

History of Logic from Aristotle to Gödel by Raul Corazzon | e-mail: rc@ontology.co

Buridan's Logical Works. II. The *Treatise on Consequence* and Other Writings

TRACTATUS DE CONSEQUENTIIS

(In preparation)

QUAESTIONES LONGE SUPER LIBRUM PERIHERMENEIAS

"The present work contains the first critical edition of John Buridan's *Questiones longe super Librum Perihermeneias Aristotilis*.

(...)

Now we should have to answer the question: when were the questions on *Perihermeneias* written? Little is known about the chronology of Buridan's works. Even a relative date is difficult to establish. However, some remarks can be made. First, there is the fact that the questions on *Perihermeneias* are quoted several times in *Tractatus I* of the *Summule* (4), in a way that makes it highly probable that the *Summule* were written after the *Questiones on Perihermeneias* (5). Now, according to professor Pinborg the first *lectura* of the *Summule* may be dated as early as the late 1320es (6), that is at the very beginning of Buridan's career as a teacher of philosophy at the university of Paris. This may be an indication for an early date of the *Questiones on Perihermeneias*, possibly as early as 1325.

There are two other reasons for assuming that the commentary on *Perihermeneias* is one of Buridan's first works. The first clue is given by the places where Buridan refers to one of his own works: once he refers to his commentary on Porphyry's *Isagoge* (7), twice to his commentary on Aristotle's *Metaphysics* (8), and six times to his commentary on the *Physics* (9). The way in which he refers to these tracts seems also to be significant: the reference to his commentary on Porphyry's *Isagoge* shows that this work is of an earlier date than the present work. As to the other two works, he only refers to the number of the book in which he is going to treat a particular subject, not to the number of the question. A (cross)reference to the *Summule* is not given, although, as Pinborg remarks, there is a general doctrinal concordance between the two works. The questions on *Metaphysics* do not contain a (cross)-reference to the questions on *Perihermeneias*, at least not on the places where one would expect them. I am not certain about possible references occurring in the commentary on *Physics*. However, we should be very careful to draw conclusions from the occurrence of references, since it is always possible that we are dealing with a second or third *lectura* of the text. (10)

Another argument in favour of an early date of the tract is based on the content of the work. Doctrinal analysis of the work shows that most subjects treated in the *Questiones on Perihermeneias* can also be found in other works of Buridan's in a more elaborate way. The work as a whole seems to show an early stage of Buridan's doctrinal development.

Unfortunately, this argument is not as strong as it seems, since the superficial way in which some subjects are discussed in the work may be related to the character of the tract: the questions on the *Logica vetus* were probably presented to the students in an early stage of their philosophical training.

Thus, there is not much certainty about the date of the questions on *Perihermeneias*. There are some reasons to believe that we have to deal with an early work of Buridan. Although, taken separately, none of these reasons is in itself sufficient, I am inclined to consider the work as an early tract.

The *Questiones breves*.

The present work does not contain an edition of the short version of the questions on Aristotle's *Perihermeneias*." (pp. XIII-XIV)

Notes

(5) Summule I.3.3: Ad tertiam dubitationem ego tractavi expresse et diffuse I. Perihermeneias in &a questione, ad quam recurrat qui voluit.

(6) Jan Pinborg, *The Summule, Tractatis I De Introductionibus*. in: *The Logic of John Buridan* (1976) pp. 71-90.

(7)p. 6,8. The short version gives an explicit reference to the third question of this tract.

(8) p. 52,36; p. 71,34.

(9) p. 35,4 p. 41,11+14+21; p. 58, 27; p. 68, 36.

(10) Edmond Faral, "Jean Buridan: Maître és arts de l'Université de Paris," *Histoire Littéraire de la France* 28 (1949), 462-605 (separate edition 1950).

From: Ria van der Lecq, "Introduction" to: *Quaestiones longe super Librum Perihermeneias*. Nijmegen: Ingenium Publishers 1983.

QUAESTIONES TOPICORUM

"The commentary edited here is a question-commentary. This means that -- like most commentaries of its kind -- it offers the reader little help to understand Aristotle's text. Or to put the same in another manner: Though we find a considerable number of references to the *Topics* we could remove practically all the references and still have almost the same commentary. Or again: Nearly all the questions are occasioned by a section of Aristotle's text, but the discussions take place within a purely medieval frame-work.

We find, however, three references to *littera* (i.e. Aristotle's text) which are most naturally taken to mean that our work presupposes an exposition of the text.(11) These references need not mean that there was ever a 'published' literal-commentary on Aristotle's *Topics* by Buridan. Yet it has been argued convincingly by Christoph Flüeler(12) that Buridan's habit was to go through a prescribed text by expounding it and discussing questions on it within the same period, though the exposition of the text might proceed at a quicker pace than the disputation of questions. This will mean that the present work originally did not stand alone, but had an explanation of the text as its background. No trace seems to be left of such an exposition of Aristotle's *Topics* by Buridan, and perhaps it was never written down, but only spoken in the class-room.

Flüeler further argues that all or most of Buridan's commentaries have come down to us as students' reportations of oral lectures and not in Flüelera form finished by Buridan himself.(13) This seems to hold true of the present work: In I qu. 5, arg. 1a we read: *sicut hen dicebatur*; in IV qu. 4 arg. 3b: *sicut hodie dicebatur*; in V qu. 2 arg. 4a: *sicut dicebam heri*; and in I qu. 17, dist. I: *descriptiones horum sunt vobis satis notae*. Such phrases are

more naturally said in an oral lecture than written in a finished text. Inevitably this leads to the question: Has the student reported the lecture in the classroom, as it was spoken, or has he later written down a full text on the basis of notes taken in the class-room? Flüeler argues convincingly(14) for the existence of reportations written down in a complete form in the class-room, but certainly we cannot consider it to be proved that all reportations were made in that way. It is hardly possible to decide the question concerning our commentary, but when reading it we should keep in mind that there probably is, so to speak, a 'mediator' between Buridan and us.

Any reader of our commentary will quickly notice that it does not pay equal regard to all eight books of Aristotle's *Topics*. The questions on book I take up about one third of the work, and the same is true about the questions on book II. The remaining books are then dealt with quickly in the last third of the commentary. This selective attitude to Aristotle's text is one which our work shares with other commentaries from the same period.(15) If we compare with the much bigger number of questions in the commentaries from the 13th century by Boethius de Dacia(16) and Radulphus Brito(17) we cannot avoid the impression that Aristotle's *Topics* interested the authors of the 14th century much less than it did earlier commentators. Or perhaps we could say that the logic of the 14th century followed a course of development of its own, and was to a lesser degree directly inspired by a reading of Aristotle than the logic of the 13th century.

Already in the earliest question-commentaries on Aristotle's *Topics* it became customary for the authors to use the beginning of book II to discuss problems about the syncategoreme *omnis* (all/every).(18) Buridan does the same in our work. We find discussions of standard sophisms like *Omne animal fuit in arca Noe* (II qu. 2); (19) *Omnis phoenix est* (II qu. 3); *Omnes apostoli sunt duodecim* (II qu. 4); *Omnis homo est omnis homo* (II qu. 4); *Omnis homo de necessitate est animal* (II qu. 6); *Totus Socrates est minor Socrate* (II qu. 4). Further Buridan discusses sophisms like *Quicquid emisti, comedisti; crudum emisti; igitur crudum comedisti*(20) (II qu. 6, cf. I qu. 5) and *Denarios in bursa mea scis esse pares*(21) (II qu. 6). It is remarkable that, except for the last two, Buridan does not include these sophisms in his own collection of sophisms (= the last section of his *Summulae*). Rather they belong to the sophisms commonly discussed in the 13th century. Perhaps it is possible to suggest that this indicates that the commentary on the *Topics* was an early work by Buridan." (p. XIII-XV)

Notes

(11) I qu. 15; II qu. 10; VIII qu. I.

(12) Christoph Flüeler, From Oral Lecture to Written Commentaries: John Buridan's Commentaries on Aristotle's *Metaphysics*. In *Medieval analyses in language and cognition. Acts of the Symposium: The Copenhagen School of Medieval Philosophy*. Edited by Ebbesen Sten and Friedman Russell L. Copenhagen: Royal Danish Academy of Sciences and Letters 1999, 502-510.

(13) Flüeler 1999, 499-500.

(14) Flüeler 1999, 507-511; 516; 518.

(15) Cf. Niels Jørgen Green-Pedersen, *The Tradition of the Topics. The Commentaries on Aristotle's and Boethius's 'Topics'*. München-Wien, Philosophia, 1984, 89-90; 392-399.

(16) Boethius de Dacia, *Topica - Opuscula*. Edited by N. J. Green-Pedersen and J. Pinborg,. *Corpus Philosophorum Danicorum Medii Aevi* V, 1-2. Hauniae Societas Linguae et Litteraturam Danicarum/Gad 1976, 2, 461-466.

(17) Cf. Jan Pinborg, "Die Logik der Modistae". *Studia Mediewistyczne* 16 (1975), 82-86.

(18) Boethius de Dacia 1976, 2, 462; Pinborg 1975, 83-84 (Radulphus Brito).

(19) Cf. Iohannes Buridanus, *Quaestiones Elenchorum*, 8.4.3, P. 35; 9.3.2.1, p. 38.

(20) Cf. Johannes Buridanus, *De Practica Sophismatum*, 64; 73-74; cf. the next section of this introduction.

(21) Cf. Johannes Buridanus, *De Practica Sophismatum*, 79-80; 90; cf. the next section of this introduction.

From: Niels Jørgen Green-Pedersen, "Introduction" to: Johannes Buridanus, *Quaestiones Topicorum*, Turnhout, Brepols 2008.

QUAESTIONES ELENCORUM

"The treatment of the problem of the *insolubilia* may give us some evidence for a relative date of the *Questiones elencorum*. The subject is discussed in question 19 of the present work. Someone who is not familiar with the discussions on paradoxes may wonder why the subject is treated here at all. Question 19 is one of the few questions in this work that contain no reference at all to Aristotle's text and at first sight it seems to have no connection with the subject of fallacies.

The reason that the subject is discussed here is that paradoxes were very often considered as originating from the fallacy *secundum quid et simpliciter*.(14) From that point of view an insoluble proposition, like '*Sortes dicit falsum*', supposing that Sortes says no other proposition than this one, is neither simpliciter false nor simpliciter true, and therefore it deserves the same treatment as the proposition about the black man with the white teeth. For the sake of clearness: Buridan has never defended this opinion himself. According to him the proposition '*Sortes dicit falsum*', where 'falsum' refers to the proposition itself, is simply false.

Buridan has dealt with the subject in more than one place in his works, but the most profound exposition can be found in chapter VIII of the *Sophismata*. In sophism 7 he exposes the principles of his solution. First Buridan argues that in the case presented, viz. that all true propositions have been annihilated and only false ones has survived, when Socrates says 'every proposition is false' and nothing more, this proposition is simply false. Then he goes on to reply to some opposing arguments:

7.7.1: Some people have advanced the following view (and it was my opinion too at one time): Even if the only thing that the proposition signifies or asserts, simply in virtue of the meanings of its terms, is that every proposition is false, *nevertheless every proposition, by its very form, signifies or asserts itself to be true*, and as a result any proposition that either directly or indirectly asserts itself to be false, is false (transl. Hughes,(15) ital. ours).

(Aliqui enim dixerunt, et ita visum fuit mihi alias, quod licet ista propositio secundum significationem suorum terminorum non significet vel asserat nisi quod omnis propositio est falsa, tamen omnis propositio de forma sua significat vel assent se esse veram. Ideo omnis propositio asserens se esse falsam, sive directe sive consecutive, est falsa.) (16)

Let us follow G.E. Hughes(17) in referring to this theory (viz. that every proposition signifies its own truth) as the *meaning* theory.

Next Buridan goes on to say that strictly speaking it is not correct to say that every proposition signifies or asserts itself to be true. He prefers another view:

7.7.2: one that is quite close to the truth. According to it every proposition virtually implies a second proposition in which the subject would stand for the original proposition and the predicate 'true' would be affirmed of it.

(Ideo dicitur aliter, propinquius veritati, scilicet quod quaelibet propositio implicat virtualiter aliam propositionem de cuius subjecto pro ea supponente affirmatur hoc praedicatum 'verum'.)

Following Hughes we shall refer to this theory (viz. that every proposition implies its own truth) as the *entailment* theory. This introduction is not the right place for a detailed study of Buridan's solution of the problem of paradoxes. What matters for our purpose here is that he first presents an

opinion of which he says that he had that opinion too at one time.

Now if we take a look at his remarks in question 19 of the *Questiones Elencorum*, it becomes clear that this text must have been written before the *Sophismata*. In 19.3.2 Buridan states that every proposition formally signifies that it is true or at least it follows from every proposition that it is true:

Et sit prima suppositio quod omnis propositio de significatione formali significat se esse veram. Et ideo quia consequens includitur in antecedente, quaelibet propositio implicat se esse veram, nam omnis propositio est affirmativa vel negativa. Modo quaelibet illarum significat se esse veram vel saltem ad quamlibet illarum sequitur eam esse veram.

From this passage we may conclude that when writing the *Questiones Elencorum* he had no objections against the meaning theory, although he preferred the entailment theory himself.

Another text where the subject is discussed can be found in Buridan's commentary on Aristotle's *Metaphysics*. In book VI question 11 the author argues that some people suppose that every affirmative proposition formally signifies that in every way the facts are as it says they are (*qualitercumque significat esse ita est*).⁽¹⁸⁾ Now 'that in every way the facts are as the proposition says they are' is considered a truth condition of an affirmative proposition. So it may be assumed that Buridan here refers to the opinion that every affirmative proposition formally signifies that this proposition itself is true: the meaning theory. According to Buridan the defenders of this opinion see the truth but they do not see it completely. Strictly speaking this opinion is not correct (*iste modus loquendi vel non est verus vel non est proprius*). He politely rejects this opinion with the same arguments as in the *Sophismata*, although in the *Sophismata* he seems to be more convinced of his being in the right. In the commentary on the *Metaphysics* as well as in chapter VIII of the *Sophismata* his objection against the opinion that every proposition signifies itself to be true is that in this opinion the signification of e.g. 'a man is an animal' would be 'that a man is an animal' is true', that is, if the expression 'itself to be true' (*se esse veram*) is taken materially. This is incorrect, because according to Buridan in the *Sophismata*, 'that a man is an animal' is true' is a proposition about second intentions, whereas the original proposition 'a man is an animal' is a proposition about first intentions. In other words, as formulated in the commentary on the *Metaphysics*, '*equus est asinus*' does not signify the proposition 'a horse is a donkey'; it only signifies horses and donkeys. If the expression 'itself to be true' or 'that a horse is a donkey' is taken not materially but significatively, the opinion would not be correct either, because in that case 'that a horse is a donkey' would not refer to anything (*pro nullo supponit*), since there is no such thing as a horse being a donkey, and in just the same way there neither is nor can be such a thing as that proposition being true. Now something that does not and cannot exist cannot be signified or asserted, according to Buridan. The vocal proposition '*homo est asinus*' signifies the corresponding mental proposition, but in reality outside the mind it only signifies men and donkeys and nothing else. From Buridan's discussion in the commentary on the *Metaphysics* and the *Sophismata* it can be concluded that this account holds for propositions that cannot possibly be true, like '*equus est asinus*' and for insoluble propositions, like 'every proposition is false'. What does hold for every proposition is that it implies its own truth (comm. on *Metaphysics*: *tamen ad omnem propositionem de mundo sequitur quod ipsa est vera*), if at any rate it is formulated (*saltem si formaretur*).

It is clear that Buridan's theory as well as the arguments he uses to defend it are very similar in the *Sophismata* and in the commentary on the *Metaphysics*. The treatment in the *Sophismata* seems to be more formal, but that can be explained from the context in which the problem is discussed. Chapter VIII of the *Sophismata* is a logical treatise about the solution of *insolubilia*, whereas the subject in the commentary on the *Metaphysics* is the truth conditions of propositions in general and the question whether a proposition can be true and false at the same time.

Another text where the subject is discussed is the tenth question of Buridan's Questions on the Posterior Analytics. The subject of this question is the problem of the truth-condition of a proposition. Is the fact that in every way the facts are as some proposition says they are, a condition and a sufficient condition for the truth of that proposition (*quaeritur utrum ad veritatem propositionis requiratur et sufficiat quod qualitercumque ipsa significat ita sit*)? In many cases, our author argues, this is not a sufficient condition, e.g. in a proposition that expresses its own falsity ('*ego dico*

falsum'). Such a proposition is false, according to Buridan. Nevertheless the facts are as the proposition says they are, because the proposition signifies itself to be false, and it is false. Still the facts are not in every way (*qualitercumque*) as the proposition says they are, because it also signifies itself to be true, because that is what every proposition does (ex communi condicione propositionis).(19)

It is clear that in this connection Buridan 'defends' the opinion he rejects in chapter VIII of the *Sophismata* and in the commentary on the *Metaphysics*: the meaning theory.

A comparison of these four texts of Buridan's leads us to the following tentative conclusion regarding the relative date of these works. The commentary on the *Posterior Analytics* should be dated first. Buridan clearly proposes the meaning theory (every proposition signifies that it itself is true) as his own. In the commentary on the *Sophistici Elenchi* (19.3.2) the meaning theory is still brought forward without any criticism (*prima suppositio quod omnis propositio de significatione formali significat se esse veram*), but Buridan adds the remark that every proposition also implies itself to be true, because every proposition is affirmative or negative. Supposedly Buridan wants to say that every speaker is implicitly claiming that he is speaking the truth. This text was probably written after the commentary on the *Posterior Analytics*. The commentary on the *Metaphysics* and the *Sophismata* are clearly of a later date. In the former work he speaks about the adherents of the meaning theory as people who see the truth, but not completely (*aliqui videntes veritatem sed tamen non plene videntes*), because properly speaking one cannot say that a proposition signifies itself (*unde non est propria locutio quod propositio significet seipsam*), because in some cases there would be nothing to be signified. The entailment theory seems to be advanced here as a better alternative for impossible and insoluble propositions (*licet non omnis propositio significet se esse veram quia forte nihil est 'se esse veram', tamen ad omnem propositionem de mundo sequitur quod ipsa est vera*), whereas in the *Sophismata* the meaning theory is simply rejected for every proposition. The *Sophismata* text seems to express a more radical point of view. Here Buridan does not show the sympathy for the adherents of the meaning theory in the way he did in the commentary on the *Metaphysics*. He simply rejects this opinion as incorrect (*non videtur mihi valere de proprietate sermonis*) for every proposition, although he had defended it himself before. We are inclined to take this as an indication (although not as a proof) for a date of the *Sophismata* after the commentary on the *Metaphysics*.(20)" (pp. XV-XIX)

Notes

(14) For a historical survey: P. V. Spade, *Insolubilia*, in: *Cambridge History of Later Medieval Philosophy*, Cambridge 1982, pp. 246-253.

(15) G.E. Hughes, *John Buridan on Self-reference, Chapter Eight of Buridan's Sophismata, translated with an Introduction and a philosophical Commentary*, Cambridge 1982.

(16) Miss Fabienne Pironet is preparing a new critical edition of this text. The Latin text has been taken from her manuscript, which she was so kind as to make available.

(17) Op. cit., p. 106.

(18) A more literal translation of the expression '*qualitercumque significat esse ita est*' would be: howsoever it signifies, so it is. However, we prefer the translation given by G.E. Hughes, op.cit., p. 48.

(19) Ed. Pironet.

(20) This conclusion is confirmed by Fabienne Pironet: *John Buridan on the Liar Paradox* in: Klaus Jacobi (hrsg.) *Argumentationstheorie, Scholastische Forschungen zu den logischen und semantischen Regeln korrekten Folgerns*, Leiden 1993, 293-300. Miss Pironet's study does not include the *Questions Elencorum*.

From: Ria van der Lecq and H.A.G. Braakhuis, "Introduction" to: Johannes Buridanus, *Quaestiones Elencorum*, Nijmegen, Ingenium Publishers

1994.

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George Edward Hughes, *The Modal Logic of John Buridan*, G. Corsi, C. Mangione, and M. Mugnani (eds.), *Atti del Convegno internazionale di storia della logica: la teoria delle modalità*, Bologna: CLUEB 1989, pp. 93–112.