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The *Fallacia Consequentis* between Term Logic and Sentence Logic in its Medieval Reception

Introduction

Charles L. Hamblin, in the first chapter of his influential study on fallacies, after quoting Aristotle's text (*Sophistical Refutations* [*Soph. El.*] 5, 167b1-3) under the title "Affirming the Consequent", describes the fallacy of the consequent as follows:

> "The ordinary form of reasoning *S implies T and S is true* to *T is true* is commonly called *modus ponens*; and the Fallacy of the Consequent is generally regarded as a backwards version of it, from *S implies T and T is true* to *S is true*"[1].

In the following page he admits that Aristotle doesn't actually use the phrase "affirming the consequent"; he also acknowledges that there is a difference between Aristotle's treatment of the fallacy and that of "the Stoic and modern logicians": Aristotle doesn't use the hypothetical "if…then…" formulation, but rather examples inspired by his categorical syllogistics; and he wonders why Aristotle didn't provide a treatment of this fallacy as a *formal* fallacy, as the modern logicians do, but deals with it in the framework of a *material* fallacy. In the following chapter, discussing Aristotle's list of fallacies, Hamblin appears to be deeply disturbed by Aristotle's "bewildering statement that Consequent is a variety of Accident". And he is not completely satisfied by the solution of this puzzle that considers the examples of consequent as "cast in syllogistic form rather than propositional"[2]. What remains untouched is the general picture of the fallacy as a violation of the *modus ponens*, in particular the one described by the phrase "Affirming the Consequent" (from now on AC).

1. HAMBLIN 1970, p. 35.
2. HAMBLIN 1970, p. 86.

In some recent articles devoted to the fallacy of the consequent,[3] various scholars follow Hamblin's footsteps in their reading of Aristotle's *Soph. El.* 5 (167b1-3). The authors of these papers accept the common interpretation of the fallacy according to which it is a violation of two basic rules of propositional logic known as *modus ponens* (MP) and *modus tollens* (MT), in the forms of Affirming the Consequent (AC) or Denying the Antecedent (DA). They interpret Aristotle's text either as a suggestion to get rid of arguments of the type there described, since they do not provide any (new) information, or as an explanation of why many people are inclined to accept these kind of wrong arguments[4]. Luciano Floridi, in particular, comments on *Soph. El.* 5 (167b1 sqq.), saying that people "mistake 'only if' for 'if and only if', treating 'if it is a square, then it has four sides' as the same as 'if it is water, then it is H_2O'. This was already Aristotle's view"[5]. Furthermore, just before this passage, the same author says that this kind of *Formal Logical Fallacy* is dismissed by many authors as "providing zero information" and that on this point "no significant advancement has been made since Aristotle condemned logical fallacies to the dustbin in his *De Sophisticis Elenchis*".

Here, I see two problems in all these interpretations:

1. the description of this fallacy as a violation of basic propositional rules of inference does not correspond at all to Aristotle's view, since – as Hamblin acknowledges – he didn't have a propositional logic as the Stoics had[6];

2. the condemnation of the fallacy to the dustbin doesn't correspond either to Aristotle's view or to a fair description of its medieval reception: like various medieval philosophers after him, Aristotle presented fallacious inferences as dialectically or rhetorically acceptable and usable (just as Floridi tries to maintain, but following a different line of argumentation).

In this paper I would like to show first (very briefly) how Aristotle described the fallacy of the consequent, and how his Greek commentators started to link it to his syllogistics. Second, I shall present some of the medieval interpretations of the fallacy of the consequent, focusing on the first period of the reception of Aristotle's *Sophistici Elenchi* from the 1160s to the beginning of the following century: in this context, an interpretation emerges which corresponds to modern treatments of the fallacy of the consequent and of its two basic types (AC and DA). Third, I shall show how at the end of the thirteenth century the link with Aristotle's syllogistic (and Boethius' *Topics*) was commonly accepted.

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3. See, for instance, Floridi 2009 and Godden / Zenker 2015.
4. Cf. Floridi 2009, p. 96.
5. Floridi 2009, p. 320.
6. As Hitchcock 2000 shows it does not correspond to his later syllogistics either. See also Schreiber 2003, pp. 113-139, for a partially different interpretation of Aristotle's treatment of the fallacy of the consequent.

1. Aristotle's text and its Greek commentators

1.1. *Aristotle, consequent and conversion*

Aristotle describes the fallacy of the consequent, one of the fallacies "independent of language" (ἔξω τῆς λέξεως, *extra dictionem*), in the following terms:

> "The refutation which depends upon the *consequent* (παρὰ τὸν ἑπόμενον) arises because people suppose that *the relation of consequence is convertible* (διὰ τὸ οἴεσθαι ἀντιστρέφειν τὴν ἀκολούθησιν). For whenever, if this is the case, that necessarily is the case, they then suppose also that if the latter is the case, the former necessarily is the case"[7].

The terms ἑπόμενον and ἀκολούθησις quite correctly are rendered into English respectively as *consequent* and *consequence*, leaving unaltered their ambiguity, though. Aristotle certainly didn't refer to what nowadays logicians call that way, respectively, the consequent (or apodosis) of a conditional proposition and the conditional proposition itself. If one looks at other passages of his logical works where these terms (or their corresponding verbs) are used, such as *Topics*, II, 8, 113b15 sqq., it is clear that the relation of 'sequence' (this is the English word translating here ἀκολούθησις) has to do with terms rather than with propositions:

> "Seeing that the modes of opposition are four in number, you should look among the *contradictories* of your terms (ἐπὶ τῶν ἀντιφάσεων), reversing the order of their *sequence* (ἀνάπαλιν ἐκ τῆς ἀκολουθήσεως), both when demolishing and when establishing a view [...]. E.g., if man is an animal, what is not an animal is not a man; and likewise also in other instances of contradictories. For here the *sequence* is reversed (ἐνταῦθα γὰρ ἀνάπαλιν ἡ ἀκολούθησις); for animal follows upon man, but not-animal does not follow upon not-man, but the reverse not-man upon not-animal"[8].

As a matter of fact, here, the contradictories (αἱ ἀντιφάσεις) are terms such as "man" and "not-man", or "animal" and "not-animal". This is also clearly implied in *Soph. El.* 6, where Aristotle makes the "bewildering statement" that the fallacious arguments from the consequent are part of the fallacy of the accident[9]: consequents are signified by terms just like accidents are, e.g. "white", "swan" or "snow" (168b30-31, 34-35). The same holds for the explanation of how both fallacies work in *Soph. El.* 7 (169b3-9), where it is clear that the consequent is a kind of accident that follows a thing (πρᾶγμα): in both cases the error arises "because we cannot distinguish what is the same and what is different... [as for the con-

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7. Arist., *Soph. El.*, 5, 167b1-2 (translations in Barnes 1984, I, p. 283).
8. Arist., *Top.*, II, 8, 113b15-21 (Barnes 1984, I, p. 189).
9. See Schreiber 2003, ch. 7, pp. 113-130, for a thorough discussion of the relationship between these two fallacies.

sequent] in many cases it seems and it is claimed that if this is inseparable from that so also is that from this". In this passage sameness (inseparability) and difference (separability) are equivalent to affirming or denying a predicate of a subject[10]. This is the predicative sense of ἀκολούθησις (*consequence*) that one finds in *Soph. El.* 5: it is a relation between terms and not between the clauses of a conditional. Furthermore, in Aristotle's *Prior Analytics* (I, 28, 44a11 sqq.), the couple ἑπόμενον / ἕπομαι is used as equivalent to ὑπάρχον / ὑπάρχω, so that "consequent" in these texts is also to be understood as "predicate": therefore, again, as a term, and not as a proposition.

Consequently, in *Soph. El.* 5 when Aristotle talks about τὸ ἑπόμενον, he refers to a predicate, such as 'yellow' in "honey is yellow" (διὰ τὸ ἕπεσθαι τὸ ξανθὸν χρῶμα τῷ μέλιτι), or "smartly dressed" in "the adulterer (μοιχός) is smartly dressed (καλλωπιστής)", or "observed to wander around at night" in "the adulterer is observed to wander around at night (νύκτωρ ὁρᾶται πλανώμενος)": all these predicates indicate properties that 'flow' from things but do not convert with them, in the sense that the proposition in which they occur as predicates cannot be converted, i.e. their subjects and predicates cannot switch their positions. The reason why they do not convert is in these cases that they have not the same extension: even if that predication in some cases might be true, the converse is not true in many other cases (167b11-12). This sense of conversion or being convertible (ἀντιστρέφειν) corresponds to Aristotle's theory of simple conversion of universal negative and affirmative propositions as explained at the beginning of *An. Pr.*:

> "It is necessary then that in universal attribution the terms of the negative proposition should be convertible, e.g., if no pleasure is good, then no good will be pleasure; the terms of the affirmative must be convertible, not however universally but in part, e.g., if every pleasure is good, some good must be pleasure[11]".

As for the second point, Aristotle himself suggests, in the same chapter 5 of his *Soph. El.*, that argumentations based on this kind of fallacious reasoning are used in rhetoric, to build what he calls "demonstrations through signs" (κατὰ τὸ σημεῖον ἀποδείξεις), such as those quoted above (the adulterer case). The treatment of this fallacy comes before the elaboration of Aristotle's syllogistics, so that his explanation of the reason why the fallacy can deceive only makes appeal to the wrong opinion of those who believe that the consequence (i.e. predication) is convertible. Even though there is no direct link between this treatment and his discussion on enthymeme based on signs (*An. Pr.* II 27 and *Rhet.* I 2), conversion might play

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10. ARIST., *Soph. El.*, 7, 169b3-9 (BARNES 1984, I, p. 287). Cf. ARIST., *Top.*, I, 18, 108a29-37 (BARNES 1984, I, p. 180) for this sense of sameness, applied to accidents.
11. ARIST., *An. Pr.*, I, 2, 25a6-7 (BARNES 1984, I, p. 40).

a role there, too. There is no room here for analysing the whole theory of enthymemes based on signs worked out by Aristotle in these passages[12]; Aristotle distinguishes there two senses of 'sign' (σημεῖον), one linked to the first figure of the syllogism (and therefore insoluble, also called τεκμήριον), and one grounded on the second and third figures (called σημεῖον in a narrower sense). The third-figure sign-enthymemes has two singular premises and a universal conclusion, while the second-figure sign-enthymemes has two affirmative premises and an affirmative conclusion[13]. In both cases, the syllogisms are invalid and can be easily rejected. The reason why the sign-enthymemes based on the second figure are invalid may be that, as Aristotle explains in *An. Pr.* I 5 (27a18-19), on two affirmative universal premises no syllogistic inference can be constructed. In his *Rhetoric*, however, he indicates another reason. The examples in *Rhet.* I 2 and II 24, respectively, are the following: "he's breathing fast, therefore he has fever" and "Dionysius is a vicious man, therefore he is a thief". In both cases the dependence on the second figure can be shown, making explicit the omitted major premise: in the first example "every man who has fever breathes fast", in the second "every vicious man is a thief". As Aristotle says, the first sign-argumentation is refutable because one can breath fast without having fever: the middle term, breathing fast, has a wider extension than the major term, having fever (*Rhet.* I 2). As Aristotle specifies in *Rhet.* II 24, commenting on the second example, this kind of argumentation "yields no deduction... [since] not every vicious man is a thief, though every thief is a vicious man"[14], namely the major premise cannot be converted. If converted, the major premise would transform the sign-enthymeme based on the second figure ("[every thief is a vicious man,] Dionysius is vicious, therefore Dionysius is a thief") into a sound argument in the first figure ("[every vicious man is a thief,] Dionysius is vicious, therefore Dionysius is a thief"), formally irrejectable, even if materially false.

This would have made it possible for Aristotle to link explicitly his treatment of the sign-argumentations to the fallacy of the consequent: he didn't, however. In the same chapter (*Rhet.* II 24)[15], after examining the fallacious enthymeme based on sign, he also lists the one based on the consequent, using again the example of the smart dressed maybe-adulterer he used in *Soph. El.* 5, failing to acknowledge that they both participate in the same error.

12. For a detailed analysis, see MARMO / BELLUCCI 2023, ch. 1.
13. Being enthymemes, one of the premises is not expressed, since this may be either well known or utterly false, and is left to be provided by the audience (see BURNYEAT 1994 for a thorough examination of Aristotle's theory of enthymeme).
14. ARIST., *Rhet.*, II, 24, 1401b1-14 (BARNES 1984, II, p. 101).
15. This chapter, according to the stratification-interpretation of Aristotle's *Rhetoric* (the so-called Solmsen-Barnes thesis) is probably coeval with *Soph. El.* 5 (see BURNYEAT 1994, p. 31, n. 76).

1.2. *The Greek Commentators*

About the great Greek commentator, Alexander of Aphrodisia, two things are worth noticing in this short paragraph. First, in his commentary on the *Topics*, he takes the term 'consequent' (τὸ ἑπόμενον) in the sense of 'apodosis' or main clause of a conditional proposition, as opposed to 'antecedent' (τὸ ἡγούμενον)[16], maybe taking up Stoic suggestions. Secondly, he distinguishes two types of contentious or eristical syllogisms: one "which owes its contentious character to a mistake in subject-matter, not form" (παρὰ τὴν ὕλην ... οὐκέτι δὲ παρὰ τὸ σχῆμα), and can still be called 'syllogism', since it moves from premises "which look like approved, but are not" (τίνα δέ ἐστι τὰ φαινόμενα ἔνδοξα μὴ ὄντα δέ)[17]; another one "which is faulty in form" (also παρὰ τὸ εἶδος), such as the following

> Every human being is an animal
> Every horse is an animal
> therefore
> Every human being is a horse

which is not syllogistic, even though its premises are true, "since it comprises two affirmative statements in the second figure"; it cannot be simply named 'syllogism', but rather "contentious syllogism" as a whole (ἐριστικὸς συλλογισμός)[18]. Since his commentary on *Soph. El.* is lost we don't know if and how he applied this distinction to the thirteen Aristotelian fallacies; however, as Sten Ebbesen noticed[19], the following commentators didn't "engage in any serious attempt to classify fallacious arguments on the basis of the matter/form distinction", since none of Aristotle's examples falls in any of those fallacies, the only resemblance being in the fact that – as we saw above – the fallacy of the consequent can also be interpreted as a violation of the rules for a sound second figure syllogism[20]. The distinction between matter and form of a syllogism, however, would be applied systematically, and pedantically, in the commentaries on other Aristotelian works by the following Greek commentators on Aristotle's *Organon*, including some commentaries ascribed to Alexander but actually written by Michael of Ephesus in the twelfth century[21].

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16. Alexander Aphrodisiensis, *In Aristotelis Topicorum libros octo commentaria*, ed. Wallies, p. 10, l. 30 *ad* I, 1, 100a25.

17. Alexander Aphrodisiensis, *In Aristotelis Topicorum libros octo commentaria*, ed. Wallies, p. 20, ll. 3-6 and p. 21, ll. 5-6 *ad* I, 1, 100b23 (translation is from Van Ophuijsen 2001, pp. 22-23: "Aristotle says that the contentious syllogisms which are so by their subject-matte are syllogisms too"). Cf. Ebbesen 1981a, I, p. 95.

18. Alexander Aphrodisiensis, *In Aristotelis Topicorum libros octo commentaria*, ed. Wallies, p. 21, ll. 5-6 *ad* I.1, 101b1-4 (Van Ophuijsen 2001, pp. 23-24).

19. Ebbesen 1981a, I, pp. 96-97.

20. Fait 2007, pp. XXVI-XXVII, and XXVII, n. 25.

21. On the ps.-Alexander, see Ebbesen 2008.

John Philoponus in his commentary on *An. Post.* I 2 (71b9-12) quotes some examples from *Soph. El.* 5, giving them a particular twist:

"clearly there are other syllogisms, in between sophistical ones and scientific ones, that establish truths on the basis of likely <premises>, but in neither the demonstrative nor the sophistical way. For example, people who say 'such and such a person is a dandy, so he is an adulterer' or 'such and such a person wanders around during the night, so he is a thief' or 'the woman has milk, so she has given birth'. These are plausible signs (πιθανὰ τεκμήρια), but they are certainly not the causes of the conclusion (αἴτια τοῦ συμπεράσματος). For it is possible for someone to be a dandy but not an adulterer or to be wandering around at night but not a thief, and to have milk but not to have given birth"[22].

In *Soph. El.* 5 both fancy dressing and wandering at night are taken to be signs (in the strict sense) of being an adulterer, while here the example is split: fancy dressing is a sign of being an adulterer, while the wandering around at night is a sign of being a thief. It is in this split form that the example will return in later texts, such as the Anonymus Heiberg's compendium of logic (1007)[23], Michael Psellus' *Brevis Traditio*[24] and Michael of Ephesus' commentaries on *Soph. El.* (twelfth century)[25]. All these texts show that:

1. 'consequent' (τὸ ἑπόμενον) is taken as indicating the relationship between terms rather than propositions;

2. the Aristotelian example of the adulterer who is smartly dressed or wanders around at night is split in two: the one who is smartly dressed remains an adulterer, the one who goes around at night is a thief.

Let's just see the Anonymus Heiberg's text:

"<The paralogism> dependent on the consequent <are> like this: this guy wanders about at night, whoever wanders about at night is a thief, therefore this guy is a

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22. Ioannes Philoponus, *In Aristotelis Analytica Posteriora Commentaria*, ed. Wallies, p. 21, ll. 8-15: "εἰσὶ γὰρ δῆλον ὅτι καὶ ἄλλοι συλλογισμοὶ μεταξὺ τῶν τε σοφιστικῶν καὶ τῶν ἐπιστημονικῶν, ἀληθῆ μὲν καὶ ἐξ εἰκότων κατασκευάζοντες, οὐ μὴν τὸν ἀποδεικτικὸν τρόπον οὔτε τὸν σοφιστικόν, οἷον ὡς οἱ λέγοντες ʽὁ δεῖνα καλλωπιστής, μοιχὸς ἄραʼ. δεῖνα νύκτωρ πλανᾶται, κλέπτης ἄραʼ. ʽἡ γυνὴ γάλα ἔχει, τέτοκεν ἄραʼ· ταῦτα τὰρ πιθανὰ μὲν τεκμήρια, οὐ πάντως δʼ αἴτια τοῦ συμπεράσματος· δυνατὸν τὰρ καὶ καλλωπιστὴν εἶναί τινα, μὴ μοιχὸν δέ, καὶ νύκτωρ πλανώμενον, μὴ κλέπτην δέ, καὶ γάλα ἔχειν, μὴ τετοκέναι δέ" (translation in McKirahan 2008, p. 33 – slightly modified).

23. The compendium of logic includes a section on *Soph. El.* (see Ebbesen 1981a, I, pp. 262-264; a reprint of this part of the edition in Ebbesen 1981a, III, Appendix 9, pp. 90-101).

24. This is a survey on the thirteen Aristotelian fallacies, in form of a letter (see Ebbesen 1981a, III, pp. 102-110).

25. See Ebbesen 1981a, I, pp. 268-285, on Michael's different redactions of his commentary and his dependence on Psellus'. Cf. Ps. Alexander Aphrodisiensis (Michael Ephesius), *In Aristotelis Sophisticos Elenchos Commentarius*, ed. Wallies, pp. 48-49, ll. 27-3 (see Ebbesen 2018, pp. 34-38). An analysis of this passage is in Marmo / Bellucci 2023, 2.7.

thief. It is false: it is not necessary that all those who wander at night are also thieves. This <paralogism> is said depending on the consequent, because the wandering about at night follows from the thief: but you accept the converse (i.e., that the thief wanders about at night); and you argue that the converse is true"[26].

Here we can see that the verb 'follow' (ἕπεσθαι) is applied to terms (predicates or their meanings: being a thief or wandering around at night), and there is no mention of the adulterer[27]. Differently from the Latin commentaries, as we will see, the Greek ones do not refer to any logical rule, such as the *modus ponens*, in order to explain how the fallacy of the consequent works.

2. Some of the first commentaries on *Soph. El.*: *Anonymi Aurelianensis I* and *Cantabrigiensis*

As some of the twelfth-century commentaries show, medieval commentators used great caution in interpreting the term *consequens* (the Latin translation of ἑπόμενον) in the phrase *fallacia consequentis*. This attitude is justified by the polysemy of the term which warrants both a lexical interpretation (as predicate of a categorical proposition) and a propositional interpretation (as consequent of a conditional)[28].

Aristotle's *Soph. El.,* translated from the Greek by James of Venice in the 1130s together with glosses ascribed to Alexander of Aphrodisias (but actually by Michael of Ephesus who made use of his predecessors' commentaries), started to be commented upon around the middle of the century and found their places in logical treatises and handbooks in the second half of the twelfth century. Among the first commentators, the commentaries by the *Anonymus Aurelianensis I*[29] and the *Anonymus Cantabrigiensis*[30] are very interesting for my purposes.

Their discussion of the fallacy of the consequent begins with a discussion about the meaning of the term *consequens* which – in the second commentary

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26. Cf. Ebbesen 1981a, III, pp. 96-97 (appendix 9): "Παρὰ δὲ τὸ ἑπόμενον, οἷον ὁ δεῖνα νύκτωρ πλανᾶται, ὁ νύκτωρ πλανώμενος κλέπτης ἐστίν, ὁ δεῖνα ἄρα κλέπτης ἐστίν. ἔψευσται οὐ γὰρ ἀνάγκη πάντα τὸν νύκτωρ πλανώμενον καὶ κλέπτης εἶναι. λέγεται δὲ τὸ τοιοῦτον παρὰ τὸ ἑπόμενον διὰ τὸ ἕπεσθαι τῷ κλέπτῃ τὸ πλανᾶσθαι νύκτωρ· λαμβάνεται δὲ ἀντιστρόφως, ὅτι ἡ ἀντιστροφὴ ἀληθές ἐστι". Cf. Michael Psellus, *Brevis Traditio*, ed. Ebbesen, III, p. 105 (appendix 10); Ps. Alexander Aphrodisiensis (Michael Ephesius), *In Aristotelis Sophisticos Elenchos Commentarius*, ed. Wallies, 167b1, first (and final) edition in Ebbesen 2018, p. 35.

27. It appears only in Michael of Ephesus' final version of his commentary (Ebbesen 2018, p. 36).

28. In this, they agree with Schreiber 2003, ch. 7.

29. Anonymus Aurelianensis I's is labelled SE13 in Ebbesen 1993, p. 152 who dates it around 1160/1190.

30. Anonymus Cantabrigiensis' commentary is labelled SE15 in Ebbesen 1993, p. 153 who dates it from the 1180s (see Ebbesen 2019, pp. 13-17).

– introduces the presentation of the various modes of the fallacy[31]. According to the *Anonymus Aurelianensis I* there is a variety of opinion concerning the meaning of *consequens*:

> "Concerning the consequent various people think different things: someone says that the consequent is only a proposition that follows another, someone that it is only a predicable, someone else that it is only the meaning of (that) proposition. Each of them grounds his own opinion on different Aristotelian authoritative texts, and thanks to those (authorities) can defend his faulty position. However, it must be said truthfully, that in this passage (*Soph. El.* 5, 167b1) the consequent is taken as what always or frequently accompanies something else in the same truth, therefore we say that the consequent of human being is animal, that of snow is white, that of pitch is black, that of having rained is wet, that of adulterer is smartly dressed, that of thief is wander around (at night), that of ambitious is wasteful"[32].

The Anonymous of Cambridge distinguishes five senses of *consequens*:

(i) In a first sense, *consequens* corresponds to the sense which Aristotle probably intended: it is a predicate that is said of a subject as a consequence of the fact that another predicate is said of the same subject; furthermore, its negation with respect to a subject follows the negation of another predicate with respect to the same subject; in this sense, *animal* can be called *consequens* of *homo*, because if *homo* is predicated of something, also *animal* is predicated of the same subject, and if *animal* is denied of a subject, *homo* also is denied of the same (*consequens* in this case is synonym of *totum universale*).

(ii) In a second sense, one thing is said to be *consequens* as a synonym of *causa*: thus, Aristotle claims (*Top.* IV 5, 125b28-34) that sadness is *consequens* of anger, because sadness is the cause of anger, that is, it is impossible for anger to occur without sadness, while the opposite is not true (someone can indeed be sad without being angry for that reason).

(iii) In a third sense, *consequens* is what comes after something else in temporal terms or according to nature, just as every effect is *consequens* (both temporally and according to nature) with respect to its cause.

(iv) In a fourth sense, *consequens* is the proposition that is inferred from or follows another proposition.

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31. *Anonymi Cantabrigiensis Commentarium in Sophisticos Elenchos Aristotelis*, ed. Ebbesen, pp. 185-186 (see below).

32. *Anonymi Aurelianensis I commentarium in Sophisticos Elenchos*, ed. Ebbesen, p. 134: "De consequente diversa diversorum sentit opinio, nam quidam dicunt tantum esse consequens propositionem quae aliam sequitur, quidam tantum praedicabile, quidam tantum propositionum significatum. Horum singuli diversis Aristotelicis innititur auctoritatibus, erroremque suum quod tueantur habent. Dicitur autem vero: hoc loco accipitur consequens quod aliud in eadem veritate semper vel frequenter comitatur, ut consequens hominis animal, nivis album, picis nigrum, compluti madefactum, moechi comptum, latronis errabundum, ambitiosi liberale consequens dicimus esse".

(v) In a fifth and last sense, it is *consequens* what is added to something else (and this also includes the sign of that thing)[33].

The Anonymous of Cambridge derives from this list of senses, four types of fallacy of the consequent, each regarded as the result of the violation of a distinct logical rule:

A. he first type is when the rule concerning the part-whole relationship between predicate and subject[34] is violated, as in the following cases: "Every man is an animal; Brunellus is an animal; therefore, Brunellus is a man" or "Every man is an animal; Brunellus is not a man; therefore, Brunellus is not an animal" (no reference to a violation of syllogistic rules)[35];

B. the second type is when the rule concerning the relationships between cause and effect is violated,[36] as in the following cases: "If there is battle, then there is victory" (*pugna est, ergo victoria est*) or "There is no victory, therefore there is no battle" (*victoria non est, ergo pugna non est*);

C. the third type is when the laws of inference between propositions are not observed (*quando non servatur lex consequendi inter propositiones*)[37];

D. the fourth type is when one considers signs that do not always accompany what they are added to or signify, as in the following cases: "Someone wanders around at night, therefore he is an adulterer" or "Someone has dust in his shoes, therefore he has walked". In these cases, there is deception because the adulterer usually wanders around at night and this property is added to it as a sign; likewise having dust in one's shoes is a sign of having walked, but it is not necessary for everything to which the sign is assigned, that also what it is a-sign-of be assigned, rather the opposite is given, namely that the necessity of inference occurs from what something is a-sign-of to the sign itself[38].

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33. *Anonymi Cantabrigiensis Commentarium in Sophisticos Elenchos Aristotelis*, ed. EBBESEN, pp. 183-184.

34. Such as "if the universal part of something is affirmed, then the universal whole is affirmed", but not the other way around; or "if the universal whole of something is denied, then the part of the same is also denied", but not the other way around (*Anonymi Cantabrigiensis Commentarium in Sophisticos Elenchos Aristotelis*, ed. EBBESEN, p. 184).

35. *Anonymi Cantabrigiensis Commentarium in Sophisticos Elenchos Aristotelis*, ed. EBBESEN, p. 185. This type also falls under the Fallacy of the Accident (p. 187).

36. Such as "if the effect is affirmed, then the cause is affirmed", but not the other way around; or "if the cause is denied, then the effect is denied", but not the other way around (*Anonymi Cantabrigiensis Commentarium in Sophisticos Elenchos Aristotelis*, ed. EBBESEN, p. 184).

37. *Anonymi Cantabrigiensis Commentarium in Sophisticos Elenchos Aristotelis*, ed. EBBESEN, p. 185. Some further divisions are omitted here for the sake of brevity.

38. *Anonymi Cantabrigiensis Commentarium in Sophisticos Elenchos Aristotelis*, ed. EBBESEN, p. 186: "'Iste est errabundus de nocte, ergo iste est adulter' vel 'Iste habet pulverem in calceis, ergo iter fecit'. Inde autem fit deceptio quia solet adulter errare de nocte et habet illud adiunctum ut signum; similiter habere pulverem in calceis signum est itineris, sed non necessarium ut cuicumque conveniat signum ei conveniat id cuius est signum, immo potius videtur econverso quod ab eo cuius est aliquod signum si<t> consequentiae necessitas ad signum".

The *Anonymus Aurelianensis I* clarifies which laws of inference between propositions the Anonymous of Cambridge had in mind when he described the third type of the fallacy. He first distinguishes the three domains in which this kind of fallacy finds application. These are: disputation, when the rules of following or anteceding are not observed; opinion, when it derives from sense perception, as in the case of the wet soil taken as indicating that it has rained (this is also called "the traders' fallacy", *fallacia mercatorum*); and persuasion, when it depends on signs, such as the fancy dressing taken as sign of being an adulterer[39]. Then he distinguishes between four types of fallacy:

A. the first type is when from affirming the consequent (AC) one derives the affirmation of the antecedent, or when from denying the antecedent (DA) one derives the negation of the consequent; this case is so obvious – the Anonymus remarks – that rarely somebody is fooled this way;

B. the second is when from affirming a further consequent of an antecedent one infers the affirmation of the consequent or vice versa (from denying the consequent one denies the further consequent of the antecedent), as in "if someone is Socrates, then he is this man – the further consequent or predicate of the antecedent "Socrates" – ; therefore if someone is a human being, then he is this man";

C. the third type is when from the affirmation of a predicate one infers the affirmation of the subject, or vice versa from the negation of the subject one infers the negation of the predicate, as in "every human being is an animal, a donkey is an animal, therefore (a donkey is) a human being", or "there is no human being, therefore there is no animal";

D. the fourth type is when from one of the concomitant properties (of a thing) one infers another concomitant property (of the same thing), as in "bile is yellow, therefore bile is honey" (because honey is yellow), or "if someone wanders around at night, then he is adulterer" and so on; this coincides with the above mentioned *fallacia mercatorum*.

A short remark on these classifications. While the Anonymous of Cambridge takes into account the various meanings of *consequens* that Aristotle might have had in mind, the Anonymous of Orléans I is more focused on its propositional sense (going apparently against what he had said at the beginning – see above): this explains why at the end of his exposition he adds a note about the types of proposition where the fallacy of the consequent can be found:

"Notice that this fallacy can be found sometimes in categorical proposition as well as in hypothetical ones. Sometimes categorical propositions have the same value of the hypothetical ones and have to be taken as hypothetical"[40].

39. *Anonymi Aurelianensis I commentarium in Sophisticos Elenchos*, ed. Ebbesen, pp. 134-135.
40. *Anonymi Aurelianensis I commentarium in Sophisticos Elenchos*, ed. Ebbesen, p. 141: "Nota

The necessity of this note for a commentator on the *Soph. El.* 5 will become clear in the following section, where the framework of propositional logic built by Abelard on the basis of the "confused and sometimes inconsistent" materials "Boethius bequeathed to the philosophers of eleventh and twelfth centuries"[41], prevails over the term logic (or Aristotelian) approach.

3. Some treatises and commentaries of the *Logica Modernorum*: the focus on the inference (*consequentia*)

While the *Fallacie Parvipontane* interpret *consequens* in a way that is similar to those of the two above mentioned commentators[42], the *Glose super Sophisticos elenchos*, probably the oldest surviving Latin commentary on *Soph. El.*[43], and the more or less contemporaneous *Summa sophisticorum elenchorum*[44] offer an interpretation that is definitely propositional.

The *Glose* present a very short comment on the *fallacia secundum consequens*:

> "Aristotle deals with the fallacy of the consequent showing that it is a false opinion when someone for instance thinks that an inference can be converted, as in 'if the first is, then the second is, too' and they convert. They are sophistical arguments, as they happen to be like 'if the consequent is affirmed, then the antecedent is affirmed too' and 'if the antecedent is denied, then the consequent is denied too'... This fallacious argument and the one deriving from the accident can be applied to the same things, but this one uses hypothetical arguments, the other categorial ones"[45].

quod in categoricis propositionibus non minus est attendendus iste modus fallendi quandoque quam in hypotheticis. Quandoque enim categoricae habent vim hypotheticarum et pro hypotheticis sunt recipiendae". Cf. *Anonymi Aurelianensis II De paralogismis*, ed. EBBESEN, p. 82: "Et notate quod haec fallacia non dicitur [tantum] secundum consequens quia fit tantum in hypotheticis propositionibus, sed etiam in categoricis. In categoricis fit haec fallacia quando aliquid praedicatur de aliquo et putamus quod eodem modo subiectum predicatur de praedicato". In the last text clearly emerges the interpretation of *consequens* as term and of conversion as the result of the inversion of the subject-predicate positions in a proposition (also cf. p. 81).

41. MARTIN 2001, p. 159; also cf. MARENBON 2003, p. 55.

42. The *Fallacie Parvipontane*, ed. de Rijk, p. 603 give a large definition of the fallacy which includes both predication ("Est itaque *fallacia secundum consequens* deceptio que provenit ex eo quod aliquid falso ostenditur sequi ad aliud sive secundum rationem predicationis... sive secundum rationem comitantie") and inference ("sive secundum rationem consecutionis"); the examples are respectively: a) according to predication as when the genus or the *proprium* follows its species; b) according to permanent concomitance as when the wet soil follows the rain, paleness follows giving birth or smoke follows fire, or frequent concomitance as when being an adulterer follows wandering about at night or being smartly combed; c) according to inference as in hypothetical propositions about nature ("in naturalibus hypoteticis"). This work is more recent than both the Anonymus Aurelianensis and the Anonymus Cantabrigiensis (EBBESEN 1993, p. 153 labelled it SE17 and dated it towards the end of twelfth century).

43. See EBBESEN 1993, p. 150 (SE5).

44. See EBBESEN 1993, pp. 150-151 (SE6).

45. *Anonymi Glose in Sophisticos elenchos*, ed. DE RIJK, pp. 219-220: "Tractat Aristoteles paralo-

As one can see, the anonymous commentator not only understands this fallacy as having to do with hypothetical (conditional) propositions, but underlines that the difference between the fallacy of the consequent and that of the accident lies exactly on their dealing respectively with conditional sentences and with simple categorial sentences, i.e. with terms. This might be the reason why the Anonymus Aurelianensis I (probably following Anonymus Aurelianensis II), proposing a larger definition of *consequens*, felt compelled to specify that the fallacy of the consequent doesn't apply only to relations between sentences (i.e. *in hypotheticis*) but also to relations between terms (or things) (i.e. *in categoricis*). In the *Glose*, as well as in other commentaries of the second half of the century, we also find the two fallacious arguments, AC and DA, that in modern interpretations are taken to exemplify the fallacy of the consequent, as violation of the two basic rules of propositional logic, namely MP and MT: *posito consequenti ponitur antecedens* and *destructo antecedenti destruitur consequens*[46]. All this implies that for a group of commentators, around the second half of the twelfth century, *consequens* had the unambiguous meaning of "proposition that follows from another proposition, i.e. the *antecedens*".

This correspond to the logical nomenclature used by Boethius, in his *De topicis differentiis*, where he says:

> "Of the conditional propositions, which the Greeks call 'hypotheticals', are simple propositions, in which the part that comes first is called 'antecedent' and the part that comes after is called 'consequent', as in this proposition: 'if it is round, it is able to rotate', where '(this) being round' is the antecedent, and '(this being) able to rotate' is the consequent"[47].

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gismum secundum consequens demonstrando falsam opinionem, secundum quam contingit, scilicet quod quidam putant consequentiam converti, ut 'si primum est, et secundum est', et convertunt. Sunt etiam sophistice, secundum quas contingunt, ut he: '*posito consequenti ponitur antecedens*' et '*destructo antecedenti destruitur consequens*'... Et iste paralogismus et accidentis fiunt in eisdem rebus, sed iste in ypoteticis argumentationibus, ille in categoricis". The use of numbers as propositional variables, in the Stoic way, derives probably from BOETHIUS, *De hypotheticis syllogismis*, I, iv, 4-5, ed. OBERTELLO, p. 224 (cf. MARENBON 2003, p. 51).

46. Cf. *Anonymi Fallacie Vindobonenses*, ed. DE RIJK, p. 535 (second half of the twelfth century; SE16 in Ebbesen's catalogue); *Anonymi Fallacie Parvipontane*, ed. DE RIJK, p. 604 ('in ypoteticis ut si argumentemur a positione a consequentis vel a destructione antecedentis'). *Anonymi Summa Sophisticorum Elenchorum* (ed. DE RIJK, p. 389) gives a more complex inferential rule, probably derived from Boethius' *De hypotheticis syllogismis* or Abelard's *Dialectica*.

47. BOETHIUS, *De Topicis Differentiis*, 1176A, ed. NIKITAS: "Conditionalium uero propositionum, quas Graeci hypotheticas uocant partes, sunt simplices propositiones, cuius quidem ea pars quae prius dicitur "antecedens", quae posterius "consequens" appellatur, ut in hac propositione quae dicit: "Si rotundum est, uolubile est", rotundum esse antecedit, uolubile esse consequitur". Cf. also BOETHIUS, *In Ciceronis Topica*, II, 1076D, ed. ORELLI, where Boethius suggests that what Cicero called *argumentum a consequentibus* should rather be called *ab antecedentibus*, opposing a common-sense use of the couple "antecedent" and "consequent" to a logical one.

Abelard uses both terms in this same meaning, working out properly a sentence logic, which Boethius could not, because – according to Chris Martin – he had "no concept of propositional operations" and operators, such as the conjunction *et*[48]. Abelard in his *Dial.* III, on the *loci*, together with the two basic rules of propositional logic, proposes some negative rules and among them one that resembles AC:

> "(7) and not if the same (i.e. the consequent) is affirmed, it (i.e. the antecedens)...
> is affirmed"[49].

If one looks at the handbooks of logic between the end of the twelfth and the beginning of the thirteenth centuries, one can notice a basic difference between the *Dialectica Monacensis* and some Oxonian textbooks, such as the *Logica* "Ut dicit" and the *Logica* "Cum sit nostra". The *Dialectica* has a section on the fallacies, and so constitutes a complete introduction to logic, both *vetus* and *nova*. The account of fallacies in the *Dialectica* is characterized by the distinction between *causa apparentiae* and *causa falsitatis* (which will become *causa non existentiae* or *defectus*) of the fallacy itself[50]. Yet, in the discussion of the *fallacia secundum consequens* the author makes no reference to the doctrine of the *loci*[51]. The author of the *Dialectica* introduces a twofold division of the fallacy of the consequent:

> "After this it is necessary to know that there are two general types of the fallacy of the consequent. For there are two ways of inferring with necessity in a conditional proposition, that is from the affirmation of the antecedent to the affirmation of the consequent, and from the negation of the consequent to the negation of the antecedent. According to this there are two non-necessary ways, of which one is from the negation of the antecedent to the negation of the consequent, and the other from the affirmation of the consequent to the affirmation of the antecedent"[52].

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48. MARTIN 2001, p. 164. Cf. also MARENBON 2003, pp. 50-56.

49. PETRUS ABAELARDUS, *Dialectica*, III (*Topica*), ed. DE RIJK, p. 288: "(6) neque destructo consequenti ponitur antecedens *(7) neque eodem posito ipsum vel ponitur* (8) vel aufertur".

50. Cf. *Anonymi Fallaciae Lemovicenses*, ed. EBBESEN / IWAKUMA, p. 6. On this distinction, se also EBBESEN 1987, pp. 115-117.

51. Such reference is present, on the contrary, in the *Fallaciae Londinenses* and the *Fallaciae Lemovicenses.* Cf. *Anonymi Fallacie Londinenses*, ed. DE RIJK, p. 676, where common accidents are mentioned with regard to the example of the adulterer, and the *loci a simili* e *a proportione* are referred to with regard to the two other species of the fallacy of the consequent; cf. also *Anonymi Fallaciae Lemovicenses*, ed. EBBESEN / IWAKUMA, p. 39: "Possunt enim illa in diversis locis esse divisim".

52. *Anonymi Dialectica Monacensis*, ed. DE RIJK, p. 589: "Post hec sciendum quod duo modi generales sunt paralogismorum secundum consequens. Sunt enim duo modi arguendi necessarii in conditionali, scilicet a positione antecedentis ad positionem consequentis vel a destructione consequentis ad destructionem antecedentis. Iuxta quos sumuntur duo non-necessarii, quorum unus a destructione antecedentis ad destructionem consequentis, reliquus a positione consequentis ad positionem antecedentis".

The two fallacies (AC and DA) are therefore simply the inversions of the two valid inference schemes, i.e. *modus ponens* (affirming the antecedent) and *modus tollens* (negating the consequent)[53]. This bipartition becomes the standard classification of the species of the fallacy of the consequent.

Other treatises move from the formulation of the rules and raise doubts as to the denomination of the fallacy or the validity of the bipartition. For example, the author of the *Fallaciae ad modum Oxoniae*, a treatise which was with all probability a part of the *Logica* "Cum sit nostra" and also somehow connected to the *Dialectica Monacensis*[54], asks why the fallacy is called "of the consequent" rather than "of the antecedent", since according to its standard bipartition one species of it is from the affirmation of the consequent and the other from the negation of the antecedent[55]. The answer is quite complex and considers several examples. It can be summarized as follows: the species from the negation of the antecedent falls under the species from the affirmation of the consequent, and this justifies the choice of the name. Later commentators will make appeal to similar justifications[56]. The explanation of the anonymous author runs as follows: the fallacy from the negation of the antecedent *non homo est, ergo non animal est* is modelled after the valid inference *non animal est, ergo non homo est*, which is a sound instance of the *locus a genere* (and given the true conditional *si est homo*, *est animal*, it is also an instance of *modus tollens*). Now, in the valid inference *non animal est, ergo non homo est*, the proposition *non animal est* is the antecedent and *non homo est* is the consequent. Therefore, when in the fallacy *non homo est, ergo non animal est*, one says *non homo est* one is actually affirming the consequent of the corresponding converse (valid) inference. So when one denies the antecedent one actually affirms the consequent (of the converse valid inference)[57]. The author seems not to perceive that, *mutatis mutandis*, the same is true of the other species of this fallacy, the one leading from the affirmation of the consequent. Of this species, too, we might say that when one affirms the

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53. The anonymous author of the *Tractatus De Fallaciis* preserved in ms. MÜNCHEN, Bayerische Staatsbibliothek, clm 14763, ff. 123vb-125ra (SE28 in EBBESEN 1993 catalogue, p. 156) follows the *Dialectica* quite closely.

54. KOPP 1985, pp. XV-XXI.

55. *Anonymi Fallaciae ad Modum Oxoniae*, ed. KOPP, p. 138: "Sed quaero, quare ista fallacia dicitur fallacia consequentis et non fallacia antecedentis, cum fit a destructione antecedentis ita bene sicut a postione consequentis" (ms. N) (SE33 in EBBESEN 1993, p. 158).

56. An echo of this argumentative strategy is in one of the objections in Brito's commentary on the *Sophistici Elenchi*, as we shall see; cf. *infra*, section 4.

57. *Anonymi Fallaciae ad Modum Oxoniae*, ed. KOPP, p. 138-139: "Dicendum quod ubi est fallacia consequentis, semper a positione consequenti, verbi gratia hic est fallacia a destructione antecedentis: 'non homo est, ergo non animal est', quia sequitur econverso 'non animal est, ergo non homo est' per locum a genere, et non sic; ergo quod 'non animal <est>' antecedens est, 'non homo <est>' consequens, quia cum dicit 'non homo <est>' ponit consequens, 'non animal <est>' concludit antecedens, et sic est fallacia consequentis a positione consequentis".

consequent one actually affirms the antecedent (of the converse inference in *modus ponens*). Moreover, if one accepts the explanation in these terms one would also be forced to dismiss the bipartition itself; the author of the *Fallaciae*, however, does not go so far.

4. An overview of the thirteenth century

As will be seen in what follows, the two lines of interpretation (sentence logic vs. term logic) not only do not oppose but coexist peacefully in thirteenth-century commentaries on *Soph. El.*: the logicians of that period have not yet developed the idea that the logic of predicates (syllogistic and topics) are based on propositional logic, unlike the contemporary approach, and therefore some of them propose a reading of logic rules such as MP and MT compatible with a predicate logic. In this last part, I will examine from this point of view some commentaries on *Soph. El.*, such as the one attributed to Robert Kilwardby and those by Albert the Great, Giles of Rome and Radulphus Brito.

A commentary on *Soph. El.* attributed to Robert Kilwardby[58], and presumably coeval with Kilwardby's authentic commentaries on Aristotle's logic, offers an interpretation of *Soph. El.* 5 167b1ff. that makes again use of the example of the thief in the Philoponian split form, and adopts the standard sentence logic bipartition of the fallacy as something stemming from Aristotle's words. According to Kilwardby (?), Aristotle first presents the fallacies deriving from the affirmation of the consequent and then those deriving from the negation of the antecedent. The first species[59] is itself of two sub-species: those fallacies whose converse inference (*consequentia*) is necessary and those whose converse inference is probable[60]. Examples of the former sub-species are the inference that gall is honey because it is yellow (*Soph El.* 5, 167b5-6) and that it has rained because the soil is drenched (*Soph El.* 5, 167b6-9). These are cases in which sense perception influences opinion. The converse inferences – which Kilwardby (?) actually expresses as conditional propositions – are valid, i.e. the corresponding conditional propositions are necessarily true: *si est mel, est rubeum*; *si terra est depluta, ergo est madida*. The inference of the antecedent (*est mel*, *est depluta*) from the consequent (*est rubeum*, *est madida*) is a fallacy deriving from the affirmation of the consequent (AC).

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58. SE35 in S. Ebbesen' catalogue (Ebbesen 1993, p. 158). Lewry 1982, pp. 43-46 and Brumberg-Chaumont 2016, pp. 109-113, have some doubts about the attribution to Robert Kilwardby.

59. We shall see that Kilwardby (?), like some previous commentators, considers the two arguments to be one and the same.

60. Robertus Kilwardby (?), *Commentarium in Aristotelis Sophisticos Elenchos*, ms. **C** = Cambridge, Peterhouse, 205, ff. 295rb-296rb; ms. **P** = Paris, BN, 16619, ff. 22vb-23vb. Two other witnesses have extracts only: cf. Ebbesen 1993, p. 158.

The other sub-species is when the converse inference is probable. According to Kilwardby (?), these are the *demonstrationes secundum signa* that are used in rhetoric[61]. The examples are the following:

> "Then he provides the matter of the two fallacies by saying that when they want to show that someone is an adulterer, they assume that which is added to being an adulterer, namely that he is dressed up, and from that they infer that he is an adulterer. Or in order to show that someone is a thief, they assume what is added to being a thief, namely that he wanders around at night, and from that they infer that he is a thief[62]".

The author then presents the two examples in the form of AC: (i) *si aliquis est adulter, ipse est comptus; sed iste est comptus; ergo iste est adulter*; (ii) *si aliquis est fur, est errabundus de nocte; sed iste est errabundus de nocte; ergo iste est fur*.

The other species of the fallacy is DA and is exemplified by Melissus' argument for the eternity of the world in the past:

> "Once he has discussed the (first) part, then the other follows where he presents an argument which is a fallacy of the consequent, and moves from the destruction of the antecedent. He then proceeds this way: he says that sometimes the fallacy of the consequent happens in syllogistic arguments, such as Melissus' argument for the infinity of the world. And his argument can be formed this way: everything that is produced has a beginning; the world is not produced; therefore it has no beginning; and therefore it is infinite[63]".

One last observation concerns the number of the species of this fallacy. We saw that in the *Fallaciae ad modum Oxoniae* the fallacy deriving from the negation of the antecedent falls under that deriving from the affirmation of the consequent, but the taxonomic import of this move was not appreciated in that context. The author of the commentary attributed to Kilwardby, and Roger Bacon in his *Sum-*

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61. This second sub-species is differentiated from the first by Aristotle's introduction at 167b9-10 of rhetorical demonstrations from signs: "Et in rethoricis quae secundum signum sunt demonstrationes ex adiunctis sunt" (Arist., *De Sophisticis Elenchis Translatio Boethii*, ed. Dod, p. 13, l. 9).

62. Robertus Kilwardby (?), *Commentarium in Aristotelis Sophisticos Elenchos*, on *Soph El.* 5, 167b10sqq., **C** 295va; **P** 22vb: "dat materiam duorum paralogismorum dicens quod volentes ostendere quod aliquis sit adulter, accipiunt quod adiunctum est adultero, scilicet quod sit comptus, et ex hoc inferunt ipsum esse adulterum. Aut ad ostendendum quod aliquis sit fur accipiunt quod adiunctum est furi, scilicet quod sit errabundus de nocte, et ex hoc inferunt ipsum esse furem".

63. Robertus Kilwardby (?), *Commentarium in Aristotelis Sophisticos Elenchos*, on *Soph El* 5, 167b10 sqq., **C** 295va; **P** 23ra: "Hoc habito sequitur pars illa in qua dat unam orationem secundum consequens peccantem a destructione antecedentis [...]. Procedit ergo sic: dicit quod fit quandoque fallacia consequentis in orationibus factis ad modum sillogismi, sicut se habet ratio Melixi per quam uoluit ostendere mundum esse infinitum. Et potest ratio eius sic formari: omne quod est factum habet principium; mundus non est factus; ergo mundus non habet principium; est igitur infinitus". This formulation, in syllogistic form, presents Melissus' argument as a violation of first figure syllogism: Every A is B; C is not A; therefore C is not B.

mulae dialectices do consider that import. The former claims that there are two species of the fallacy, one based on necessary inferences and the other on probable inferences, and both are examples of AC. Then Kilwardby (?) asks why AC and DA are not two different species of the fallacy. His answer is that the two arguments are substantially identical (*sunt idem modus in substantia*), since in a valid inference the negation of the antecedent follows from the negation of the consequent, and therefore the denied antecedent is "consequent" in this sense[64]. Here of course the author conflates the consequent of the conditional proposition in a modus tollens ('B' in "If A, then B; but not-B; therefore not-A") with the conclusion of it ('not-A'). On a similar line of interpretation, Roger Bacon argues that there is only one species of the fallacy of the consequent, which he identifies with that deriving from AC. If given the true conditional "If Socrates is a body, he is a substance", we make the inferences "Socrates is not a body, therefore he is not a substance" (DA) and "Socrates is a substance, therefore he is a body" (AC), "we have <in both cases> the same mode <of the fallacy>, that is from the affirmation of the consequent, because just as substance is consequent of body, so 'non-body' is consequent upon 'non-substance'"[65]. As we can see Bacon superimposes the point of view of the logic of terms to that of propositional logic: the consequent in his text can be both the conclusion of the valid inference ("Socrates is a substance" or "Socrates is not a body" or "Socrates is a non-body"), and its predicate ('substance' or 'non-body').

In his paraphrase of the *Liber Elenchorum*, Albert opens the discussion about the fallacy of the consequent with some preliminary observations. In the first place, *antecedens* has to be taken in the logical sense of a proposition which, once posed (*quo posito*), allows to infer another proposition (the *consequens*) either probably or necessarily[66]. In the second place, Albert examines the distinction, which originates with Boethius and which is employed in the commentary attributed to Kilwardby, between the different kinds of inference. The classification is connected by him to the disciplines corresponding to each kind: some inferences are necessary and not probable, and these are proper of demonstrative disciplines; some are probable and not necessary, and these are proper of dialectical disciplines; some are both necessary and probable but with reference to distinct middle terms (no example of this is provided); some are neither necessary nor probable, and these are proper of rhetorical and poetic disciplines.

64. Robertus Kilwardby (?), *Commentarium in Aristotelis Sophisticos Elenchos*, dub. 5, **C** 296rb; **P** 23va: "destructio enim antecedentis est consequens ad destructionem consequentis; et ita cum prius ponitur destructio antecedentis et infertur destructio consequentis, prius ponitur consequens et deinde infertur antecedens".
65. Rogerus Bacon, *Summulae dialectices*, III, iii, 2.2, §645, ed. de Libera, p. 263.
66. Albertus Magnus, *Expositio Sophisticorum Elenchorum*, I, 3, 15, ed. Borgnet, p. 584a.

According to Albert, the first species of this fallacy is that which produces wrong opinions from sense perception. He quotes some classical examples coming from *Soph. El.* 5, 167b5-9: the inference that gall is honey because it is yellow, and that it has rained because the soil is drenched. Albert, following Kilwardby (?), claims that the valid inference, that is the converse of the fallacious argument, is necessary[67]. Probable inferences, by contrast, are used in rhetoric (*in rhetoricis demonstrationes, hoc est, probationes sive ostensiones*) and are based on common rather than on proper signs; these derive from predicates that are added to some subject (*ex adiunctis*) which Cicero calls "common accidents" (*communiter accidentia*)[68]. Albert illustrates this species of the fallacy by means of an example that re-unites the adulterer and the thief (which Philoponus had split into two distinct examples) into one single argument:

> "when rhetors want to show or prove that someone is an adulterer, they assume that common predicate which is commonly added to the adulterer, or which is a common accident of the adulterer, like that he is dressed up, embellished and fancily dressed, and often looks at other people's women, or that he wanders about at night: from which the suspect is generated that he is an adulterer or a thief"[69].

The connection of the fallacy of the consequent with both Boethius' *De differentiis topicis* (*locus a communiter accidentibus*) and *An. Pr.* II 27 is explicitly emphasized. Albert goes far beyond Boethius and his commentators in saying that the argument from *communiter accidentibus*, when the accidents or *adiuncta* are 'proper' (i.e. are as extended as, and thus convertible with, the subject in which they inhere), concludes in the first figure. The example here is the lactating woman of *An. Pr.* II 27[70]. When the accidents are common (i.e. are more extended than the subject in which they inhere) the inference is in the second figure and qualifies as a fallacy of the consequent. The example here is the pale woman of *An. Pr.* II 27[71]. Albert follows Kilwardby (?) in the indication of three types of the fallacy of the consequent. The first type is when an inference based on the relationships between terms, such as *homo* and *animal* or *mel* and *rubeum* (*secundum habitudines locales*) is converted as to conclude affirming the antecedent from affirming the

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67. ALBERTUS MAGNUS, *Expositio Sophisticorum Elenchorum*, I, 3, 15, ed. BORGNET, pp. 585b-586a. On the dependence of Albert the Great's logical works on Robert Kilwardby's, see EBBESEN 1981 (now in EBBESEN 2009, ch. 7).

68. ALBERTUS MAGNUS, *Expositio Sophisticorum Elenchorum*, I, 3, 15, ed. BORGNET, p. 586a.

69. ALBERTUS MAGNUS, *Expositio Sophisticorum Elenchorum*, I, 3, 15, ed. BORGNET, p. 586a: "volentes enim ipsi rhetores ostendere sive probare, quoniam aliquis est adulter, illud praedicatum commune quod communiter adjunctum est adultero, sive communiter accidens est adultero, accipiunt, ut quoniam compositus est et ornatus et comptus, et saepe respicit ad uxorem alterius, aut quoniam in nocte videtur errabundus: ex quo suspicio generatur, quod sit adulter et latro".

70. ALBERTUS MAGNUS, *Expositio Sophisticorum Elenchorum*, I, 3, 15, ed. BORGNET, p. 586a-b.

71. ALBERTUS MAGNUS, *Expositio Sophisticorum Elenchorum*, I, 3, 15, ed. BORGNET, p. 586b.

consequent. The second type is when we convert an inference which is based on the whole of the circumstances related to a subject, such as the fact that an adulterer is smartly dressed or a thief usually goes around at night; this kind of fallacy is typical of rhetorical inferences, and is different from a *locus a communiter accidentibus* since the circumstance (sign or accident) has to be taken in conjunction with other circumstances (i.e. it must be a proper sign and not a common sign or accident) in order to produce a valid inference. The third one is when we convert an inference because of an opposition, like in Melissus' argument[72]. At the end Albert follows Kilwardby(?) in his answer to the question Kilwardby posed, i.e. why AC and DA are not two different types of this fallacy: they are not two substantially different types, their difference lying only in their linguistic formulation[73].

Giles of Rome's commentary on the *Soph. El.* was composed around 1274 and is a literal commentary that follows Aristotle's text quite closely. With regard to the fallacy of the consequent, Giles focuses on two issues: its pertinence to the *Soph. El.* and its denomination[74]. After the exposition of the *divisio textus* of *Soph. El.* 5, Giles presents the *dubium* according to which an argument from the affirmation of the consequent amounts to an argument from affirmative premises in the second figure, which is one of the defects of the syllogism (*inutilis coniugatio*) that Aristotle treats in *An. Pr.* I 9; for this reason the fallacy of the consequent does not fall in the domain of the *Soph. El.*[75]. In his solution of the *dubium* Giles claims that *consequens* (or *fallacia consequentis*) may be taken either as a deviation with respect to syllogism as such (*simpliciter*), and in this sense it is of pertinence of the *An. Pr.*; or as grounded on a false maxim (*que uni et eidem sunt eadem, inter se sunt eadem*[76]: things identical to a third are identical to each other) and in

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72. Albertus Magnus, *Expositio Sophisticorum Elenchorum*, I, 3, 15, ed. Borgnet, pp. 587b-588a. Cf. also p. 586b (in connection with the second type): "Et ideo si debeat esse locus a communiter accidentibus, tunc oportet quod tale adjunctum accipiatur cum circumstantiis personae: quia cum multis talibus acceptum erit proprium, et infert subjectum, quod solum unum adjunctum inferre non poterit". The expression *cum circumstantiis personae* comes from Cicero's rhetoric, whose teaching was in vogue in the twelfth century but already in decadence at the beginning of the thirteenth; cf. Fredborg 1987. This observation certainly derives from and reflects previous commentaries and treatises, in which the connection between the fallacy of the consequent, Boethius' *De Topicis Differentiis* and *APr* B 27 is made explicit. Like Kilwardby (?), Albert seeks to save this dialectical *locus* from falling within the domain of fallacies by allowing a conjunctive consequent.

73. Albertus Magnus, *Expositio Sophisticorum Elenchorum*, I, 3, 15, ed. Borgnet, p. 588b.

74. Aegidius Romanus, *Expositio super Libros Elenchorum*, ed. Venetiis, ff. 20rb-21vb.

75. Aegidius Romanus, *Expositio super Libros Elenchorum*, ed. Venetiis, f. 20va: "Dubitaret forte aliquis utrum de fallacia consequentis determinari habeat in hoc libro. Et videtur quod non: dictum est enim ea que determinantur in hoc libro esse obliquitates sillogismi dialetici; sed arguere a positione consequentis est arguere ex puris affirmativi in secunda figura; sed hec est obliquitas sillogismi simpliciter et est inutilis coniugatio, et de ea determinatur in libro Priorum, capitulo nono; non ergo debet hic tractari de ea".

76. Cf. Arist., *Soph. El.*, 6, 168b31-33: "nam quae uni et eidem eadem, et sibi invicem probamus esse eadem; propter quod fit secundum consequens elenchus" (Arist., *De Sophisticis Elenchis Translatio Boethii*, ed. Dod, p. 16, ll. 24-25).

this case it falls under the *Soph. El.*[77]. The last formulation makes the fallacy of the consequent a case of false predication.

The second *dubium*, about the classical problem of its denomination, also addresses the problem of the typology of fallacies of this kind, i.e., whether there are two species of it, one from the affirmation of the consequent and one from the negation of the antecedent. Giles follows the path opened by the *Fallaciae ad modum Oxoniae*: this fallacy always derives from the affirmation of the consequent, giving it however a term semantic twist, based on considerations about the respective extension of positive and negative (or denied) terms. The more a term is specific in its positive form, the more general it is in its negative form: if *animal* is more extended than *homo*, *non-homo* is more extended than *non-animal*, and what is more extended always follows from what is less extended ("If man, then animal," but not viceversa). Thus, the term *animal* is the consequent of *homo* and the term *non-homo* is the consequent of *non-animal*. Therefore, the inference of *non-animal* from *non-homo* (that is from the negation of the antecedent) is in fact an inference from the affirmation of the consequent, taken as a predicate. The name of the fallacy is accordingly correct[78]. The strategy here is the same as in earlier commentators: the fallacy from the negation of the antecedent is also from the affirmation of the consequent, if with "consequent" we mean the conclusion of the converse valid inference (as in Kilwardby(?)) or its predicate (as in Bacon). The fallacy is one in form (from the affirmation of the consequent), although in matter there are three species of it, according to the several matters to which it is applied (*per applicationem ad diversam materiam*): that which derives from sense perception (honey and drenched soil); moral and rhetoric sciences (the adulterer; the thief is absent, as it was absent

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77. Aegidius Romanus, *Expositio super Libros Elenchorum*, ed. Venetiis, f. 20va: "Respondeo dicendum quod consequens dupliciter potest accipi: primo ut est pura obliquitas sillogismi simpliciter, et sic est inutilis coniugatio et de ea habet tractari in libro Priorum; secundo, potest considerari consequens ut habet specialem maximam cui innititur: innititur enim illi maxime 'que uni et eidem sunt eadem, inter se sunt eadem', ut patebit in illo capitulo AUT SIC DIVIDENTES [6, 168a17]. Et quia huiusmodi maxima ut ibi declarabitur non est necessaria, sed apparens et sophistica, ideo consequens ut innititur tali maxime est locus sophisticus". Cf. f. 25va, where he discusses the maxim in question.

78. Aegidius Romanus, *Expositio super Libros Elenchorum*, ed. Venetiis, f. 20va: "Ulterius forte dubitaret aliquis, cum hec fallacia non solum fiat a positione consequentis, sed a destructione antecedentis, quare potius nominata est consequens quam antecedens. Dicendum quod si bene consideramus hec fallacia semper fit a positione consequentis. Nam quanto specialius est aliquid affirmative sumptum, tanto negatum generalius efficitur: ut si animal est in plus quam homo, non-homo erit in plus quam non-animal, et quia semper illud quod est in plus sequitur ad id quod est in minus. Sed animal est consequens ad hominem, non-homo erit consequens ad non-animal; negatio ergo facit de antecedente consequens et de consequente antecedens; antecedens ergo destructum est consequens ad antecedens negatum: arguere ergo a destructione antecedentis est arguere a positione consequentis. merito ergo hec fallacia nominata est consequens, quia quodammodo semper per eam arguitur a positione consequentis".

in Aristotle); speculative and syllogistic science (Melissus' argument for the infinity of the world)[79].

Modistic question commentaries focus roughly on the same problems (denomination[80], relationship with the *fallacia accidentis*[81] and typology[82]); they occasionally use the example of the adulterer[83]. During the last decade of the thirteenth century, one among them, Radulphus Brito, returns on the connection between *fallacia consequentis*, *locus a communiter accidentibus* and the semiotic typology of *APr* II 27 in one of the questions devoted to the fallacy of the consequent in his commentary on the *Sophistici Elenchi*.

Brito's question no. 48 of his *Quaestiones super Sophisticos elenchos* is about a problem that is also discussed by Giles of Rome in his *Expositio* and by Simon of Faversham (q. 33) in his second series of question[84]. The question is whether the fallacy of the consequent is a *locus sophisticus* and whether it should then be distinguished from other fallacies. Some of the arguments for a negative answer are similar to those used by Giles and Simon. The first – probably taken from Giles – is that if the inference is in the second figure with two affirmative premises, there is an unproductive disposition of the premises (*inutilis coniugatio*), which is not a fallacy, because it concerns a formal and not a material aspect of the inference[85].

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79. Aegidius Romanus, *Expositio super Libros Elenchorum*, ed. Venetiis, f. 20va-b.

80. *Anonymi SF Quaestiones super Sophisticos Elenchos*, q. 100 (*de sua nominatione*), ed. Ebbesen, pp. 233-235; Simon de Faversham, *Quaestiones novae super libro Elenchorum*, q. 33 (*utrum sit fallacia distincta contra alias*), ed. Ebbesen et al., pp. 188-191; *Anonymi Pragensis Quaestiones super Aristotelis Sophisticos Elenchos*, q. 38 (*utrum fallacia consequentis debeat nominari antecedentis vel consequentis*), ed. Murè.

81. *Anonymi SF Quaestiones super Sophisticos Elenchos*, q. 101 (*utrum consequens sit pars accidentis*), ed. Ebbesen, pp. 235-236; Simon de Faversham, *Quaestiones novae super libro Elenchorum*, q. 34 (*utrum consequens sit pars accidentis*), ed. Ebbesen et al., pp. 191-194.

82. *Anonymi SF Quaestiones super Sophisticos Elenchos*, q. 102 (*de numero modorum*), ed. Ebbesen, pp. 236-237; Simon de Faversham, *Quaestiones novae super libro Elenchorum,* q. 35 (*utrum ubicumque est fallacia consequentis necesse sit consequentiam conversam bonam esse*), ed. Ebbesen et al., pp. 194-198; q. 36 (*utrum arguendo a positione consequentis ad positionem antecedentis sit bona consequentia*), ed. Ebbesen et al., pp. 198-200; q. 37 (*utrum arguendo a destructione antecedentis ad destructionem consequentis sit bona consequentia*), ed. Ebbesen et al., pp. 200-203; *Anonymi Pragensis Quaestiones super Aristotelis Sophisticos Elenchos*, q. 39 (*utrum possimus arguere a superiori ad inferius affirmando*), ed. Murè; q. 40 (*utrum valeat processus ab inferiori ad superius negando*) ed. Murè.

83. Cf. Simon de Faversham, *Quaestiones novae super libro Elenchorum,* q. 35, ed. Ebbesen et al., p. 194, p. 197.

84. Radulphus Brito, *Questiones super Sophisticos Elenchos*, I, 48, ms. **B** = Bruxelles, Bibliothèque Royale de Belgique, 3540-47, ff. 530va-531rb; ms. **S** = Salamanca, Biblioteca Universitaria, 2350, f. 189rb-vb.

85. Radulphus Brito, *Questiones super Sophisticos Elenchos*, I, 48, **B** f. 530va; **S** f. 189rb: "Quia ubi est inutilis coniugatio non est locus sophisticus; in fallacia consequentis est inutilis coniugatio, ergo etc. Maior patet, quia inutilis coniugatio pertinet ad librum Priorum et per consequens non est fallacia que pertinet ad librum Elenchorum. Minor patet: in secunda figura arguendo ex affirmativis fit fallacia consequentis et est inutilis coniugatio, ut patet primo Priorum" (cf. Aegidius Romanus, *Expositio super Libros Elenchorum*, ed. Venetiis, f. 20va).

The second argument is close to the one used by Simon: since there is no fallacy of the antecedent, there can be no fallacy of the consequent[86].

Quite naturally, this leads to an argument, the third, that contains a clear echo of the discussions about denomination: dialectical *topoi* are named after what infers, not after what is inferred; since it is always the antecedent that infers the consequent, there must be a *locus sophisticus* of the antecedent, not of the consequent[87]. The fourth argument, then, relies on the similarity of rhetorical and sophistical *loci*. The former are subordinated to dialectical *loci* and thus are distinguished, like the dialectical, from the sophistical. So, if it is true that whenever there is fallacy of the consequent there is a rhetorical *locus*, then this *locus* cannot be sophistical[88]. Also, since the fallacy of the consequent is obtained from common accidents, it must be a *locus a communiter accidentibus* that is dialectical and not sophistical[89]. In the *determinatio* Brito answers in the positive: the fallacy of the consequent is a *locus sophisticus.* This is confirmed by what Aristotle says in the *Sophistici Elenchi* and by the earlier tradition, which for each *locus sophisticus* has given both the cause of appearance and the cause of defect: since both causes are given for the fallacy of the consequent too, it must be sophistical[90].

Following the older tradition, Brito explains that there are two species of this fallacy: one from the affirmation of the consequent and one from the negation of the antecedent[91]. As he then clarifies in his answer to the second and third arguments, even if the species are two, the fallacy takes its name from the consequent. The reason of this is that the premises from which one infers (*inferens*) is always

86. Radulphus Brito, *Questiones super Sophisticos Elenchos*, I, 48, **B** f. 530va-b; **S** f. 189rb: "Item, non habemus fallaciam antecedentis, /**B**/ ergo nec consequentis; antecedens patet, consequens declaratur: quia sicut in consequentia est consequens ita antecedens" (cf. Simon de Faversham, *Quaestiones novae super libro Elenchorum,* q. 33, ed. Ebbesen et al., p. 133).

87. Radulphus Brito, *Questiones super Sophisticos Elenchos*, I, 48, **B** f. 530vb; **S** f. 189rb-va: "Item, locus dialecticus debet denominari /**S**/ ab inferente; sed inferens est antecedens; ergo magis debet esse locus sophisticus antecedentis quam consequentis". About this Brito has the same solution as *Anonymi Pragensis Quaestiones super Aristotelis Sophisticos Elenchos*, q. 38.

88. Radulphus Brito, *Questiones super Sophisticos Elenchos*, I, 48, **B** f. 530vb; **S** f. 189va: "Item, ubi est locus rethoricus non est locus sophisticus; sed ubi est fallacia consequentis est locus rethoricus; ergo etc. Maior patet, quia locus rethoricus et dyalecticus secundum essentiam sunt idem, nec differunt nisi sicut commune et contractum sub communi, secundum Boethium, in quarto Topicorum suorum; sed locus dyalecticus et sophisticus non sunt idem, sed similes, ergo nec rethoricus et sophisticus <sunt idem>. Probatio minoris: quia, secundum Philosophum, fallacia consequentis fit ex adiunctis; modo ex adiunctis est locus rethoricus; ideo etc."

89. Radulphus Brito, *Questiones super Sophisticos Elenchos*, I, 48, **B** f. 530vb; **S** f. 189va: "Item, locus dyalecticus est ex communiter accidentibus; ergo non erit locus sophisticus; sed fallacia consequentis fit ex communiter accidentibus; ergo fallacia consequentis non est locus sophisticus".

90. Here Brito goes back to his predecessors' discussion of the two causes; cf. Radulphus Brito, *Questiones super Sophisticos Elenchos*, I, 48, **B** ff. 530vb-531ra; **S** f. 189va.

91. Radulphus Brito, *Questiones super Sophisticos Elenchos*, I, 48, **B** f. 531ra; **S** f. 189va: "Sed notandum est quod duo sunt modi istius fallacie: unus est a positione consequentis et alius a destructione antecedentis".

the real consequent (*quod in veritate est consequens*): in the fallacy *animal currit, ergo homo currit*, the premise is the consequent (i.e. the conclusion) of the valid inference *homo currit, ergo animal currit*. Here it is evident that both the objector and Brito are assuming that a valid inference can also be expressed in conditional form, so that the premise becomes the antecedent and the conclusion the consequent of the conditional[92]. It is also clear that with *consequens* Brito means *quod in veritate est consequens*, i.e. the consequent of the *true* conditional proposition, while the objector must mean the conclusion of the fallacy (or its 'consequent' when it is expressed as a conditional proposition). In fact, the objector of the third argument simply conflates the premise of the fallacious argument with the antecedent of the corresponding conditional. If indeed the fallacious inference *animal currit, ergo homo currit* (whose major premise is the true conditional *si homo currit, animal currit*) is cast in the form of the false conditional proposition *si animal currit, homo currit*, then the premise of the fallacious inference becomes the "antecedent" of the false conditional. 'Consequent' in this context has almost invariably the meaning of *quod in veritate est consequens*, i.e. of the consequent of a true conditional proposition. *Mutatis mutandis*, the same holds of the species from the negation of the antecedent.

Like Roger Bacon, Simon of Faversham, and others, and unlike Kilwardby (?) and Albert the Great, Brito argues that it is not needed that the converse of the fallacy of the consequent be always valid (*consequentia bona*); it is sufficient that it be probable[93]. In reply to the arguments *contra*, Brito follows Giles of Rome almost verbatim and distinguishes two senses of the *fallacia consequentis*; in one sense, it is a deviation from the syllogism and in so far it falls under the *Prior Analytics*. In another sense, in so far as the cause of its appearance of validity is added to the explanation of its invalidity, it falls under the *Sophistici Elenchi*.

In answer to the fourth argument, according to which from *adiuncta* one can only produce rhetorical *loci*, Brito replies:

> "Among the things that are added, some are proper and others common. Proper are those which necessarily follow the thing to which they are added, like 'having milk' is related to 'giving birth'; and these are called *prodigia* by Aristotle at the end of the *Prior Analytics*; and in these case we have a dialectical or rhetorical *topos*. By contrast, common are those which have a greater extension than the thing to which are

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92. Brito would then be assuming a sort of 'deduction theorem', i.e. the equivalence between an argument and the corresponding conditional. Some such "mediaeval deduction theorem" shaped by and large fourteenth century's debates about *consequentiae*; see King 2001.

93. Radulphus Brito, *Questiones super Sophisticos Elenchos*, I, 48, **B** f. 531ra; **S** f. 189va: "Item, notandum est quod in fallacia consequentis non oportet alteram consequentiarum semper esse bonam, sed sufficit quod sit probabilis. Et propter hoc, cum dicitur quod causa apparentie eius est ydemptitas bone consequentie ad malam, ibi accipitur consequentia large pro 'vera consequentia' vel pro 'probabili'.

added, like 'this <woman> is pale, therefore she has given birth'; and in this case we have precisely the fallacy of the consequent"[94].

However, these latter *adiuncta* may either be taken singularly, and this produces the fallacy of the consequent, or they may be taken in conjunction with others (*plura adiuncta*), and this produces a respectable rhetorical argument[95]. He has no examples of this, though.

With regard to the *locus a communiter accidentibus*, Brito also re-states the Boethian distinction between that which always follows (*penitere* from *deliquisse*) and that which sometimes follows and sometimes not: the former produces a good dialectical argument, the latter a fallacy of the consequent[96]. Brito's work on the *Sophistici Elenchi* is certainly dependent upon and influenced by the long traditions of commentaries on Boethius' *Topics*, on the *Prior Analytics*, and on the *Sophistici Elenchi*.

5. Some conclusions

From what precedes I would very briefly draw some conclusions:

1. the term 'consequent' has not always been interpreted as the apodosis of a conditional proposition, but often as a predicate (an accident or a sign expressed by a term) which follows or 'flows' from another thing (be it a substance or an accident) (large interpretation);

2. at the very beginning of its Latin reception the alternative between a larger and a narrower interpretation is evident, the narrower interpretation assuming 'consequent' as the apodosis of a conditional sentence;

3. the second view appears to prevail at the end of the 12th, and in the long run: this is the historical reason why modern treatments of the fallacy of the consequent assume that the fallacy of the consequent violates the two basic rules of

94. Radulphus Brito, *Questiones super Sophisticos Elenchos*, I, 48, **B** f. 531rb; **S** f. 189vb: "ex adiunctis quedam sunt propria et quedam communia. Propria sunt illa que necessario sequuntur rem cuius sunt adiuncta, sicut 'habere lac' se habet ad 'parere', et talia vocat Aristotiles, in fine Priorum, 'prodigia', et ibi est locus dyalecticus vel rethoricus. Communia autem sunt in plus quam res cui sunt adiuncta, sicut 'ista est pallida, ergo peperit'; et in talibus est bene fallacia consequentis".

95. Radulphus Brito, *Questiones super Sophisticos Elenchos*, I, 48, **B** f. 531rb; **S** f. 189vb: "Sed adhuc notandum est quod ista communia adiuncta dupliciter possunt accipi, quia aut accipitur unum solum adiunctum ad inferendum illud cuius est adiunctum, et tunc est fallacia consequentis, ut 'est pallida, ergo peperit'; aut accipiuntur plura adiuncta ad inferendum illud cuius sunt adiuncta, et bene tunc fit argumentum rethoricum et non fallacia consequentis" (cf. Robertus Kilwardby (?), *Commentarium in Aristotelis Sophisticos Elenchos* dub. 3.2, **C** f. 296ra; **P** f. 23va).

96. Radulphus Brito, *Questiones super Sophisticos Elenchos*, I, 48, **B** f. 531rb; **S** f. 189vb: "Per idem patet ad aliam, quia communiter accidentia quedam sunt semper consequentia, et in talibus est locus dyalecticus; alia sunt que quandoque sequuntur, et quandoque non, et in talibus est fallacia consequentis".

propositional logic, MP and MT, so as to produce two kinds of fallacious arguments, namely AC and DA;

4. as we saw above, however, some of the 13th-century commentators on *Soph. El.* left open the possibility of interpreting antecedent and consequent in terms of the logic of predicates: they often consider valid inferences (or true conditional propositions) as based on relationships between terms (the so-called *habitudines locales*, which included relations between hypernyms and hyponyms, wholes and parts, substances and accidents, and so on).

The story of the reception of the fallacy of the consequent, in conclusion, might help explain why the fallacy of the consequent was not considered a formal fallacy, but rather a material one. It also shows that the reflections about the fallacy of the consequent are intertwined with the attempts at saving its argumentative value, because of its affinity with the dialectical locus *a communiter accidentibus* and with the second-figure sign-enthymemes that – as Aristotle says – can be successfully applied in rhetoric, taking into account their reception by a general public: these attempts follow a line of interpretation that might be interesting also from a contemporary point of view.

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Abstract: The term 'consequent' in 'fallacy of the consequent' is nowadays always inter-preted with reference to the rule of *modus ponens*, most of the time assuming that Aris-totle – the Father of Logic – could not have had anything else in mind. In this article, after briefly recalling how Aristotle deals with this fallacy and the contribution of the Greek commentators on his works, I shall focus on the first period of the reception of the *Sophistical Refutations*, between the 1160s and the end of the century. I shall exam-ine both the commentaries on Aristotle's work and the logical handbooks belonging to the *Logica Modernorum*. On the one hand, in these contexts, the interpretation of the term *consequens* cannot fail to take into account the meaning assigned to it by Boethi-us in his dialectical and rhetorical works; but, from its first reception on, several alter-native interpretations are advanced, apparently more in tune with Aristotle's text. In this context, an interpretation emerges which corresponds to modern treatments of the fallacy of the consequent and of its two basic types (Affirming the Consequent and Denying the Antecedent). Third, I shall show how during the thirteenth century this interpretation was commonly adopted, together with the link to Boethius' *locus a com-muniter accidentibus* and Aristotle's reflection on signs proposed in *Prior Analytics* II 27.

Keywords: Consequent; Fallacy of the Consequent; Sentence/Propositional Logic; Term/Predicate Logic; Signs.

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