

- T1** a syllogism is a *logos* in which, some things being posited, something other than the things laid down follows necessarily by their being so
- συλλογισμὸς δὲ ἐστὶ λόγος ἐν ᾧ τεθέντων τινῶν ἕτερόν τι τῶν κειμένων ἐξ ἀνάγκης συμβαίνει τῶ ταῦτα εἶναι (Aristotle, *Pr. An.*, I.1 21b.18–22)

**The conventional view of the syllogism    The “bare premises” view**

$P_1$	$P_1$
$P_2$	$P_2$
...	...
$P_n$	$P_n$
—	
Therefore, $C$	

- T2** every syllogism is composed of two propositions, no more and no less
- omnis quippe syllogismus componitur ex duabus propositionibus non pluribus neque paucioribus (Averroes, *Middle Commentary on the Prior Analytics*, trans. William of Luna, 221.118v)
- T3** the syllogism in an unqualified sense has certain characteristics properly demonstrable about it, for instance that it is formed from two propositions
- sillogismi simpliciter sunt quedam passiones proprie demonstrabiles de ipso, uerbi gratia, quod sit ex duabus propositionibus (Robert Kilwardby, *Notuli Libri Priorum*, 30.295–7)
- T4** Aristotle takes a syllogism not to be composed of premises and conclusion, but composed only of premises from which a conclusion can be inferred.
- Et videtur mihi quod Aristoteles reputavit syllogismum non esse compositum ex praemissis et conclusione sed compositum ex praemissis tantum potentibus inferre conclusionem (John Buridan, *Treatise on Consequences*, 3.4.48)

My aims today:

- Argue that Aristotle probably did **not** hold the bare premises view.
- Explain, in light of this, why the view was attractive to various commentators.

**Buridan: An explanation for Aristotle’s omission of indirect moods**

- T5** It seems to me that Aristotle takes a syllogism not to be composed of premises and conclusion, but composed only of premises from which a conclusion can be inferred; so he postulated one power of a syllogism [to be] that from the same syllogism many things can be concluded. So in the first figure in addition to the four moods concluding directly and according to the customary way of speaking, Aristotle describes only two other moods that, also according to the customary way of speaking, conclude indirectly, namely, Fapesmo and Frisesomorum, and rejects those that conclude only according to the nonnormal way of speaking. Nor did he list Baralip-ton, Celantes, and Dabit-is in addition to Barbara, Celarent, and Darii, since according to the definition they do not differ from them.
- Et videtur mihi quod Aristoteles reputavit syllogismum non esse compositum ex praemissis et conclusione sed compositum ex praemissis tantum potentibus inferre conclusionem; ideo posuit unam potestatem syllogismi quod idem syllogismus possit concludere plura. Ideo Aristoteles in prima figura praeter quattuor modos directe concludentes et secundum modum loquendi consuetum posuit solum alios duos modos qui, etiam secundum modum loquendi consuetum, concludunt indirecte, scilicet Fapesmo et Frisesomorum, et illos qui solum concludunt secundum modum loquendi inconsuetum dimisit. Et non enumeravit Baralip-ton, Celantes, et Dabit-is contra Barbara, Celarent et Darii, quia secundum dicta non differunt ab eis. (John Buridan, *Treatise on Consequences*, 3.4.48)

Buridan’s question: Why does Aristotle mention only two indirect moods?

Buridan’s explanation:

- Aristotle’s aim is to give a list of of all syllogisms
- A syllogism is only the set of premises from which its conclusion can be drawn
- So Aristotle need not list the indirect moods: To do so would be to double-count certain syllogisms

Buridan’s first figure:

Barbara=Baralip-ton	Celarent=Celantes	Darii=Dabit-is	Ferio	Fapesmo	Frisemorum
PaM	PeM	PaM	PeM	PaM	PiM
MaS	MaS	MiS	MiS	MeS	MeS

A simpler explanation: Within the categorical syllogistic, Aristotle requires the conclusion of a syllogism to be the strongest proposition possible which may be inferred from those premises.

**Modern attributions based on *Prior Analytics* II.1**

- T6** Since some syllogisms are universal and others are particular, the universal ones all syllogize multiple things, whereas of the particular ones, the categorical ones syllogize multiple things but the negative ones only syllogize their conclusion.
- ἐπεὶ δ’ οἱ μὲν καθόλου τῶν συλλογισμῶν εἰσὶν οἱ δὲ κατὰ μέρος, οἱ μὲν καθόλου πάντες αἰεὶ πλείω συλλογίζονται, τῶν δ’ ἐν μέρει οἱ μὲν κατηγορικοὶ πλείω, οἱ δ’ ἀποφατικοὶ τὸ συμπέρασμα μόνον. (Aristotle, *Pr. An.*, II.1, 53a.3–7)

The standard interpretation of T6:

- S “syllogizes multiple things” iff S has multiple conclusions

The standard interpretation implies either:

1. Syllogisms consist of a collection of premises and a collection of conclusions, or
2. A syllogism consists only of its premises (the “bare premises” view)

Problems for both alternatives:

1. Aristotle’s definition of the syllogism states that it includes its conclusion, and refers to the conclusion in the singular in T1
2. Aristotle generally singles out a particular conclusion when reducing syllogisms, and Aristotle often refers to the conclusions of syllogisms with the definite article.

An alternative interpretation of T6:

S “syllogizes multiple things” iff the set of propositions contained in the argument S have multiple logical consequences.

On this interpretation, Aristotle’s claims in *Pr. An.* II.1 do not commit him to any particular view about the number of conclusions of a syllogism.

### A third source for the premises-only view: Hylomorphic accounts of the syllogism

- T7** All of the causes just spoken about fall into four classes, the most obvious ones. For the letters of syllables and the matter of artefacts and fire and bodies like that and the parts of the whole and **the hypotheses of the conclusion** [are causes] as that out of which. With these, one thing is the underlying subject, as with the parts, the other is what it is for them to be, the whole and the combination and the form.
- ἅπαντα δὲ τὰ νῦν εἰρημμένα αἰτία εἰς τέτταρας πίπτει τρόπους τοὺς φανερωτάτους. τὰ μὲν γὰρ στοιχεῖα τῶν συλλαβῶν καὶ ἡ ὕλη τῶν σκευαστῶν καὶ τὸ πῦρ καὶ τὰ τοιαῦτα τῶν σωμάτων καὶ τὰ μέρη τοῦ ὅλου καὶ αἱ ὑποθέσεις τοῦ συμπεράσματος ὡς τὸ ἐξ οὗ αἰτία ἐστίν, τούτων δὲ τὰ μὲν ὡς τὸ ὑποκείμενον, οἷον τὰ μέρη, τὰ δὲ ὡς τὸ τί ἦν εἶναι, τό τε ὅλον καὶ ἡ σύνθεσις καὶ τὸ εἶδος (Aristotle, *Met.* Δ.2, 1013b.16–23)
- T8** The premisses, too, are causes of the whole syllogism by their combination, for they are causes of the conclusion not as matter, but as a productive cause; and in the whole deduction the premisses are like matter, and the conclusion like form.
- αἱ δὲ προτάσεις καὶ αὐταὶ κατὰ σύνθεσιν αἰτιαὶ τοῦ ὅλου συλλογισμοῦ· τοῦ γὰρ συμπεράσματος οὐχ ὡς ὕλη ἐστὶν αἰτία, ἀλλ’ ὡς ποιητικὸν εἶεν ἂν αἴτιον· καὶ ἐστὶν ἐν τῷ ὅλῳ συλλογισμῷ ὡς ὕλη μὲν αἱ προτάσεις, ὡς δὲ εἶδος τὸ συμπέρασμα. (Alexander, *in Met.*, 351.12–15)
- T9** We say that the form of the syllogism is its conclusion, while its matter is its premisses. For just as matter is for the sake of something, namely the form, so too the premisses are for the sake of the conclusion.
- εἶδος δὲ λέγομεν τῶν συλλογισμῶν τὸ συμπέρασμα, ὕλην δὲ τὰς προτάσεις· ὡς γὰρ ἡ ὕλη ἕνεκά τοῦ ἐστί, λέγω δὲ τοῦ εἶδους, οὕτω καὶ αἱ προτάσεις τοῦ συμπεράσματος ἕνεκα. (Philoponus, *in An. Pr.*, 6.11–14)
- T10** Now, on investigation it is evident that a syllable is not composed of letters *and* their combination, and a house is not bricks *and* combination. And this is correct, for the combination and the mixture are not themselves composed of the things that are mixed and combined, and the same holds of all the other cases.
- οὐ φαίνεται δὴ ζητοῦσιν ἡ συλλαβὴ ἐκ τῶν στοιχείων οὕσα καὶ συνθέσεως, οὐδ’ ἡ οἰκία πλίνθοι τε καὶ σύνθεσις. καὶ τοῦτο ὀρθῶς· οὐ γὰρ ἐστὶν ἡ σύνθεσις οὐδ’ ἡ μίξις ἐκ τούτων ὧν ἐστὶ σύνθεσις ἢ μίξις. ὁμοίως δὲ οὐδὲ τῶν ἄλλων οὐθέν (Aristotle, *Met.* H.3, 1043b.4–8)
- T11** we say that the syllogism is composed of at least two premisses
- τοὺς συλλογισμούς φαμεν ἐκ δύο προτάσεων συγκεῖσθαι τοῦλάχιστον (Philoponus, *in An. Pr.*, 22.10–11)

### A possible line of thought

1. The syllogism is a hylomorphic compound: Its premisses are its matter and its conclusion is its form
2. A hylomorphic compound is composed only of its matter, not its matter and its form
3. So, the syllogism is composed only of its premisses, not its premisses and its conclusion

- T12** What follow are differentiae by means of which he excludes not things of another genus, but rather something else of its same genus; and some of these pertain to the matter of the syllogism, others to the species, others to the composition. By the species of the syllogism I mean the conclusion in respect of its material, that is its propositions and assumptions, which Aristotle calls the antesyllogism. Because, like matter, they come first and the conclusion is added to them, the former are said to be matter, and the conclusion species or form. Quae autem sequuntur sunt differentiae, per quas remouentur non res aliorum generum, sed alia eiusdem generis et aliae quidem earum ad materiam pertinent syllogismi, aliae ad speciem, aliae ad complexionem. Et speciem quidem uoco conclusionem respectu materiae, id est propositionis et assumptionis, quas et Aristoteles uocat antesyllogismum. Quae, quoniam praeueniunt tamquam materia et ad perfectionem syllogismi adicitur eis conclusio tamquam forma, dicuntur illa materia, et conclusio species siue forma. (*Anonymus Aurelianensis III*, 26.8–15)
- T13** it is the terms and propositions that are the syllogism’s material parts. tam termini quam propositiones sunt partes materiales sillogismo (Robert Kilwardby, *Notuli Libri Priorum*, 84.119–120)
- T14** Why does he say that a syllogism is a locution since there are several locutions there? [...] [T]he locution is said to be one because of the unity of its end, viz. the conclusion. Adhuc dubitatur quare dicit quod sillogismus est oratio et non orationes cum tamen sint ibi plures orationes. [...] ab unitate finis, scilicet conclusionis, dicitur oratio una. (Robert Kilwardby, *Notuli Libri Priorum*, 82.103–110)

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