HIC SUNT CHIMAERAE?
ON ABSOLUTELY IMPOSSIBLE SIGNIFICATES AND REFERENTS IN MID-14TH-CENTURY NOMINALIST LOGIC

Graziana CIOLA

Abstract

Marsilius of Inghen's account of imaginable impossibilities became paradigmatic in logic, semantics, and metaphysics throughout the later Middle Ages and well into the early modern period. The present study focuses on imaginable impossibilities in 14th-century logic, underlining the relevance of Marsilius of Inghen's innovative approach through a comparison with the semantic accounts proposed by other mid-14th-century Parisian nominalists, namely John Buridan and Albert of Saxony. In particular, this paper tracks the specific issue of the admissibility of absolute impossibilities – such as the chimera – within Marsilius of Inghen's semantic analysis, proving that there is a sense in which the chimera is indeed treatable. The present study does so by analysing the issues involved in impossibilities on the levels of signification, supposition, and extended reference. In doing so it provides a clearer picture of the problems involved, where they emerge and why, as well as of the significance and range of Marsilius of Inghen's approach.

1. *Introduction*

Throughout the 14th-century, imaginable impossibilities (*imaginabilia*) make their appearance on the Latin philosophical scene, especially in natural philosophy, logic, and the logical analysis of scientific statements.[1] It is uncontroversial that items which are only relatively

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1. The appeals to imaginability occurring in the works of the Oxford Calculators have received more scholarly attention than their more refined developments on the Continent by some followers of John Buridan, such as Marsilius of Inghen and Nicolas Oresme. See e.g. J. BIARD, "La signification des objets imaginaires dans quelques textes anglais du

impossible, i.e., mere impossibilities *secundum quid* (e.g., the void, instants of time, or mathematical points, given the way in which Aristotelian physics pictures the world), are imaginable. However, for some authors, absolute impossibilities, i.e., logical and metaphysical contradictions (such as the chimera, the ass-man or, for us moderns, the square-circle), are imaginable as well. This is, for example, the case for Marsilius of Inghen's account of imaginability, which will become paradigmatic in logic, semantics, and metaphysics throughout the later Middle Ages and well into the early modern period.[2]

In this study, I examine in particular Marsilius of Inghen's account of imaginable absolute impossibilities in logic, tracking their thematisation and functions across signification, supposition, and ampliation theory.[3] I do so by taking into account some still understudied Marsilian texts (such as the *Treatise on Consequences*) and by contextualising Marsilius's theory in comparison with those proposed by other mid-14th-century Parisian nominalists, namely John Buridan and Albert of Saxony.

Marsilius has been credited with having established imaginability as a proper logical modality – in Marsilius's jargon: "a distinction of time" (*differentia temporum*) – in the context of ampliation theory (*ampliatio*). The nature, workings, and goals of ampliation, its developmental history, and why it is either ignored or rejected by a number of authors while being embraced and developed by several others, are still mostly unsettled issues which cannot be sufficiently addressed

XIVe siècle," in: O. LEWRY (ed.), *The Rise of British Logic*, Toronto 1985, pp. 265-283; ID., *Logique et théorie du signe au XIVe siècle*, Paris 1989, pp. 229-230. For an overview on continental theories of imaginability in natural philosophy and logic, along with a detailed study on Marsilius of Inghen's take on relative impossibilities, see G. CIOLA, "The Void and the Chimera: Marsilius of Inghen on *imaginabilia*," in: *Medioevo* 44 (2019), pp. 143-162. Interesting remarks on Marsilius's take on the chimera with some passages from Marsilius's *Commentary on* Aristotle's *De interpretatione* are in the critical apparatus of E. P. BOS (ed.), *Marsilius of Inghen: Treatises on the Properties of Terms. A First Critical Edition of the* Suppositiones, Ampliationes, Appellationes, Restrictiones *and* Alienationes, *with Introduction, Translation, Notes, and Appendices*, Dordrecht 1983.

2. On the later discussions on these matters, see E. J. ASHWORTH, "Chimeras and Imaginary Objects: A Study in the Post-Medieval Theory of Signification," in: *Vivarium* 16 (1977), pp. 57-77.

3. The *locus classicus* on the signification and reference of absolute impossibilities in scholarly literature remains S. EBBESEN, "The Chimera's Diary," in: S. KNUUTTILA – J. HINTIKKA (eds.), *The Logic of Being*, Dordrecht 1986, pp. 115-143, to which I refer for a detailed and entertaining overview up to Buridan.

here.[4] Suffice it to say that ampliation is framed as a spin-off of sup-position, along with restriction (*restrictio*), appellation (*appellatio*), and alienation (*alienatio*). At least in the 14th century, ampliation, like supposition, is a property of terms in sentences, namely the expansion of the supposition of a term under the effect of some sentential part (e.g., an adjective, an adverb, a tensed verb, and so on) having an ampliative effect. Ampliation and supposition are properties of embedded occurrences of terms within well-formed sentences, in con-trast with signification (*significatio*), which is a property of terms taken independently of any propositional occurrence.[5] Because of some staples of medieval logic in general and Ockhamist semantics in particular, terms that are empty or necessarily empty because they signify impossibilities pose a set of complications on every level – complications which 14th-century nominalists address in different ways and with different outcomes.

In the scholarly literature on necessarily empty signification and reference the Marsilian engagement with imaginable impossibilities is not a novelty. Yet the current scholarship is somewhat lacking on several fronts. On the one hand, there has been a recurring confusion between signification and supposition (and, thus, ampliation),[6] which

4. For an introductory overview of ampliation theory, see S. READ, "Medieval Theo-ries: Properties of Terms," in: E. N. ZALTA (ed.), *The Stanford Encyclopedia of Philoso-phy* (Spring 2019 Edition), URL = https://plato.stanford.edu/archives/spr2019/entries/medieval-terms/ (last accessed 28 August 2020). For a critical take, in particular on nominalist accounts of ampliation, see R. PASNAU, "Medieval Modal Spaces," in: *Aristotelian Society Supplementary Volume* 94/1 (2020), pp. 225-254; ID., "Nominalism's Modal Paradise Lost" [forthcoming].

5. Some major exceptions are accounts of natural supposition. See L. M. DE RIJK, "The Development of *Suppositio Naturalis* in Medieval Logic I," in: *Vivarium* 9 (1971), pp. 71-107; ID., "The Development of *Suppositio Naturalis* in Medieval Logic II," in: *Vivarium* 11 (1973), pp. 43-78. Among the other properties of terms, for some authors appellation does not require sentential embedding either.

6. In particular on Marsilius of Inghen's and his fellow nominalists' dealings with empty terms, see: T. DEWENDER, "John Buridan, Albert of Saxony, Marsilius of Inghen on chimerae, and impossible objects," in: V. M. SALAS (ed.), *Hircocervi & other Meta-physical Wonders*, Marquette 2013, pp. 95-119, esp. pp. 104-113; G. RONCAGLIA, "«Utrum impossibile sit significabile»: Buridano, Marsilio di Inghen e la Chimera," in: L. BIANCHI (ed.), *Filosofia e teologia nel Trecento: Studi in ricordo di Eugenio Randi*, Lou-vain-la-Neuve 1994, pp. 259-282; E. P. BOS, "Marsilius of Inghen on the Principle of Non-Contradiction," in: J. L. FINK – H. HANSEN – A. M. MORA-MÁRQUEZ (eds.), *Logic and Language in the Middle Ages*, Leiden 2013, pp. 403-418; BIARD, *Logique et théorie du signe* (cit. above n. 1).

has so far caused a lack of clarity about which distinct semantic issues emerge with respectively the signification, the reference, and the expansion of that reference when dealing with necessarily empty terms. Consequently, there is still a need for a more systematic study tracking these issues throughout Marsilius's logic and outlining their specificities as well as their interconnections in an articulated fashion, beyond a nonetheless important overview and assessment of the Marsilian novelty itself. On the other hand, an analogous lack of clarity and of agreement among scholars concerns the type of impossibilities that are treatable within Marsilius's semantics. Does Marsilius's treatment of imaginable impossibilities include absolute impossibilities? Or is it limited to relative ones? Can absolute impossibilities be signified? Can they be supposited for? Can there be ampliation to absolute *impossibilia*? Most existing literature on these subjects has focused on Marsilius's analysis of relative impossibilities, leaving absolute impossibilities on the sidelines, often dismissing them as untreatable.[7] Such an assessment is, nonetheless, at least partially incorrect, as the present study shows.

Therefore, in this contribution I track the specific issue of the admissibility of absolute impossibilities – such as the chimera – within Marsilius of Inghen's semantic analysis, proving that there is a sense in which the chimera is indeed treatable. I proceed here by analysing separately the issues with impossibilities on the levels of signification, supposition, and extended reference.[8] This approach allows us to have a clearer picture of the problems involved, where they emerge and why, as well as of the significance and range of Marsilius of Inghen's approach.

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7. This dominant conclusion has been explicitly articulated and endorsed by e.g. RONCAGLIA, "«Utrum impossibile sit significabile»," especially pp. 281-282. On the other hand, while focusing on relative impossibilities, CIOLA ("The Void and the Chimera") has recently argued that such a conclusion is unwarranted and that absolute *impossibilia*, such as the chimera, should in principle be admissible within Marsilius's logic. The present contribution fully develops and builds on the arguments sketched in that study.

8. For an engaging overview on these matters, from the point of view of a rational reconstruction of 12th- to 14th-century theories, see: T. PARSONS, "The Development of Supposition Theory in the Later 12th through 14th Centuries," in: D. M. GABBAY – J. WOODS (eds.), *Handbook of the History of Logic*, II: *Mediaeval and Renaissance Logic*, Amsterdam 2008, pp. 157-280.

I will thus proceed as follows, structuring my exposition in two parts. I will begin by outlining the general semantic framework dominant in mid-14th-century Parisian nominalism, as exemplified mainly by John Buridan and Albert of Saxony (1), in order to focus on the treatment of absolute *impossibilia* throughout Marsilius of Inghen's semantics (2).

2. *Some (properties of) terms: signification, supposition, and ampliation in nominalist logic after Ockham – a short overview*

2.1. Signifying nothing

In order to clarify the semantic issues with necessarily empty terms – which are our main focus here – before delving into the heart of the matter it is desirable to sketch, in inevitably generic terms, the shared background against which these discussions emerge, beginning with the notion of signification.

2.1.1. The basic notion of signification: a sketch of the 'nominalist' shared account

In broad strokes, signification is the most basic semantic relation, generally defined as the function of a meaningful sign bringing something to mind.[9] In the medieval philosophical vulgate, spoken and written words in ordinary language are artificial signs instituted to signify conventionally through an act of imposition of meaning (*impositio*).[10]

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9. See e.g. JOHN BURIDAN, *Summulae de dialectica [=SdD]*, 4.1.2, ed. R. VAN DER LECQ, vol. 4, Turnhout 1998, URL = http://www.logicmuseum.com/wiki/Authors/Buridan/Summulae_de_dialectica (last accessed 28 August 2020): "cuiuslibet dictionis […] non materialiter sumpta […] interest significare et audienti eam conceptum aliquem constituere secundum institutionem sibi ad placitum datam. […] Et sic patet quod vox significativa debet significare audienti conceptum proferentis et debet in audiente constituere conceptum similem conceptui proferentis […]"; ALBERT OF SAXONY, *Quaestiones circa Logicam [=QcL]*, q. 12, ed. M. J. FITZGERALD, Leiden 2002, p. 198: "Significatio autem termini est repraesentatio qua terminus repraesentat hoc vel istud, ad quod est impositus ad significandum vel quod naturaliter significat. Verbi gratia, sicut repraesentatio qua hic terminus: homo, mihi vel tibi repraesentat, vel ad memoriam reducit hoc ad quod est impositus ad significandum; vel semet ipsum vel sibi simile in mente, vel in voce, vel in scripto."

10. Cf. ALBERT OF SAXONY, *QcL*, q. 12, ed. FITZGERALD, pp. 194-195: "[…] impositio termini est intitutio qua primus instituens istum terminum instituit sive imposuit ad

Despite the development of profoundly disparate accounts, diverging on what qualifies as a meaningful sign, what is actually brought to mind – for example, whether it is concepts, forms or universals, intentions, mental terms, or actual things, etc. – and how,[11] most medieval theories of signification usually share a similar underlying threefold semantic structure, involving: a spoken or written word in an actual language (i.e., normally, a regimented version of medieval Latin); an object or class of objects in the world; and either a metaphysical entity (e.g., a species, a form, or a universal, etc.) or a mental one (e.g., concepts, mental terms, intentions, etc.).[12]

Some authors active in Paris in the wake of William of Ockham (e.g., John Buridan, Albert of Saxony, Marsilius of Inghen, and Peter of Ailly) developed a group of semantic theories which share a common nominalist flavour and, notwithstanding some differences in terminology, articulation and detail,[13] present the same fundamental
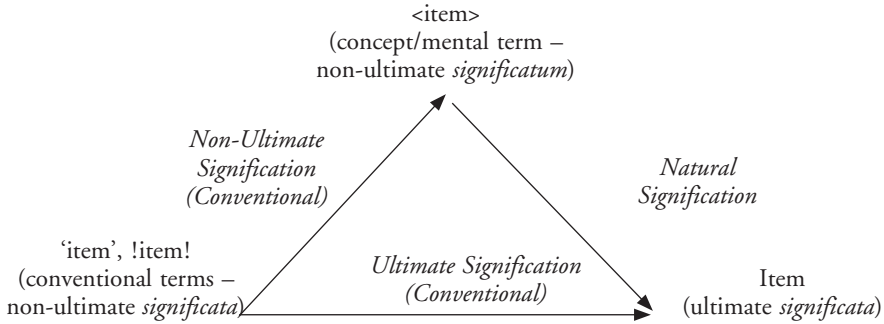
significandum. Et igitur, termini sic instituti dicuntur termini impositi ad significandum. Et est recte simile sicut si rex vel princeps alicuius patriae instituerit aliquid, puta florenum, valere 10 solidos. Unde sicut primus instituens aliquem terminum sic instituebat, quod tali termino sic esset utendum pro tali re pro qua imposuit et non pro alia; sic primus impositor imposuit istum terminum *homo* pro homine et non pro asino. Et ulterius est sciendum quod si aliquis aliter hominum a principe alicuius patriae, sicut civis qui esset parvae auctoritatis, imponere quod florenus solveret 10 solidos, illa impositio modicum vel nihil valeret quia homines de tali impositione modicum vel nihil curarent."

11. For a general overview of medieval semiotics, see: S. MEIER-OESER, "Medieval Semiotics", in: E. N. ZALTA (ed.), *The Stanford Encyclopedia of Philosophy* (Summer 2011 Edition), URL = <https://plato.stanford.edu/archives/sum2011/entries/semiotics-medieval/> (last accessed 28 August 2020).

12. For a rich and accessible introduction to these matters see: P. V. SPADE, *Thoughts, Words and Things: An Introduction to Late Mediaeval Logic and Semantic Theory*, 2002, URL = https://pvspade.com/Logic/docs/thoughts.pdf (last accessed 28 August 2020).

13. This exposition is in no way meant to be exhaustive nor to focus on the nonetheless important specific developments in signification theory that emerged after Buridan, e.g. in the work of authors such as Marsilius himself and especially Peter of Ailly. In particular, Peter – building upon some hints that can be found in Marsilius's account – develops a full-fledged double-track account of signification relations. This account maps, on the one hand, the relations of signification between spoken or written terms and external things, and on the other hand, the relations of signification between spoken or written terms and the occurrences of the terms themselves in their inflected forms. Since here my aim is to explore issues with the signification of terms which cannot have any *res extra* as an actual or possibly actual significate – in virtue of such *res extra* being absolutely impossible – I will not consider the second track, focusing exclusively on the first one. (I thank the anonymous peer reviewer for their remarks on this subject.)

picture of how signification works – which can be schematically represented by the following semantic triangle.[14]

Non-Ultimate Signification (Conventional)

Natural Signification

<item>
(concept/mental term – non-ultimate *significatum*)

Ultimate Signification (Conventional)

'item', !item!
(conventional terms – non-ultimate *significata*)

Item
(ultimate *significata*)

Written words ('item') immediately and non-ultimately signify spoken words (!item!). Spoken words non-ultimately signify concepts or mental terms (<item>) and ultimately signify items in the world (*res extra*). These items in the world are the ultimate significate of terms and are naturally signified by their corresponding mental term. What a term ultimately signifies, then, is that thing or those things in the world for which the term was imposed to signify.

In the way in which signification came to be predominantly characterised since the 12th century, the significates of a given term include all the possible items which that term could signify – be they past, present, future, or possible. A discrete name like 'Socrates', then, ultimately signifies an individual, i.e., Socrates; a common name such as 'man' ultimately signifies Socrates, and Plato, and Aristotle, and all of those things of which it can be truly predicated, by virtue of its subordination to the mental term <man>.[15] This is, roughly, the basic nominalist semantic picture found in Ockham's account and in those accounts stemming from it. Overall, such an analysis shows a pronouncedly extensional approach to signification.[16] The fact that the

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14. Here, as a convention, I am adopting a simplified and somewhat conventional terminology. Versions of this semantic triangle are common in secondary literature. See e.g. PARSONS, "The Development," p. 187.

15. See, for example, WILLIAM OF OCKHAM, *Summa logicae*, I, c. 33, ed. P. BOEHNER – G. GÁL – S. BROWN, in: ID., *Opera Philosophica*, vol. 1, St. Bonaventure (N.Y.) 1974.

16. READ, "Medieval Theories," §1.

ultimate significates of words and mental terms are individuals or classes of individuals, is in tune with the more preponderant role that supposition theory plays in 14th-century logic, effectively taking over the spotlight that signification used to occupy within earlier logical texts and discussions – despite signification remaining the prior notion.

There are at least two fundamental semantic principles underlying these Ockhamist accounts of signification. First – and unsurprisingly, in a nominalist framework – the 'middle-man' bridging words and things is something mental, i.e., a concept or mental term. Second, signification is ultimately about things in the world.

2.1.2. Signifying nothing

The idea that the ultimate significate of words and concepts is some discrete object or a collection of discrete objects is taken to be one of the cornerstones of 14th-century Parisian logical nominalism – which, after Ockham, is expressed by Buridan, Albert of Saxony, and Marsilius of Inghen, among others. This seems a straightforward consequence of the ontological parsimony that characterises nominalist approaches. Of course, this approach does not limit the scope of signification exclusively to actually existing items, which would produce a counterintuitive and unsatisfactory account of how signification works. Evidently, signification can constitute for our intellect an understanding of no longer, or not yet existing items – or, put otherwise, significative terms include past and future objects (as well as, often, potential objects bound to be actualised) in the set of their significates. But any strict interpretation of ontological parsimony will have issues in dealing with unrealised possibilities – which, at face value, imply a somewhat generous expansion of the ontology[17] – and, even more so, with signifying unrealisable possibilities (e.g., significates that are naturally impossible given the way the world is taken to be, but not intrinsically so)[18] or impossibilities in a stronger sense

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17. Unrealised possibilities are all those individuals, belonging to a certain kind, that never were and will never be, as well as items such as the Golden Mountain in the traditional medieval example, which are perfectly possible, both naturally and absolutely, despite the fact that there was, is, nor will there be any such thing as a Golden Mountain.

18. Given that, according to the Aristotelian picture of the world dominating in medieval physics, time and space are a continuum and nature abhors the void, the natural

(e.g., those intrinsically contradictory significates constituted, per definition, of incompossible parts, such as the chimera, the square-circle, etc.).

It should be noted that, on the one hand, while these problems are more obvious within supposition and ampliation, they are nonetheless present also at the level of signification, insofar as signification ultimately revolves around signified individuals or sets of individuals. On the other hand, the most obvious issues are those with terms such as 'void' or 'chimera' – especially in those cases, like the chimera & friends, carrying some kind of logical and metaphysical contradiction, i.e., an impossibility in a fairly strong sense. These problems are neither a 14th-century novelty[19] nor do they receive a uniform treatment by our 14th-century Parisian nominalists after Ockham.

As for unrealised possibilities, neither Buridan nor his followers seem to perceive them as much of a logical difficulty, since in the underlying semantic account endorsed – relying on concepts' bridging role between the world and language – it is implied that signification and understanding are coextensive. Not admitting unrealised possibilities would leave us with Golden Mountains and all sorts of unsignifiable understandings, yielding a semantic inconsistency in the theory. In the *Tractatus de consequentiis* [=*TC*] and in the *Summulae de dialectica* [=*SdD*], Buridan does not have any problems admitting unrealised possibilities "that neither are, were, nor will be, but are only possibles"[20] within the scope of ampliation (and, *a fortiori*, within that of signification) on the basis that possibility scopes over all possibles, not just actualisable potentialities, and that unrealised possibles are indeed intelligible, at least to the mind of God.[21]

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impossibilities of this kind that we encounter throughout the medieval discussions are the void, instants, points, and so on. See e.g. CIOLA, "The Void and the Chimera."

19. EBBESEN, "The Chimera's Diary."

20. Translation by Stephen Read, in: JOHN BURIDAN, *Treatise on Consequences [= TC]*, trans. and intr. S. READ, New York 2015, p. 72.

21. JOHN BURIDAN, *Tractatus de consequentiis [= TC]*, 1.6, ed. H. HUBIEN, Louvain 1976, URL = http://www.logicmuseum.com/wiki/Authors/Buridan/Tractatus_de_Consequentiis (last accessed 28 August 2020): "[P]ossibilitas est ad futura et omnino ad possibilia, ideo similiter hoc verbum 'potest' ampliat suppositionem subiecti ad omnia quae possunt esse. […S]i intelligo hominem, bene sequitur quod praesentialiter habeo illum conceptum, sed non sequitur quod praesentialiter sit ille homo quem intelligo, quia conceptus ille potest esse absentium, sive praeteritorum, sive futurorum. Et talia verba ampliant accusativum ad praeterita et ad futura, immo etiam ad possibilia: deus enim aliqua

Impossibilities, however, are another and trickier business. Buridan's account of the signification of terms signifying both relative and absolute impossibilities is well known.[22] Buridan's analyses of 'void'[23] and 'chimera' are substantially the same: there is no impossible significate and all such terms signify complex concepts, whose simple parts naturally signify items in the world – such as, in the case of the chimera, the body of a goat, the head of a lion, the tail of a snake, etc. A term like 'chimera', then, is properly significative, but it does not signify any significate (*bene significat, sed tamen non significat aliquid*), since there is no such thing as a chimera out there to be signified.[24] Since in this picture there is no unitary significate beyond the complex concept for the term 'chimera' to ultimately signify, it is clear that 'chimera' will not have any supposition – and neither will 'void'.[25]

intelligit quae nunc nec sunt nec fuerunt nec erunt, sed sunt possibilia"; ID., *SdD*, 4.6.2, ed. VAN DER LECQ: "[…] possibilibus, licet non sint vel fuerint; unde haec est vera 'Mons Aureus potest esse tantus quantus est Mons Ventosus'. […] 'Mons Aureus intelligitur; ergo quod intelligitur est, fuit uel potest esse Mons Aureus'."

22. See above n. 6.

23. On the natural impossibility of the void and why in logic it can be analysed in the same manner as an impossibility *tout court*, see: JOHN BURIDAN, *Subtilissimae Quaestiones super Octo Physicorum libros Aristotelis*, IV, q. 7-8, ed. Paris 1509. See also: M. E. REINA, "L'ipotesi del *casus supernaturalis possibilis* in Giovanni Buridano," in: B. NARDI (ed.), *La filosofia della natura nel medioevo. Atti del terzo congresso internazionale di filosofia medievale*, Milan 1966, pp. 826-828.

24. The *locus classicus* for Buridan's discussion of the signification of 'chimera', 'void' and other such terms is the first chapter of the *Sophismata*, in particular sophism 4. See also, e.g., *TC*, 1.5.4, ed. HUBIEN, trans. READ.

25. Albert of Saxony's take on the chimera and the void in the *QcL* is overall ambiguous, possibly due to the poor quality of the existing critical edition. Sometimes it looks analogous to Buridan's, with 'chimera' and the like ultimately signifying simpler (and possible) components of a complex concept (see e.g. ALBERT OF SAXONY, *QcL*, q. 5, ed. FITZGERALD, p. 114; ibid., q. 12, ed. FITZGERALD, p. 195), but resulting in an overt and somewhat stronger rejection of the chimera's signifiability: "Respondetur negando quod chymaera est opinabilis. Similiter quod sit intellegibilis et significabilis." (ibid., q. 5, ed. FITZGERALD, p. 116). While ultimately not endorsing it, in *QcL*, between q. 13 (esp. pp. 204-207) and q. 19 (pp. 245-260), Albert seems to consider legitimate a position closer to Marsilius's, admitting into the realm of ampliation – and thus, of supposition and, *a fortiori*, of signification – imaginable referents, including the chimera. For a fair assessment of Albert's account in *QcL*, a more reliable edition is sorely needed. On the limitations of Fitzgerald's edition see H. WEIDEMANN, "Book Review," in: *History and Philosophy of Logic*, 25/3 (2004), pp. 245-261. Overall, in the *Quaestiones subtilissimae super libros Posteriorum analyticorum Aristotelis* I, q. 10, ed. Venice 1497 (esp. f. 9rb-va), Albert's position, while remaining very close to Buridan's, seems to have taken a step in

2.2. Supposition, empty reference, and the matter of the present

Overall, supposition becomes such a central theory in 14th-century logic – across decades and across schools of thought – because it provides a systematic semantic account of the truth conditions of sentences.[26] In its broadest characterisation, supposition is the property of subject and predicate terms[27] to stand for that thing or those things which they signify and of which the sentence would be verified through its copula.[28] This standing of a term for something is the core operation of supposition. Ockhamist theories of supposition tend to characterise this function as the picking-out of an item by pointing at it through a demonstrative pronoun.[29] Call this the 'Ockhamist pointing strategy' or

the same direction as Marsilius's: 'chimera' is a complex term signifying a complex concept; this complex concept, as for Buridan, does not correspond to any single item in the world, but the composition in the complex concept itself appears to be imaginable.

26. It should be noted that this is not a claim about the nature and main purpose of supposition theory, which have been widely debated in the literature and are beyond the scope of this paper. All that is being claimed is that one of the reasons for supposition theory's overwhelming preponderance in late medieval logical literature is that supposition – among the other things it does or it might aim to do – ends up providing a systematic account of the truth conditions of sentences. This much is quite uncontroversial and it is all we need for our present purposes. (I thank the anonymous reviewer for their remarks on this matter.)

27. Throughout the history of supposition theory, it has been a point of contention whether the predicate term can have supposition proper or if some other property is doing an analogous job. For example, Peter of Spain maintained that predicates do not supposit personally, but rather supposit simply – e.g. PETER OF SPAIN, *Tractatus called afterwards summule logicales*, VI.10, ed. L. M. DE RIJK, Assen 1972. William of Sherwood, instead, held the view that predicates appellate but do not supposit at all – e.g. WILLIAM OF SHERWOOD, *Introductiones in logicam*, 5.15, ed. C. H. LOHR –P. KUNZE – B. MUSSLER, in: *Traditio* 39 (1983), pp. 219-299. Buridan maintains that the predicate term can supposit just as well as the subject does – e.g. JOHN BURIDAN, *SdD*, 4.1.1, ed. VAN DER LECQ: "[…] quia non est propositionis supponere, sed termini qui est subiectum vel praedicatum." On the other hand, Albert of Saxony often characterises the referring function of the predicate as the appellation of the predicate's own form rather than supposition proper – e.g. ALBERT OF SAXONY, *Perutilis Logica* II.11, ed. H. BERGER, Hamburg 2010, p. 394.

28. E.g. ALBERT OF SAXONY, *Perutilis logica* II.1, ed. BERGER, p. 246: "Suppositio, de qua hic intenditur, est acceptio seu usus termini categorematici, qui accipitur pro aliquo vel pro aliquibus in propositioni." See also ID., *QcL*, q. 12-13, ed. FITZGERALD, pp. 191-209; MARSILIUS OF INGHEN, *Suppositiones,* ed. BOS, p. 52: "suppositio est acceptio termini in propositione pro aliquo, vel pro aliquibus, de quo, vel de quibus, verificatur talis terminus mediante copula talis propositionis."

29. E.g. JOHN BURIDAN, *SdD*, 4.2.1, ed. VAN DER LECQ: "solus talis terminus est innatus supponere qui aliquo demonstrato per istud pronomen 'hoc' aut aliquibus demonstratis per istud pronomen 'haec' potest vere affirmari de illo pronomine."ALBERT OF

'pointing criterion'. Depending on the mode of supposition of a term occurrence, that term can stand for: itself and other linguistic items (*suppositio materialis*); metaphysical items or concepts, mental terms, and the like (*suppositio simplex*, for those who recognised it);[30] and, when taken significantly, some of the items it signifies (*suppositio personalis*). For our purposes here, the personal supposition of denotative terms is the most relevant case; this is roughly analogous to ordinary reference.[31] For a term to supposit personally, the term has to pick out some of the items it ultimately signifies.

Looking at most mid-14th-century definitions of supposition (including Buridan's, Albert's, and Marsilius's), nothing would irrevocably tie the theory exclusively to the present, limiting it to an analysis of the truth conditions for present-tensed categorical sentences and, thus, to picking only presently existing items for the verification to be carried out. However, this is the way in which theories of supposition are articulated.

For example, in an affirmative sentence like "Brownie is running" (*Brunellus est currens*), 'Brownie' stands for something – be it a horse or a donkey or a mule, etc.– that is signified by 'Brownie'. The sentence is true, if Brownie is actually running. But for that to be the case, the subject term 'Brownie' has to have supposition, i.e., there

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SAXONY, *Perutilis logica* II.1, ed. BERGER, p. 246: "Unde terminum in aliqua propositione dico accipi pro illo, de cuius pronomine demonstrativo praedicatum in illa propositione denotatur verificari affirmative vel negative. Verbi gratia, ut hic dicendo "Homo est animal" vel dicendo "Homo est nomen". In prima istarum hic terminus *homo* accipitur pro Sorte vel Platone, quia de pronomine demonstrativo Sortis vel Platonis ly *animal*, quod est praedicatum praedictae propositionis, denotatur verificari per praedictam propositionem, ut dicendo "Hoc est animal", demonstrando per ly *hoc* Sortem vel Platonem vel alium hominem." See also ALBERT OF SAXONY, *QcL*, q. 13, ed. FITZGERALD, pp. 201-203; MARSILIUS OF INGHEN, *Suppositiones*, ed. BOS, p. 52: "Ut in hac propositione *homo currit*, *homo* supponit pro quolibet homine qui est, quia de quolibet eorum mediante copula ista verificatur; quocumque enim homine qui est demonstrato hec est vera *hoc est homo*."

30. Some authors in the nominalist tradition, such as Buridan and Marsilius, do not recognise simple supposition as an independent mode of supposition, thus subsuming the standing of a term for concepts under material supposition. This outline is necessarily general and leaves out some nonetheless important discussions and features of supposition theory and of material supposition in particular, which does seem to have a significative use. See e.g. READ, "How is Material Supposition Possible?," in: *Medieval Philosophy and Theology* (1999), pp. 1-20 [12-13 – particularly on Marsilius].

31. Here, I will also ignore the branch of supposition theory dealing with ascent (*ascensus*) and descent (*descensus*).

has to be an actual referent (*suppositum*) for the term to point at and for which it would be true to say "this thing is Brownie" (*hoc est Brunellus*). If there is no Brownie, then the subject term is empty and the sentence is false.[32] The same holds for all affirmative statements, both particular (e.g., "some donkeys are running") and universal (e.g., "all donkeys are running") or also general statements about natural classes, such as "all donkeys are mammals", which would be false under this analysis if donkeys were to go extinct and the natural class were actually empty. This is the famous Existential Import (= EI) of affirmative categorical sentences; EI stems from the logical relationships constituting the Aristotelian Square of Oppositions[33] and is one of the most recognisable features of medieval logic.

In a way, it makes sense for "all donkeys are mammals" to be false when there are no donkeys, insofar as the present tensed copula – both in English and in Latin – normally carries a reference to the present tense, thus implying that there must be present referents for any affirmative statement about them to be true.[34] However, under the standard medieval analysis, all statements about actually empty classes would, strictly speaking, be false, including identity statements with empty subjects – e.g., "the square-circle is a square circle", "the chimera is the chimera", "all dodos are dodos", etc. Nonetheless, it would still be desirable to be able to make true affirmative statements about things like presently empty natural classes, mathematical items, or idealised laws of natural philosophy. Most medievals do not want to forsake analogous statements either and explore several strategies to validate a number of them, at least in special circumstances. For

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32. Of course, "Brownie is running" is false also if there is a Brownie but Brownie is not running.

33. For a clear and synthetic overview on these matters, see T. PARSONS, "The Traditional Square of Opposition," in: E. N. ZALTA (ed.), *The Stanford Encyclopedia of Philosophy* (Summer 2017 Edition), URL = <https://plato.stanford.edu/archives/sum2017/entries/square/> (Last Accessed 20 August 2020); IDEM, "The Development," pp. 161-165.

34. Some 14th-century authors are very well aware of the tensed connotation of the copula as a linguistic feature of the Latin language. See e.g. JOHN BURIDAN, *TC*, 1.6.6, ed. HUBIEN: "Et ita dico quod hoc verbum 'est' praesentis temporis quod est copula in propositione facit stricte supponere tam subiectum quam praedicatum pro praesentibus, nisi praedicatum aliud operetur […]." For an interesting study on the predominance of the present in Albert of Saxony's semantics, see M. J. FITZGERALD, "Problems of Temporality and Scientific Propositions in John Buridan and Albert of Saxony," in: *Vivarium* 44 (2006), pp. 305-337.

example, theories of natural supposition (*suppositio naturalis*) in their 14th-century iterations, like Buridan's, propose a kind of atemporal or omnitemporal reference, with a removal of the copula's reference to the present, in order to respond exactly to such issues for general statements about natural classes and natural principles. A similar goal is also pursued in theories of ampliation like Marsilius's, scoping over imaginable referents.[35]

Yet, none of these strategies saves the supposition of 'chimera', not even in identity statements: "the chimera is the chimera" remains an affirmative statement with an empty subject and is, therefore, false – even for Marsilius, who is otherwise often more ontologically permissive than most nominalists.[36] *Hic non sunt chimaerae*, it seems.

2.3. On ampliation, (its) status, and alienation

Once a term has (personal) supposition, that supposition can sometimes be extended. This is ampliation's job. Both among medieval authors and among their modern interpreters, the consensus on the theory is flimsy at best. Ampliation is normally taken to be the medieval way of treating modal and tensed sentences, namely by providing a semantic analysis of their truth conditions.[37] This is only partially true: ampliation is *a* medieval way of treating some specific tensed and modal contexts – which ones, how, and why, are still matters of discussion.

With some generalisation, there seems to be two usual requirements for a sentence to be ampliative. The first is syntactic: normally, there has to be some sentential part warranting the ampliation. Only in a handful of exceptional cases, admitted only by a few authors, the pragmatic features of the discourse and common practices in specific contexts (e.g., the context of natural philosophy or

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35. For a more detailed examination of these issues and the possible strategies to address them, see CIOLA, "The Void and the Chimera," pp. 146-150.

36. See e.g. JOHN BURIDAN, *TC*, 1.5.3, ed. HUBIEN: "[…] Ideo enim haec non ponitur vera: *Chimaera est chimaera*, scilicet quia subiectum pro nullo supponit, ideo pro nullo eodem."; ALBERT OF SAXONY, *QcL*, q. 13, ed. FITZGERALD, p. 208: "[…] haec est falsa: *Chymaera est chymaera* […] quia per eam denotatur quod illud quod modo est chymaera, sit chymaera. Hoc est falsum, quia nihil est modo chymaera […].", MARSILIUS OF INGHEN, *Quaestiones in Sent.*, III, q. 13, art. 2, ed. Strasbourg 1501.

37. See eg. PARSONS, *Articulating Medieval Logic*, Oxford 2014.

that of mathematics) can warrant an ampliative analysis even without a properly ampliative term.[38]

As for the second requirement, since in most theories supposition is taken to be supposition for the present (i.e., reference to some presently existing items), the ampliated term picks out its present and past *supposita* (i.e., those things picked out by the subject), or its present and future *supposita*, or its present and possible *supposita*. In other words, the most frequent analysis of the truth conditions given by ampliation aims to capture those cases in which there is a permanence of the *suppositum* between the present and the tense or mode to which the term is ampliated. But even this is not a requirement *tout court*: for some – like Marsilius of Inghen – the term does not need to have any supposition for the present in order to still have a properly ampliative (and possibly true) analysis.

Overall, even limiting our focus to Ockham's Parisian followers, it is impossible to outline the broad-strokes of an underlying shared theory, because such a theory is simply not there. Ockham himself went to some trouble to dismiss ampliation altogether;[39] some later authors around the end of the century do the same – for example, Peter of Mantua, who is otherwise quite 'Marsilian' in several respects, cannot really see the point of the theory and deems it to be utter nonsense.[40] Buridan, Albert of Saxony, and Marsilius are, instead, among those who develop ampliation; they do so substantially and in substantially different ways.

Despite some technical differences, Buridan's and Albert's accounts share some basic features. First and foremost, for both of them, ampliation is carried out starting from a term's reference to present referents. In *SdD*, Buridan defines ampliation as the expansion of the *status* of a term – '*status*' being the basic extension of the supposition of a term which can be ampliated or restricted. For Buridan, the

38. This is, for example, the case of statements about mathematical items – e.g., points, lines, etc. – in the analysis that Marsilius of Inghen endorses in his *Quaestiones super libros Physicorum* VI, q. 3, ed. Lyon 1518, f. 66rb-va. Analogously, Marsilius recurs to an ampliative analyses also in the case of general statements about factually empty natural classes or when treating physical idealisations, such as instants of time.

39. See e.g. G. PRIEST – S. READ, "Ockham's rejection of ampliation," in: *Mind* 90 (1981), pp. 274-279.

40. See E. P. Bos, "Peter of Mantua and His Rejection of *Ampliatio* and *Restrictio*," in: O. LEWRY (ed.), *The Rise of British Logic*, Toronto 1983, pp. 381-399.

status includes exactly all the significates of a term for the present tense.[41] Then, for the ampliative analysis to be viable, the ampliated term must have present *supposita*; if this is not the case – e.g., if the term has only past or future referents – then the *status* of the term is removed entirely (*alienatio*).[42] While Albert's definition of ampliation does not appeal to the notion of *status*, it remains in the same vein as Buridan's and claims something even stronger: not only does ampliation start from the present tense and a term's present significates, but also from what is actual.[43]

Both for Buridan and Albert the basic reference to the present can be ampliated to the past, to the future, or to the possible.[44] Given

41. John Buridan, *SdD*, 4.6.1, ed. van der Lecq: "Et oportet primo videre statum secundum quem terminus nec dicitur ampliatus nec restrictus, respectu cuius status aliquando dicitur ampliatio, aliquando restrictio. Status ergo ille potest assignari quando terminus praecise supponit uel appellat pro omnibus suis significatis praesentis temporis; ut si dico 'homo currit' vel 'omnis homo currit', 'homo' supponit indifferenter pro omnibus hominibus qui in praesenti tempore sunt, et non pro aliis."

42. John Buridan, *SdD*, 4.6.4, ed. van der Lecq: "Quandoque autem status praedictus termini non remanet, nec ampliatur nec restringitur, sed alienatur, ita quod terminus non amplius supponit, vel tenetur, pro praesentibus pro quibus supponeret, vel teneretur, in statu, sed solum pro futuris vel praeteritis, nisi contingat quod illa futura vel praeterita sint praesentia; et sic supponunt vel appellant termini sequentia verba praeteriti vel futuri temporis." It should be noted that ampliation does not exhaust the medieval treatments of modal and tensed logic, since ampliation covers for those tensed contexts where the reference to the present should not be maintained.

43. Albert of Saxony, *Perutilis logica* II.11, ed. Berger, p. 368: "[…] ampliatio est acceptio alicuius termini pro aliquo vel pro aliquibus ultra hoc quod actualiter est, pro quo vel pro quibus accipi denotatur per propositionem in qua ponitur."

44. E.g. John Buridan, *SdD*, 4.6.2, ed. van der Lecq and *TC*, 1.6, ed. Hubien. Albert is not quite as consistently clear as Buridan about the inclusion of *possibilia* within the domain of ampliation: namely, he sometimes omits them from the list of tensed/modal spaces to which the supposition of a term can be ampliated, despite their inclusion being implied by the theory and often made explicit by its further articulations. Albert of Saxony, *Perutilis logica* II.11, ed. Berger, pp. 378-380: "Omnia verba adhuc ispis praesentis temporis existentibus, quae sic se habent, quod habent naturam transeundi ita bene super rem praeteritam vel futuram vel possibilem sicut praesentem, sunt ampliativa terminorum ad omne tempus praesens, praeteritum vel futurum, ut sunt ista verba *intelligo*, *cognosco*, *appeto* et huiusmodi. Et causa est, quia res potest intelligi sine aliqua differentia teporis vel abstracte ab omni loco et tempore. Et tunc, quando res sic intelligitur, ita bene intelligitur res, quae fuit vel erit vel potest esse, sicut res, quae est. Unde si habeo conceptum communem in mente mea, a quo sumitur hoc nomen *homo*, indifferenter intelligo omnes homines praesentes, praeteritos et futuros. Et ideo, quia ista verba habent naturam transeudi ita bene super rem praeteritam vel futuram sicut super rem praesentem, ergo etiam habent naturam ampliandi accusativum, in quem transeunt, ad supponendum pro praesentibus, praeteritis vel futuris."

Buridan's stances on signification and supposition, for him possibilities are as far as ampliation can go; even intentional terms – e.g., 'thinking', 'knowing', 'understanding', 'signifying', 'desiring', 'imagining', 'conceiving', etc. – cannot ampliate beyond that.[45] This, of course, has the consequence that any affirmative statement about impossibilities being thinkable, imaginable, understandable, signifiable or even desirable, within the context of ampliation, will be false:[46] the chimera is not understandable, or at least it cannot truthfully be said to be so.

Certainly, the chimera could hold on to some hope on the side of alienation – given that alienation, for Buridan, deals with cases of reference to tenses other than the present, thus excluding all present referents altogether.[47] This would, however, be a short-lived hope: in his brief overview of alienation, Buridan seems to limit alienation to the exclusive reference for past *supposita* or future *supposita*, but does not mention it applying to *possibilia*, let alone to *impossibilia* such as the chimera. The chimera & friends, carrying an intrinsic contradiction, imply a total removal of supposition: in the world there are items signified by the possible but incompatible components of the complex concept underlying to such terms; yet, there is nothing that the term itself could be alienated from suppositing for.[48] Alas, *hic non sunt chimaerae* either!

Interestingly, it is Albert of Saxony who, in the context of ampliation, seems to throw a non-committal lifeline to the chimera, while discussing whether intentional terms could have ampliative force beyond the possible, i.e., to a distinct sphere of the imaginable and the conceivable. Albert is certainly aware that admitting conceivable

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45. Intentional terms of this sort are terms whose semantic properties are dependent on a mental act, a mental state, or a mental object. See e.g. JOHN BURIDAN, *TC*, 1.6.11-17, ed. HUBIEN; ID., *SdD*, 4.6.2, ed. VAN DER LECQ: "Quinto, terminus ampliatur ad praeterita, futura et possibilia si construatur cum verbo significante actum animae intellectivae, sive a parte ante sive a parte post; unde haec est vera 'hominem intelligo' si Aristotelem vel antichristum intelligo, et haec etiam est vera 'intelligo rosam', licet nulla sit rosa."

46. E.g. JOHN BURIDAN, *TC*, 1.5.4, ed. HUBIEN: "Et ideo credo quod nulla propositio affirmativa est vera cuius aliquis terminus pro nullo supponit praesente, praeterito vel futuro, uel saltem possibili. Unde has reputo falsas: *Chimaera est intellegibilis*, *Chimaera est opinabilis*, *Chimaera significatur per hoc nomen 'chimaera'*, posito quod impossibile sit esse chimaeram."

47. JOHN BURIDAN, *SdD*, 4.6.4, ed. VAN DER LECQ.

48. See JOHN BURIDAN, *SdD*, 4.6.6, ed. VAN DER LECQ.

impossibilities within the domain of ampliation would ultimately be inconsistent with his theory and, therefore, he prefers to evaluate as false those statements with ampliative intentional predicates scoping over subjects that are necessarily empty because they signify impossibilities.[49] However, he also explicitly recognises that, were someone to welcome "that which can be conceived or imagined" within the domain of ampliation, then an affirmative statement such as "the chimera is opinable" could be ampliatively true.[50]

If there is any chance of saving the chimera, at any level, our best chance is with Marsilius of Inghen.

3. *Taking a stroll at the outskirts of Meinong's jungle:[51] Marsilius of Inghen*

3.1. Signifying the impossible

Already at the level of signification, Marsilius's take on *impossibilia* represents the main alternative to Buridan's approach and is received as such both by the later medieval tradition and throughout the early

49. ALBERT OF SAXONY, *QcL*, q. 13, ed. FITZGERALD, pp. 205-206: "Quantum ad tertium, de veritate istius propositionis: Chymaera est opinabilis, potest argui quod esset falsa. Nam si praedicta propositio esset vera; vel ergo hoc esset quia hoc quod est chymaera est opinabile, vel quod fuit chymaera est opinabile, vel erit chymaera est opinabile, vel potest esse chymaera est opinabile. Nullum istorum, igitur maior patet ex sufficienti divisione, quia hic terminus: opinabile, est ampliativus huius termini: chymaera, pro eo quod est, vel fuit, vel erit, vel potest esse chymaera. Minor patet de se. [...] Respondetur concedendo quod terminum possibile est ampliare ad standum pro eo quod est vel fuit, vel erit vel potest esse. Tunc concedenda est quod haec est falsa: Chymaera est opinabilis, ex eo quod nec est, nec fuit, nec erit, nec potest esse chymaera opinabilis."

50. ALBERT OF SAXONY, *QcL*, q. 13, ed. FITZGERALD, pp. 204-207: "Sed ulterius dico quod aliqui termini sunt ampliativi terminorum ad standum indifferenter pro eo quod est vel fuit, vel erit vel potest esse, vel potest concipi vel potest imaginari. Talem terminum dico esse hoc verbum: *supponit*.[… I]n ista: Chymaera est opinabilis, <ly> chymaera supponit pro aliquo quod potest esse vel est chymaera. Unde [...] subiectum [...]autem supponit pro eo quod est vel potest esse imaginabile. [...] Et ulterius dicitur quod nec quod est chymaera, nec quod fuit chymaera, nec quod erit chymaera, nec quod potest esse chymaera est opinabile, sed quod imaginabile chymaera est vel potest esse opinabile.[...] Nihilominus, si concedis istum terminum opinabilis posse ampliare terminum ad standum pro eo quod est vel fuit, vel erit vel potest esse, vel potest intelligi vel imaginari, vel concipi, haec est concedenda: Chymaera est opinabilis."

51. "Meinong's jungle" is the commonplace label given to ontologies including non-existent objects, such as Alexius Meinong's. See R. ROUTLEY, *Exploring Meinong's Jungle and Beyond*, Canberra 1979.

modern debates on impossibilities in logic, epistemology, and meta-physics.[52] For Marsilius, even absolute impossibilities seem to be imaginable, understandable, and signifiable per se and not as mere compounds of possible yet incompatible parts.

A particularly interesting passage in Marsilius's *Treatise on Conse-quences* (*Consequentiae*)[53] addresses the signification of "man is a don-key" through a semantic analysis of the dictum "for man to be an ass" (*hominem esse asinum*).[54] The content of this dictum is another clas-sical example of logical and metaphysical impossibility: just like the chimera, the ass-man involves incompossible components – i.e., the form of man and the form of ass.

Marsilius discusses this example while addressing one of the possible objections to his preferred definition of logical validity,[55] namely that

52. See respectively RONCAGLIA, "Utrum impossibile," and ASHWORTH, "Chimeras and Imaginary Objects."

53. My provisional edition of Marsilius of Inghen's *Consequentiae* is available in: CIOLA, *Marsilius of Inghen and the Theories of Consequentiae*, PhD thesis, Scuola Normale Superiore, Pisa 2017. A critical edition is forthcoming.

54. Some broad premises in the background of this discussion, which should be kept in mind, are the following:

- In a Buridanian vein, the underlying theory of predication is an "identity predica-tion theory" (see for example G. KLIMA,"The Essentialist Nominalism of John Buridan," in: *The Review of Metaphysics* 58 (2005), pp. 301-315).
- While in a Buridanian framework, strictly speaking, sentences do not have sup-position, which is a property of terms (see e.g. *SdD* 4.1.2.1), Buridanian authors commonly employ a strategy of sentential nominalisation through *dicta* in the accusative+infinitive Latin construction. Such a *dictum* supposits materially for instances of the original sentence of which the *dictum* is a nominalisation. A con-struction such as "*dictum+est verum*" – which for Buridan is implied by any sen-tence – is verified by whatever the original sentence was verified of. The *dictum* and the sentence of which it is a nominalisation, then, have the same semantic content. (See e.g. G. KLIMA in: JOHN BURIDAN, *Summulae de Dialectica,* translated and annotated by G. KLIMA, New Haven/London 2001, p. 844, n. 28.)
- These *dicta*, then, have a dual role and a twofold nature: on the one hand, they constitute the immediate content of the sentences of which they are a nominalisa-tion; on the other hand, they are terms and, as such, have the usual properties of terms.
- In a Buridanian context, *complexe significabilia* are not admitted, i.e., there is no proposition-like fact in the world.

Although these matters are relevant, interconnected, and quite well studied, this will have to suffice by way of an introduction.

55. On Marsilius's definitions of logical consequence and logical validity, see G. CIOLA, "Marsilius of Inghen on the Definition of Consequentia," in: *Vivarium* 56 (2018), pp. 272-291. Marsilius's criterion of logical validity reads as follows: "consequentia

it would validate consequences such as "Homo est et asinus est, ergo homo est asinus" ("Man is and ass is, therefore man is an ass"). The objector's argument runs as follows. The consequent "man is an ass" either [i] signifies for-man-to-be and for-ass-to-be, or [ii] it also signifies for-man-to-be-an-ass.[56] If [i], then the antecedent and the consequent would have exactly the same signification, therefore – per definition – the consequence would be valid.[57] But if [ii] is the case, then the consequence would have an incongruous consequent, since for-man-to-be-an-ass, being "simply impossible", "neither is, nor can be anything" and consequently – according to the objector – cannot be signified.[58]

All that can be done to block [i] is to deny it: it is simply not the case that "man is an ass" only means for-man-to-be and for-ass-to-be; instead, it only means that man is an ass.[59] To counteract [ii], then, one could deny that for-man-to-be-an-ass is nothing and it cannot be anything, claiming that it is instead something complexly signifiable (*complexe significabile*).[60] However, Marsilius's semantic views are still Buridanian enough not to admit the existence of complex proposition-like

bona est oratio sic se habens quod impossibile est sic esse qualitercumque per antecedens secundum eius totalem significationem pro nunc significatur sic esse, quin ita sit qualitercumque per consequens significatur secundum eius significatione pro nunc, et per consequens antecedens esset propositio sic se habens quod impossibile est esse qualitercumque per eam significatur pro nunc secundum eius totalem significationem, quin ita sit qualitercumque pro nunc per consequens significatur et secundum eius totalem significationem." (ibid., p. 280).

56. MARSILIUS OF INGHEN, *Consequentiae*, I, ed. CIOLA: "vel hoc consequens 'homo est asinus' significat hominem esse et asinum esse vel, ultra ista duo, significat hominem esse asinum."

57. *Ibid.*: "Si dicatur primum, tunc propositum, quia antecedens et consequens precise significant idem."

58. *Ibid.*: "Sed si dicatur secundum, inconveniens est quia 'hominem esse asinum' nihil est nec potest esse, et per consequens non potest significari. Consequentia videtur esse notam. Et antecedens ipsi declarant, quia hominem esse asinum, si esset vel posset esse, nihil posset esse aliud quam homo existens asinus, modo hoc est simpliciter impossibile quia homo non potest existere asinus. Quod autem hominem esse asinum nihil aliud posset esse quam homo existens asinus patet, quia hominem esse currentem nihil aliud est quam homo existens currens, prout isti alibi determinate supponunt."

59. *Ibid.*: "Tenendo definitionem priorem quidam respondunt ad argumentum quando dicitur 'sequitur quod ista consequentia esset bona: homo est et asinus est, ergo homo est asinus' negando consequentiam. Et quando quaeritur ab eis quid significet consequens plus quam antecedens, scilicet utrum solum significet hominem esse et asinum esse, dicunt quod non, sed significat solum hominem esse asinum."

60. *Ibid.*: "Et quando eis arguitur contra quod hominem esse asinum nihil est nec potest esse, negant: dicunt enim quod est significabile complexe."

facts in the world, thus rejecting *complexe significabilia*.[61] His refutation of [ii] is, therefore, based on a different strategy:

> Et quando dicitur hominem esse asinum nihil esse nec potest esse, conceditur; et quando infertur 'ergo non potest significari', negatur consequentia. Nam sufficit quod possit imaginari esse. Non enim oportet significatum propositionis esse vel posse esse, sed sufficit quod possit imaginari esse. Intellectus enim extendit se ad imaginabilia. Quod autem possit imaginari hominem esse asinum patet, quia, si forma humana cum forma asinina imaginarentur simul in eadem materia, licet hoc naturaliter loquendo sit impossibile, tamen imaginabile est hominem esse asinum – nam forma humana dat esse hominem et forma asinina dat esse asinum.

Against supporters of *complexe significabilia*, here Marsilius denies that for-man-to-be-an-ass is or can be anything: for-man-to-be-an-ass remains an absolute impossibility, an incompatibility of forms. However, Marsilius also denies that, then, for-man-to-be-an-ass cannot be signified, since – for him – significates neither need to exist nor to be possible. Terms like 'chimera' or 'for-man-to-be-an-ass' can signify chimeras and ass-men just fine because these radical impossibilities are imaginable and, as such, are within the grasp of our intellect. In the semantic picture endorsed here, then, the standard relations of the semantic triangle are still in place; but impossibilities are admitted in the domain of signification and, therefore, do not require to be analysed away into signifiable possible parts, as in Buridan's theory.[62] Chimeras, ass-men, and all sorts of absolutely impossible and contradictory items, are properly signifiable and understandable qua chimeras and ass-men, i.e., as unitary, simple significates. In this way, they are made into a proper part of the logical discourse and this is a radical novelty. *Hic sunt chimaerae*, indeed.

3.2. Much ado about nothing? The quest for impossible reference

Having proper significates is a necessary but not sufficient condition for terms such as 'chimera' to have supposition. Yet, the chimera –

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61. *Ibid.*: "Sed istam opinionem non credo esse veram nec sufficere."

62. Buridan examines an example very close to the ass-man, i.e. that of the man able to neigh, in JOHN BURIDAN, *SdD*, 4.66, ed. VAN DER LECQ: "Tamen sciendum est quod in ista propositione 'homo hinnibilis currit', ista nomina 'homo' et 'hinnibilis' sumuntur significative, quia utrumque nobis constituit conceptum suorum ultimatorum significatorum, ita quod utroque remoto reliquus supponeret pro suis significatis ultimatis."

despite being signifiable, imaginable, and understandable – remains an imaginable impossibility and, as such, it cannot be verified of anything.[63] Between the Ockhamist pointing criterion and the underlying EI assumption for affirmative statements, within supposition theory not much can be done for the chimera, given the standing definition of supposition. While Marsilius's treatment of the signification of "man is an ass" extended to for-man-to-be-an-ass has eliminated some further complications with necessarily empty terms signifying impossibilities, nonetheless an empty term is an empty term and, strictly speaking, it does not have any supposition. Insofar as supposition theory is concerned, then, not even in Marsilius's *Suppositiones* is there any room for the chimera and her friends.[64]

Ampliation, however, is full of (im)possibilities – first and foremost because of the radically different way in which Marsilius frames and articulates the theory compared to Buridan's and Albert's accounts, beginning with its definition: "ampliatio est suppositio termini pro suis significatis respectu diversorum temporum indifferenter."[65] Here, ampliation is described as an expansion of the supposition of a term to scope over its significates "with regard to different times without distinction."[66] In this framework, all that is required for ampliation are referents situated within at least two or more "times" or "distinctions of time" (*differentiae temporum*), without any mention of the supposition of the present being the one undergoing such an expansion. These distinctions of time include, unsurprisingly, the three traditional tenses (the present, the past, and the future – which constitute the domain of tensed logic)[67] as well as the modal domain of

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63. MARSILIUS OF INGHEN, *Suppositiones*, ed. BOS, p. 52.

64. MARSILIUS OF INGHEN, *Suppositiones*, ed. BOS, p. 52: "in ista *chymera est*, subiectum pro nullo supponit […]"; see also e.g., *ibid.*, p. 84, on "Socrates is different from the chimera" being false if expounded as "Socrates is, and the chimera is, and Socrates is not the chimera," because of the second conjunct being false.

65. MARSILIUS OF INGHEN, *Ampliationes*, ed. E. P. BOS, in: E. P. BOS, *Marsilius of Inghen: Treatises on the Properties of Terms. A First Critical Edition of the* Suppositiones, Ampliationes, Appellationes, Restrictiones *and* Alienationes, *with Introduction, Translation, Notes, and Appendices*, Dordrecht 1983, p. 98.

66. Bos's translation in MARSILIUS OF INGHEN, *Ampliationes*, ed. BOS, p. 99.

67. MARSILIUS OF INGHEN, *Ampliationes*, ed. BOS, p. 102: "Secundo circa dictam descriptionem superius positam est notandum quod tres sunt differentie temporum, scilicet presens, preteritum et futurum. Et tales etiam dicuntur tempora, ut solemus dicere *hoc est presens tempus, hoc est preteritum*, etc."

possibility. But Marsilius implements a further expansion to a fifth and independently defined modal space: that of imaginability – to be understood in the technical sense, which we have seen so far, of conceivable impossibility.[68] This is a substantially original development, yielding a modal logic in many ways similar to some versions of contemporary impossible world semantics.[69]

Marsilius can go down this road because of his semantic views and because of an overall reconceiving of ampliation theory. Marsilius's very definition of ampliation contains, in a nutshell, two radical innovations which are made explicit and articulated throughout the treatise on *Ampliationes*. Firstly, for Marsilius, ampliation does not require taking the supposition for the present along with whatever other tense or mode to which that supposition gets extended – as had previously been the standard case. Therefore, secondly, if there can be ampliation from any tense or mode to at least another one, and if ampliation is an expansion of supposition, then there is still an acceptable way of suppositing which is somewhat different from the one articulated in theories (and treatises) of *suppositio* proper – even Marsilius's – and can pick out *supposita* in any one tense (or mode) individually taken.[70]

For all intents and purposes, this minimal notion of supposition – bared of all further characterisations and requirements put in place in supposition theory proper – is functionally equivalent to Buridan's *status*, i.e., it is the basic reference that can be ampliated or restricted. But, contrary to Buridan's and Albert's views, for Marsilius, this mini-

68. MARSILIUS OF INGHEN, *Ampliationes*, ed. BOS, p. 102: "Et possunt addi duo, scilicet 'posse' et 'imaginari esse', que licet non sint proprie differentie temporum, tamen in proposito sunt differentie temporum, nam respectu eorum termini supponunt in propositionibus pro diversis temporibus."

69. For a recent overview of non-normal modal logics appealing to impossible worlds and their use for modelling the space of conceivability, see F. BERTO – M. JAGO, "Impossible Worlds," in: E. N. ZALTA (ed.), *The Stanford Encyclopedia of Philosophy* (Fall 2018 Edition), URL = https://plato.stanford.edu/archives/fall2018/entries/impossible-worlds/ (Last Accessed 28 August 2020).

70. MARSILIUS OF INGHEN, *Ampliationes*, ed. BOS, p. 98: "Quando igitur subiectum supponit tantum pro illis que sunt, aut solum pro illis que fuerunt, aut solum pro hiis que erunt, scilicet quando stat solum pro suis significatis ultimatis que sub una differentia temporis comprehenduntur, tunc dicitur stare restricte, quia stat solum pro suis significatis que significat respectu unius differentie temporum solum. Et ideo non dicitur ampliatio ad istam suppositionem restrictam, quia terminus qui ampliatur, non stat pro suis significatis pro uno tempore sive una differentia temporis, ymmo stat pro suis significatis et pro diversis temporibus indifferenter."

mal supposition neither is tied to the present nor to actuality, but it is instead the supposition of a term for its referents falling under the one distinction of time defined by the tense of the copula. While Marsilius does not use the label of *status* in his treatise on *Ampliations*, he does so in his little treatise on *Restrictions and Alienations* – and the definition of *status* given there fits perfectly with the use of unrestricted and unampliated supposition at play in the treatise on *Ampliations*:

> Et primo considerandus est status secundum quem terminus non ampliatur nec restringitur. Status enim ultra quem terminus sepe ampliatur et citra quem terminus sepe restringitur, est suppositio termini pro omnibus suis suppositis, aut omni suo supposito, sibi adequate correspondentibus, vel correspondente, respectu unius differentie temporis precise: vel presentis tantum vel preteriti solum vel futuri solum. Exemplum, ut *homo currit*, *homo est animal*, *Adam fuit*, *Antichristus erit*.[71]

However, neither the tenses mentioned here as candidates for hosting the *status*' referents nor the proposed examples overtly include the modal space of possibility and even less so that of imaginable impossibility. If the most primitive relation of reference can pick out only present, or past, or future items, then there would not be any hope for the chimera: 'chimera', 'for-man-to-be-an-ass', and all such terms would still be irredeemably empty.

Now, the first question we need to address is whether, among the "distinctions of time" within which basic supposition can be had, we can count also the possible and the imaginably impossible. As we have seen, Marsilius explicitly includes the possible and the imaginable – besides the present, the past and the future – in the list of distinctions of time to which ampliation is admitted.[72] As far as possibilities are concerned, ampliation works smoothly. In particular, the extension of the supposition to *possibilia* happens through a revised version of the Ockhamist pointing strategy, i.e., a potential pointing or even a merely possible pointing.[73] So, nothing in the theory forbids the

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71. Marsilius of Inghen, *Restrictiones et Alienationes*, ed. E. P. Bos, in: E. P. Bos, *Marsilius of Inghen: Treatises on the Properties of Terms. A First Critical Edition of the* Suppositiones, Ampliationes, Appellationes, Restrictiones *and* Alienationes, *with Introduction, Translation, Notes, and Appendices*, Dordrecht 1983, p. 160.

72. Marsilius of Inghen, *Ampliationes*, ed. Bos, p. 102. See above, n. 68.

73. Marsilius of Inghen, *Ampliationes*, ed. Bos, p. 118: "Et ideo in ista homo potest esse albus, li homo ampliatur ad supponendum pro isto quod est vel potest esse homo.

possible to be a proper and unamplited *status*, insofar as nothing forbids a possible pointing to or picking out exclusively possible referents. This being the case, then, there is no reason for which subjects referring to merely possible but never actualised *supposita* should be taken as empty under all circumstances. Therefore, affirmative statements about empty classes, which cannot but be empty even if they are not strictly speaking impossible (e.g., mathematical *ficta* or idealisations in natural philosophy, such as points and instants of time), can be true without any need for ampliative syntactic features being in place nor for an ampliative analysis at all.[74]

Such statements, of course, when provided with the proper ampliative elements, can still be ampliatively true, because possibility and imaginability are distinct and independent "distinctions of time" and e.g. intentional terms ampliate not only to the possible (like for Buridan and Albert) but also to the imaginable.[75] So, for Marsilius, "the void is understandable" is ampliatively true: despite the void (in the Aristotelian picture of the world) never being found in nature, it is nonetheless both possible and imaginable – which verifies the statements for two distinctions of time and, therefore, is enough for ampliation to take place and for the sentence to be ampliatively true.[76]

However, the chimera, the ass-man, and their fantastical menagerie are contradictory in nature: not only are they not naturally possible, but they are logically and metaphysically impossible. Then, statements such as "the chimera is imaginable" or "for-man-to-be-an-ass is understandable" will be, strictly speaking, ampliatively false: were we to find chimeras and ass-men anywhere in modal space, it would

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Unde sensus eius est: 'quod est vel potest esse homo, potest esse albus'. Et simili modo ampliat hoc verbum est supradictum cum hoc additamento in potentia vel etiam cum hoc additamento possibile."

74. This seems to also be the case in the analysis of mathematical statements that Marsilius presents in the *Quaestiones Super Libros Physicorum*, VI, q. 3, ed. Lyon 1518.

75. MARSILIUS OF INGHEN, *Ampliationes*, ed. BOS, p. 124: "[…] terminus rectus a terminis significantibus actum anime interiorem ampliatur ad supponendum pro eo quod est vel fuit vel erit vel potest esse vel imaginari esse. Et sunt huiusmodi verba *intelligo, diligo, cogito, appeto, desidero, provideo, imaginor* et *cognosco* et similia. Ideo in ista *intelligo hominem*, li *hominem* ampliatur ad supponendum pro eo quod est vel fuit vel potest esse vel erit vel potest imaginari esse. Simili modo li *homo* ampliatur in ista homo *intelligitur* […]."

76. On *vacuum intelligitur*, see MARSILIUS OF INGHEN, *Ampliationes*, ed. BOS, p. 110.

be only in the domain of the imaginable; but this is not enough to ampliate, since ampliation requires referents in at least two "distinctions of time". *Hic non sunt chimaerae* either, it seems!

Nonetheless, the chimera might still have an appeal against her dismissal. There is not, there was not, and there never will be a chimera; there cannot be one either. Marsilius is clear on this:[77] 'chimera' does not supposit – at least not for any present, past, future, or possible items.

Yet, an internally contradictory non-entity such as for-man-to-be-an-ass can be signified, imagined, and understood as one significate and not as merely composed concepts; therefore, that must be the case for the chimera as well. There is, thus, a sense in which it must be true to state, about absolute impossibilities, that "the chimera is imaginable", "the chimera is understandable", "the chimera is signifiable", and so on, because the whole inclusion of imaginability within the semantic spectrum depends on the fact that such impossibilities are imaginable, understandable, and signifiable per se. Therefore, given the Ockhamist underlying semantic framework, for such statements to be true, their corresponding pointing statements ("this is imaginable", "this is understandable", "this is signifiable") must pick out something – and there is nothing to be picked out anywhere but among what is purely imaginable and utterly impossible. Just like Marsilius admits an *additamentum possibile*, his semantics seems to bind him to having some sort of imaginary pointing, an *additamentum imaginabile.* In other words, the domain of imaginability has to be a domain for minimal supposition, i.e., it has to host a *status*. If imaginability does not have a *status*, then some of the very principles grounding Marsilius's semantics at the level of signification would be false and the whole construction would collapse with them. Here, the chimera might have found her safe harbour.

4. *Closing remarks*

In this study I have examined the account of imaginable absolute impossibilities in Marsilius of Inghen's logic, tracking their thematisation and functions across signification, supposition, and ampliation theory.

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77. MARSILIUS OF INGHEN, *Ampliationes*, ed. BOS, p. 104: "Nam sic etiam sensus istius propositionis *chymera erit* esse iste: 'quod est vel erit chymera'. Et tamen non ampliatur, cum non supponit, et omnis ampliatio est suppositio."

While Marsilius's semantic theory remains firmly rooted within the nominalist and Ockhamist tradition, compared to Buridan's and Albert of Saxony's semantical views, it presents a profoundly innovative approach to the semantics of terms that are necessarily empty because they signify impossibilities, on all levels.

For Marsilius, absolute impossibilities – such as the chimera or the ass-man – are imaginable, understandable, and properly signifiable as unitary significates rather than as a collection of disparate parts subsumed under a complex concept. Along with a general reformulation of the scope, aims, and workings of ampliation and of the notion of *status*, this allows for a coherent and systematic extension of the modal space to the domain of imaginable impossibilities, which looks a lot like a medieval counterpart to contemporary Impossible Worlds Semantics.

Chimeras might not have supposition proper, nor ampliation, but they do have signification and are allowed within the "distinction of time" pertaining to the purely imaginable, therefore they must have a kind of basic reference, a *status*, within that modal space. It might not be much, but it is still better than nothing!

Graziana CIOLA
Radboud University Nijmegen
Center for the History of Philosophy and Science
PO Box 9103
Nl-6500 HD Nijmegen
g.ciola@ftr.ru.nl