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W. Ockham's conception of supposition and signification

Summary of the PhD thesis

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The topical value of the research

The 1950s saw the beginning of a period, which continues to this day, of renewed interest in medieval logic and philosophy of language. By ‘medieval philosophy of language’ this work refers to the scholastic tradition of the 12-14th centuries, primarily consisting of Latin works written in Europe¹, though it is also important to consider preceding semiotic traditions and the influence of Arabic writers on European logic. Regarding logic, I consider a range of theories that is, in a disciplinary sense, much broader than what would strictly be considered logic in the modern sense: theories on the boundaries between metaphysics, theology, grammar, epistemology, rhetoric and other disciplines. In the 1970s and 1990s researchers published scholastic logic treatises, prepared critical editions and wrote detailed commentaries (for example, Philotheus Boehner’s influential edition of William Ockham’s logical treatises, published by the Franciscan Institute², or Marilyn McCord Adams’ classical work, *William of Ockham*), alongside countless articles and books dedicated to various problems of medieval logic and the philosophy of language. The main researchers from this period include Marilyn

¹ This might prove controversial, but here I follow the definition presented in the introduction of Dutilh Novaes C., & Read S. (Eds.). (2016). *The Cambridge Companion to Medieval Logic* (Cambridge Companions to Philosophy). Cambridge: Cambridge University Press.

² Boehner first published *Summa Logicae*, then a critical edition of Ockham’s philosophical works. See Ockham W. *Summa Logicae*, ed. P. Boehner, G. Gal and S. Brown, St Bonaventure: Franciscan Institute, 197. Ockham W., *Opera Philosophica*. Gedeon Gál et al. (eds.), 7 vols. The Franciscan Institute, 1974-88. me Press; 2nd revised edition, 1989.

McCord Adams, Józef Bocheński, Ernest Moody, Philotheus Boehner and Lambertus Marie de Rijk³.

However, although there has been sustained interest in medieval theories of logic since the mid-1950s, the relevance of studying them needs to be justified. The justification might be historico-textological: many scholastic treatises have never been published and exist solely as manuscripts, many haven't been translated into European languages, others stand in need of commentaries. On the other hand, scholastic logic and philosophy of language have drawn interest from researchers, who, risking anachronism, adapt them to modern contexts and show which parts of medieval theories might be similar to modern ones. There is also fairly well-represented tradition of formalizing medieval theories in various languages of modern mathematical logic. Such formalizations take principal interest in explicating the ontological and epistemological foundations of the formal languages into which medieval theories are 'translated'. In this case even anachronisms figure as productive 'mistakes', allowing one to better understand the varying premises underlying different logical contexts.

³ See, for instance, McCord Adams M. William Ockham, Notre Dame, Indiana, (2 vols.), 1987. McCord Adams M. *What Does Ockham Mean by 'Supposition?'* // Notre Dame Journal of Formal Logic, XVII (1976), (375-391). Boehner P. *Collected Articles*, St. Bonaventure, N.Y., 1958. Moody E. *Truth and Consequence in Mediaeval Logic*, Amsterdam, 1953. Moody E. *The Logic of William of Ockham*, New York, 1965. De Rijk L. M. *Logica Modernorum. A Contribution to the History of Early Terminist Logic. Vol. 2, Part One: The Origin and Early Development of the Theory of Supposition*. Assen: Van Gorcum. De Rijk L. M. *Logica Modernorum. A Contribution to the History of Early Terminist Logic. Vol. 2, Part Two: The Origin and Early Development of the Theory of Supposition*. Text and Indices. Assen: Van Gorcum. De Rijk L. M. *The Development of Suppositio Naturalis in Medieval Logic. Part I. Natural Supposition as Non-Contextual Supposition.* "Vivarium no. 9:71-107.

Researchers of medieval logic can be divided by their methodological aims and approaches into two opposing poles. Medievalists prioritise working with historical texts: transcribing manuscripts, preparing them for publications and writing commentaries. Researchers on the other end of the spectrum operate primarily under analytical paradigms and focus on the specific problems that they believe medieval philosophers attempted to address. The second approach is dedicated to reconstructing the original writer's arguments, which might or might not have been formalized. Such a division of methodological approaches, of course, relates not only to medieval logic, but is a fundamental problem for modern research into the history of logic.

Which problems and ideas have modern medieval logic researchers focused on? One, which has drawn researchers' interest since the 1950s, is the hypothesis of mental language in scholastic terminism, with figured in the nominalist works of William Ockham and Jean Buridan among others. In the 1960s Peter Geach released *Reference and Generality*⁴, where he used scholastic theories and William Ockham's teachings on logic in particular to justify his own theoretical constructions. However, many researchers believe his interpretation of medieval teachings was not always correct, and because of this his work is controversial in the field of the history of logic. Studies of the scholastic concept of mental language have led to a hypothesis that there are parallels between medieval and in particular scholastic logic on the one hand and logical ideas of the 20th and 21st centuries on the other. The main features of this hypothesis from the 1960s to the 1980s were that mental language was perceived to represent logical structures, to

⁴ Geach P. *Reference and Generality: An Examination of Some Medieval and Modern Theories*, 1962.

precede conventional languages⁵ and to not allow for ambiguity⁶. For a long period of time this interpretation of mental language as ideal also determined how other terms relating to mental language (such as supposition and signification) and their properties were understood. From the 1960s to the 1990s, these conceptual boundaries gave rise to the question of whether connotative terms could exist in mental language, and of how mental terms could supposit materially.

The question of the nature of mental language was extensively debated (by Claude Panaccio, Paul Vincent Spade, Dominik Perler, Sonja Schierbaum⁷ and others). One line of argument (proposed by Panaccio) compared the hypothesis of mental language of Abelard, Ockham and Buridan with a John Fodor's hypothesis from the fundamentally separate disciplinary field of cognitive linguistics and

⁵ Mental language is natural and its terms 'precede' the terms of conventional languages. It is mental terms that signify real objects, while the terms of conventional languages are subordinated to concepts, which will be further addressed in chapter 1.

⁶ Ambiguity might come, for example, from synonyms or connotative terms.

⁷ See, for instance, Brower-Toland, Susan, *How Chatton Changed Ockham's Mind: William Ockham and Walter Chatton on Objects and Acts of Judgment*// *Intentionality, Cognition and Mental Representation in Medieval Philosophy*, G. Klima (ed.), New York: Fordham University Press 201; Panaccio C. *Ockham on Concepts*, Aldershot, 2004; Panaccio C. *Connotative Terms in Ockham's Mental Language*// *Cahiers d'épistémologie*, no. 9016, 1990, Montréal. Perler. *Theorien der Intentionalität im Mittelalter*, Frankfurt/M., 2004. Spade P. V. *Synonymy and Equivocation in Ockham's Mental Language*// *Journal of the History of Philosophy* 18, 1980, pp. 9-22. Karger E. *Ockham's Misunderstood Theory of Intuitive and Abstractive Cognition*// *The Cambridge Companion to Ockham*. Cambridge University Press, pp. 204-227. Schierbaum S. *Ockham's Assumption of Mental Speech: Thinking in a World of Particulars*. Brill. 2014.

philosophy of the mind⁸. The debates included both theoretical and more textological arguments.

Additionally, researchers have studied medieval modal and temporal (or proto-modal and proto-temporal⁹) logic. The semantics of temporal, many-valued and modal logic, as well as the distinction between *de re* and *de dicto* were to a significant extent inspired by classical and medieval heritage. Medieval theories of logic, and their natural foundation of Aristotelian logic, served as a source of inspiration for the great logic innovators: Arthur Prior, Jaakko Hintikka and Georg Henrik von Wright¹⁰. Arthur Prior, for example, independently studied Peter of Spain's fundamental medieval scholastic logic textbook *Summulae logicales*¹¹, which he saw as an example of scholastic logical thinking and a source of 'new' ideas, rather than a formal source of logical knowledge. Modern researchers such as Simo Knuuttila, Peter Øhrstrøm, Elizabeth Karger, Graham Priest, Sara Liana Uckelman and Calvin Normore¹² have proposed models which use formal languages to reconstruct scholastic temporal and modal theories.

⁸ Fodor J. *The Language of Thought*, New York, 1975; Fodor J. *Representations: philosophical essays on the foundations of cognitive science*, Cambridge Mass., 1982.

⁹ Since medieval logic lacked formalization, it is more appropriate to refer to medieval modal and temporal logic as proto-modal and proto-temporal

¹⁰ See, for instance, Hintikka, J., 1973, *Time and Necessity*, Oxford: Oxford University Press; Wright G. H. von. *An Essay in Modal logic*. Amsterdam, 1951; Prior A. *Formal logic*. Clarendon Press, 1962.

¹¹ For a more in-depth account of the influence of medieval teachings on Prior's logic see Uckelman, S. L. *Arthur Prior and medieval logic*. *Synthese* 188(3): 349-366, 2012.

¹² See, for instance, Knuuttila S. *Modality* //The Oxford Handbook of Medieval Philosophy. Oxford University Press, 2012. P. 312–341; Knuuttila S. *Medieval modal theories and modal logic* // Handbook of the history of logic. Vol. 2: Medieval and renaissance logic. Amsterdam :

One theory that proved popular among researchers and which was one of the most developed was the 13th-14th century terminist theory of supposition. In a sense the theory of supposition is the most studied theory in medieval logic, however its interpretation remains problematic.

Developed in the 12th century and traditionally applied for the exegesis of ambiguities in holy texts, in the 14th century supposition served as the foundation for a new theory of truth. Unlike signification, which is only a property of terms in propositional contexts, supposition allows one to determine the meaning of both subject and predicate. By the 14th century theories of signification and supposition became the basis for semantics, although theories of definition, types of terms, types of names and others also played a fundamental role.

William Ockham's theory of supposition is the most studied. Although, as Stephen Read notes, Ockham's logic was never radical in and of itself and merely supported his radical metaphysics¹³, Ockham's logic and semantics, in light of how they were influenced metaphysics and nominalist ontology, have therefore drawn significant interest.

North-Holland, 2008. P. 505–578; Knuuttila S. *Modalities in medieval philosophy*. L. ; N. Y., 1993; Øhrstrøm P. *Temporal logic: From Ancient Ideas to Artificial Intelligence*. Springer Science & Business Media, Aug 27, 2007; Karger E. *A Study of William of Ockham's Modal Logic*, Ph.D. dissertation: University of California, 1976. Normore, C. *The Logic of Time and Modality in the Later Middle Ages: The Contribution of William of Ockham*, Ph.D. dissertation: University of Toronto, 1975. Uckelman S. L. *Modalities in Medieval Logic*, Ph.D. dissertation, ILLC Dissertation Series, 2009.

¹³ Dutilh Novaes C., & Read S. (Eds.). *The Cambridge Companion to Medieval Logic* (Cambridge Companions to Philosophy). Cambridge: Cambridge University Press, 2016.

In the 1970s researchers (Marilyn McCord Adams , Paul Vincent Spade , Calvin Normore, Jennifer Ashworth, Martha Kneale and others¹⁴) tended to see supposition as reference, explaining it through the relation between a term and its referent: that is, an object or thing in a propositional context. An exception is Moody¹⁵, who claimed that supposition is a syntax relationship. However, a series of papers published by Catarina Dutilh-Novaes¹⁶ from 2008 to the present introduced an interpretation of supposition as a formal theory of the explication of propositional meaning which have an intentional character. Thus two conflicting interpretations of supposition appeared: a referential theory that established the connection between term and referent, and an intentional theory (a theory of propositional meanings, which form a series of readings of sentences and don't

¹⁴ McCord Adams M. *William Ockham*. University of Notre Dame Press, 1987. McCord Adams M. Ockham's Nominalism and Unreal Entities // *Philosophical Review*, 86 (2):144-176, 1977; McCord Adams M. *Ockham's Theory of Natural Signification*. *The Monist* 61 (3):444-459, 1978; McCord Adams M. *What Does Ockham Mean by 'Supposition'?* *Notre Dame Journal of Formal Logic* 17 (3):375-391. Normore C. G. Some aspects of Ockham's logic // *The Cambridge Companion to Ockham*. Cambridge University Press, 1999.; Normore, C. *The Logic of Time and Modality in the Later Middle Ages: The Contribution of William of Ockham*, Ph.D. dissertation: University of Toronto, 1975. Spade P. V. Synonymy and equivocation in Ockham's mental language // *Journal of the History of Philosophy*, 18 (1), pp.9-22. Spade P. V.. *Ockham's rule of supposition: Two conflicts in his theory* // *Vivarium*, 12 (1), 1974, pp. 63-73; Normore C. *Material supposition and the mental language of Ockham's summa logicae* // *Topoi*, 16 (1), 1997, pp.27-33. Kneale M. and W. *The Development of Logic*. Clarendon Press, 1962; Ashworth E. J. *Language and Logic in the Post-Medieval Period*. Reidel, 1974.

¹⁵ Moody E, *The Logic of William of Ockham*. New York: Sheed and Ward, 1935.

¹⁶ Dutilh Novaes C. *Formalizing Medieval Logical Theories*. Springer, 2007; Dutilh Novaes C. An Intensional Interpretation of Ockham's Theory of Supposition. *Journal of the History of Philosophy* 46 (3):pp. 365-393.

establish a sole referent for terms). Recent papers by Milo Crimi and Spencer Johnston follow Dutilh-Novaes' ideas¹⁷.

There are also interpretations of the theory of supposition that to a greater extent account for supposition's possible functions. Elena Lisanyuk offers an interesting classification of theories of supposition:

- 1) Theories of reduction of general terms to singular terms.
- 2) Theories of quantification as the semantics of the universal quantifier and the existential quantifier and the rules of their introduction and elimination
- 3) Theories of types of personal supposition as a concept of the truth conditions of simple categorical statements.
- 4) Theories of inference: that is, rules for operations with simple categorical statements.
- 5) Theories for solving sophisms and eliminating errors in statements¹⁸

The object of the research – William Ockham's body of logical works: Commentaries on *De Interpretatione*, the first and second books of *Summa Logica*, *Quodlibeta*, which includes questions of a logical character¹⁹.

The subject of the research – the relationship between theories of supposition and signification in William Ockham's logic and their role in explicating the truth

¹⁷ Crimi M. *Significative Supposition and Ockham's Rule*//*Nivarium*, 52, 72-101, 2014; Johnston S. Ockham and Buridan on the Ampliation of Modal Propositions.//*British Journal for the History of Philosophy*, 23 (2):234-255, 2015.

¹⁸ Lisanyuk E.N.. *Теория суппозиции в Средние века* [The theory of supposition in the middle ages] // *Verbum. СПб*, 2000. № 2. С. 14–37.

¹⁹ From here onwards the names of Ockham's works will be given in latin.

conditions of statements, especially those that are modal, tensed or contain empty terms²⁰

Research methodology

Efforts towards the development and renewal of modern philosophy of logic and philosophy of language, the absence of formalization in scholastic logical theories, the fact that to this day many medieval texts have been insufficiently studied and the need for these texts to be properly interpreted set two primary methodological objectives for researchers of medieval logic:

1. Historico-textual analysis
2. Analytical reconstruction, which can include the formalization of scholastic logical theories with the goal of clarifying them and finding possible productive approaches for developing non-classical logical systems.

²⁰ It must be stated that in this work I use the terms ‘пропозиция’ (proposition), ‘предложение’ (sentence) and ‘высказывание’ (statement) as synonyms, as they are all to an extent equivalent to the latin term *propositio*, for which, in my view, there isn’t an ideal modern equivalent. This creates significant difficulty in describing Ockham’s theory of the truth conditions of various sentences in Russian, as none of the terms, ‘предложение’, ‘высказывание’ or especially ‘пропозиция’ are suitable for the purpose of simultaneously describing the grammatical functions of subject and predicate and a statement’s truth conditions. It must also be added that according to Ockham an important property of a *propositio* is that it is true only when it exists; that is, it must be expressed in one way or another (said, written or thought by a subject). In this light ‘пропозиция’ (proposition) is the least appropriate translation of *propositio*, as the modern meaning of ‘пропозиция’ is not so much a linguistic expression, as that which a linguistic expression denotes or that what is meant by a linguistic expression. As Laurant Cesalli noted, the modern sense of a proposition is not something made of words or mental entities, but rather something else, having abstract shades of Platonism.

This dissertation makes the methodological assumption that medieval logico-semantic concepts hold value for developing modern logic theories; despite the obvious differences in epistemological and metaphysical bases between medieval and modern logic, medieval logic can contain intuitions and ideas that may be of interest to modern logic. Of course, even when considering late-scholastic period logic theories, which were largely autonomous and independent of their theological and metaphysical contexts, these contexts must always be kept in mind. Furthermore, the disciplinary boundaries of medieval logic were not the same as for modern logic; they included many metaphysical and epistemological themes that would not be considered strictly logic today (for example, in the first book of Ockham's *Summa Logicae* a series of chapters is dedicated to examining Aristotle's categories, and in his commentary of *De Interpretatione* he considers habitus and the ontological status of 'affections of the soul'²¹). In essence, medieval scholastics studied the logic of natural languages and in particular Latin; the lack of a formal logical apparatus and the inability (insofar as it is appropriate to speak of inability, which in itself is defined by an evolutionary perspective on history) to distinguish between the levels of syntactics, semantics and pragmatics to a large extent defined the character of the scholastics' theories.

Is it possible to compare scholastic logic with modern logic, given how separate they are in time, and can it be said that ideas or problems exist in and of themselves, and are merely modified over time? Is it possible to separate logico-philosophical knowledge from the context its era and culture? These questions relate to the very foundations of the relationships between disciplines and their roles and functions: what the function of the history of philosophy is as a discipline

²¹ See. Ockham W., *Opera Philosophica*. Gedeon Gál et al. (eds.), 7 vols. The Franciscan Institute, 1974-88. Vol.1.

and how historico-philosophical knowledge is to be understood. This is not a new question, but nonetheless the ways in which analytical philosophers have interacted with historical materials since the latter half of the 20th century have continued to create debates and sometimes even provoke contempt and wrath from classical historians of philosophy.

The latter accuse the former (sometimes rightly so) of anachronisms, of distorting authentic concepts and of making inappropriate comparisons. This brings us to the problem of the constitutive conditions of the existence of historico-philosophical knowledge and the problem of the history of philosophy as a discipline. These problems are not identical; it is possible to deal with historico-philosophical knowledge (in the manner of Peter Geach, Peter Strawson or Talcott Parsons, who a few years ago wrote a study on the language of medieval logic based on the grammar of Montague) without being a philosophical historian. In this case historical knowledge figures as an argument in a philosophical theory. If historical philosophical knowledge is to be seen by researchers solely as cultural phenomenon, valuable in and of itself, and therefore requiring that researchers attempt, as far as possible, to hermeneutically approach its authentic form and identify the context and conditions in which it appears, then is it possible to speak of the existence of an idea or problem outside of its historical context? Should we presume the incommensurability of different periods, which implies that knowledge and forms of knowledge change so deeply over time that a modern person cannot, for example, understand an ancient Greek from the Classical period or a medieval magister from Oxford University?

Interestingly, debates on this issue were rekindled by discussions of the hypothesis of mental language in the 2000s between the medievalists Claude Panaccio und

Alain de Libera. The subject (or reason) for the discussion was Panaccio's²² cognitive interpretation of the hypothesis of mental language²³. Comparing Ockham and Fodor, Panaccio attempted to place Ockham's theories in the common landscape of nominalism, where, according to Panaccio, Ockham belonged among William Quine and Nelson Goodman.

Panaccio's decidedly controversial idea was sharply criticized by de Libera, which led to a discussion to which a separate chapter was dedicated in Kurt Flasch's *Philosophie hat Geschichte*. De Libera argues that different eras are incommensurable. He claims that a modern individual cannot understand a medieval one, that they live in fundamentally different world consisting of fundamentally different phenomena. Aside from this general position, de Libera also warns of the danger of theoretical reconstructions, as the historian's objective is rather to understand teachings and, as authentically as possible, to identify the contextual conditions in which they appeared. It is of interest that de Libera and Panaccio, representatives of two diametrically opposed paradigms in continental and analytical philosophy, have in common only the object of their study around which their debate arose: medieval philosophy, specifically medieval semantics. Why does the medieval tradition attract such fundamentally different researchers?

On the one hand, as was previously mentioned, there is much to do in the history of medieval philosophy: there are no critical editions for many treatises, some manuscripts have not been deciphered and published, or translated into European languages, many writers of that period are poorly understood and so on. On the other hand, the attentiveness and meticulousness of scholastics in dealing with and developing logical categories, their interest in the junctures between ontology and

²² Panaccio C., *Ockham on Concepts*. Ashgate Publishing, 2004.

²³ Ibid.

logic and epistemology and logic represent how much scholastics have in common with modern logicians. It is no accident that analytical philosophy is half-disparagingly referred to as a ‘third scholasticism’ – it is equally meticulous with regard to the finest details of logical categories. In using scholastic materials as a source of inspiration or in search of different approaches and ways of thinking, analytical philosophers truly do contribute to the development of modern logic. Using scholastic ideas, Prior founded temporal logic, Hintikka clarified aspects of modality and temporality and so on.

The methodology of this dissertation combines two methodological approaches. On the one hand, this work aims to achieve a historico-textological authentic reconstruction of the scholastic’s intellectual arsenal. On the other hand, it considers the problems in the possible analytical reconstruction of the theory of supposition with the tools of 20th century philosophy of language. Specifically, it raises the question of what basis allows one to speak of the intentional or extensional character of the theory of supposition. This dissertation operates on the premise that such a merging of methodological approaches can be legitimate and productive, provided there are careful and attentive explications of the ontological, metaphysical and semantic foundations of the relevant theories.

The main purpose of the research

The aim of this study is the analytical and historico-textual reconstruction of William of Ockham’s theories of supposition and signification. The reconstruction is made, on the one hand, using basic semantic concepts and 14th century terminist logical theories in their relation to the theory of supposition, and on the other hand through an analysis of cases of the theory of supposition being used as a basis for

the explication of ‘complex’ contexts: modal, tense and negative propositions, as well as those containing empty terms.

This work does not aim to study Ockham’s concept of metal language or his theory of concepts²⁴, but rather focuses on the property of supposition and its connection with the truth value of statements. However, differences between spoken and written symbols and mental symbols are significant both for determining truth conditions for statements and generally for any part of Ockham’s logic or semantics.

Objectives of the research

1. To compare the semantic functions of signification and predication in Ockham’s logic.
2. To explicate the principles of determining truth conditions of propositions with empty terms as subjects and predicate in Ockham’s logic.
3. To explicate the principles of determining truth conditions of modal and tense propositions in Ockham’s logic.
4. To show the role of the concept of true predication (‘verificatur’) in determining the possibility of supposition in temporal or modal contexts in Ockham’s logic.
5. To identify the basis for the interpretation of Ockham’s theory of supposition as a theory of the truth values of terms, or as a theory of combinatorial search for the truth values of propositions.

²⁴ Schierbaum S. *Ockham's Assumption of Mental Speech*. Boston, Brill, 2014., Panaccio C. *Ockham on Concepts*, Aldershot, 2004; Normore C. *Material supposition and the mental language of ockham's summa logicae.*//*Topoi*, 16 (1):27-33.; Lenz M. *Why is thought linguistic? Ockham's two conceptions of the intellect.* // *Vivarium*, 46 (3):302-31.

6. To critically analyze Trentman and Panaccio's interpretation of the scholastic theories of mental language.

The state of the research's topic

There are a large number of studies on the theory of supposition, primarily in English, French and German. Together with the concept of mental language, the theory of supposition has been one of the most popular topics in the history of logic from the 1960s until the present. However, the primary aim of researchers has not been the reconstruction of the theory of supposition as a whole, but rather they have focused on the following specific themes: conditions for material of simple supposition, the problem of the existence of connotative terms in mental language and types of personal supposition among others.

There are several key clusters of research literature. The first consists of studies of Ockham's semantics and ontology systems as a whole. Some of these works are encyclopedic in nature and were written in the 1960s and 1970s, when the period of increased reception of Ockham's views on logic and semantics began.

Some examples are the fundamental studies by Boehner, McCord Adams and Spade²⁵. Ockham's semantics were also addressed by preceding and subsequent

²⁵ McCord Adams M. *William Ockham*, Notre Dame, Indiana, (2 vols.), 1987. McCord Adams M. *What Does Ockham Mean by 'Supposition?'*// Notre Dame Journal of Formal Logic, XVII (1976), (375-391). Boehner P. *Collected Articles*, St. Bonaventure, N.Y., 1958. Moody E. *Truth and Consequence in Mediaeval Logic*, Amsterdam, 1953. Moody E. *The Logic of William of Ockham*, New York, 1965; Spade P. V. *Ockham's distinctions between absolute and connotative terms*// *Vivarium*, 13 (1), pp. 55-76, 1975; Spade P. V. *Ockham's rule of supposition: Two conflicts in his theory*// *Vivarium*, 12 (1), 1974, pp. 63-73; Spade P. V. *Synonymy and Equivocation in Ockham's Mental Language*// *Journal of the History of Philosophy* 18, 1980, pp.

traditions. Examples are these are the works of Moody, William and Martha Kneale and others.²⁶ The second cluster is tied the interpretation of Ockham's mental language is ideal: part of the research is devoted to how various properties of spoken or written languages (such as supposition) can exist in mental language. Some influential authors from this category are Stephen Read, Calvin Normore, Elizabeth Karger, Paul Spade, Jennifer Ashworth, John Swiniarsky, Mikko Yrjönsuuri, David Chalmers and Ned Markosian²⁷. The third cluster is

9-22.; Spade P. V. *Thoughts, Words and Things: An Introduction to Late Mediaeval Logic and Semantic*. http://pvspade.com/Logic/docs/Thoughts,%20Words%20and%20Things1_2.pdf.

²⁶ Moody E. A. *Truth and consequence in Medieval logic*. Amsterdam, 1953 ; Moody E. *The Logic of William of Ockham*, New York, 1965; Kneale M. and W. *The Development of Logic*. Clarendon Press, 1962;

²⁷ Ashworth, Jennifer, *Chimeras and Imaginary Objects: A Study in the Post-Medieval Theory of Signification*, *Vivarium* XV, (1977), I, (57-77); Chalmers, David, 'Is There Synonymy in Ockham's Mental Language?'// Paul V. Spade, (ed.) *The Cambridge Companion to Ockham*, New York, 1999, (76-99); Read, S. *How is material supposition possible?*// *Medieval Philosophy and Theology*, 8(1):1–20; Spade P. V. *Ockham's distinctions between absolute and connotative terms*//*Vivarium*, 13 (1), pp. 55-76, 1975; Spade P. V. *Ockham's rule of supposition: Two conflicts in his theory*//*Vivarium*, 12 (1), 1974, pp. 63-73; Spade P. V. *Synonymy and Equivocation in Ockham's Mental Language*// *Journal of the History of Philosophy* 18, 1980, pp. 9-22. ; Spade P. V. *Thoughts, Words and Things: An Introduction to Late Mediaeval Logic and Semantic*. http://pvspade.com/Logic/docs/Thoughts,%20Words%20and%20Things1_2.pdf; Spade, P. V. (2000). *Why don't mediaeval logicians ever tell us what they're doing? Or, what is this, a conspiracy?* <http://pvspade.com/Logic/docs/Conspiracy.pdf>.

Swiniarsky John. *A New presentation of Ockham's Theory of Supposition*. *Franciscan Studies* 30 (1970), pp.181-217; Normore C. *Material supposition and the mental language of Ockham's summa logicae*//*Topoi*, 16 (1), 1997, pp.27-33; Normore C. G. *Some aspects of Ockham's logic* // *The Cambridge Companion to Ockham*. Cambridge University Press, 1999; Normore, C. *The Logic of Time and Modality in the Later Middle Ages: The Contribution of William of Ockham*,

characterized by the explication of truth conditions for various types of statements in Ockham's logic. Here one can mention Stephen Read and Graham Priest, Calvin Normore, Elizabeth Karger, Catarina Dutilh-Novaes, Magali Roques, Simo Knuuttila, Spencer Johnston, Milo Crimi, Alfred Freddoso and Talcott Parsons²⁸. The fourth cluster of researchers studies the nature of mental language and other concepts in Ockham's teachings. Some notable figures are Claude Panaccio, Susan C. Brower-Toland, Dominik Perler, Martin Lenz and Sonja Schierbaum²⁹.

Ph.D. dissertation: University of Toronto, 1975; Normore, Calvin, *Ockham on Mental Language*, in: *Historical Foundations of Cognitive Science*, J.-C. Smith (ed.), Dordrecht, 1990.

²⁸ Knuuttila S. *Modality* // *The Oxford Handbook of Medieval Philosophy*. Oxford University Press, 2012. P. 312–341; Knuuttila S. *Medieval modal theories and modal logic* // *Handbook of the history of logic*. Vol. 2: *Medieval and renaissance logic*. Amsterdam : North-Holland, 2008. P. 505–578; Knuuttila S. *Modalities in medieval philosophy*; Karger E. *Modes of Personal Supposition: The Purpose and Usefulness of the Doctrine Within Ockham's Logic*. 1984. *Franciscan Studies* 44 (1):87-106; Karger E. *William of Ockham, Walter Chatton and Adam Wodeham on the Objects of Knowledge and Belief*. Elizabeth Karger - 1995 - *Vivarium* 33 (2):171-196. Karger E. *Would Ockham Have Shaved Wyman's Beard?* 1980 - *Franciscan Studies* 40 (1):244-264; Priest G., Read S. *Ockham's Rejection of Ampliation* // *Mind*, New Series. Vol. 90, No. 358 (Apr., 1981). P. 277, 278; Dutilh Novaes C. *A medieval reformulation of the de dicto/de re distinction* // *LOGICA Yearbook*. 2003. Prague, 2004. P. 111–124; Dutilh Novaes C. *Medieval Theories of Truth* // Lagerlund H. *Encyclopedia of Medieval Philosophy*. B.: Springer, 2011. P. 1340–1347; Dutilh Novaes C. *The Role of 'Denotatur' in Ockham's Theory of Supposition*. // *Vivarium*, 51 (1-4), pp. 352-370.' Dutilh Novaes C. *Theory of supposition vs. theory of fallacies in Ockham*. // *Vivarium*, 45, pp. 343-359.

²⁹ Panaccio C. *Ockham on Concepts*, Aldershot, 2004; Panaccio C. *Connotative Terms in Ockham's Mental Language* // *Cahiers d'épistémologie*, no. 9016, 1990, Montréal. Perler. D. *Theorien der Intentionalität im Mittelalter*, Frankfurt/M., 2004. Karger E. *Ockham's Misunderstood Theory of Intuitive and Abstractive Cognition* // *The Cambridge Companion to*

In the modern Russian academic tradition of the history of medieval logic there are relatively few studies (especially compared to Anglo-Saxon and German research in that same field). One can mention Nikolai Styazhkin's classic work *The Formation of Mathematical Logic*, a series of papers by Elena Lisanyuk that deal with various aspects of medieval logic, as well as papers and monographs by Vladimir Markin, Vyacheslav Bocharov, Vladimir Vasukov, Alexei Apollonov, Valery Vorobyov, Yaroslav Slinin, Elena Dragalina-Chernaya, Pavel Sokolov, Evgeniya Zhuralveva, Larisa Tonoyan, Svetlana Neretina, and Galina Vdovina³⁰.

In contrast to works about Ockham's theory of concepts of mental language, it is rare to find works that summarize his theory of supposition or reconstruct it in accordance with recent trends of relating supposition to reference. It is seen as

Ockham. Cambridge University Press, pp. 204-227. Schierbaum S. *Ockham's Assumption of Mental Speech: Thinking in a World of Particulars*. Brill. 2014.

³⁰ Vdovina G.V. Язык неочевидного. Учения о знаках в схоластике XVII в. [The language of the inobvious. Teachings on signs in 17th century scholasticism] — М.: Институт философии, теологии и истории св. Фомы, 2009. — 648 с.; Gaidenko V.P., Smirnov G.A. Западноевропейская наука в средние века: Общие принципы и учение о движении. [Western European science in the middle ages: general principles and teachings on motion] — М., Наука, 1989.; Zhuravleva E.V. «Инсолюбилия» Томаса Брадвардина [Thomas Bradwardine's *Insolubilia*] // Вестник Балтийского федерального университета им. И. Канта. Серия: Гуманитарные и общественные науки. 2012.; Karpenko A.S. Фатализм и случайность будущего: логический анализ [Fatalism and future randomness: a logical analysis]. М.: Издательство ЛКИ, 2008.; Lisanyuk E.N. Теория суппозиции в Средние века [The theory of supposition in the middle ages] // Verbum. СПб, 2000. № 2. С. 14–37.; Maiorov G.G. Формирование средневековой философии. [The formation of medieval logic] М.: Мысль, 1979; Styazhkin N.I. Формирование математической логики. [The formation of mathematical logic] М.: Наука, 1967.; Tonoyan L.G. Логика и теология Боэция. [Boethius' logic and theology] СПб.: Издательство РХГА, 2013.

productive to view Ockham's theory of supposition as a basis for his theory of truth and to reconstruct it according to the two approaches outlined above: as a formal theory of determining the meaning of propositions and as a theory of reference. These reconstructions are achieved through analysis of the application of supposition in various contexts, including first and foremost modal and temporal ones, as well as through supposition's connection to other basic concepts in Ockham's semantics.

In the 2000s Dutilh Novaes proposed a reconstruction of supposition as a formal procedure for generating possible propositional meanings, noting its connection to formal semantics. In her view, Ockham's theory of supposition is no more than a formal apparatus for determining proposition's meanings. This claim leads to a deeper conclusion: supposition as a theory deals not with the semantic relationships between terms and things, nor does it deal, accordingly, with the ontological status of that thing or object, but rather deals with matrices of combinatorial rules for the analysis of propositions. In my view, this approach leaves open the question of the relationship between the theory of supposition and nominalist ontology.

On the whole, the analytical reconstruction of medieval logic and semantics aims to both explain scholastic theories in their own terms and to understand them in light of 20th and 21st century semantic theories.

Findings to be defended:

1. Signification in Ockham's logic is a fundamental property, and supposition is subordinate to it. Ockham bases the fundamental property of signification on logical rather than epistemological arguments.
2. The interpretation of tense, modal and empty term statements is fundamentally problematic for Ockham's nominalist ontology. At the same time, his proposed procedure for the semantic analysis of supposition in these statements allows these problems to be overcome without allowing for the existence of possible or imaginary objects.
3. In his analysis of modal and tense statements Ockham does not entirely reject the traditional tool for extending a term's meaning (*ampliatio*), but he modifies its application.
4. Supposition allows for the determination of the meaning of statements, but on the basis is the meaning of terms.
5. There is no definition of signification in *Summa logicae*, and those formulations that look like definitions are rather descriptions of the conditions for signification. Ockham distinguishes between several different senses of supposition. In virtue of the ontological foundations of its semantics, the first type, which relates to direct present-tensed true predication, is more fundamental than the second, which relates to the possibility of true predication.
6. In statements with imaginary objects terms such as 'chimera' cannot primarily signify a real thing, and therefore cannot have personal supposition. Every sentence about an imaginary object is false in Ockham's logic system, as even though these sentences may appear categorical in form, they are made up of several parts, at least one of which is false.

The theoretical and practical value of the research:

The material in this study can be used in preparing courses on the history of philosophy, logic, ontology and epistemology.

The original value of the research:

1. It justifies the interpretation of Ockham's theory of supposition as an ontologically grounded theory of the meaning of terms rather than statements in connection with its perception on modern critical literature as a theory of combinatorial search for the truth value of statements.
2. It clarifies the role of true predication in the definition of present-tensed signification and possible signification. It is shown that the second sense of signification in Ockham's theory can be reduced to the possibility of true present-tensed signification.
3. It shows the semantic relatedness of modal and tensed statements in Ockham's system. It shows the error in the traditional view of *de re* and *sine dicto* statements as equivalent; it is incorrect to claim that in the case of *sine dicto* modality relates not to the statement, but to the object, as in Ockham's system the truth analysis of a modal *sine dicto* statement is done by identifying two simpler ostensive metastatements, the truth of which guarantees the truth of the modal statement.
4. It identifies the ontological justification for Ockham's modification of the traditional scholastic technique for extending the meaning of a term (*ampliatio*). This modification creates a semantic difficulty for his system; referencing an object that does not exist in the present cannot be reduced in the standard way to referencing in the present. It is shown how Ockham's theory of supposition deals with this difficulty.

- Approval of the research's results (conferences, publications)

Conferences

- Kopylova, Anastasia O. “The Role of *Verificatur* in W. Ockham, J. Buridan, and W. Chatton’s Semantics”. Paper presented at the International Medieval Congress, Leeds, Great Britain, 1-4, July, 2019.
- Kopylova, Anastasia O. “Possibilia and temporalia in W. Ockham: the possible role of ‘verificatur’”. Paper presented at the Graduate workshop on Medieval philosophical logic international conference, University of Cologne., Germany, December 18-19, 2018.
- Kopylova, Anastasia O. “How can we signify (and supposit) to possibilia and past and future entities? A possible role of ‘verificatur’”. Paper presented at the Via moderna seminar, Royal University of Groningen, Netherlands, June 16, 2018.
- Kopylova, Anastasia O.: “Extensional and intentional interpretations of Ockham’s theory of supposition ”. Paper presented at the Formal philosophy international conference (HSE, Moscow), October 1-2 2018.
- Kopylova, Anastasia O. “Truth, paradoxes and supposition in medieval terminist logic”. Paper presented at the Logic today: Developments and perspectives international conference, Russia June 22–24, 2016,
- Kopylova, Anastasia O. “Significatio” в семантике Ж. Буридана и У. Бурлея”. Paper presented at the Legacies of Aristotle as constitutive element

of European rationality international scientific conference, Russia, October 17-19, 2016.

- Kopylova, Anastasia O. “On Supposition in Ockham and Buridan”. Paper presented at the Bounds of logic reloaded international conference, Russia, October 20-21, 2016.
- Kopylova, Anastasia O. “Истинность оремененных пропозиций в терминистской логике”. [The truth values of tensed propositions in terminist logic] Paper presented at the Logical Center of the IPh RAS, Russia, June 12, 2016.
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- Kopylova, Anastasia O.: “Условия истинности предложений о будущем и прошлом в логике Оккама и онтологические обязательства номинализма”. [Truth conditions for past and future statements in Ockham’s logic and the ontological obligations of nominalism] Paper presented at the Девятые Смирновские чтения по логике international conference, MSU, Russia, June 17-19, 2015.
- Kopylova, Anastasia O.: “Теория условий истинности предложений о будущем и прошлом в семантике У. Оккама и его отказ от ампиляции”. [Ockham’s theory of the truth conditions of past and future statements and his rejection of *ampilatio*] Paper presented at the 3rd international conference

for under- and postgraduates and young researchers "Философия. Язык. Культура", HSE, Russia, April 29-30, 2015.

- Kopylova, Anastasia O. "Concept as a term of mental language in W. Ockham's philosophy", Paper presented at the Rule Following: Reasoning, Reason, Rationality conference, HSE, Russia, October 2014.
- Kopylova, Anastasia O. "Concept as an Act of Understanding and a Composite Mental Term in W. Ockham's philosophy", Paper presented at the Salzburg Conference for Young Analytic philosophy 2014, SOPhiA, Austria, September 2-4, 2014.
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- Kopylova, Anastasia O.: "Условия истинности оверременных высказываний в логике У. Оккама" [Truth conditions for tensed statements in Ockham's logic], Paper presented at the Актуальные проблемы социальных наук international conference, Tomsk State University, Russia, April 25- 26, 2014. Kopylova, Anastasia O.: "Гипотеза ментального языка: подходы У. Оккама и Дж. Фодора" [The hypothesis of mental language: Ockham and Fodor's approaches], Paper presented at the Восьмые Смирновские чтения по логике international conference, MSU, Russia, June 19-21, 2013. Kopylova, Anastasia O.: "Проблема существования различных видов суппозиции в ментальном языке в семантике У. Оккама" [The problem of the existence of different types of supposition in Ockham's semantics]. Paper presented at the International

conference for under- and postgraduates and young researchers "Ломоносов", MSU, Russia, April 9-13, 2012.

- Korylova, Anastasia O.: "Плодотворность анализа теории суппозиции для исследования концепта ментального языка в семантике У. Оккама" [The usefulness of analyzing the theory of supposition for researching the concept of mental language in Ockham's semantics]. Paper presented at the International conference for under- and postgraduates and young researchers "Дни науки", Taras Shevchenko National University of Kyiv Philosophy Faculty, Ukraine, April 18-19, 2012.
- Korylova, Anastasia O.: "Ментальный язык в концепции У. Оккама" [William of Ockham's concept of mental language]. Paper presented at the 3rd international conference for under- and postgraduates and young researchers "Философия. Язык. Культура", HSE, Russia April 24-25, 2012

Main contents of the dissertation

The first chapter provides a periodization of scholastic logic and an overview of its features, as well as an overview of the approaches of terminism and dictism. The second paragraph deals with the theories of supposition and signification in the 12th and 13th centuries.

Section 1.1 gives a periodization of medieval logic. Logic education syllabus included: the theory of definition, the logico-grammatical foundations of speech, teachings on the structure of simple categorical statements, syllogistic and teachings on the refutation of sophisms. The boom in the development of scholastic logic owes itself, first and foremost, to the newfound availability of Aristotle's complete corpus after the early decades of the 12th century. The

scholastics themselves divided the development of logic into periods according to which of the influential treatises were available at the time. The main periods were *logica vetus* (old logic) and *logica nova* (new logic), which were also referred to as *logica antiqua* (ancient logic) and *logica moderna* (modern logic).

Section 1.2 deals with the designations of medieval logic as *scientia sermocinalis* and *scientia rationalis*. The designation *scientia sermocinalis* (the science of language) stresses, on one hand, medieval logic's connection to argumentation and the intellectual culture of disputation and in particular obligations. On the other hand, it stresses logic's dependence on natural language (Latin). By the 14th century the perception of logic as *scientia rationalis* (the science of reason) began to dominate, primarily due to the fact that logic began to be seen as a science of second intentions. Researchers note that the turn towards seeing logic as *scientia rationalis* is largely due to Arab influence, in particular the treatises of Ibn Sina and Al-Farabi (to whom the appearance of the term 'second intention' is owed).

Section 1.3 provides a short overview of terminist logic. Terminist logic refers to a specific medieval phenomenon (that developed approximately from the late 12th century). It was named terminism because the logicians that represented this approach considered the term to be the basic unit of logical analysis. In a sense it could be said that the main principle of terminism was the principle of compositionality.

Section 1.2 shows how in in the 12th-13th centuries the terms *suppositio* and *appellatio* were not yet strictly differentiated. Further, it shows certain characteristics of supposition as it was understood by the schools of Oxford and Paris. It is concluded that already in the 12th-13th centuries the understanding of

supposition depended significantly on the understanding of signification and on the ontological foundations of each thinker's approach. The way the term *suppositio* was originally understood depended not on the specifics of various grammatical disciplines, but on the ontological attitudes that lay at their foundations.

Section 1.2.1 deals with the origin of the term supposition. Researchers divide the history of the development of the theory of supposition into two key periods³¹: the first beginning from the mid-12th century and the second beginning from the early 14th century. The first period is represented by the treatises of William of Sherwood (1200/1210 — 1266/1272), Lambert d'Auxerre, Roger Bacon and Peter of Spain (1205/15 — 1277). The second period is primarily linked with the names of William of Ockham, Jean Buridan and Walter Burley. However the intermediate period from the mid-12th century to the 15th century not only did not bring any new development to theories of supposition, but was a period of stagnation, in which these theories were forgotten. The 12th century gave rise to a large number of rules for determining the referential meaning of terms in various contexts. During this time two terms were associated most of all with the determination of referential meaning – supposition (*suppositio*) and nomination (*appellatio*), and they were largely undifferentiated between themselves. This dissertation largely shares the position of Stan Ebbesen, who argued that in its etymology supposition had a certain original ontological meaning. That is, it was not a strictly grammatical property, but tied a sign with something extralinguistic.

For scholastics, theories of supposition were first and foremost a tool for explaining ambiguous statements, errors in reasoning and sophisms. As a result,

³¹ Pinborg Jan. *Some Syntactical Concepts in Medieval Grammar*. in «Medieval Semantics» ed. by S. Ebbesen London, 1984, p.26; Ebbesen S. *Early Supposition Theory* (12th-13th centuries). in *Histoire, Epistemologie, Langage* 3, fasc.1, 1983.

they served as a tool for determining reference and the truth value of simple categorical statements; however, this was not the original intentions of scholastic thinkers. A description of the theory of supposition largely entails the classification of the types of supposition and a listing of the rules for identifying them. One of the important differences between the first and second periods of development of the theory of supposition, that is, between the 12th and 15th centuries, was related to the connection between supposition (*suppositio*) and nomination (*appellatio*).

The period from 1175-1250 can be considered the period of mature terminist logic, and also proved significant for the development of the universities of Oxford and Paris. Modern researchers note that the development of theories of logic and semantics at Paris and Oxford was marked by significant differences. And, although the schools of Oxford and Paris were certainly not internally monolithic, one can nevertheless speak of certain clusters of theories that formed at these universities. The differences were only magnified by the 14th century³².

Some common ground, on which thinkers from both schools agreed on, was that the region of a name's referential meaning could change (*appellatio*) (during this time the concepts of *appellatio* and *suppositio* were still very close in meaning, and neither was strictly defined) depending on changes in the tense of the main verb in the sentence (copula). They also both called these changes in the referential meaning of term extension (*ampliatio*) and restriction (*restrictio*)³³.

³² Kretzmann N, Kenny A, Stump E, Pinborg J. *The Cambridge History of Later Medieval Philosophy: From the Rediscovery of Aristotle to the Disintegration of Scholasticism*, 1100-1600. Cambridge University Press, 1988

³³ Henceforth the original latin term and its translation are used interchangeably

In section 1.2.2 the specific understanding of supposition by the *Parvipontani* School is clarified. The section deals with the differences in how supposition was understood by the Parisian and Oxford traditions, as well as by the *Parvipontani* School. It is emphasized that the properties of restriction (*restrictio*) and extension (*ampliatio*) were not considered to be symmetrical, and *restrictio* was considered to play a more fundamental role. This is a major point of difference between the Parisian tradition and that of Oxford and Parvipontani. In the period from 1230-45 the divergence between the Oxford and continental traditions intensified. It could be said that the Parisian tradition of this time was represented by the theory of Peter of Spain, while the Oxford one was represented by that of William of Sherwood.

Section 2.1.3 looks at Peter of Spain's approach to understanding supposition.

For Peter of Spain, the basis of the theory was the differentiation between accidental and natural supposition, with was typical of the Parisian tradition. The concept of nomination (*appellatio*) takes on a smaller role and becomes one of the types of restricting supposition (through a present-tense copula). Peter of Spain wrote one of the most renowned scholastic textbooks on logic, *Summulae Logicales*. In his work he uses the already established division of supposition into *suppositio communis* и *suppositio discrete* (that is, discrete and common supposition), the first of which is possessed by common terms such as 'person' or 'donkey' while the second related to such terms as 'this person' and 'Socrates'.

Signification refers to the representation of a thing by a word a thing in the context of a convention. The property of supposition is seen as subordinate to the property of signification. Names are established through conventions, thus signification is

the “conventional representation of an object through sounds”. De Rijk wrote that in Peter of Spain’s theory a term (which already includes sound and signification) can have supposition, while a sound can have signification. Simple supposition is understood as taking a common term instead of the universal thing that is signified by it; this occurs with the term man in the sentence “man is a species”. That is, in the case of simple supposition a term supposes some universal rather than a specific individual that exemplifies the universal.

Section 2.1.4 considers William of Sherwood’s approach to understanding supposition.

This work shares the position of the spouses Kneale that Sherwood’s theory was very likely initially planned as a theory of common terms that was then extended to singular terms³⁴. The basis for this conclusion is the fact that different types of supposition and association in Sherwood’s teachings don’t strictly correspond. For example, the property of *appellatio* does not extend to pronouns, because these represent only substances and not forms.

Sherwood’s classification of supposition appears as follows: first, supposition is divided into formal and material. Then formal supposition is divided into simple and personal, and then personal is divided into determinate and confused and so on. The various types of personal supposition, which relate to a specific understanding of quantification, are beyond the scope of this chapter, which instead focuses on the primary two divisions and the corresponding four subtypes. Material supposition refers to, in general, supposition relating to the material of a word (expressed in written form or in sounds): for example “man is a one-syllable word”, “man is a name”. William of Sherwood refers to material supposition when

³⁴ Kneale M. and W. *The Development of Logic*. Clarendon Press, 1962.

“a word means either a sound, or the word itself, which consists of a sound and a designation (signification)³⁵”

A word has personal supposition when it supposits the same thing that it signifies for a thing, which itself is subordinate to what it signifies (for example “a man runs”, *homo currit*). The way in which of personal and simple supposition were defined was determined by Sherwood’s understanding of signification (to signify means first and foremost to give a form). In a sense one could say that according to Sherwood, simple supposition is more natural or at least more significative than personal supposition. There is a larger degree of disagreement between medieval thinkers regarding simple supposition (for example, between Ockham and Buridan). In general it can be said to mean cases where a term refers to a universal or the form which it signifies.

A brief overview of theories of supposition from the 12th-13th centuries leads to the following conclusion: firstly, if one is to follow Ebbesen’s approach to reconstruction, the etymological analysis alone of the term supposition shows that it appeared not as a formal or grammatical property, but rather had an ontological, extralinguistic character³⁶. Secondly, the distinction between nomination and supposition was significant for the development of the theory of supposition, however this distinction was imprecise. Thirdly, for both Peter of Spain and William of Sherwood the way signification was understood was important for the definition and classification of supposition. In this sense signification is a more

³⁵ Kretzmann, Norman (ed.), 1966, William of Sherwood. *William of Sherwood’s Introduction to Logic*, Minneapolis: University of Minnesota Press. P. 107.

³⁶ Ebbesen S. *Early Supposition Theory (12th-13th centuries)*. in *Histoire, Epistemologie, Langage* 3, fasc.1, 1983.

fundamental property than supposition, for it defines how types of supposition are classified in different systems of logic.

Chapter two of the dissertation offers an outline of the two most influential, in my view, interpretations of Ockham's mental language. They can be briefly described as the idea of the mental language as ideal, with the function of representing logical structures, and the idea of the mental language as a language of mental representations. In a sense these two ideas served as a kind of foundation for forming the conceptual frameworks through which other aspects of Ockham's logical systems were viewed; the problem of synonyms in mental language, the problem of differentiating material, personal and simple supposition, the role and significance of pronouns (demonstratives) for mental language and for written and spoken language, the problem of the status of connotative terms, the differences between real and nominal definitions and more. This chapter gives an overview of the premises on which the reconstruction of Ockham's mental language was based, and shows which aspects of his semantics have proven most significant within the conceptual frameworks proposed by researchers.

Section 2.1 offers an overview of Ockham's theory of mental language. Related research into supposition or the theory of the properties of terms to one degree or another depends on how mental language is interpreted, as ideal or as a language of mental representations. These interpretations are determined first and foremost by the problem of the possibility of synonymy or equivocation in mental language. In the 1970s John Trentman was one of the first to express the idea that they were impossible, interpreting mental language as an ideal canonical language "in the spirit of the logical atomists of the 20th century, free of imperfections and redundancies". This approach would afterwards be actively developed by Paul

Vincent Spade. From 1970 to 1990 this view dominated the research literature. From the 1990s another view became prevalent in discussions of mental language, according to which mental language cannot be seen as logically ideal and contains both ambiguity and redundancy. This view was developed by Panaccio, Tweedale and Chalmers.

Section 2.2 gives an overview of Geach's and Trentman's interpretations of Ockham's mental language. It is shown that Geach's critique of Ockham's mental language holds that, on the one hand, Ockham transferred the grammatical structure of Latin to mental language with any particular basis and, on the other hand, the semantics of spoken and written language are subordinate to that of mental language, with is a case of circular reasoning.

It is noted that Trentman viewed Geach's approach as largely erroneous and superficial. Trentman himself proposes an approach to reconstructing Ockham's mental language that was definitive for the next decade at least; he proposed interpreting mental language as a language of ideal grammar, that represents logical structures and that is more fundamental than conventional languages.

The section concludes that the association of supposition with the concept of 'reference' and its interpretation as a property that connects terms and real things formed under the influence of the view of the significance of signification and supposition as fixators of logical structures.

Section 2.3 deals with Panaccio's interpretation of Ockham's mental language, with brings into question the idea of the mental language as ideal and, drawing comparisons between Ockham's approach and Fodor's³⁷, offers the alternative

³⁷ Fodor J. *The Language of Thought*, New York, 1975; Fodor J. *Representations: philosophical essays on the foundations of cognitive science*, Cambridge, Mass., 1982.

view of it as the language of mental representations. Panaccio considered it productive to view the scholastic writer's theories in the context of modern, mainly nominalist approaches, not least due to the nominalist character of Ockham's own philosophy; in Panaccio's view, the rejection of any entities besides individual substances and qualities, the idea of mental language, and the concepts of intentionality and reference can serve as a counterbalance to Platonic theories that recognize the existence a wide range of abstract entities (universal properties, linguistic types, Fregean propositions and so on)

Thus, the interpretation of the most important aspects of Ockham's semantics depends on the interpretation of the idea of mental language. It is shown that the interpretation of mental language as ideal complicates the explanation of the existence of synonyms, connotative terms, pronouns and material supposition in mental language. When mental language is viewed as a theory of concepts, as Panaccio proposed, the understating of the role and functions of connotative terms in Ockham's logic is significantly changed.

Chapter three deals with supposition and signification within the terminology of Ockham's system of logic. The first aim of this section is give an account of the classification of terms and their main characteristics and distinctions in Ockham's logic. The second aim is to look at the concept of signification and its types in Ockham's logic. The third aim is to describe the relationship between signification and supposition in Ockham's system of semantics. The overall aim of this chapter is to describe Ockham's key semantic concepts and possible approaches to their interpretation for subsequent analysis. These descriptions are preliminary rather than final, because Ockham's own definitions do not give a complete picture; such a picture must come from an analysis of the applications of these concepts and a description of the contexts in which they are applied.

Section 3.1 deals with the division of terms presented in the first chapter of Ockham's *Summa Logicae*. As proposed in the treatise *De Interpretatione*, Ockham makes an Aristotelian division of terms into three types: spoken terms (sounds), written terms and mental terms (intentions and affections of the soul, concepts). He primarily appeals to Boethius' commentary on the first book of *De Interpretatione* that described three types of speech, where mental speech, as Ockham clarifies, exists only in the mind³⁸. The criteria for determining a term's type is in a sense its material expression. Thus a written term is "inscribed on some corporeal material" a sound or a spoken term is "uttered by a voice" while an intention of the soul either signifies or co-signifies something by its nature and is part of a mental statement.

At the same time the scholastics stressed that signs of written and spoken language are subordinate to concepts, although they do not primarily signify concepts. That is, they are subordinate to signs of mental language, but do not mean them, but mean the real things that signify the objects that are subordinate to them³⁹. Subordination is thus a hierarchical relationship between types of denotation, but doesn't have semantic content. Citing Aristotle and Boethius, Ockham claimed that they all shared the position that spoken and written language is made of signs that secondarily signify the same real objects that are primarily signified by concepts or intentions of the soul. Nonetheless, this is not true of all words, as Ockham notes there are signs that primarily signify concepts specifically⁴⁰.

³⁸ Ockham W., *Opera Philosophica*. Gedeon Gál et al. (eds.), 7 vols. The Franciscan Institute, 1974-88. Vol.1, P. 7.

³⁹ Ibid, p.7.

⁴⁰ Ibid, p.8.

Section 3.2 deals with the two meanings of the term ‘sign’ described in Ockham’s *Summa Logicae*. The first paradigm of understanding signs is related to their interpretation as ‘natural’, meaning that they are “everything that when known (*quod apprehensum*) leads to knowledge of something else”⁴¹. *Apprehendo* refers to the natural causal grasping of singular things. In this sense a sign natural signifies, just as “any consequence naturally signifies at the very least its own cause”⁴². Here one does not learn anything previously unknown, but rather habitual knowledge is converted to actual knowledge. The second paradigm related to “learning something else” and serves to supposit this or add something to the statement (such as syncategorematic terms). “In this sense of the word ‘sign’, the word is not a natural sign”, concludes Ockham.⁴³

Section 3.3 is dedicated to a general and a specific definition of the concept of a term in Ockham’s logic. It overviews the differences between various types of terms and how constituent expressions in different contexts can be understood as terms.

Section 3.4 deals with the definitions of categorematic and syncategorematic terms in *Summa Logicae*. This classical distinction is made by Ockham from the perspective of the properties that these two types of terms have. Categorematic terms have a “precise and defined” significatum (the name ‘man’ denotes all humans, while the name ‘animal’ denotes of animals). Syncategorematic do not have an independent significatum and signify nothing that is not signified by categorematic terms. That is, one cannot, for example, speak of the existence of such an entity as ‘connection’, which would be signified by a connecting verb.

⁴¹ Ibid.

⁴² Ibid, p.9.

⁴³ Ibid, p. 9.

Section 3.5 deals with terms of first and second imposition and first and second intention. Ockham understands terms of second intention as those that signify intentions of the soul, or freely established signs. Some examples are the terms ‘genus’ or ‘universal’, which can only denote intentions of the soul or written or spoken words, but do not signify and real, existing things. The distinction between first and second intention is relevant in light of Ockham’s nominalist views, as it allows one to describe the semantic nature of terms that signify not truly existing universals, but intentions of the soul. The elimination of universals from Ockham’s ontological system is achieved by the fact that such statements as ‘man is a species’ can be true, as ‘species’ refers to an intention of the soul and is thus a term of second intention, however at the same time ‘species’ is in no way a universal and does not signify and truly existing thing.

Names of first intention are those names that signify truly existing things (that are not themselves signs).

Section 3.6 deals with one of the key concepts for this work: the concept of signification. Signification (from the latin *significatio*, meaning ‘denote’) can be characterized as a semantic and epistemological property. The appearance of this term in the vocabulary of medieval logic can be ascribed to Boethius’ commentary of Aristotle’s *De Interpretatione*, where the act of signification is defined the act of establishing understanding. Reconstruction of the scholastic view on signification gave rise to varying interpretations of the concept and its semantic and epistemological character. In the first book of *Summa Logicae* Ockham dedicates the 33rd chapter to signification, where he claims that logicians use the term in several different senses. He names for senses in which, in his view, the term can be used. Four senses of the word signification are also described in *Quodlibeta*. For this work the first two senses are of primary interest.

In *Summa Logicae* the first sense is formulated as follows: “Firstly, a sign can be said to be signifying when it supposits or can supposit a thing in such a way that the name (term) can be predicated through the verb ‘be’ to a demonstrative that refers to that thing”⁴⁴. It is significant that already in describing the first sense of signification Ockham talks of signification appearing when a term has the function of supposition or can have that function⁴⁵.

If the first sense of signification is taken as a definition, then it might appear problematic that in it signification is explained through supposition

According to Ockham, the second sense of supposition relates to signs that can supposit a thing in a true statement in the present, past or future tense, or in a true modal statement. Thus, ‘white’ signifies not only that which is white now, but also that which was, will be or can be white⁴⁶.

The section also considers the way in which Ockham understood these two senses of signification in his other works. It is shown that all the provided definitions raise the question relating to how the concept of signification in this context is fully reduced to the concept of supposition. This is problematic if signification is seen to be a more fundamental property than the others, including supposition. Furthermore, in the definition of supposition from chapter 63 of Ockham’s *Summa Logicae*, a key feature of personal supposition is that it is possessed by a term that is “taken significatively”.

⁴⁴ Ockham W., *Opera Philosophica*. Gedeon Gál et al. (eds.), 7 vols. The Franciscan Institute, 1974-88. Vol.1.

⁴⁵ Ockham W., *Opera Philosophica*. Gedeon Gál et al. (eds.), 7 vols. The Franciscan Institute, 1974-88. Vol.1.

⁴⁶ Ockham W., *Opera Philosophica*. Gedeon Gál et al. (eds.), 7 vols. The Franciscan Institute, 1974-88. Vol.1, P.95.

Section 3.7 deals with the central concept of this work, the concept of supposition.

Ockham defines supposition as follows: it “means substituting one thing for another, for when a term appears in a statement in place of something else, it implies it, and all this is true if, at least, it is taken significatively”⁴⁷. Thus one can speak of supposition as the substitution of one thing for another; this can be a singular thing, a concept or a word. It is practically universally accepted that supposition is a semantic relation, as it is a relation⁴⁸ between terms in a statement and objects (some x) to which those terms refer. Nevertheless in the early years of the study of the theory of supposition there were other views: for example, Moody claimed that supposition is a “syntactical relation of term to term, and not a semantic relation of the term to an extralinguistic ‘object’ or ‘designatum’.”⁴⁹.

In chapter 63 of *Summa Logicae* Ockham names a fundamental characteristic that distinguishes supposition from signification; a term can have supposition only in a statement. That is, while a term can signify something regardless of whether it is part of a sentence or not (as a simple concept signifies some real thing), it can supposit only in a sentence. It is this characteristic that already makes signification more fundamental than supposition.

According to Ockham, supposition can be understood in two senses: one broad, and the other narrow. In the broad sense this concept is not contrasted with the

⁴⁷ Ockham W., *Opera Philosophica*. Gedeon Gál et al. (eds.), 7 vols. The Franciscan Institute, 1974-88. Vol.1, P.193.

⁴⁸ It’s worth discussing just how appropriate the term ‘relation’ is in this context. The most correct way would be to refer to supposition as a property of terms. Ockham himself rejected the existence of relations as a category, but nevertheless in some cases I will refer to supposition as a relation, stressing that it ties terms and objects or terms and other terms.

⁴⁹ Moody, Ernest A. *Truth and consequence in Medieval logic*.

concept of *appellatio* (denotation), which is, rather, included in the concept of supposition. Ockham understands and applies supposition exclusively in the broad sense: it is applied to both subject and predicate. Supposition literally means “standing in for something, implying something”. In the words of Sonja Schierbaum, “the difference between signification and personal supposition can be stated more accurately now: signification involves a semantic relation obtaining between a term and all the things with its extension in the same time, while the personal supposition of a term involves a relation obtaining between a term and a part of its extension within a certain propositional context”⁵⁰ It is shown that an answer to the question of what supposition is requires an analysis of the application of terms in sentences and the explication of their truth conditions.

The section concludes that in Ockham’s writing signification is more fundamental than supposition. An analysis of Ockham’s terminology system shows that he does not give an explicit *definition* of signification. The rules provided in *SL* and *QQ* describe the conditions for signification or for when it is present and are not a definition in the proper sense. This accounts for the circular reasoning present in these rules, where signification is explained through personal supposition. At the same time personal supposition and signification are different properties of terms, partly due to personal supposition appearing only in the context of a sentence. The differences between the two senses of signification and their significance for defining supposition are shown.

Section 3.8 deals with the most recent reconstruction of the theory of supposition as an intentional theory. It belongs to Dutilh-Novaes, who in the 2000s offered an interpretation of the theory of supposition that called into question the traditional

⁵⁰ Schierbaum S. *Ockham's Assumption of Mental Speech*. Brill, 2014.

view that equated medieval theories of supposition with theories of reference⁵¹. The primary framework of interpretation is the theory of supposition as a formal method for the semantic analysis of propositions, which creates their possible interpretations. Dutilh-Novaes' approach stresses the procedural and formal nature of Ockham's theory of supposition, in contrast to traditional interpretations of supposition as reference⁵². The view of supposition as reference is shared by two methodologically contrasting camps in the field of the reconstruction of scholastic logic: researchers who take a historico-philosophical textological approach, and researchers who take an analytical approach⁵³. According to Dutilh-Novaes, this opposition comes from a difference in orientation. The researchers of the first camp focus on an authentic reconstruction of texts using the unreflecting apparatus of modern semantics, including the concept of reference. Researchers of the second camp link the concepts of supposition and reference through a careful analysis of the meaning of the term 'reference' and less careful work with authentic historical meaning of supposition.

Sections 3.9 looks at the main conceptual arguments offered by Dutilh-Novaes in support of this interpretation.

Section 3.10 deals with the rules Dutilh-Novaes proposes for the application of supposition, including semantic and quasi-semantic rules.

⁵¹ Dutilh Novaes C. *An Intensional Interpretation of Ockham's Theory of Supposition*//Journal of the History of Philosophy, 6 (3), pp. 365-393; Dutilh Novaes C. *Formalizing Medieval Logical Theories*. Springer, 2007., Dutilh Novaes C. (2007). *Theory of supposition vs. theory of fallacies in ockham*//Vivarium, 45, pp. 343-359. Dutilh Novaes C. *The Role of 'Denotatur' in Ockham's Theory*

⁵² Dutilh Novaes C. *Formalizing Medieval Logical Theories*. Springer, 2007.

⁵³ For more on the types of approaches see the introduction.

The result of these sections is the conclusion that Dutilh-Novaes' interpretation of the theory of supposition has the following key characteristics: firstly, a categorical rejection of understanding it as a theory of reference; secondly, acknowledgment of its formal combinatorial character; finally linking it to theories of the meaning of propositions and placing it in the group of intentional theories.

Section 4.11 presents the problems of these proposed reconstructions of supposition and signification. The central questions are the following:

- Is it preferable to view the theory of supposition as a theory of reference or of the meaning of propositions?
- What is the function of the concepts *denotatur* and *verificatur* in the theory of supposition?
- Is supposition a semantic, syntactic or pragmatic property? Can it be generally characterized through this trichotomy or is the concept syncretic instead?

Chapter four is dedicated to the explication of truth conditions for categorical sentences and 'problematic' sentences, such as modal, tensed and empty-term statements. The aim of the third chapter is to show how supposition operates in its key role as an instrument for determining the truth value of statements. The statements chosen for analysis are considered problematic due to the lack of clarity regarding the references of their subject and predicate. In other words, it is unclear what type of entities they refer to. The ontology of nominalism considers the existence of *possibilia*, *temporalia* and *figmenta* problematic.

Section 4.1 looks at Ockham's proposed approach to the analysis of categorical statements.

Ockham's theory of predication relies on several important ontological assumptions. His ontology only allows for the existence of individual substances and properties, which necessitates a rejection of the identity and inherence theories of predication⁵⁴.

Ockham's approach to predication cannot be reduced to the idea of the exemplification by the subject of some universal, which is expressed through the predicate, nor to the idea of the predicate being inherent in the subject. As Ockham notes, a true statement does *not* require the subject and predicate to be equivalent to one another, or for the predicate to be within the subject in reality, or for the predicate to be inherent to the subject. Rather, the necessary and sufficient condition is for the subject and predicate to supposit one and the same thing.

Section 4.2 deals with the features of the analysis of statements with terms that refer to imaginary objects. Ockham considers the problem of imaginary objects in the following contexts: in consideration of the nature of concepts and the ontological status of universals, in theories of definitions and in theories of supposition. These various aspects are correspondingly dealt with in the following treatises: *Quodlibeta Septem*, *Ordinatio*, *Expositio aurea super artem veterem*, *Summa Logicae 1*, *Summa Logicae 2*, *Reportatio*. This section looks at the semantic aspects of the question of imaginary objects. Specifically it looks at the ability of terms that refer to such objects to have personal supposition and signification, and therefore the question of the origin of imaginary objects is

⁵⁴ Freddoso A. Introduction // Ockham W. Part II of the *Summa Logicae*. St. Augustine Press, 1998.

largely beyond this section's scope. For this reason the main sources used are *SL1*, *SL2*, *QQ* and to a lesser extent *Expositio aurea super artem veterem*.

Section 4.2.1 clarifies what objects were considered impossible in terminist logic. One example is objects such as 'chimeras', which suppose a combination of several substantial forms. This is a violation of the metaphysical principle that anything that has more than one substantial form cannot exist in reality⁵⁵.

Section 4.2.2 deals with the truth conditions of statements with imaginary objects. Ockham compares these statements with another type of statement, which he described in the previous, 13th chapter of *SL*: statements with negative terms. The basis for this comparison is that neither type of term corresponds to anything in reality. Imaginary objects were considered impossible by Ockham.

Even when an object is impossible, the term that refers to it can be the subject or the predicate of a sentence. Accordingly, for example, it can be the subject of the traditional scholastic statement 'chimera is a white thing', or the predicate of 'every man is a chimera'. It is shown that the term 'chimera' is connotative and not absolute and correspondingly has only a nominal definition. It is shown that any sentence which contains 'chimera' as a subject or predicate is false. This is because it has a false constituent. For example, the statement 'a chimera is not a real object' is false, because it has the constituents 'a chimera is a thing' and 'that this is not a real object', the first of which is false⁵⁶.

⁵⁵ See. Ashworth, J., *Chimeras and Imaginary Objects: A Study in the Post-Medieval Theory of Signification*, Vivarium XV, (1977), I, (57-77); Schierbaum S. *Ockham's Assumption of Mental Speech*. Brill, 2014.

⁵⁶ Ibid, p.287.

Section 4.3 deals with the truth conditions for tensed and modal statements, the possibility of supposition and signification regarding *possibilia* and *temporalia*, and also raises the question of the ontological status of *possibilia* and *temporalia*.

Section 4.3.1 addresses the problematic question of the ontological status of possible entities (*possibilia*) and *temporalia* in Ockham's philosophy. This question continues to be the source of disagreement between researchers of medieval philosophy and logic. It is shown that there are two main positions regarding this question, which are diametrically opposed to one another. Adherents of the first position hold that *Venerabilis Inceptor* rejects such entities in his logic. Supporters of the second position hold that Ockham acknowledged the existence of *possibilia* и *temporalia*. The idea that Ockham accepted these types of entities was first expressed by McCord Adams in a 1977 paper. This idea was categorically rejected by Alfred Freddoso in the 1980s in the famous introduction to the English publication of the second book of *SL*, however to this day the question is still subject to debate. In my view, one can speak of a clear attempt by Ockham to eliminate *possibilia* and *temporalia* from ontology through a logical and semantic analysis of the corresponding types of statements.

Section 4.3.2 deals with the truth conditions for tensed statements. It proposes a scheme for the analysis of the truth conditions of this type of statement. It is shown specifically how Ockham modified the traditional tool of *ampliatio*. A feature of Ockham's system is that there are two readings: tensed propositions with the subject terms listed above are to be distinguished (*est distinguenda*) in accordance with two senses. A proposition might prove false in one sense and true in the other. It is shown that there is no clear answer to the question of the ontological status of *possibilia* and *temporalia* in chapters 7 and 72 of *SL*, and therefore further sources must be consulted. It is noted that Ockham tried to avoid their ontological

acceptance, however he was forced by his semantic theory to, in a sense, allow for them through the possibility of their indirect signification.

Section 4.3.3 deals with the truth conditions for modal statements. The research literature accepts the equation of *sensu diviso* modal statements (*sine dicto* in Ockham's system) with *de re* modality⁵⁷. If any objections were expressed, they were largely with regard to *de dicto*⁵⁸, while the first equivalence did not raise any questions. It is shown that the semantic type under examination, here referred to as *sine dicto* (and which cannot be reduced to only this semantic structure) cannot be equated with the meaning of *de re*. An analysis of the truth conditions of *sine dicto* modal statements is realized by Ockham through the isolation of two simpler ostensive metastatements, the truth of which guarantees the truth of the modal statement. Thus Ockham does not leave the level of statements, and we cannot say (technically speaking) that the case of *sine dicto* modality refers not to an expression but to an individual object, because in both cases it applies to statements.

Section 4.3.4 looks at the question of changing the signification of a sign. In my view, the problem of the concept of 'signification' in the first and second sense is closely tied with the characteristics of supposition of terms in modal and tensed statements, and accordingly with the truth conditions of such statements. The example of modal and tensed statements best shows the relationship between signification and supposition. As personal supposition in both types of statements is defined by the second type of signification, it is possible to say that the principle

⁵⁷ See. Knuuttila S. *Modalities in medieval philosophy*. L. ; N. Y., 1993; Lagerlund H. *Modal Syllogistics in the Middle Ages*. Brill, 2000.

⁵⁸ Priest G., Read S. *Ockham's Rejection of Ampliation // Mind, New Series*. Vol. 90, No. 358 (Apr., 1981). P. 274–279

of establishing truth conditions is absolutely symmetrical. It is shown that with regard to a spoken word the loss of signification is possible only in one of the senses of this concept. Ockham clearly states that a term cannot cease to signify in the second sense neither with regard to a concept nor to a spoken term. Regarding the first sense of signification, Ockham claims that if an object has ceased to exist, then the spoken word loses its significate. Ockham claims that despite the fact that a concept is the natural sign of a thing, it can nevertheless lose its significate in the first sense, but not the second.

Section 4.3.5 deals with Ockham's approach to the problem of the sea battle. It shows how he understood chapter 9 of Aristotle's *De interpretatione* and the significance of this interpretation for the analysis of tensed statements.

The conclusion gives a brief overview of the results of the study. It supports the interpretation of Ockham's theory of supposition as an ontologically grounded theory of the meanings of terms, in contrast to the interpretation proposed by the modern commentary literature of it as a theory of combinatorial search for the truth values of propositions. Ockham considered signification more fundamental than supposition. An analysis of Ockham's terminology system shows that he did not give an explicit **definition** of signification. The rules given in *SL* and *QQ* that describe the conditions for signification or where it applies are not definitions in the full sense. This explains the circular reasoning in these rules, where signification is explained through personal supposition. At the same time signification and personal supposition are different properties of terms, in part due to personal supposition appearing only in the context of sentences. The differences between the different senses of signification and their significance for the definition of supposition are shown. Nominalist ontology problematizes the question of the existence of *possibilia*, *temporalia* and *figment*. It is shown that

Ockham rejects the existence of all of these types of entities in his ontology. His proposed semantic analysis supports an ontological position, which is especially apparent in the example of problem cases where semantic analysis allows the resolution of ontological difficulties.

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