SEXTUS EMPIRICUS

Outlines of Scepticism

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BOOK II

These are the Contents of the Second Book of the *Outlines of Scepticism*:

measure[131] we shall also produce particular objections against unclear objects. And since they are thought to be apprehended and supported through signs and proofs, we shall suggest briefly that it is right to suspend judgement both about signs and about proofs. Let us begin with signs; for proofs are thought to be a species of sign.[132]

x Signs

[97][133] Some objects, then, according to the Dogmatists, are clear and some are unclear. And of the unclear, some are unclear once and for all, some are unclear for the moment, some are unclear by nature. What comes of itself to our knowledge, they say, is clear (e.g. that it is day); what does not have a nature such as to fall under our apprehension is unclear once and for all (e.g. that the stars are even in number[134]); [98] what has an evident nature but is made unclear for us for the moment by certain external circumstances is unclear for the moment (e.g. for me now, the city of the Athenians); and what does not have a nature such as to fall under our evident grasp is unclear by nature (e.g. imperceptible pores – for these are never apparent of themselves but would be deemed to be apprehended, if at all, by way of something else, e.g. by sweating or something similar[135]).

[99][136] Now, clear things, they say, do not need signs: they are apprehended of themselves.[137] Nor do things unclear once and for all, since they are not apprehended at all. But things unclear for the moment and things unclear by nature are apprehended through signs – but not through the same signs: things unclear for the moment are apprehended through recollective signs, things unclear by nature through indicative signs. [100] Thus some signs, according to them, are recollective, some indicative.[138] They call a sign recollective if,

[131] See I 62.
[132] See II 122, 131, 134; *M* VIII 277, 299.
[133] With II 97–8 compare *M* VIII 144–7 (see also VIII 316–20).
[134] See II 90.
[135] A stock example; see e.g. II 140, 142; *M* VIII 306; [Galen], *def med* XIX 353 K; Diogenes Laertius IX 89.
[136] With II 99–101 compare *M* VIII 148–55 (cf. 143); see e.g. BURNYEAT [1982]; GLIDDEN [1983]; EBERT [1987].
[137] Cf. II 116, 126, 168.
[138] For the distinction see also e.g. [Galen], *opt sect* I 149 K; *def med* XIX 396 K.

having been observed evidently together with the thing it signifies, at the same time as it makes an impression on us – and while the other thing remains unclear – it leads us to recall the thing which has been observed together with it and is not now making an evident impression on us (as in the case of smoke and fire). [101] A sign is indicative, they say,[139] if it signifies that of which it is a sign not by having been observed evidently together with the thing it signifies but from its proper nature and constitution (as bodily movements are signs of the soul[140]). That is why they also define this sign as follows:[141] An indicative sign is a pre-antecedent[142] statement in a sound conditional, revelatory of the consequent.[y]

[102][143] There being two different sorts of signs, as we have said, we argue not against all signs but only against indicative signs, which seem to be a fiction of the Dogmatists. For recollective signs are found convincing by everyday life: seeing smoke, someone diagnoses fire; having observed a scar, he says that a wound was inflicted. Hence not only do we not conflict with everyday life, but we actually join the struggle on its side, assenting without opinion to what it has found convincing and taking a stand against the private fictions of the Dogmatists.[144]

[103][145] It was no doubt appropriate to make these prefatory remarks in order to illuminate the subject of our investigation: now let us move to our counterargument, not endeavouring to show that indicative signs are unreal, but recalling the apparent equipollence of the arguments brought in favour of their reality and unreality.[146]

[y] Mutschmann–Mau (after Natorp and Heintz) delete the last two sentences ('That is why ... the consequent').

[139] Contrast the Methodics' account of 'indications': I 240.
[140] Cf. I 85.
[141] See II 104; *M* VIII 245.
[142] See II 106.
[143] Cf. *M* VIII 156–8.
[144] For the Sceptics siding with ordinary life see I 23, note; on II 102 see e.g. BARNES [1992], pp. 4251–2.
[145] Cf. *M* VIII 159–60 (and above, II 79).
[146] See II 130.

xi Are there any indicative signs?

[104][147] Signs, so far as what the Dogmatists say about them goes, are inconceivable.

Those who seem to have treated the matter accurately – the Stoics – wish to establish the concept of a sign by saying that a sign is a pre-antecedent statement in a sound conditional, revelatory of the consequent.[148] They say that a statement is a self-contained sayable[149] which is assertoric so far as it itself goes[150] and that a sound conditional is one which does not begin from a truth and end in a falsity. [105] For a conditional either begins from a truth and ends in a truth (e.g. If it is day, it is light), or begins from a falsity and ends in a falsity (e.g. If the earth is flying, the earth has wings), or begins from a truth and ends in a falsity (e.g. If the earth exists, the earth is flying), or begins from a falsity and ends in a truth (e.g. If the earth is flying the earth exists). Of these they say that only those beginning from a truth and ending in a falsity are unsound and that the others are sound. [106] They call pre-antecedent the antecedent in a conditional which begins from a truth and ends in a truth.[151] It is revelatory of the consequent since 'This woman is lactating' is thought to make clear 'This woman has conceived' in the conditional 'If this woman is lactating, this woman has conceived.'[152]

[107][153] This is what they say. We say, first, that it is unclear whether there are any sayables. Among the Dogmatists the

147 With II 104–6 compare *M* VIII 244–53; see EBERT [1991], pp. 29–44.

148 See II 101.

149 For the Stoic theory of 'sayables' or λεκτά (i.e. of what we say when we utter something significant) see *M* VIII 11–12, 70–4; Diogenes Laertius VII 63 (cf. above II 81, 84; below, III 52). See e.g. LONG [1971]; FREDE [1974], pp. 32–48; GRAESER [1978]; ANNAS [1992a], chh. 3–4.

150 'Assertoric' sayables contrast with imperatival, interrogatory, etc. sayables (cf. *M* VIII 71–4; Diogenes Laertius VII 66). The qualification 'so far as it itself goes' [ὅσον ἐφ' ἑαυτῷ] is obscure: perhaps it alludes to the fact that assertoric sentences can be used with non-assertoric force (see I 181–90). A statement is a complete sayable which is assertoric as far as its own form and structure go – though it may, for all that, be employed for non-assertoric ends.

151 Cf. II 115.

152 This stock example of a sign is already found in Aristotle: *Prior Analytics* 70a13–16.

153 With II 107–8 compare *M* VIII 258–61 (cf. 76–7; *M* I 157).

Epicureans say that there are no sayables[154] and the Stoics that there are. Now, when the Stoics say that there are sayables, they either make a mere assertion or else use a proof.[155] If an assertion, the Epicureans will set in opposition to them the assertion which says that there are no sayables; and if they adduce a proof, then, since proofs are composed of statements,[156] which are sayables,[z] the proof, being composed[aa] of sayables, will not be able to be adduced to make it convincing that there are sayables – for how will anyone who does not grant that there are sayables concede that there are compounds of sayables? [108] Hence anyone who tries to establish that there are sayables by presupposing the reality of a compound of sayables wants to make what is being investigated convincing through what is being investigated. Thus if it is not possible to establish either simply or by way of a proof that there are sayables, it is unclear that there are any sayables.

Similarly, whether there are any statements; for statements are sayables. [109] And maybe even if it is granted by way of a hypothesis that there are sayables, statements turn out to be unreal, since they are composed of sayables which do not co-exist with one another.[157] Thus in the case of 'If it is day, it is light', when I say 'It is day', 'It is light' does not yet exist; and when I say 'It is light', 'It is day' no longer exists. Thus, if what is composed from certain things cannot exist if its parts do not co-exist with one another, and if the things from which statements are composed do not co-exist with one another, then statements will not exist.

[110][158] But to leave these matters too to one side, sound conditionals will be found inapprehensible. For Philo[159] says that a

[z] Adding ὄντων before λεκτῶν (Kayser).
[aa] Deleting δέ after λεκτῶν.

[154] See *M* VIII 13, 258; Plutarch, *adv Col* 1119F.
[155] Cf. II 121, 153.
[156] See II 135–6 (cf. III 52).
[157] Cf. *M* VIII 81–4, 135–6 (where the argument is applied to the parts of *simple* statements); note also the parallel argument below, at II 144. See BARNES [1988c].
[158] With II 110–12 compare *M* VIII 112–17, 265 (cf. *M* I 310); Cicero, *Luc* xlvii 143. The different accounts of the conditional have been much discussed; see esp. FREDE [1974], pp. 80–93.
[159] A pupil of Diodorus Cronus, testimonia in DÖRING [1972]; GIANNANTONI [1990].

sound conditional is one which does not begin from a truth and end in a falsity (e.g. – when it is day and I am conversing – 'If it is day, I am conversing'). Diodorus[160] says that it is one which neither could nor can begin from a truth and end in a falsity. According to him, the conditional just stated seems to be false, since if it is day but I shall be silent,[ab] it will begin from a truth but end in a falsity. [111] But 'If it is not the case that there are indivisible elements of existing things, there are indivisible elements of existing things' is true – for it will always begin from something false, viz. 'It is not the case that there are indivisible elements of existing things', and – according to him[161] – end in something true, viz. 'There are indivisible elements of existing things.' Those who introduce connectedness[162] say that a conditional is sound when the opposite of its consequent conflicts with its antecedent. According to them, the conditionals just stated will be unsound, but 'If it is day, it is day' will be true. [112] And those who judge by meaning say that a conditional is true when its consequent is contained implicitly in its antecedent. According to them, 'If it is day, it is day' – and every duplicated conditional statement[163] – will no doubt be false; for it is impossible for anything to be contained in itself.

[113][164] Now it will no doubt seem impossible for this dispute to be decided. For if we prefer one of these positions we shall be convincing neither without proof nor with proof. For a proof seems to be sound when its conclusion follows the conjunction of its assumptions as a consequent follows an antecedent: e.g. 'If it is day, it is light; but it is day: therefore it is light' – 'If if it is day it is light and it is day, it is light.'[165] [114] But since we are investigating how to judge whether a consequent follows its antecedent, the reciprocal mode turns up.[166] For if the judgement about the conditional is to be proved, the

[ab] Reading σιωπήσοντος for σιωπήσαντος (MSS, Mutschmann–Mau).

[160] Testimonia in DÖRING [1972]; GIANNANTONI [1990]; see SEDLEY [1977].
[161] See III 32; *M* IX 363.
[162] Probably Chrysippus: see Diogenes Laertius VII 73; Cicero, *fat* vi 12. But note that at II 104 the Stoics are given a 'Philonian' account of conditionals.
[163] On 'duplicated' statements see *M* VIII 108–10; Diogenes Laertius VII 68.
[164] With II 113–14 compare *M* VIII 118–23.
[165] Cf. II 137: the condition which Sextus states is necessary but not sufficient for a sound proof.
[166] See I 169.

conclusion must follow[ac] the assumptions of the proof, as we have just said; and if that in turn is to be found convincing, the conditional – i.e. whether the consequent follows – must have been decided.[167] And this is absurd. [115] Sound conditionals, therefore, are inapprehensible.

Pre-antecedents,[168] too, are puzzling. For a pre-antecedent, they say, is an antecedent in a conditional of the sort which begins from a truth and ends in a truth.[169] [116] But if signs are revelatory of their consequents, the consequents are either clear or unclear. Now if they are clear, they will not need the item which is meant to reveal them[170] – rather, they will be apprehended together with it: they will not be signified by it, and for that reason it will not be a sign of them. And if unclear, then since there has been an undecidable dispute about unclear things as to which of them are true and which false, and in general as to whether any of them are true, it will be unclear whether the conditional ends in a truth – which means that it will also be unclear whether its antecedent pre-antecedes.

[117][171] But to leave this too aside, they cannot be revelatory of their consequents, if the things signified are relative to their signs and for that reason are apprehended together with them. For relatives are apprehended together with one another;[172] and just as what is to the right cannot be apprehended as being to the right of what is to the left before what is to the left has been apprehended, and vice versa, and similarly in the case of the other relatives, so signs cannot be apprehended as signs of what is signified[ad] before what is signified has been apprehended. [118] But if signs are not apprehended before what is signified, they cannot be revelatory of them either, since they are apprehended together with them and not after them.

[ac] Reading ἀκολουθεῖν δεῖ (Zimmermann): ἀκολουθεῖ MSS, Mutschmann–Mau.
[ad] Adding σημεῖον before σημειωτοῦ (Mutschmann).

[167] Cf. II 145.
[168] Cf. *M* VIII 266–8.
[169] See II 106.
[170] Cf. II 99.
[171] With II 117–20 compare *M* VIII 163–5 (cf. Diogenes Laertius IX 97).
[172] Cf. II 125, 169, 179; III 7; *M* VIII 165, 174–5. Three analogous principles about relatives make their appearance in *PH*: (i) relatives are apprehended together (so here); (ii) relatives exist together (see II 126); (iii) relatives are conceived of together (see III 27). See BARNES [1988b].

Thus even as far as the more general remarks of those who belong to other schools go, signs are inconceivable.[173] For they say that they are both relative to something and revelatory of what is signified (to which they say they are relative). [119] Hence, if they are relative to something and relative to what is signified, they must necessarily be apprehended together with what is signified – just like what is to the left and what is to the right, what is up and what is down, and the other relatives. But if they are revelatory of what is signified, they must necessarily be apprehended before them, in order that, having been recognized beforehand, they may lead us to a conception of the object known on the basis of them. [120] But it is impossible to conceive of an object which cannot be recognized before something before which it must necessarily be apprehended.[174] Therefore it is impossible to conceive of something which is both relative to something and revelatory of that relative to which it is thought of. But they say that signs are both relative to something and revelatory of what is signified: therefore it is impossible to conceive of signs.[175]

[121][176] In addition, there is the following to be said. There has been a dispute among our predecessors, some saying that there are indicative signs, others[177] asserting that nothing is an indicative sign. Now anyone who says that there are indicative signs will speak either simply and without proof, making a mere assertion, or else with proof.[178] But if he makes a mere assertion he will be unconvincing; and if he wants to give a proof he will take for granted the matter under investigation. [122] For since proof is said to be a species of sign,[179] then as it is controversial whether there are any signs or not, there will be controversy too as to whether there are any proofs or not – just as, if you are investigating, say, whether there are any animals, you are also investigating whether there are any humans; for humans are animals. But it is absurd to try to prove what is under investigation through what is equally under investigation or through

[173] I.e. the argument in II 117–18 is not restricted to the technical Stoic account of indicative signs; note the 'general' definition of signs at *M* VIII 143: 'something which seems to make something clear'.
[174] Cf. III 28. [175] Cf. II 132, 134.
[176] With II 121–3 compare *M* VIII 179–81.
[177] E.g. the Empiric doctors: see e.g. [Galen], *opt sect* I 149 K.
[178] Cf. II 107. [179] See II 96.

itself; therefore no-one will be able by way of a proof to affirm that there are signs. [123] But if it is not possible to make a firm assertion about signs either simply or with a proof, it is impossible to make an apprehensive assertion about them; and if signs are not accurately apprehended, they will not be said to be significant of anything inasmuch as they themselves are not agreed upon – and for that reason they will not even be signs.[180] Hence in this way too we deduce that signs are non-existent and inconceivable.

[124] There is still the following to be said.[181] Either signs are apparent only or they are unclear only or some signs are apparent and some unclear. But none of these is sound. Therefore there are no signs.

Now, that it is not the case that all signs are unclear is shown as follows. What is unclear does not appear of itself, as the Dogmatists say, but makes an impression on us through something else. A sign, then, if it is unclear, will need another sign, which will be unclear – since, according to the hypothesis before us, nothing apparent is a sign –; and that will need another, and so *ad infinitum*.[182] But it is impossible to grasp infinitely many signs. Therefore it is impossible for signs to be apprehended if they are unclear.[183] And for that reason they will actually be non-existent; for they cannot signify anything or be signs, since they are not apprehended.[184]

[125] But if all signs are apparent, then since signs are relative to something and relative to what is signified, and relatives are apprehended together with one another,[185] what is said to be signified, being apprehended together with what is apparent, will be apparent. Just as, since right and left make an impression on us at the same time, right is no more said to be apparent than left nor left than right, so if a sign and what is signified are apprehended together, the sign should no more be said to be apparent than what is signified. [126] But if what is signified is apparent, it will not be a thing signified, having no

[180] See II 124, 128 (the same line of thought at II 184; III 26, 101).
[181] For the pattern of argument see II 88–94.
[182] See I 166.
[183] Cf. *M* VIII 178.
[184] See II 123.
[185] See II 117.

need for the item which is meant to signify and reveal it.[186] Hence, just as if right is rejected there is no left either, so if what is signified is rejected there cannot be any signs either.[187] Thus, signs turn out to be non-existent if anyone says that signs are apparent only.

[127] It remains to say that some signs are apparent and others unclear. But then the puzzles remain. For the things said to be signified by the apparent signs will be apparent, as we have already remarked, and, not needing what is meant to signify them, will not be things signified at all; hence the former will not be signs either, since they signify nothing. [128] And the unclear signs will require something to reveal them: if they are said to be signified by what is unclear, the account falls back *ad infinitum* and they turn out to be inapprehensible and for that reason unreal, as we have already remarked;[188] and if by what is apparent, they will be apparent, being apprehended together with their apparent signs, and for this reason they will also be unreal. For it is impossible for there to be any object which is both unclear by nature and apparent; and the signs with which our account is concerned, being supposed unclear, have been found to be apparent by the turning about of the argument.[189]

[129] If, then, neither are all signs apparent nor all unclear nor some signs apparent and some unclear, and if there are no other possibilities, as they themselves say, then what they call signs will be unreal.

[130] These few points, taken from many,[190] will suffice here to suggest that there are no indicative signs. Next we shall set out the suggestions that there are signs, so that we may establish the equipollence of the opposed accounts.[191]

The phrases brought against signs either signify something or signify nothing. If they are insignificant, how will they shake the reality of signs? And if they signify something, there are signs.[192]

[131][193] Again, the arguments against signs are either probative or

[186] Cf. II 99.
[187] For this principle (cf. II 117, note) see e.g. III 16, 25, 27, 101; *M* VIII 164; IX 234, 340.
[188] See II 123, 124.
[189] See I 122.
[190] See I 58.
[191] See II 103.
[192] Cf. *M* VIII 279.
[193] Cf. *M* VIII 277–8, 281–2 (see also below, II 185).

not probative. If they are not probative, they do not prove that there are no signs; and if they are probative, then, since proof is a species of sign,[194] being revelatory of the conclusion, there will be signs. Hence the following argument[195] is also put forward: If there are signs, there are signs; and if there are not signs, there are signs (for that there are not signs is shown through a proof which in fact is a sign); but either there are signs or there are not signs: therefore there are signs.

[132] This argument is matched by the following one:[196] If nothing is a sign, there are no signs; and if there are signs – of the sort which the Dogmatists say are signs – there are no signs (for the signs with which the argument is concerned, being said in their conception to be both relative and revelatory of what is signified, turn out to be unreal, as we have established[197]); [133] but either there are signs or there are not signs: therefore there are not signs. And as for the phrases concerning signs, let the Dogmatists themselves tell us whether they signify something or signify nothing. If they signify nothing, it is not convincing that there are signs; and if they signify, then what they signify will follow – but they signify that there are no[ae] signs, and it follows that there are no signs, as we have suggested, by the turning about of the argument.[198]

Thus, since such plausible arguments are adduced both for there being signs and for there not being, we should no more say that there are signs than that there are not.[199]

[ae] Adding μή before εἶναι (Heintz).

[194] See II 96.

[195] For the pattern see II 186.

[196] Cf. *M* VIII 296; on the technique of 'matching' arguments or παραβολή see SCHOFIELD [1983].

[197] See II 120.

[198] This last argument is perplexing (see esp. HEINTZ [1932], pp. 52–62). The text is certainly corrupt: Mutschmann–Mau add one 'not' and we add two; and deeper surgery may be required. We paraphrase thus: 'As for the Dogmatists' argument at II 130, let them answer their own question, "Do the Sceptics' phrases used against signs signify anything?" If they say No, then that certainly does not establish that signs exist; and if they say Yes, then what our phrases signify holds good and there are no signs. So the argument in II 130 is turned about [cf. I 122]: in either case, as we have been urging, there are no signs.' (There is a different reply to the Dogmatists' argument about the Sceptics' phrases at *M* VIII 290.)

[199] Cf. *M* VIII 298 (and below, II 192; III 29, 49, 65, 135). On 'no more' see above, I 188–91.

xii Proof

[134][200] It is clear from these considerations that proof too is an object of disagreement. If we suspend judgement about signs, and proofs are a sort of sign,[201] then it is necessary to suspend judgement about proofs too. For we shall find that the arguments we propounded about signs can also be applied to proofs: proofs are thought to be both relative to something and revelatory of their conclusions, and it was from these points[202] that pretty well everything we said against signs followed. [135] But if something must be said about proofs specifically, I shall consider briefly the argument about them, having first tried to explain in a few words what they say proofs are.

A proof, they say, is an argument which, by way of agreed assumptions and in virtue of yielding a conclusion, reveals an unclear consequence.[203] What they mean will be plainer from the following considerations.

An argument is a compound of assumptions and consequence.[204] [136][205] The statements assumed without dispute for the establishment of the conclusion are said to be the assumptions, and the statement purportedly established by way of the assumptions is said to be the consequence. E.g. in the following argument:

> If it is day, it is light.
> But it is day.
> Therefore, it is light.

'It is light' is the consequence[af] and the rest are assumptions.

[137][206] Some arguments are conclusive, others inconclusive. They are conclusive when the conditional which begins from the conjunc-

[af] Reading ἐπιφορά for συμπέρασμα (cf. *M* VIII 302).

[200] Cf. *M* VIII 299–300.
[201] See II 96.
[202] See II 120, 132.
[203] Cf. II 143, 170; *M* VIII 314, 385; Diogenes Laertius VII 45; Cicero, *Luc* IX 26; Clement, *strom* VIII iii 5.1; see BRUNSCHWIG [1980]; EBERT [1991], pp. 219–86.
[204] I.e. a structure consisting of premisses and conclusion: Sextus here uses the Stoic definition, and the Stoic terminology (λῆμμα or 'assumption' and ἐπιφορά or 'consequence', where the Peripatetics preferred πρότασις and συμπέρασμα). Cf. e.g. Diogenes Laertius VII 45, 76.
[205] Cf. *M* VIII 301–2.
[206] Cf. *M* VIII 303–5 (and 414–17).

tion of the assumptions of the argument and ends in its consequence is sound.[207] E.g. the argument just mentioned is conclusive, because in the conditional 'If it is day and if it is day it is light it is light', 'It is light' follows the conjunction of its assumptions, viz. 'It is day and if it is day it is light'. Arguments not of this character are inconclusive.

[138][208] Some conclusive arguments are true, others not true. They are true when not only (as we have said) is the conditional formed from the conjunction of the assumptions and the consequence sound, but also the conjunction of the assumptions, which is antecedent in the conditional, is true. (A conjunction is true when everything it contains is true.[209] E.g. 'It is day, and if it is day it is light'.) Arguments not of this character are not true. [139] This argument:

If it is night, it is dark.
But it is night.
Therefore, it is dark.

is conclusive, since the conditional 'If it is night and if it is night it is dark, it is dark' is sound. But it is not true. For the conjunctive antecedent, 'It is night and if it is night it is dark', is false, since it contains in itself the false 'It is night'. For a conjunction which contains in itself something[ag] false is false. (Hence they also say that a true argument is one which concludes to a true conclusion by way of true assumptions.[210])

[140][211] Next, some true arguments are probative, others not probative. They are probative if they conclude to something unclear by way of things that are clear, and not probative if they are not of this sort. E.g. this argument:

If it is day, it is light.
But it is day.
Therefore, it is light.

[ag] Omitting ἔν, which Mutschmann–Mau add to the MSS text.

[207] See II 113, 145, 249; Diogenes Laertius VII 77.
[208] With II 138–9 compare *M* VIII 418–21 (and 311).
[209] See BRUNSCHWIG [1978a].
[210] See II 187, 248; *M* VIII 414; Diogenes Laertius VII 79; Galen, *an pecc dig* (*FDS* 1070) = V 72 K.
[211] Cf. *M* VIII 305–6, 422–3, neither of which passages is quite the same as ours.

is not probative; for its conclusion – that it is light – is clear. But this argument:[212]

> If sweat flows through the surface, there are imperceptible pores.
> But sweat flows through the surface.
> Therefore, there are imperceptible pores.

is probative; for its conclusion, 'Therefore there are imperceptible pores', is unclear.

[141][213] Of arguments which conclude to something unclear, some lead us through the assumptions to the conclusion in a manner which is merely progressive, others in a manner which is progressive and at the same time revelatory. E.g. progressively, those which are thought to depend on convincingness and memory, such as:

> If some god[ah] has told you that this man will be rich, then this man will be rich.
> But this god (I point, let us suppose, to Zeus) has told you that this man will be rich.
> Therefore, this man will be rich.

For we assent to the conclusion not so much because of the necessity of the assumptions as because we are convinced by the god's assertion. [142] Other arguments lead us to the conclusion in a manner which is not only progressive but also revelatory, such as:[214]

> If sweat flows through the surface, there are imperceptible pores.
> But the first.
> Therefore, the second.[215]

For that sweat flows is revelatory of the fact that there are pores, because it is a preconception that liquid cannot be carried through a solid body.

[143][216] A proof, then, ought to be an argument which is conclusive and true and has an unclear conclusion which is revealed by the

[ah] Adding θεῶν after τίς σοι (Fabricius).

[212] Cf. II 98.
[213] With II 141–2 compare *M* VIII 307–9.
[214] Cf. II 98, 140.
[215] The Stoics called such semi-schematic arguments λογότροποι (Diogenes Laertius VII 77; Suda, s.v. λογότοπος [*sic*]); cf. e.g. III 121.
[216] Cf. *M* VIII 314.

power of the assumptions; and for this reason a proof is said to be an argument which, by way of agreed assumptions and in virtue of yielding a conclusion, reveals an unclear consequence.[217] This, then, is how they usually illuminate the concept of proof.

xiii Are there any proofs?

[144] That proofs are unreal can be deduced from the very things they say, by overturning everything contained in the concept.

Thus[218] arguments are composed of statements and compound objects cannot exist unless the things from which they are composed co-exist with one another (this is clear from beds and the like). But the parts of an argument do not co-exist with one another. For when we say the first assumption, neither the second assumption nor the consequence yet exists; when we say the second assumption, the first assumption no longer exists and the consequence does not yet exist; and when we utter the consequence, its assumptions no longer subsist. Therefore the parts of an argument do not co-exist with one another. Hence arguments will seem to be unreal.

[145][219] Apart from that, conclusive arguments are inapprehensible. For if they are judged by deciding whether the consequent of a conditional follows the antecedent,[220] and if this has been subject to undecidable dispute and is no doubt inapprehensible (as we have suggested in our remarks on signs[221]), then conclusive arguments too will be inapprehensible.

[146][222] The dialecticians say that inconclusive arguments are due either to disconnectedness or to deficiency or to being propounded in an unsound form or to redundancy. To disconnectedness[223] when the assumptions do not cohere[224] with one another or with the consequence, as in the following case:

[217] See II 135.
[218] Cf. II 109.
[219] Cf. *M* VIII 426–9.
[220] Cf. II 137.
[221] See II 114.
[222] With II 146–50 compare *M* VIII 429–34; see EBERT [1991], pp. 131–75.
[223] See also II 238.
[224] Here, and in II 152, 'cohere' renders ἀκολουθία: see I 16, note.

If it is day, it is light.
But wheat is being sold in the market.
Therefore, Dio is walking.

[147] To redundancy[225] when an assumption is found to be redundant with regard to the argument's yielding a conclusion, e.g.:

If it is day, it is light.
But it is day.
But Dio is walking.
Therefore, it is light.

To being propounded in an unsound form when the form of the argument is not conclusive, e.g. whereas the following, they say, are deductions:[ai]

If it is day, it is light.
But it is day.
Therefore, it is light.

and:

If it is day, it is light.
But it is not light.
Therefore, it is not day.

the following argument is inconclusive:

If it is day, it is light.
But it is light.
Therefore, it is day.

[148] For since the conditional announces that if its antecedent is the case then so too is its consequent,[226] it is likely that when the antecedent is taken as an additional assumption the consequent should be derived, and that when the consequent has been rejected, the antecedent too should be rejected – for if the antecedent were the case the consequent would also be the case. But if the consequent is taken as an additional assumption, the antecedent is not necessarily

[ai] Retaining the MS reading συλλογισμῶν which Mutschmann–Mau emend to συλλογιστικῶν.

[225] On which see BARNES [1980].
[226] See II 189; Diogenes Laertius VII 71.

posited; for the conditional did not promise that the antecedent follows the consequent, but only that the consequent follows the antecedent. [149] For this reason, then, an argument which concludes to the consequent from a conditional and its antecedent is said to be deductive, and so also is one which concludes to the opposite of the antecedent from a conditional and the opposite of its consequent. But an argument which concludes to the antecedent from a conditional and the consequent is said to be inconclusive, as in the case just given. (That is why it may conclude to something false even if its assumptions are true, when it is said at night by lamp-light. For the conditional 'If it is day, it is light' is true, and so is the additional assumption 'But it is light'; but the consequence, 'Therefore it is day', is false.)

[150] An argument is unsound in virtue of deficiency if one of the things needed for concluding to the conclusion is omitted. E.g. whereas, they think, the following argument is sound:

> Wealth is either good or bad or indifferent.
> But it is neither bad nor indifferent.
> Therefore, it is good.

the following argument is bad from deficiency:

> Wealth is either good or bad.
> But it is not bad.[a]
> Therefore, it is good.

[151] Now if I show that according to them no difference can be discerned between inconclusive and conclusive arguments, I shall have shown that conclusive arguments are inapprehensible, so that the endless verbiage they devote to dialectic is superfluous. I show it as follows.

[152][227] Arguments which are inconclusive in virtue of disconnectedness were said to be recognized by the fact that their assumptions do not cohere[228] with one another or with the consequence. Now,

[a] Mau suggests the addition of ⟨ἢ ἀδιάφορος⟩, '... or indifferent': the result is indeed a non-conclusive argument, but *M* VIII 434 shows that the received text is correct.

[227] With II 152–3 compare *M* VIII 435–7.
[228] Cf. II 146.

since recognition of this coherence must be preceded by a judgement on conditionals, and conditionals are undecidable, as we have deduced,[229] arguments which are inconclusive in virtue of disconnectedness will also be indiscernible. [153] For anyone who says that a certain argument is inconclusive in virtue of disconnectedness will, if he merely makes a statement, have opposed to him the statement opposite to his own; and if he purports to prove it by way of an argument, he will be told that this argument must first be conclusive and only then prove that the assumptions of the argument said to be disconnected are in fact unconnected. But we shall not recognize whether the argument is probative if we do not possess an undisputed judgement on conditionals by which to judge whether the conclusion follows the conjunction of the assumptions of the argument. So for this reason we shall not be able to distinguish conclusive arguments from those said to be unsound in virtue of disconnectedness.

[154][230] We shall say the same against anyone who says that an argument is unsound because it is propounded in a bad form. For anyone trying to establish that a certain form is unsound will have no agreed conclusive argument through which he can conclude to what he says.

[155][231] By these considerations we have implicitly also argued against those who try to show that arguments are inconclusive because of deficiency. For if complete and finished arguments are indistinguishable, deficient arguments will also be unclear. And further, anyone who wishes to show by argument that a given argument is deficient will have no agreed judgement on conditionals through which he can judge the validity[232] of the argument he utters, and so he will not be able to say, correctly and after judging the matter, that it is deficient.

[156][233] Arguments said to be unsound by redundancy are also indistinguishable from probative arguments. For as far as redundancy

[229] See II 145.
[230] Cf. *M* VIII 444–5.
[231] Cf. *M* VIII 446.
[232] 'Validity' renders ἀκολουθία: see I 16, note.
[233] Cf. *M* VIII 438.

goes, even the unprovable arguments which the Stoics talk so much about [234] will be found to be inconclusive – and if they are rejected, the whole of dialectic is overthrown. For these are the arguments which they say need no proof[235] for their own construction and are probative of the fact that the other arguments reach a conclusion.[236] That they are redundant will be clear if we set out the unprovable arguments and then deduce what we are maintaining.

[157] They dream up many unprovable arguments, but they set out in particular the following five,[237] to which all the rest are thought to be referred. First, the argument which, from a conditional and the antecedent, concludes to the consequent, e.g.:

If it is day, it is light.
But it is day.
Therefore, it is light.

Secondly, the argument which, from a conditional and the opposite of the consequent, concludes to the opposite of the antecedent, e.g.:

If it is day, it is light.
But it is not light.
Therefore, it is not day.

[158] Thirdly, the argument which, from a negative conjunction and one of the conjuncts, concludes to the opposite of the other, e.g.:

It is not the case that it is day and it is night.
But it is day.
Therefore, it is not night.

[234] For the Stoic 'unprovable' or 'indemonstrable' argument-forms expounded in II 157–8, see also e.g. below, II 198–203; *M* VIII 223–7; Galen, *inst log* vi 6; Diogenes Laertius VII 79–81; see e.g. FREDE [1974], pp. 127–53.

[235] ἀναπόδεικτος, which we translate in the traditional fashion by 'unprovable', is in this context used to designate what does not *require* proof rather than what *cannot* be proved; cf. *M* VIII 223; Diogenes Laertius VII 79; Galen, *inst log* viii 1.

[236] Cf. II 166, 194.

[237] The five are the Chrysippean canon (see the texts listed above, n. 234). Some Stoics offered different lists (see Diogenes Laertius VII 79; Galen, *inst log* xiv 3); on the lists of seven unprovables (Cicero, *Topics* xii 53–xiv 57; Martianus Capella, IV 414–21; Boethius, *Commentary on Cicero's Topics* 355–8) see IERODIAKONOU [1993].

Fourthly, the argument which, from a disjunction and one of the disjuncts, concludes to the opposite of the other, e.g.:

Either it is day or it is night.
But it is day.
Therefore, it is not night.

Fifthly, the argument which, from a disjunction and the opposite of one of the disjuncts, concludes to the other, e.g.:

Either it is day or it is night.
But it is not night.
Therefore, it is day.

[159][238] These, then, are the unprovables which they talk so much about – and they all seem to me to be inconclusive by redundancy. For example (to begin from the first), either it is agreed that 'It is light' follows 'It is day', its antecedent in the conditional 'If it is day, it is light', or else it is unclear. But if it is unclear, we shall not grant the conditional as something agreed upon. And if it is clear that if 'It is day' is the case then of necessity 'It is light' will also be the case, then when we say that it is day it is concluded that it is light, so that the argument:

It is day.
Therefore, it is light.

is sufficient, and the conditional 'If it is day, it is light' is redundant.

[160] We proceed in the same way in the case of the second unprovable too. Either it is possible for the antecedent to be the case when the consequent is not the case, or else it is not possible. But if it is possible, the conditional will not be sound; and if it is not possible, then 'Not the antecedent' is posited at the same time as 'Not the consequent' is posited, and the conditional is again redundant, the argument coming to be propounded thus:

It is not light.
Therefore, it is not day.

[161] The same argument applies also to the third unprovable. Either it is clear that the conjuncts cannot co-exist with one another, or else it

[238] With II 159–62 compare *M* VIII 440–2 (and see below, II 193).

is unclear. And if it is unclear, we shall not grant the negation of the conjunction; while if it is clear, then at the same time as the one conjunct is posited the other is rejected, and the negation of the conjunction is redundant, since we argue thus:

It is day.
Therefore, it is not night.

[162] We make similar remarks in the case of the fourth and the fifth unprovables. Either it is clear that in the disjunction the one disjunct is true and the other false with complete conflict[239] (that is what the disjunction announces[240]), or else it is unclear. But if it is unclear, we shall not grant the disjunction; and if it is clear, then when one of the disjuncts is posited it is plain that the other is not the case, and when one is rejected it is clear that the other is the case, so that it is enough to propound the arguments as follows:

It is day.
Therefore, it is not night.

and:

It is not day.
Therefore, it is night.

– and the disjunction is redundant.

[163] We can make similar remarks about the so-called categorical deductions which are used especially by the Peripatetics.[241] Thus, for example, in this argument:

The just is fine.
The fine is good.
Therefore, the just is good.

either it is agreed and is clear that the fine is good, or else it is controverted and unclear. But if it is unclear, then it will not be granted when the argument is propounded, and for that reason the

[239] Two propositions are in 'complete' conflict if exactly one of them must be true; they are in 'partial' conflict if at most one of them can be true: see Galen, *inst log* iv 1–2 (cf. below, II 191; *M* VIII 283).
[240] See II 191; Diogenes Laertius VII 72.
[241] See ANNAS [1992c].

deduction will not reach a conclusion; and if it is clear that anything fine is necessarily also good, then at the same time as it is said that this individual thing is fine, it may be concluded that it is also good, so that it is enough to propound the argument as follows:

The just is fine.
Therefore, the just is good.

– and the other assumption, in which the fine was said to be good, is redundant.[242] [164] Similarly, too, in the argument:

Socrates is human.
Everything human is an animal.
Therefore, Socrates is an animal.

If it is not directly clear that anything which is human is also an animal, the universal proposition is not agreed upon and we shall not grant it when it is propounded. [165] But if being an animal follows being human,[ak] and for that reason the proposition 'Everything human is an animal' is agreed to be true, then at the same time as it is said that Socrates is human, it may be concluded that he is an animal, so that it is enough to propound the argument thus:

Socrates is human.
Therefore, Socrates is an animal.

and the proposition 'Everything human is an animal' is redundant. [166] And similar methods can be used – not to dwell on the matter now – in the case of the other primary[al] categorical deductions.

Since these arguments which the dialecticians place as the foundations of their deductions[243] are redundant, then as far as redundancy goes, the whole of dialectic is overthrown, given that we cannot distinguish arguments which are redundant and for that reason inconclusive from the deductions they call conclusive. [167] And if some refuse to allow that there are arguments with a single

[ak] Reading τῷ ἄνθρωπον εἶναι (Mau): the MSS offer different readings, all of them unsatisfactory; Mutschmann–Mau print τοῦ ἀνθρώπου τῷ εἶναι.

[al] Retaining the MS reading, πρώτων: Mutschmann–Mau print τρόπων τῶν (Heintz).

[242] Cf. Alexander, *in Top* 13.25–14.2.

[243] See II 156.

assumption, they deserve to be found no more convincing than Antipater who does not rule out such arguments.[244]

For[245] these reasons, then, what the dialecticians call conclusive arguments are undecidable. But in addition, true arguments are undiscoverable, both for the reasons given above[246] and because they ought certainly to end in a truth. Now the conclusion which is said to be true is either apparent or unclear. [168] But it is surely not apparent; for it would not need to be revealed by way of the assumptions if it made an impression by itself and were no less apparent than its assumptions.[247] And if it is unclear, then since there has been an undecidable dispute about what is unclear (as we have already suggested[248]), so that unclear things are actually inapprehensible, the conclusion of an argument said to be true will be inapprehensible. And if this is inapprehensible, we shall not know whether what is being concluded is true or false. We shall be ignorant, then, whether the argument is true or false, and true arguments will be undiscoverable.

[169] But to pass over this too, arguments concluding to something unclear by way of what is clear are undiscoverable. For if the consequence follows the conjunction of the assumptions, and if what follows and the consequent are relative to something, i.e. relative to the antecedent, and if relatives are apprehended together with one another, as we established,[249] then if the conclusion is unclear the assumptions too will be unclear, and if the assumptions are clear the conclusion too will be clear inasmuch as it is apprehended together with them and they are clear;[250] so that what is unclear is not after all concluded from what is clear. [170] Nor, for these reasons, is the

[244] Cf. *M* VIII 443; Alexander, *in Top* 8.16–18; Apuleius, *int* 184.20–3. Antipater, head of the Stoa in the middle of the second century BC, opposed the orthodox Chrysippean view. Sextus mentions the matter here in order to avoid the following rejoinder to his argument: 'But I *can* distinguish conclusive from non-conclusive arguments – conclusive arguments have only one premiss.'

[245] With this paragraph compare *M* VIII 448–52.

[246] See II 85–94 (where truth in general is attacked) or 145–66 (for if there are no conclusive arguments, there are *a fortiori* no true arguments)?

[247] Cf. II 99.

[248] See II 116.

[249] See II 117.

[250] Cf. III 7.

consequence revealed by the assumptions. It is either unclear and not apprehended or else clear and not needing anything to reveal it.

Thus if a proof is said to be an argument which in virtue of yielding a conclusion[am] reveals an unclear consequence by way of items agreed to be true,[251] and if we have suggested that there are no arguments and none that are conclusive or that are true or that conclude to something unclear by way of what is clear or that are revelatory of the conclusion, then it is plain that proofs are non-existent.

[171][252] By way of the following assault too we shall find proof to be unreal or even inconceivable. Anyone who says that there are proofs posits either generic proof or some specific proof; but it is not possible to posit either generic or specific proofs, as we shall suggest, and it is not possible to think of any others apart from them: you cannot therefore posit proofs as existing. [172] Generic proof is non-existent for the following reasons. Either it has assumptions and a consequence, or it does not. And if it does not, it is not a proof at all; but if it has assumptions and a consequence, then since everything which is proved and proves in this way is particular, it will be a specific proof. Therefore there are no generic proofs.

[173] Nor are there specific proofs either. For they will say either that a proof is the compound of the assumptions and the consequence or that it is the compound of the assumptions alone; but a proof is neither of these, as I shall establish: therefore there are no specific proofs. [174] Now the compound of the assumptions and the consequence is not a proof, first because it contains an unclear part, namely the consequence, and so will be unclear. But that is absurd; for if a proof is unclear, it will itself need something to prove it rather than be probative of other things. [175] Secondly, since they say that proofs are relative to something,[253] i.e. relative to their consequences, and relatives are thought of, as they themselves say, in relation to other things, then what is being proved must be something other than the proof. Then, if what is being proved is the conclusion, proofs will not be thought of as including their conclusions. And either the

[am] Omitting τουτέστι συνακτικός (Bekker).

[251] See II 135.
[252] With II 171–6 compare *M* VIII 382–90 (and see 338–47; *M* II 110–11).
[253] See II 179; *M* VIII 335; 453–62.

conclusion contributes something towards its own proof or it does not. But if it does contribute, it will be revelatory of itself, while if it does not contribute but is redundant, it will not be a part of the proof since we shall say that the proof itself is unsound by redundancy. [176] But the compound of the assumptions alone will not be a proof either. For who would say that something stated like this:

> If it is day, it is light.
> But it is day.

either is an argument or finishes a thought at all? Therefore the compound of the assumptions alone is not a proof.

Therefore specific proofs have no subsistence either. And if neither specific nor generic proofs subsist, and it is not possible to conceive of any proofs apart from these, then proofs are non-existent.

[177][254] Again, it is possible to suggest the non-existence of proofs by the following considerations. If there are proofs, they are either apparent and revelatory of what is apparent, or unclear and revelatory of what is unclear, or unclear and revelatory of what is apparent, or apparent and revelatory of what is unclear. But proofs cannot be conceived of as revelatory in any of these ways: therefore they are inconceivable. [178] If a proof is apparent and revelatory of what is apparent, then what is revealed will be at the same time both apparent and unclear – apparent, since it was hypothesized to be so, and unclear, since it needs something to reveal it and does not make a plain impression on us by itself. If a proof is unclear and revelatory of what is unclear, then it will itself need something to reveal it and will not be revelatory of anything else – and that departs from the concept of a proof. [179] For these reasons there cannot be unclear proofs of what is clear either. Nor can there be clear proofs of what is unclear. For since proofs are relative to something[255] and relatives are apprehended at the same time as one another,[256] what is said to be proved, being apprehended at the same time as the clear proof, will be clear, so that the account is turned about[257] and the proof is not found to be

[254] With II 177–9 compare *M* VIII 391–5.
[255] See II 175.
[256] See II 17, note.
[257] See I 122.

clear itself and probative of something unclear. If, then, there are neither apparent proofs of what is apparent, nor unclear proofs of what is unclear, nor unclear of what is clear, nor clear of what is unclear, and if they say that there is nothing apart from these, then they must say that proof is nothing.

[180][258] In addition, we should make the following remark. There has been a dispute about proofs. Some say that they do not even exist (for example, those who state that nothing at all exists[259]), others that they do exist (most of the Dogmatists), and we say that they no more exist than not exist. [181] And again, proofs certainly include beliefs, and they have disputed about every belief, so that there must be dispute about every proof. For if the proof that, say, there is void, is agreed to, it is also agreed that there is void: clearly, then, those who controvert the existence of void also controvert the proof. And the same argument goes for the other beliefs which are subjects of proof. Hence every proof is controverted and under dispute.

[182] Since proofs are unclear, then, because of the dispute about them (for disputed items, insofar as they have been subject to dispute, are unclear[260]), they are not manifest in themselves but ought to be recommended to us by a proof. Now the proof by way of which proofs are established will not be agreed upon and manifest (for we are now investigating whether proofs exist at all); but, being disputed and unclear, it will need another proof, and that another, and so *ad infinitum*.[261] But it is impossible to prove infinitely many things. Therefore, it is impossible to establish that there are proofs. [183] Nor can they be revealed by way of signs. For the existence of signs is under investigation, and signs require proof to show their own reality, so that the reciprocal mode turns up,[262] proofs needing signs and signs in turn needing proofs[263] – which is absurd.

And for the following reasons it is not possible to decide the dispute about proof: the decision requires a standard and, as there is

[258] With II 180–1 compare *M* VIII 327–34.
[259] E.g. Gorgias: II 57. At *M* VIII 327 the Empiric doctors 'and perhaps Democritus' are cited as denying proof (cf. Galen, *On Sects, for beginners* 5, I 72 K).
[260] See II 116.
[261] See I 166.
[262] See I 169.
[263] See II 122.

an investigation as to whether there are any standards (as we have established[264]) and standards therefore need a proof to show that there are standards, the reciprocal mode of impasse again turns up.[265] [184] If, then, it cannot be suggested either by a proof or by a sign or by a standard that there are proofs, and if proofs are not clear in themselves, as we have established, then it will be inapprehensible whether there are any proofs. And for that reason proofs will actually be unreal; for they are conceived of together with the notion of proving, and they cannot prove if they are not apprehended.[266] Hence they will not actually be proofs.

[185][267] This, in an outline,[268] will be enough against proofs. The Dogmatists, attempting to establish the contrary, say that the arguments propounded against proofs are either probative or not probative. But if they are not probative, they cannot show that there are no proofs; and if they are probative, then they themselves, by a turning about,[269] introduce the subsistence of proof. [186] Hence they also propound the following argument:

> If there are proofs, there are proofs.
> If there are not proofs, there are proofs.
> But either there are proofs or there are not proofs.
> Therefore, there are proofs.

They propound the following argument too, with the same force:

> Whatever follows opposites is not only true but also necessary.
> These things – there are proofs, there are not proofs – are opposite to one another, and that there are proofs follows each of them.
> Therefore, there are proofs.

[187] Now we may argue against this by saying, for example, that since we do not deem any arguments to be probative, we do not necessarily say that the arguments against proof are probative, but that they appear plausible to us – and plausible arguments are not

[264] See II 18–79.
[265] Cf. II 20; *M* VIII 380; Diogenes Laertius IX 91.
[266] Cf. II 123.
[267] With II 185–6 compare *M* VIII 465–7 (and above, II 131).
[268] See I 4, note.
[269] See I 122.

probative of necessity.[270] But if they actually are probative (which we do not affirm), they are certainly also true. But true arguments are those which conclude to a truth by way of truths.[271] Thus their consequence is true – and that was: There are no proofs. 'There are no proofs' is therefore true, by being turned about.[272] [188] Arguments, like purgative drugs which evacuate themselves along with the matters present in the body, can actually cancel themselves along with the other arguments which are said to be probative.[273] This is not incongruous, since the phrase 'Nothing is true' not only denies everything else but also turns itself about[274] at the same time.

And the following argument can be shown to be inconclusive:

> If there are proofs, there are proofs.
> If there are not proofs, there are proofs.
> Either there are or there are not.
> Therefore, there are.

The point can be made in several ways, but for present purposes the following attack will be enough.[275] [189] If the conditional 'If there are proofs, there are proofs' is sound, the opposite of its consequent, viz. 'There are no proofs', must conflict with 'There are proofs'; for this is the antecedent of the conditional.[276] But it is impossible, according to them, for a conditional composed of conflicting statements to be sound. For a conditional announces that if its antecedent is the case, then so too is its consequent,[277] and conflicting statements announce the contrary – that if either one of them is the case, it is impossible for the other to hold. If, therefore, this conditional – 'If there are proofs, there are proofs' – is sound, then the conditional 'If there are not proofs, there are proofs' cannot be sound. [190] Again, if we concede by way of hypothesis that the conditional 'If there are not proofs, there are proofs' is sound, then 'There are proofs' can co-exist with 'There are not proofs'. But if it can co-exist with it, it does not

[270] Cf. *M* VIII 473.
[271] See II 139.
[272] See I 122.
[273] Cf. *M* VIII 480; and see above, I 14–15, 206.
[274] See I 122.
[275] See STOPPER [1983]; NASTI DE VINCENTIS [1984].
[276] See II 111.
[277] See II 148.

conflict with it. Therefore in the conditional 'If there are proofs, there are proofs' the opposite of its consequent does not conflict with its antecedent. Thus, in its turn the latter conditional is not sound [191] if the former is posited by way of concession as sound. And if 'There are no proofs' does not conflict with 'There are proofs', then the disjunction, 'Either there are proofs or there are not proofs', will not be sound either. For a sound disjunction announces that one of its elements is sound[an] and the other or others false and conflicting.[278] Or, if the disjunction is sound, the conditional 'If there are no proofs, there are proofs' again turns out to be bad, being composed of conflicting elements. Thus the assumptions in the argument just mentioned are discordant and destroy one another; [192] and for that reason the argument is not sound. Nor can they even show that anything follows the opposites, since, as we have deduced,[279] they have no standard for implication.[280]

This we say for good measure.[281] For if the arguments on behalf of proofs are plausible – and let them be so – and the attacks we have made on proofs are also plausible, then we must suspend judgement about proofs too, saying that there no more are than are not proofs.[282]

xiv Deductions

[193] For this reason it is no doubt superfluous to deal with the deductions which they talk so much about – they are turned about [283] together with the reality of proofs (for it is plain that if there are no proofs, then probative arguments have no place either); and we have also implicitly argued against them in our earlier remarks[284] when, discussing redundancy, we described a procedure by way of which it is possible to show that all the probative arguments both of the Stoics

[an] Retaining the MS reading ὑγιές: Mutschmann–Mau print ἀληθές (Heintz).

[278] See II 162.
[279] See II 110–14.
[280] 'Implication' renders ἀκολουθία: see I 16, note.
[281] See I 62.
[282] See II 133 (and I 188–91 on 'no more').
[283] I 122.
[284] See II 159–66.

and of the Peripatetics are in fact inconclusive. [194] But for good measure[285] it is no doubt no bad idea to discuss them in their own right too, since they particularly pride themselves on them.[286] Many things can be said to suggest their non-existence; but in an outline[287] it is enough to use the following procedure against them. Here too I shall talk about the unprovables – for if they are rejected, all the other arguments too are overthrown, since it is on the unprovables that the proof of their conclusiveness depends.[288]

[195][289] Now this proposition – Everything human is an animal – is confirmed inductively [290] from the particulars; for from the fact that Socrates, being human, is also an animal, and similarly with Plato and Dio and each of the particulars, it is thought possible to affirm that everything human is an animal. For if even one of the particulars were to appear contrary to the others, the universal proposition is not sound – e.g. since most animals move their lower jaw but the crocodile alone moves its upper jaw, the proposition 'Every animal moves its lower jaw' is not true.[291] [196] Thus when they say:

> Everything human is an animal.
> But Socrates is human.
> Therefore, Socrates is an animal.

and wish to conclude from the universal proposition 'Everything human is an animal' to the particular proposition 'Therefore Socrates is an animal', which (as we have suggested) is actually confirmatory of the universal proposition in virtue of the inductive mode, they fall into the reciprocal argument,[292] confirming the universal proposition inductively by way of each of the particulars and the particular deductively from the universal.[ao] [197] Similarly in the case of the following argument:

[ao] There is a lacuna in the text: we follow Bury and read: τῶν κατὰ μέρος ⟨ἐπαγωγικῶς, βεβαιοῦντες, τὴν δὲ κατὰ μέρος⟩ ἐκ τῆς καθόλου.

285 See I 62.
286 See I 180.
287 See I 4, note.
288 See II 156.
289 With II 195–7 compare II 163–5.
290 See II 204.
291 A stock example (e.g. Apuleius, *int* 185.15–20; Alexander, *in APr* 43.28–44.2): see BARNES, BOBZIEN, FLANNERY and IERODIAKONOU [1991], p. 104, n. 12.
292 See I 169.

Socrates is human.
But nothing human is a quadruped.
Therefore, Socrates is not a quadruped.

Wishing to confirm the proposition 'Nothing human is a quadruped' inductively from the particulars and wanting to deduce each of the particulars from 'Nothing human is quadruped', they fall into the impasse of reciprocity.

[198] The rest of the arguments which the Peripatetics call unprovable[293] should be gone through in a similar way. And so too with arguments such as:[294]

If it is day, it is light.
But it is day.
Therefore, it is light.[ap]

For 'If it is day, it is light' leads to the conclusion, as they say, that when it is day it is light,[aq] and 'It is light' together with 'It is day' is confirmatory of 'If it is day, it is light'. For this conditional would not be deemed sound if 'It is light' had not been earlier observed always to co-exist with 'It is day'. [199] Thus one must first apprehend that when it is day it is necessarily also light, in order to construct the conditional 'If it is day, it is light', and by way of this conditional it is concluded that when it is day it is light. Hence, since the conditional 'If it is day, it is light' concludes – so far as the unprovable before us goes – to the co-existence of its being day and its being light, while the co-existence of these items confirms the conditional, here too the reciprocal mode of impasse[295] overturns the subsistence of the argument.

[200] Similarly with the following argument:

If it is day, it is light.
But it is not light.
Therefore, it is not day.

[ap] Reading εἰ ἡμέρα ἔστι φῶς ἔστιν, ⟨ἀλλὰ μὴν ἡμέρα ἔστιν· φῶς ἄρα ἔστιν⟩.
[aq] Reading τοῦ ⟨ὅτι ἡμέρας οὔσης⟩ φῶς ἔστιν (Heintz).

[293] For the Peripatetic appropriation of the term 'unprovable' see e.g. Alexander, *in APr* 54.12.
[294] For the Stoic unprovables see II 157–8.
[295] See I 169.

For it is from the fact that day is not observed without light that the conditional 'If it is day, it is light' would be deemed to be sound – since if, let us suppose, day were at some time to appear but light not, the conditional would be said to be false. But as far as the unprovable just mentioned goes, there not being day when there is no light is concluded by way of 'If it is day, it is light'. Hence each of them requires for its own confirmation that the other has been firmly grasped in order that it may thereby become convincing, and both are found undecidable by the reciprocal mode.[ar296]

[201] Again, it is from the fact that certain things cannot co-exist with one another (e.g. day, as it might be, and night) that both the negation of the conjunction – 'It is not the case that it is day and it is night' – and the disjunction – 'Either it is day or it is night' – would be deemed to be sound. But they deem that the fact that they do not co-exist is confirmed by both the negation of the conjunction and the disjunction, saying:

It is not the case that it is day and it is night.
But it is night.
Therefore, it is not day.

and:

Either it is night or it is day.
But it is night.
Therefore, it is not day.

(or:

But it is not night.
Therefore, it is day.)

[202] Hence we again deduce that if in order to confirm the disjunction and the negation of the conjunction we require to have previously apprehended that the statements contained in them do not co-exist, while they think they conclude that they do not co-exist both by the disjunction and by the negation of the conjunction, then the

[ar] Retaining the MS reading χρῆζον (Mutschmann–Mau print χρήζει) and supposing a lacuna after τρόπον containing e.g. ἀνεπίκριτον εὑρίσκεται.

[296] See I 169.

reciprocal mode is introduced.[297] For we cannot find these complexes[298] convincing without apprehending the non-co-existence of the statements contained in them nor can we confirm their non-co-existence before propounding the deductions which use these complexes. [203] That is why, not knowing where to begin to find conviction because of the circularity, we shall say that, so far as these considerations go, neither the third nor the fourth nor the fifth of the unprovables has any subsistence.

So much will suffice for the present on the subject of deductions.

xv Induction[299]

[204] It is easy, I think, to reject the method of induction.[as] For since by way of it they want to make universals convincing on the basis of particulars,[300] they will do this by surveying either all the particulars or some of them. But if some, the induction will be infirm, it being possible that some of the particulars omitted in the induction should be contrary to the universal; and if all, they will labour at an impossible task, since the particulars are infinite and indeterminate.[301] Thus in either case it results, I think, that induction totters.

xvi Definitions

[205] The Dogmatists also take great pride[302] in their technique of definition, which they list in the logical part of what they call philosophy. Let us then make some remarks – a few for the present[303] – about definitions.

While the Dogmatists think that definitions are useful for many purposes, you will no doubt find that the main heads which they say cover all their indispensable uses are two in number: [206] they

[as] Omitting περί (after the Latin translation).

[297] See I 169.
[298] τροπικά: see above, II 3.
[299] On this chapter see VON SAVIGNY [1975].
[300] See II 195; cf. e.g. Aristotle, *Top* 105a13–16.
[301] See II 210.
[302] See I 180.
[303] See I 58.