

History of Logic from Aristotle to Gödel

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Buridan's Logic and Metaphysics: An Annotated Bibliography (First Part: A - K)

BIBLIOGRAPHY

I give an updated list of the published and unpublished logical and metaphysical works of Buridan, and a bibliography of the editions and translations appeared after 2000.

For Buridan's contributions to the theories of supposition and mental language see: [Medieval Theories of Supposition \(Reference\) and Mental Language](#)

1. Anfray, Jen-Pascal. 2007. "Non Ens Intelligitur. Jean Buridan Sur Le Non-Être." *Cahiers de philosophie de l'Université de Caen* no. 43:95-129.
 "Est-il possible de parler de ce qui n'est pas ou d'y penser sans présupposer une forme d'être pour cela même que nous pensons ne pas exister ? La vieille énigme parménéidienne, qui hante toujours la philosophie contemporaine, est au coeur non seulement de la philosophie médiévale mais aussi des études médiévales, comme en témoigne le récent ouvrage d'Alain de Libera sur la *référence vide* (1). L'objet de cette étude est en comparaison beaucoup très limité, dans la mesure où nous nous concentrerons sur le traitement de ce problème du non-être par Jean Buridan. Dans la logique et la métaphysique médiévale, le non-être (*non ens*) est l'objet de discussions relevant aussi bien de la logique des termes que de celle des propositions. En employant une terminologie moderne, nous pourrions dire que le non-être apparaît dans la discussion philosophique tant à propos de l'engagement au domaine de quantification des énoncés qu'à propos de ce qui rend vrai les énoncés eux mêmes (2)." p. 95
 (1) Sous le titre *La référence vide*, A. de Libera (Paris, Vrin 2002) a abordé ces deux ensembles de questions, en mettant l'accent sur le second (comme l'indique le sous-titre : *Théories de la proposition*). Au long des chapitres de l'ouvrage, l'auteur n'est jamais loin de l'une des problématiques annoncée en introduction (p.3-4) : la référence aux particuliers inexistantes, la référence aux objets imaginaires et le signifié propositionnel. Cependant, conformément à sa propre méthode historiographique, il soutient que le pont explicite entre ces différentes problématiques n'apparaît qu'à la fin du XIVe siècle. Pierre de Venise serait le témoin privilégié de cette quasi-fusion des problèmes à travers une formule définissant disjonctivement le signifié de la proposition : *aliquid vel aliqua vel aliquilater*. Davantage qu'une fusion, ce serait même plutôt une absorption des deux premières problématiques au sein de celle du signifié propositionnel. La page 338 expose remarquablement ce point de vue: "grâce à la formule disjonctive [absente avant la deuxième moitié du XIVe siècle], les problèmes de référence vide d'un terme sont traités ultimement dans le cadre unifié d'une véritable sémantique des propositions." Si nous devons exprimer un désaccord avec l'auteur, il porterait seulement sur cette hypothèse méthodologique, car nous pensons que les problématiques de la référence vide et du signifié propositionnel sont également abordées conjointement par un auteur antérieur tel que Jean Buridan. Quoi qu'il en soit, notre dette envers le travail d'A. de Libera est immense.
 (2) Pour un partisan des vérificateurs, adversaire du nominalisme comme David Armstrong, il y a par conséquent, outre l'engagement ontologique classique (au domaine de quantification) un engagement distinct aux vérificateurs.
2. Ashworth, Earline Jennifer. 1991. "Equivocation and Analogy in Fourteenth-Century Logic: Ockham, Burley and Buridan." In *Historia Philosophiae Medii Aevi. Studien Zur Geschichte Der Philosophie Des Mittelalters. Festschrift Für Kurt Flasch Zu Seinem 60. Geburtstag. (Vol. I)*, edited by Mojsisch, Burkhard and Pluta, Olaf, 23-43. Amsterdam, Philadelphia: B. R. Grüner.
3. ———. 2004. "Singular Terms and Singular Concepts: From Buridan to the Early Sixteenth Century." In *John Buridan and Beyond. Topics in the Language Sciences 1300-1700*, edited by Ebbesen, Sten and

Friedman, Russell L., 121-151. Copenhagen: C. A. Reitzel.

"This article considers medieval treatments of proper names and demonstrative phrases in relation to the question of when and how we are able to form singular concepts. The logical and grammatical background provided by the authoritative texts of Porphyry and Priscian is examined, but the main focus is on John Buridan and his successors at Paris, from John Dorp to Domingo de Soto. Buridan is linked to contemporary philosophers of language through his suggestion that, although the name 'Aristotle' is a genuine proper name only for those who have the appropriate singular concept caused by acquaintance with Aristotle, it can be properly treated as a singular term by subsequent users because of their beliefs about the original imposition of the name."

4. Berger, Harald. 2008. "Der Substanzbegriff Im Spätmittelalterlichen Nominalismus." In *Substantia - Sic Et Non. Eine Geschichte Des Substanzbegriffs Von Der Antike Bis Zur Gegenwart in Einzelbeiträgen*, edited by Gutschmidt, Holger, Lang-Balestra, Antonella and Segalerba, Gianluigi, 235-255. Frankfurt: Ontos Verlag.
"Late medieval nominalism's ontological commitment is mainly to Aristotelian individual substances and individual qualities, the status of quantities is a matter of dispute (not in semantics, however, but in natural philosophy). In this paper the commentaries on pertinent Aristotelian texts by three main figures of Fourteenth century nominalism, William of Ockham, John Buridan, and Albert of Saxony, are presented and discussed. Regarding the relation between substance and accident the Christian Aristotelians had to conceive of it as a relation of dependence according to the natural laws and not as a relation of logical dependence; otherwise, the sacrament of the Eucharist could not be explained in Aristotelian terms. Finally, two deviating views are mentioned: According to John of Mirecourt reality consists solely of substances (with modes of being such and such), whereas according to Nicholas of Autrecourt ("the Medieval Hume") physical reality consists solely of accidents in the sense of appearances, sensations, sense data."
5. Biard, Joël. 1989. "Les Sophismes Du Savoir: Albert De Saxe Entre Jean Buridan Et Guillaume Heytesbury." *Vivarium* no. 27:36-50.
6. ———. 2002. "L'être Et La Mesure Dans L'intension Et La Rémission Des Formes (Jean Buridan, Blaise De Parme)." *Medioevo. Rivista di Storia della Filosofia Medievale* no. 27:415-448.
7. ———. 2002. "L'analyse Logique Des Termes Transcendants Selon Jean Buridan." In *Le Problème Des Transcendants Du 14. Au 17. Siècle*, edited by Federici Vescovini, Graziella, 51-66. Paris: Vrin.
8. ———. 2003. "La Théorie De L'être Et De L'essence De Jean Buridan." In *Die Logik Des Transzendentalen. Festschrift Für Jan A. Aerts Zum 65. Geburtstag*, edited by Pickavé, Martin, 383-394. Berlin: Walter de Gruyter.
9. ———. 2004. "L'organisation Des Sciences Spéculatives Selon Jean Buridan." In *Méthodes Et Statut Des Sciences À La Fin Du Moyen Age*, edited by Grellard, Christophe, 26-40. Villeneuve d'Ascq: Presses universitaires du Septentrion.
10. ———. 2006. "John Buridan and the Mathematical Demonstration." In *Mind and Modality. Studies in the History of Philosophy in Honour of Simo Knuuttila*, edited by Hirvonen, Vesa, Holopainen, Toivo J. and Tuominen, Miira, 199-213. Leiden: Brill.
11. ———. 2008. "Buridan Et La Connaissance Des Accidents." In *Compléments De Substance. Études Sur Les Propriétés Accidentelles Offertes À Alain De Libera*, edited by Erismann, Christophe and Schniewind, Alexandrine, 357-371. Paris: Vrin.
12. ———. 2012. *Science Et Nature. La Théorie Buridienne Du Savoir*. Paris: Vrin.
13. Boh, Ivan. 2001. "Consequence and Rules of Consequence in the Post-Ockham Period." In *Medieval Formal Logic. Obligations, Insolubles and Consequences*, edited by Yrjönsuuri, Mikko, 147-182. Dordrecht: Kluwer.
14. Bos, Egbert Peter. 1978. "Mental Verbs in Terminist Logic (John Buridan, Albert of Saxony, Marsilius of Inghen)." *Vivarium* no. 16:56-69.
15. ———. 1999. "John Buridan on Substance in His Commentary (*Summulae*) on Aristotle's *Categories*." In *Signs and Signification. Vol. I*, edited by Gill, Harjeet Singh and Manetti, Giovanni, 85-99. New Delhi: Bahri Publications.
"As a master of arts John Buridan commented on Aristotle's logic. The *quaestiones*, in which specific problems are discussed in the traditional medieval form, are more elaborate and detailed commentaries. One of Aristotle's text to be commented are the *Categories (Praedicamenta)*. The *Quaestiones in Praedicamenta* have been edited recently by J. Schneider (München, 1983); I have prepared a critical edition of Buridan's commentary (*summulae*) on the same work, which is due to appear soon. This edition is part of an international project, of which it is the intention to issue the first complete edition of Buridan's *Summulae*, which contains eight treatises, supplemented with a new edition of his *Sophismata*.

In the present contribution I shall give an analysis of Buridan's commentary on the category of substance. Before entering this subject, I shall make some remarks on the general nature of the work. This contribution is practically the same as a part of the introduction to my forthcoming edition." p. 85

"4. A summary of the Contents

Buridan starts with a discussion on *aequivocatio*, *univocatio* and *denominatio*. Sometimes, he says, *aequivocatio* is attributed to a *word* having signification, sometimes to *things* signified. Here (3.1.1.) Buridan attributes *aequivocatio* to things as far as they are signified equivocally by one and the same word. This signification is not matched by one concept (*ratio*, 3.1.2), but by two, or more, one for each thing. E.g. a dog, a star and a fish are signified by the word *canis* ('dog') that may have supposition for them under different concepts.

There is univocation when the several things signified are united, not only by a common designation, but also by a common definition. Buridan emphasizes (3.1.2) that both *equivocatio* and *univocatio* are on the level of conventional terms and propositions, and are *not* properties of *mental* terms and propositions. Equivocation and univocation are mutually opposed in an exhaustive division. The third item of the *Antepaedicamenta*, denomination (*denominatio*), is different. For a term to be denominative it must satisfy both a morphological-cum-semantic criterion and a purely semantic one. First, (1.a) it must be a concrete term (a term signifying concrete entities), and (1.b) it must be morphologically related to the corresponding abstract term; *album* ('white [thing]') satisfies (1.a-b), having *albedo* ('whiteness') as its abstract counterpart. Second, (2) the term must have appellation. This, Buridan explains, means that it must 'evoke' or 'connote' some disposition which is extrinsic to the nature of that for which the term supposit. *Album* ('white [thing]') satisfies this condition; it may supposit, say, for a man, but it also connotes something which is extrinsic (nonessential) to man, namely whiteness. By contrast, *homo* ('man') only satisfies criteria (1.a-b); it is a concrete noun with a morphologically related abstract counterpart, viz. *humanitas*. Criterion (2) remains unsatisfied because humanity is essential to all supposit of *homo* and thus cannot fulfil the role of an extrinsic disposition connoted by the term." p. 91 (notes omitted).

16. Bos, Egbert Peter, and Krop, Henri A., eds. 1993. *John Buridan: A Master of Arts. Some Aspects of His Philosophy*. Nijmegen: Ingenium Publishers.
Acts of the Second Symposium organized by the Dutch Society for medieval philosophy *Medium Aevum* on the occasion of its 15th anniversary. Leiden-Amsterdam (Vrije Universiteit) 20-21 June 1991.
Contents: J.A. Aertsen Introduction VII-XI; R. van der Lecq: Confused Individuals and Moving Trees - John Buridan on the Knowledge of Particulars 1; J. Spruyt: John Buridan on Negation and the Understanding of Non-Being 23; L.M. de Rijk: On Buridan's View of Accidental Being 41; T. Stuart: John Buridan on Being and Essence 53; H.A. Krop: Kunsttheorie und Physik in *via antiqua* und *moderna* - Der Naturbegriff des Johannes Buridan 69; M.J.F.M. Hoenen Die Intellektlehre des Johannes Buridan - Ihre Quellen und historisch-doktrinären Bezüge 89; O. Pluta: Einige Bemerkungen zur Deutung der Unsterblichkeitsdiskussion bei Johannes Buridan 107; O. Krieger: Bietet "Buridan's Esel" den Schlüssel zum Verständnis der Philosophie des Johannes Buridanus? 121; A. Vos: Buridan on Contingency and Free Will 141; Bibliography. 1. Primary Sources (editions and translations) 157 1.1. John Buridan 157; 1.2. Other Primary Sources 158; 2. Secondary Sources 161; Indices. 1. Index of Ancient and Medieval Names 169; 2. Index of Modern Names 171; 3. Selective Index in English and Latin of Subjects and Terms 173-176.
17. Caroti, Stefano. 2002. "Generatio / Generare: Ontological Problems in John Buridan's Natural Philosophy." *Medioevo.Rivista di Storia della Filosofia Medievale* no. 27:373-414.
18. d'Ors, Angel. 1993. "Ex Impossibili Quidlibet Sequitur." In *Argumentationstheorie. Scholastische Forschungen Zu Den Logischen Und Semantischen Regeln Korrekten Folgerns*, edited by Jacobi, Klaus, 195-212. Leiden: Brill.
19. Ebbesen, Sten. 1984. "Proof and Its Limits According to Buridan, *Summulae* 8." In *Preuve Et Raisons À L'université De Paris. Logique, Ontologie Et Théologie Au Xive Siècle*, edited by Kaluza, Zénon and Vignaux, Paul, 97-110. Paris: Vrin.
Reprinted in: S. Ebbesen, *Topics in Latin Philosophy from the 12th-14th centuries. Collected Essays Volume 2*, Aldershot, Ashgate, 2009, pp. 209-220.
"John Buridan was a remarkable and courageous man. Remarkably consistent. He almost invariably says the same about the same things, and what he says about one subject is usually consistent with what he says about any other somehow related subject. His works abound in cross-references, from one part of a work to another, and from one work to another. He obviously wanted his readers to think of his philosophical works as one coherent corpus presenting one coherent philosophy. Perhaps this ought to scare the historian away from an attempt to interpret Buridan on the basis of one work. But, on the other hand, the fact that he very rarely disagrees with himself and the fact that he repeats his basic tenets in every work make it possible to reconstruct the essentials of Buridianian philosophy without using all available sources, in particular because his pen was as sharp as his mind. His prose possesses to an eminent degree the virtue of clarity. This paper is based on treatise 8 of his *Summulae*, or Handbook of

Logic. As subsidiary sources I have used the remaining part of the *Summulae* and his *quaestiones* on the *Prior* and *Posterior Analytics* and on the *Metaphysics*.

The very existence of treatise 8 of the *Summulae* demonstrates that Buridan was a man of courage. Treatises 1-7, which deal with 1) terms and propositions, 2) predicables, 3) categories, 4) supposition, 5) syllogistic, 6) topics and 7) fallacies, all have models in earlier literature which helped him structure his work. Treatise 8 has no known predecessor. The subject is 'Division, Definition and Demonstration'. Treatise 8 is the longest treatise of all, and demonstration is the subject that takes up most space by far. It takes a bold man to write a summulistic treatise on a subject not thus treated by his predecessors. It requires extra courage when one is Buridan, for the subject is that of Aristotle's *Posterior Analytics*. Is the universalism of the *Posterior Analytics* compatible with Buridanian mentalism and particularist ontology? It might seem not, but a professor from the fourteenth century could not neglect or reject Aristotle's treatment of a broad and important philosophical topic.

(...)

Buridan proceeds like people who renovate old uninhabitable houses. He keeps an Aristotelian facade, but changes the interior so that it fits his purposes. The titles of the ten chapters on demonstration look old-fashioned and Aristotelian. They are: 8.3 "On the questions about which knowledge is obtainable and on knowledge preceding demonstration"; 8.4 "On the affinity and difference between demonstrations and dialectical arguments, and between knowledge and opinion"; 8.5 "On the indemonstrable principles of demonstration"; 8.6 "On 'being said of all and in itself' and on 'universal' or 'qua itself'"; 8.7 "On various classifications of demonstrations"; 8.8 "On 'demonstration because of'"; 8.9 "On 'demonstration that' and whether demonstration may be circular"; 8.10 "On demonstration 'ad impossibile'"; 8.11 "On comparison of the different sorts of demonstration"; 8.12 "On how to settle each of the questions about which knowledge is obtainable". But this is just the facade behind which Buridan builds up his own doctrine of proof, applying a strongly biased interpretation to Aristotle's text." pp. 97-98.

20. Epstein, Richard. 1992. "A Theory of Truth Based on a Medieval Solution to the Liar Paradox." *History and Philosophy of Logic* no. 13:149-177.
 "In the early part of the 14th century Jean Buridan wrote a book called *Sophismata*. Chapter 8 of that deals with paradoxes of self-reference, particularly the liar paradox. Modern discussions of the liar paradox have been dominated by the formal analysis of truth of Tarski, and more recently of Kripke, and Gupta. Each of those either denies that the sentence 'What I am now saying is false' is a proposition, or denies that the usual laws of logic hold for such sentences. In Buridan's resolution of the liar paradox that sentence is a proposition, every proposition is true or false though not both, and the classical laws of logic hold.
 In this paper I present a formal theory of truth based on Buridan's ideas as explicated by Hughes, contrasting it with the analyses of Tarski, Kripke, and Gupta. I believe that Buridan's ideas form the basis for the most convincing resolution of the liar paradox in a modern formal theory of truth.
 I first survey the theories of Tarski, Kripke, and Gupta. Then I state the principles on which the Buridanian theory is based. After a brief description of how these principles are used in analyzing the truth-values of propositions, I set out the formal theory. Following that I discuss a number of examples in which the informal principles and the technical methods are explained and tested for their aptness; in those discussions I often draw on Buridan's explanations."
21. Fitzgerald, Michael J. 2006. "Problems with Temporality and Scientific Propositions in John Buridan and Albert of Saxony." *Vivarium* no. 44:305-337.
 "The essay develops two major arguments. First, if John Buridan's 'first argument' for the reintroduction of *natural supposition* is only that the "eternal truth" of a scientific proposition is preserved because subject terms in scientific propositions supposit for all the term's past, present, and future significance indifferently; then Albert of Saxony thinks it is simply ineffective.
 Only the 'second argument', i.e., the argument for the existence of an '*atemporal copula*', adequately performs this task; but is rejected by Albert. Second, later fourteenth-century criticisms of Buridan's *natural supposition*, given in certain *Notabilia* from the anonymous author in, Paris, BnF, lat. 14.716, ff. 40va-41rb, are nothing but an interpolated hodge-podge of criticisms given earlier in the century against various views of Buridan's by Albert of Saxony. It is this fact that makes Albert the real source of late fourteenth-century criticisms of Buridan's view of *natural supposition*.
 "
22. Flüeler, Christoph. 1999. "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., 497-521. Copenhagen: Royal Danish Academy of Sciences and Letters.
 "Summary. This paper focuses on John Buridan's reported commentaries, especially on the oldest manuscripts, with the aim of finding new evidence regarding the process from oral lecture to written commentary. Six among the more than 250 manuscripts containing authentic works by Buridan were written in Paris during the philosopher's lifetime, and at least two of them show how the oral teaching of

the Parisian master was converted into a written form. The *Expositiones*, i.e. the literal commentaries, play an important role in these oldest manuscripts. These were understood as the foundation of the subsequently treated *Quaestiones*, and they had a fixed place in university teaching. The Parisian manuscript BN, lat. 16131 probably contains an original reportation (the original student's copy book) of both exposition of, and questions on, Aristotle's *Metaphysics*. The manuscript Darmstadt, Hessische LuHB, Hs. 561 contains a "compiled", i.e. revised, lecture on the same Aristotelian work, but not the final version as edited in 1518 by Josse Bade. The present study will examine the formal character of these different versions and their relation to one another."

23. Friedman, Russell L., and Ebbesen, Sten, eds. 2004. *John Buridan and Beyond. Topics in the Language Sciences, 1300-1700*. Copenhagen: Royal Danish Academy of Sciences and Letters. Contains papers of a symposium held by the Royal Danish Academy of Sciences and Letters in Copenhagen in September 2001.
"Whereas the impressive contributions made by John Buridan (d. after 1358) to medieval logic and linguistics are widely recognized today, his influence in the later Middle Ages and Early Modern period remains largely uncharted, as indeed does the development of the language sciences more generally in that period. The eight articles and the introductory essay collected in this volume explore topics in logico-linguistic theory from Buridan in the fourteenth century through Hobbes and Vico in the seventeenth and eighteenth. The focus of the articles range from grammar and logic to epistemology and philosophical psychology, and in nearly every case they demonstrate the impact of Buridan's ideas in the centuries following his death. Moreover, by investigating early modern thought against the backdrop of medieval ideas, the articles address the issue of the continuity or discontinuity of thought in this period on the border between medieval and modern, and indicate possible avenues of future research."
24. Geach, Peter. 1965. "A Medieval Discussion of Intentionality." In *Logic, Methodology and Philosophy of Science (Vol. 4)*, edited by Bar-Hillel, Yehoshua, 425-433. Amsterdam: North-Holland.
"In this paper I shall critically examine the way a fourteenth-century logician, Jean Buridan, dealt with certain puzzles about intentional verbs. The class of verbs I shall be considering will all of them be expressions that can be completed into propositions by adding two proper names; the class will include, not only ordinary transitive verbs, but also phrases of the verb-preposition type like 'look for' or 'shoot at', and furthermore constructions like 'hopes-will be a better man than his father' or 'believes-to be a scoundrel', which turn into propositions as soon as we add mention of who hopes or believes this and about whom he does so. In modern grammar, the term 'a verbal' rather than 'a verb' is used for this wider class; following a suggestion of Professor Bar-Hillel, I adopt this term.
In either or both of the proper-name places that go with such a verbal, it is possible, without destroying the, propositional structure (*salva congruitate*, as medieval logicians say), to substitute a phrase of some such form as 'some A' or 'every A' or 'the (one and only) A'; the letter 'A' here represents a simple or complex general term which is grammatically a noun or noun-phrase. The peculiarity of certain verbals that presently concern us comes out when such a phrase formed from a general term stands in object position, in a construction 'b F'd an A' or the like. Consider for example the sentence 'Geach looked for a detective story'. This sentence is ambiguous : in ordinary conversation we might successfully resolve the ambiguity by asking the question 'Was what Geach was looking for a particular detective story, or was it just a detective story?' It is an odd psychological fact that this question would convey the intended distinction of meanings; for logically the words of the question leave it wholly obscure what is intended. After all, nothing in this world or in any possible world could be "just a detective story" without being "a particular detective story"; and even if such an individuum vagum could somehow have being, Geach could not read it, so it certainly is not what he looked for." p. 425
"In a way parallel to the Buridan convention we may distinguish between 'There is a poet whom both Smith and Brown admire' and 'Smith and Brown both admire the same poet'; the latter would cover the case where both Smith and Brown are victims of the same literary fraud as to the existence of a poet, as well as the more normal case where they both admire (say) Wordsworth's poetry. Let us use the expression 'AP' as short for 'admire as a poet someone conceived under the ratio evoked by'; then 'There is a poet whom both Smith and Brown admire' would come out as:
For some x, x is a poet and, for some w, w is a description true just of x, and-both Smith and-Brown AP w
whereas 'Smith and Brown both admire the same poet', taken as conveying only intentional identity, would come out in the simpler form:
For some w, w is a definite description, and Smith and Brown both AP w.
Unfortunately, the line of solution we have been following leads us into difficulties. Suppose we use 'D'd' as short for the verbal 'dreamed of someone under the ratio expressed by'. Then in our present view we should have to paraphrase 'There is a red-head Harris dreamed of as:
For some x, x is a red-head and, for some w, w is a description true just of x, and Harris D'd w.
Now suppose we take w to be the description 'the fattest woman in the world': The paraphrase would be true if Harris dreamed of the fattest woman ili the 'world and the fattest woman in the world is in fact a redhead; but the propositon paraphrased might then quite well be false, because in Harris's dream there

may have been no red-head, and the fattest woman he saw in his dream may have been as bald as an egg. (I owe this counter-example to my pupil Mr. David Bird) Similar difficulties arise for our account of intentional identify: for if c and d each worshipped something under the ratio expressed by 'the deity of the Sun', it does not follow that c and d both worshipped the same deity-c might be an ancient Egyptian worshipping the ancestor of Pharaoh, and d a Japanese worshipping the ancestress of the Mikado. I hope this paper shows why modern logicians still need to take medieval logicians seriously. In great measure their problems are ours; while for some of them, like the problems of suppositio, modern logic provides adequate solutions, there are other problems, about modal and intentional contexts for example, that are still wide open; and the talent that was shown by medieval logicians in wrestling with their problems demands our deepest admiration." pp. 432-433

25. Ghisalberti, Alessandro. 1975. *Giovanni Buridano Dalla Metafisica Alla Fisica*. Milano: Vita e Pensiero.
26. ———. 2001. "The Categories of Temporality in William Ockham and John Buridan." In *The Medieval Concept of Time*, edited by Porro, Pasquale, 255-286. Leiden: Brill.
27. Grellard, Christophe. 2007. "Scepticism, Demonstration and the Infinite Regress Argument (Nicholas of Autrecourt and John Buridan)." *Vivarium*:328-342.
28. Habib, Nicholas. 1985. "A Medieval Perspective on the Meaningfulness of Fictitious Terms: A Study of John Buridan." *Franciscan Studies* no. 45:73-82.
29. Hall, Alexander W. 2008. "John Buridan: On Aristotle' *Categories*." In *Medieval Commentaries in Aristotle's Categories*, edited by Newton, Lloyd A., 295-316. Leiden: Brill.
30. Herzberger, Hans G. 1973. "Dimensions of Truth." *Journal of Philosophical Logic* no. 2:535-556. Reprinted in: Donald Hockney (ed.), *Contemporary Research in Philosophical Logic and Linguistic Semantics*, Dordrecht: Reidel, 1975, pp. 71-92.
31. Hubien, Hubert. 1975. "John Buridan on the Fourth Figure of the Syllogism." *Revue Internationale de Philosophie* no. 29:271-285.
32. ———. 1981. "Buridan and Lesniewski on the Copula." In *English Logic and Semantics: From the End of the Twelfth Century to the Time of Ockham and Burleigh*, edited by Braakhuis, Henk A.G., Kneepkens, Cornelis Henri and Rijk, Lambertus Marie de, 415-425. Nijmegen: Ingenium Publishers.
"It has often been contended that Lesniewski's Ontology is the best system in which to formalize medieval logic. I submit that this is not the case and propose a new one, which, as I shall show, is both more faithful to one of the medieval logics (for there is more than one) and richer than Ontology, since it contains it but is not contained in it." p. 415
33. Hughes, George. 1989. "The Modal Logic of John Buridan." In *Atti Del Convegno Internazionale Di Storia Della Logica. Le Teorie Della Modalità*, edited by Corsi, Giovanna, Mangione, Corrado and Mugnai, Massimo, 93-112. Bologna: CLUEB.
"This paper will be almost wholly expository. My aim in it is to give an outline, though I fear a very incomplete one, of the system of modal logic developed by one of the greatest of mediaeval logicians, the 14th century French philosopher John Buridan. I shall base my account on two of his logical works. One is his *Consequentiae*, a work on inferences in general, about a third of which is devoted to modal logic. There is an excellent modern edition of this work by Hubert Hubien, in the Introduction to which Hubien argues, to my mind convincingly, that it was written about 1335. The other is his lengthy and comprehensive work on logic, the *Summulae de Dialectica*, which contains two substantial sections on modal logic. There are serious problems involved in dating this work, but I shall not try to discuss these here. Most of it, including all the modal material, still exists, unfortunately, only in manuscript form. The modal material is arranged differently in these two works, each is fuller than the other on certain topics, and there are a few discrepancies between them on points of detail; but substantially they present the same ideas, and for the most part I shall not try to distinguish between them here." p. 93
34. Jacquette, Dale. 1991. "Buridan's Bridge." *Philosophy* no. 66:455-471.
On Sophism 17 of Chapter 8 of *Sophismata (Insolubilia)*.
35. Karger, Elizabeth. 1984. "Un Débat Médiéval Sur Le Concept De Sujet D'un Énoncé Catégorique. Étude D'un Texte De Jean Buridan." In *Preuve Et Raisons À L'université De Paris. Logique, Ontologie Et Théologie Au Xive Siècle*, edited by Kaluza, Zénon and Vignaux, Paul, 111-125. Paris: Vrin.
"Le présent essai porte sur quelques pages du *Traité des suppositions* (1) de Jean Buridan. Dans ces pages, l'auteur présente un débat portant sur l'identification du sujet d'énoncés catégoriques (2) dont le terme initial est à un cas dit "oblique", c'est-à-dire autre que le nominatif (3). Selon certains logiciens -- que Buridan ne nomme pas --, c'est ce terme à un cas oblique qui est le véritable sujet de l'énoncé; selon l'auteur, au contraire, le sujet ne peut être qu'un terme au nominatif.
Un des exemples discutés est le suivant:
(1) *Cuiuslibet hominis asinus currit*.
Selon l'analyse récusée par Buridan, 'hominis ' est le sujet de cet énoncé, alors que, selon l'auteur, le sujet

de (1) est 'hominis asinus' et "principalement" (4) 'asinus'.

D'aucuns jugeront peut-être que l'intérêt de ce débat réside dans l'occasion qu'il fournit de mettre en évidence la difficulté de la tâche à laquelle s'est épuisée la logique scolastique -- tâche qui aurait consisté à remédier aux insuffisances de la logique aristotélicienne.

Tel cependant n'est pas notre propos principal. Notre objectif dans l'étude de ce texte, fut de découvrir plutôt les divergences doctrinales en raison desquelles les théoriciens en présence proposent, pour les énoncés concernés, des analyses aussi différentes, et en particulier de dégager ce qui rend incompatibles *les deux concepts de sujet* présumés par l'une et l'autre des positions adverses.

Nous présentons donc ici les résultats de cette étude. Nous commencerons par exposer l'essentiel de l'argumentation par laquelle, d'après Buridan, ces logiciens anonymes défendent leur thèse ; nous serons ainsi en mesure de dégager les éléments principaux d'une certaine doctrine logico-grammaticale. Nous passerons en second lieu à l'examen des objections que Buridan oppose aux raisons de ses adversaires, découvrant à travers elles ainsi que dans la défense qu'il apporte à sa thèse propre, les caractéristiques d'une doctrine profondément différente de la première. Nous terminerons par une évaluation, du point de vue de leur mérite logique, des deux positions en présence." pp. 111-112.

36. ———. 1992. "Syllogistique Buridanienne." *Dialogue. Canadian Philosophical Review* no. 31:445-458.
37. ———. 1993. "A Theory of Immediate Inferences Contained in Buridan's Logic." In *Argumentationstheorie. Scholastische Forschungen Zu Den Logischen Und Semantischen Regeln Korrekten Folgerns*, edited by Jacobi, Klaus, 407-429. Leiden: Brill.
38. ———. 2007. "John Buridan's Theory of the Logical Relations between General Modal Formulae." In *Aristotle's Peri Hermeneias in the Latin Middle Ages. Essays on the Commentary Tradition*, edited by Braakhuis, Henk A.G. and Kneepkens, Cornelis Henri, 429-444. Nijmegen: Ingenium Publishers.
39. ———. 2010. "A Buridanian Response to a Fourteenth Century Skeptical Argument and Its Rebuttal by a New Argument in the Early Sixteenth Century." In *Rethinking the History of Skepticism. The Missing Medieval Background*, edited by Lagerlund, Henrik, 215-232. Leiden: Brill.
40. Kärkkäinen, Pekka. 2004. "On the Semantics of 'Human Being' and 'Animal' in Early 16th-Century Erfurt." *Vivarium* no. 42:237-256.
"John Buridan discussed the problem, whether it follows from the definition of the term 'animal' that all quantitative parts of an animal are to be called animals. His solution was that parts of the animal are to be called animals, though in an extraordinary, non-connotative, sense of the term. The problem was variously discussed by some later Buridanian authors from Erfurt. Bartholomaeus Arnoldi de Usingen ends up to deny the use of such terms as 'animal' and 'human being' as connotative terms. Jodocus Trutfetter, however, uses the distinction between the absolute and connotative senses of these terms without reservation."
41. King, Peter. 1985. "Introduction to Jean Buridan's Logic." In *Jean Buridan's Logic. The Treatise on Supposition. The Treatise on Consequences*, 3-82. Dordrecht: Reidel.
42. ———. 2001. "Consequence as Inference: Mediaeval Proof Theory 1300-1350." In *Medieval Formal Logic. Obligations, Insolubles and Consequences*, edited by Yrjönsuuri, Mikko, 117-145. Dordrecht: Kluwer.
43. Klima, Gyula. 1991. "Latin as a Formal Language. Outlines of a Buridanian Semantics." *Cahiers de l'Institut du Moyen-Âge Grec et Latin* no. 61:78-106.
44. ———. 1999. "Buridan's Logic and the Ontology of Modes." In *Medieval Analyses in Language and Cognition. Acts of the Symposium the Copenhagen School of Medieval Philosophy January 10-13 1996*, edited by Ebbesen, Sten and Friedman, Russell L., 473-495. Copenhagen: Royal Danish Academy of Sciences and Letters.
"Summary: The aim of this paper is to explore the relationships between Buridan's logic and the ontology of modes (*modi*). Modes, not considered to be really distinct from absolute entities, could serve to reduce the ontological commitment of the theory of the categories, and thus they were to become ubiquitous in this role in late medieval and early modern philosophy. After a brief analysis of the most basic argument for the real distinction between entities of several categories ("the argument from separability"), I point out that despite nominalist charges to the contrary, "older realists" - that is, authors working before and around Ockham's time - were not committed to such real distinctions, and thus to an overpopulated ontology, by their *semantic* principles. However, what *did* entail such a commitment on their part, along with the argument from separability, was treating abstract terms in several accidental categories as "rigid designators", that is, essential predicates (species and genera) of their *supposita*. Therefore, although in the form of "extra-categorical" *modi essendi* modes were well established in earlier medieval thought, their appearance *within* the theory of categories was conditioned on analyzing several abstract terms in the accidental categories as non-essential predicates of their particulars, something that "older realists" would in general not endorse. (This does not mean that even "older realists" were universally committed to really distinct entities in all ten categories. See on this e.g. notes 13 and 18.) Next, I show how this type

of analysis is achieved "automatically" by Buridan's theory of "eliminative" nominal definitions (in contrast to the older "non-eliminative" theory). However, since "realist" semantic principles in themselves did not yield a commitment to really distinct entities in all categories, it was also open for later "realists" to operate with not-really-distinct modes in several categories, although using different, "non-nominalist" tactics to treat the abstract accidental terms signifying them as non-rigid designators. The conclusion of the paper is that, as a consequence, both nominalist and later "realist" thinkers were able to achieve the same degree of ontological reductions in their respective logical frameworks, and so it was not so much their ontologies as their different logical "tactics" that set them apart."

45. ———. 2003. "John Buridan." In *A Companion to Philosophy in the Middle Ages*, edited by Gracia, Joerge J.E. and Noone, Timothy B., 340-348. Oxford: Blackwell.
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47. ———. 2004. "Consequences of a Closed, Token-Based Semantics: The Case of John Buridan." *History and Philosophy of Logic* no. 25:95-110.
 "This paper argues for two principal conclusions about natural language semantics based on John Buridan's considerations concerning the notion of formal consequence, that is, formally valid inference. (1) Natural languages are essentially semantically closed, yet they do not have to be on that account inconsistent. (2) Natural language semantics has to be token based, as a matter of principle. The paper investigates the Buridanian considerations leading to these conclusions, and considers some obviously emerging objections to the Buridanian approach."
48. ———. 2004. "John Buridan and the Force-Content Distinction." In *Medieval Theories on Assertive and Non-Assertive Language*, edited by Maierù, Alfonso and Valente, Luisa, 415-427. Firenze: Leo S. Olschki.
49. ———. 2004. "The Demonic Temptations of Medieval Nominalism: Mental Representation and "Demon Skepticism"." *Proceedings of the Society for Medieval Logic and Metaphysics* no. 4:37-44.
50. ———. 2005. "The Essentialist Nominalism of John Buridan." *Review of Metaphysics* no. 58:301-315.
 "To many contemporary philosophers, the phrase "essentialist nominalism" may appear to be an oxymoron. After all, essentialism is the doctrine that things come in natural kinds characterized by their essential properties, on account of some common nature or essence they share. But nominalism is precisely the denial of the existence, indeed, the very possibility of such shared essences. Nevertheless, despite the intuitions of such contemporary philosophers, John Buridan was not only a thoroughgoing nominalist, as is well-known, but also a staunch defender of a strong essentialist doctrine against certain skeptics of his time. But then the question inevitably arises: could he consistently maintain such a doctrine?
 In the following discussion I will first examine Buridan's essentialism to show why he could reasonably think that he can both adhere to his nominalist metaphysics and endorse a version of essentialism that can serve as the foundation of genuine scientific knowledge in the strong Aristotelian sense.
 In the subsequent section I will argue that on the basis of his logical theory of essential predication Buridan is definitely able to maintain a version of essentialism that is sufficient to provide the required foundation of valid scientific generalizations, and to refute skeptical doubts against the possibility of such a foundation.
 Next, I will examine the question whether Buridan's solution is consistent with the broader context of his logic and epistemology. In this section I will argue that although Buridan's logical theory is consistent with his nominalist essentialist position, his cognitive psychology is not. In particular, I will argue that Buridan's abstractionist account of how we acquire our simple substantial concepts is incompatible with his account of the semantic function of absolute terms subordinated to these concepts.
 Finally, I will draw some general conclusions from this discussion concerning the relationships between metaphysical essentialism and the philosophy of mind and language." (notes omitted)
51. ———. 2005. "Quine, Wyman, and Buridan: Three Approaches to Ontological Commitment." *Korean Journal of Logic* no. 8:1-22.
52. ———. 2006. "The Universality of Logic and the Primacy of Mental Language in the Nominalist Philosophy of Logic of John Buridan." *Mediaevalia Philosophica Polonorum* no. 35:167-177.
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60. Krieger, Gerhard. 2003. *Subjekt Und Metaphysik. Die Metaphysik Des Johannes Buridan*. Münster: Aschendorff.
61. ———. 2005. "Menschliche Vernunft Als Terminus Der Reflexion: Zu Einer Übereinstimmung Zwischen Mittelalterlicher Philosophie Und Kant." *Kant-Studien* no. 96:187-207. "The article deals with the metaphysical thought of the Magister Artium John Buridan, who was active in Paris in the first half of the fourteenth century, in the context of the discussion of the relationship of medieval to modern philosophy. Systematically, the justification of this investigation is that Buridan is in agreement with Kant as to the primacy of practical reason. To this extent, this consideration of the metaphysics of John Buridan in comparison to that of Kant deals with the question of the meaning of the primacy of practical reason for the transcendental justification of knowledge and science and, with this question, also with the transformation of metaphysics.""
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