leading logicians of his time. So he may well qualify as a candidate for the source exploited in *PH*.[50]

Let us examine as to how the author of this source (Cleanthes or Sphaerus) deals with the classification of signs into indicative and commemorative ones, since on this issue we find Zeno departing from Philo. As in *M*, the classification of signs is preceded by the division of things into evident and non-evident ones and the further subdivision of the latter class. *PH* agrees with *M* also in establishing a connection between the class of things occasionally non-evident and the commemorative sign on the one hand, between the class of naturally non-evident things and the indicative sign on the other (cf. *PH* II. 99).

The definition of the commemorative sign (*PH* II. 100) uses *verbatim* the formula from *M* VIII. 152 together with the example of smoke and fire, omitting *M*'s comments on this example. That our

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[50] M. Frede (above n 11, 23) argues that Cleanthes deserves a better treatment as a logician in comparison to Zeno than he is usually accorded.

author is indeed working from Zeno's *On Signs* (the source used in *M*) is confirmed by his definition of the indicative sign as stated at *PH* II. 101: it retains Zeno's formulation (cf. *M* VIII. 154) that the indicative sign signifies that of which it is a sign 'from its own nature and construction'; it also brings in *M*'s example of an indicative sign, that is, bodily movements indicating the soul, again omitting *M*'s comments on this example.

Yet our author diverges from *M*'s, that is Zeno's account of the indicative sign in an important respect. The indicative sign is no longer said to be that sign which *does not admit of being observed together* with its significatum, due to the non-observability of the latter (cf. *M* VIII. 154), but the sign which *has not been observed together* with its significatum. Hence, the author of the definition of the indicative sign at *PH* II. 101 retracts the change introduced into the Philonian account by Zeno. We are back to the Dialecticians.

The advantage of this move is obvious: the definitions of the two types of sign now again yield an exhaustive classification of signs—notice the parallel construction: *ho sumparatērēthen tōi sēmeiōtōi* (comm.), *ho mē sumparatērēthen tōi sēmeiōtōi* (indic.). However, the price which our author has to pay for thus mending Zeno's classification seems to be rather high. For we are now left with two accounts of the distinction indicative/commemorative sign: the one at *PH* II. 100–1 and the preceding one at *PH* II. 99 which is based on the division of things naturally and occasionally non-evident. Either of these two accounts yields an exhaustive classification of signs, but they do not tie in with each other. Take Philo's example of the indicative sign—lactation indicating precedent childbirth. This would be a commemorative sign on the basis of the account at *PH* II. 99, for the significatum is not one of the things naturally non-evident. On the basis of the account at *PH* II. 100–1, this would be an indicative sign for any person that never witnessed parturition, since in that case the sign and its significatum cannot have been observed together at any earlier time.

One might argue that the material used by Sextus in *PH* II. 97–9, on the one hand, and the material used in *PH* II. 100–1, on the other, come from different Stoic sources. Sextus' text at *PH* II. 97–101 does not seem to reflect a continuous argument as does the parallel passage in *M* VIII. 245–53. Yet the Stoic author responsible for the definitions preserved at *PH* II. 100–1 must still have worked from the material used in *M* (i.e. from Zeno's account) and, hence, would have deliberately ignored the use of the distinction of things naturally and

things occasionally non-evident in his predecessor. So this suggestion does not look satisfactory either. Thus, we had better stick to the idea of a single Stoic source underlying the material in P*PH* II. 97–101, and we may say that Cleanthes(?) here has mended the mess left by his master as best he could.[51]

Chrysippus is the last on the stage. He is a brilliant logician and a loyal Stoic. As a loyal Stoic, he directs his fire not against his Stoic predecessors, but against Philo, choosing Philo's *On Signs* as the target of attack. As a logician, he may have swiftly discovered the many shortcomings of the theory of signs: first of all, he may have realized that treating signs as antecedent propositions in certain conditionals amounts to confusing implicational and inferential consequence.[52] Secondly, even if this mistake is corrected and signs are allowed the status of a premiss in an argument, they are still taken to the propositions, although asserted ones. Yet construing a sign as a proposition again amounts to confusing a functional aspect of an object or an event with what can be truly said about this object or this event. Furthermore, even if we were at all justified in treating signs as well as significata as propositions, this would exclude a large number of cases from being counted as signs, that is, all signs telling us what to do instead of informing us about what is the case. A military signal or the red traffic light do not reveal some hidden fact but are rather like commands. The interest Chrysippus takes in sentences of a non-propositional character (cf. D.L. VII. 191) may lend some probability to the idea that he has seen this affinity between commands or imperatives and a class of signs.

Yet with this we come close to the realm of speculation. We do not know what arguments Chrysippus may have used against Philo. Nor do we know whether he intended to replace the theory of signs of his Dialectical and Stoic predecessors with an improved theory of his own.

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[51] One thing, however, should be obvious: the suspicion raised by several authors (for references see above n 15) that Sextus introduces the distinction commemorative/indicative (sign) into Stoic material which is free from it, seems to be unfounded. Yet by now it should also be clear how this impression could arise: because the Stoics themselves tried to bring a distinction which originally was not theirs into line with their own epistemology. This may also help to explain why the subsequent medical literature, as pointed out by Glidden (above n 1, 229), does not base this distinction on that of different kinds of things non-evident. The doctors got it directly from the Dialecticians.

[52] It is worth noting that the Stoics in Philodemus' *de Signis* seem to use 'Since p, q' as the canonic formula of a sign inference, a formula for which Crinis (cf. D.L. VII. 71) has offered the analysis that it is true iff (1) 'if p, q' and (2) 'p' are both true. On this point cf. Burnyeat, above n 1, 218 with n 60 on Crinis.

As for Chrysippus, we eventually have to concede: *ignoramus et ignorabimus.*[53]

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