Aristotle on Imperfect Syllogisms

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Text 1: 27a1-5, initial remarks at I.5.
"**There cannot be a perfect syllogism *in this figure* in any way, but there will be a possible syllogism both if the terms are universal and if they are not.** [If the terms are universal, there will be a syllogism whenever the middle belongs to all of ne and none of the other, whichever term the privative is joined to; but, otherwise, in no way]" (27a1-5; my translation, modified from Striker's and Smith's).

τέλειος μὲν οὖν οὐκ ἔσται συλλογισμὸς οὐδαμῶς ἐν τούτῳ τῷ σχή- 27ᵃ
ματι, δυνατὸς δ' ἔσται καὶ καθόλου καὶ μὴ καθόλου τῶν ὅρων
ὄντων. καθόλου μὲν οὖν ὄντων ἔσται συλλογισμὸς ὅταν τὸ μέ-
σον τῷ μὲν παντὶ τῷ δὲ μηδενὶ ὑπάρχῃ, ἂν πρὸς ὁποτερῳοῦν
ᾖ τὸ στερητικόν· ἄλλως δ' οὐδαμῶς. κατηγορείσθω γὰρ τὸ Μ 5

Text 2: 28a15-17, initial remarks at I.6.
"Now *in this figure* too no perfect syllogism will come about, but a syllogism will be possible both when the terms are universal in relation to the middle and wheh they are not" (28a15-17, Striker's translation).

ἔξω μὲν τῶν ἄκρων, ἔσχατον δὲ τῇ θέσει. τέλειος μὲν οὖν οὐ γί- 15
νεται συλλογισμὸς οὐδ' ἐν τούτῳ τῷ σχήματι, δυνατὸς δ' ἔσται
καὶ καθόλου καὶ μὴ καθόλου τῶν ὅρων ὄντων πρὸς τὸ μέσον. 17

Text 3: 26a13-16, I.4, after the universal premise-pairs have been explored.
"So if the terms are universal, it is clear when there will be a syllogism in this figure and when not; also, [it is clear] that, **if there is a syllogism, then the terms must necessarily be related as we have said**, and if they are so related, then there will be a syllogism". (26a13-16, Striker's translation).

νάς. καθόλου μὲν οὖν ὄντων τῶν ὅρων, δῆλον ἐν τούτῳ τῷ σχή-
ματι πότε ἔσται καὶ πότε οὐκ ἔσται συλλογισμός, καὶ ὅτι ὄν-
τος τε συλλογισμοῦ τοὺς ὅρους ἀναγκαῖον ἔχειν ὡς εἴπομεν, 15
ἄν θ' οὕτως ἔχωσιν, ὅτι ἔσται συλλογισμός.

Text 4: 26b26-29, I.4, final remarks of the chapter.
"It is now evident from what has been said that **if there is a syllogism for a particular conclusion in this figure, then the terms must necessarily be related as we have said, for if they are related otherwise, no syllogism ever comes about**.
[It is also clear that all syllogisms in this figure are perfect, for they all reach their conclusion through the initial assumptions]" (26b26-30, Striker's translation).

  Φανερὸν οὖν ἐκ τῶν εἰρημένων ὡς ἐὰν ᾖ συλλογισμὸς ἐν
τούτῳ τῷ σχήματι κατὰ μέρος, ὅτι ἀνάγκη τοὺς ὅρους οὕτως
ἔχειν ὡς εἴπομεν· ἄλλως γὰρ ἐχόντων οὐδαμῶς γίνεται. δῆ-
λον δὲ καὶ ὅτι πάντες οἱ ἐν αὐτῷ συλλογισμοὶ τέλειοί εἰσι·
30 (πάντες γὰρ ἐπιτελοῦνται διὰ τῶν ἐξ ἀρχῆς ληφθέντων), καὶ ὅτι

Text 5: 27a23-25, I.5, after the universal premise-pairs have been explored.
"It is evident, then, **that if there is a syllogism with universal terms, the terms must be related as we said at the beginning, for if they are related in some other way, the necessary does not come about**" (27a23-25, Striker's translation modified).

ζῷον–λίθος. φανερὸν οὖν ὅτι ἂν ᾖ συλλογισμὸς καθόλου τῶν
ὅρων ὄντων, ἀνάγκη τοὺς ὅρους ἔχειν ὡς ἐν ἀρχῇ εἴπομεν·
ἄλλως γὰρ ἐχόντων οὐ γίνεται τὸ ἀναγκαῖον.   25

Text 6: I.5, 28a1-3[-7], final remarks of the chapter.

"It is evident from what has been said that if the terms are related to one another as we have said, then a syllogism will come about of necessity, **and if there is a syllogism, it is necessary for the terms to be so related**.

[It is also clear that all the syllogisms in this figure are imperfect, for all of them are brought to perfection by adding some things that are either necessarily inherent in the terms or assumed as hypotheses, as when we give a proof through the impossible]. (28a1-7, Striker's translation).

Φανερὸν οὖν ἐκ τῶν εἰρημένων ὅτι ἐάν τε οὕτως ἔχωσιν οἱ 28ᵃ
ὅροι πρὸς ἀλλήλους ὡς ἐλέχθη, γίνεται συλλογισμὸς ἐξ
ἀνάγκης, ἄν τ᾽ ᾖ συλλογισμός, ἀνάγκη τοὺς ὅρους οὕτως ἔχειν.
δῆλον δὲ καὶ ὅτι πάντες ἀτελεῖς εἰσιν οἱ ἐν τούτῳ τῷ σχήματι
συλλογισμοί (πάντες γὰρ ἐπιτελοῦνται προσλαμβανομένων 5
τινῶν, ἃ ἢ ἐνυπάρχει τοῖς ὅροις ἐξ ἀνάγκης ἢ τίθενται ὡς
ὑποθέσεις, οἷον ὅταν διὰ τοῦ ἀδυνάτου δεικνύωμεν), καὶ ὅτι οὐ

Text 7: 29a11-14(-16), I.6, final remarks of the chapter.

"It is now evident for this figure too when there will or there will not be a syllogism. Also, that when the terms are related as we have said, a syllogism comes about of necessity, and that **if there is a syllogism, then it is necessary for the terms to be so related**.

[It is also evident that all syllogisms in this figure are imperfect, for all of them are perfected by adding some things]" (29a11-16, Striker's translation).

Φανερὸν οὖν καὶ ἐν τούτῳ τῷ σχήματι πότ᾽ ἔσται καὶ πότ᾽
οὐκ ἔσται συλλογισμός, καὶ ὅτι ἐχόντων τε τῶν ὅρων ὡς
ἐλέχθη γίνεται συλλογισμὸς ἐξ ἀνάγκης, ἄν τ᾽ ᾖ συλλογι-
σμός, ἀνάγκη τοὺς ὅρους οὕτως ἔχειν. φανερὸν δὲ καὶ ὅτι πάν-
15 τες ἀτελεῖς εἰσιν οἱ ἐν τούτῳ τῷ σχήματι συλλογισμοί (πάν-
τες γὰρ τελειοῦνται προσλαμβανομένων τινῶν) καὶ ὅτι συλλο-

Text 8: 27a15-18, an empathic remark at I.5, after *Cesare* and *Camestres* have been epxlored. "It is evident, then, that a syllogism comes about when the terms are so related, **but not a perfect syllogism, for the necessary is completed [i.e., exhausted] not only from the initial assumptions**, but from others as well". (27a15-18, Striker's translation, modified).

ταῦτα καὶ εἰς τὸ ἀδύνατον ἄγοντας. ὅτι μὲν οὖν γίνεται συλ- 15
λογισμὸς οὕτως ἐχόντων τῶν ὅρων, φανερόν, ἀλλ' οὐ τέλειος· οὐ
γὰρ μόνον ἐκ τῶν ἐξ ἀρχῆς ἀλλὰ καὶ ἐξ ἄλλων ἐπιτελεῖται τὸ
ἀναγκαῖον. ἐὰν δὲ τὸ Μ παντὸς τοῦ Ν καὶ τοῦ Ξ κατηγορῆται,

Text 9: 24b18-22, the enlarged definition of syllogism, with clarification about its last clause.

"A syllogism is an argument in which, certain things being posited, something other than what was laid down results by necessity because these things are so. By 'because these things are so' I mean that it results through these, and by 'resulting through these' I mean that **no term is required from outside for the necessary to come about**". (24b18-22, Striker's translation, modified).

"[18] συλλογισμὸς δέ ἐστι λόγος ἐν
[19] ᾧ τεθέντων τινῶν ἕτερον τι τῶν κειμένων ἐξ ἀνάγκης συμβαί–
[20] νει τῷ ταῦτα εἶναι. λέγω δέ τῷ ταῦτα εἶναι τὸ διὰ ταῦτα
[21] συμβαίνειν, τὸ δὲ διὰ ταῦτα συμβαίνειν τὸ μηδενὸς ἔξωθεν
[22] ὅρου προσδεῖν πρὸς τὸ γενέσθαι τὸ ἀναγκαῖον."

Text 10: 24b22-26, the definitions of perfect and imperfect syllogisms.

"I call a syllogism perfect if it requires nothing beyond the things posited for the necessity to be evident; I call a syllogism imperfect if it requires one or more things that are indeed necessary because of the terms laid down, but that have not been taken among the premises". (24b22-26, Striker's translation).

My paraphrase/ translation:
"I call a syllogism perfect if it requires nothing beyond the things posited for displaying what is necessary; I call a syllogism imperfect if **it requires [or *lacks*] one or more things [*sc.* for displaying what is necessary], things which are indeed necessary for the terms of the problem**, but that have not been taken among the premises". (24b22-26, my translation).

ὅρου προσδεῖν πρὸς τὸ γενέσθαι τὸ ἀναγκαῖον. τέλειον μὲν οὖν
καλῶ συλλογισμὸν τὸν μηδενὸς ἄλλου προσδεόμενον παρὰ τὰ
εἰλημμένα πρὸς τὸ φανῆναι τὸ ἀναγκαῖον, ἀτελῆ δὲ τὸν προσ-
25 δεόμενον ἢ ἑνὸς ἢ πλειόνων, ἃ ἔστι μὲν ἀναγκαῖα διὰ τῶν
ὑποκειμένων ὅρων, οὐ μὴν εἴληπται διὰ προτάσεων. τὸ δὲ ἐν

Tables:

Warning: in "CaA", "C" is the subject, "A" is the predicate, so that the formula means "every C is A" etc.

First Figure

Forms of the conclusion	Premise-pairs deducing that conclusion	Name of the mood
CaA	*BaA, CaB*	*Barbara*
CeA	*BeA, CaB*	*Celarent*
CiA	*BaA, CiB*	*Darii*
CoA	*BeA, CiB*	*Ferio*

Second Figure

Forms of the conclusion	Premise-pairs deducing that conclusion	Name of the mood
CaA	*0*	
CeA	*AeB, CaB*	*Cesare*
	AaB, CeB	*Camestres*
CiA	*0*	
CoA	*AaB, CoB*	*Baroco*
	AeB, CiB	*Festino*

Third Figure

Forms of the conclusion	Premise-pairs deducing that conclusion	Name of the mood
CaA	*0*	
CeA	*0*	
CiA	*BaA, BaC*	*Darapti*
	BaA, BiC	*Datisi*
	BiA, BaC	*Disamis*
CoA	*BeA, BaC*	*Felapton*
	BoA, BaC	*Bocardo*
	BeA, BiC	*Ferison*